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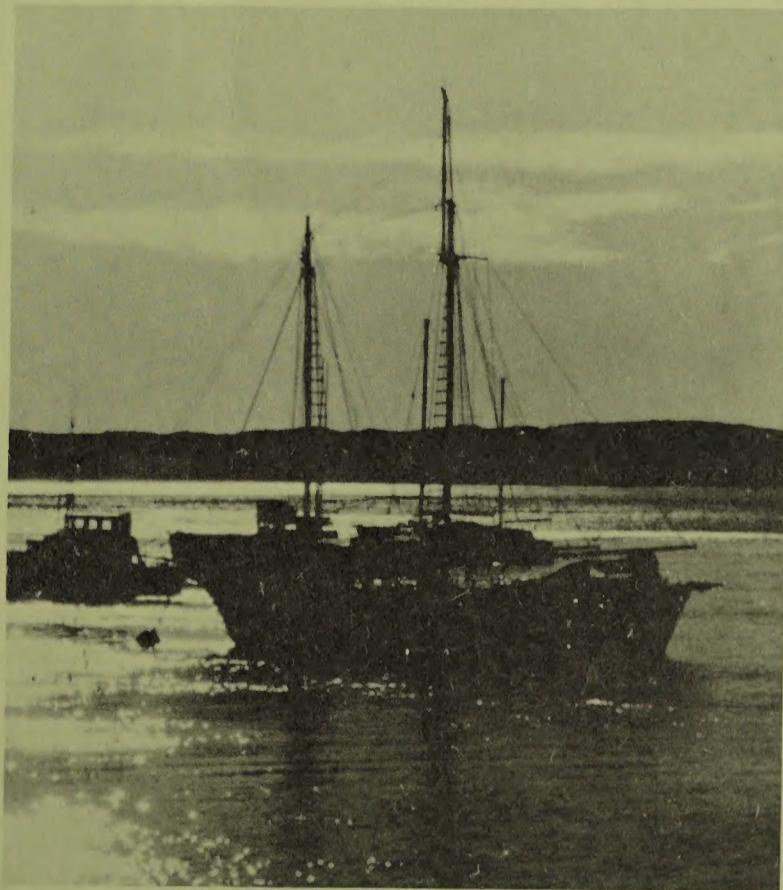
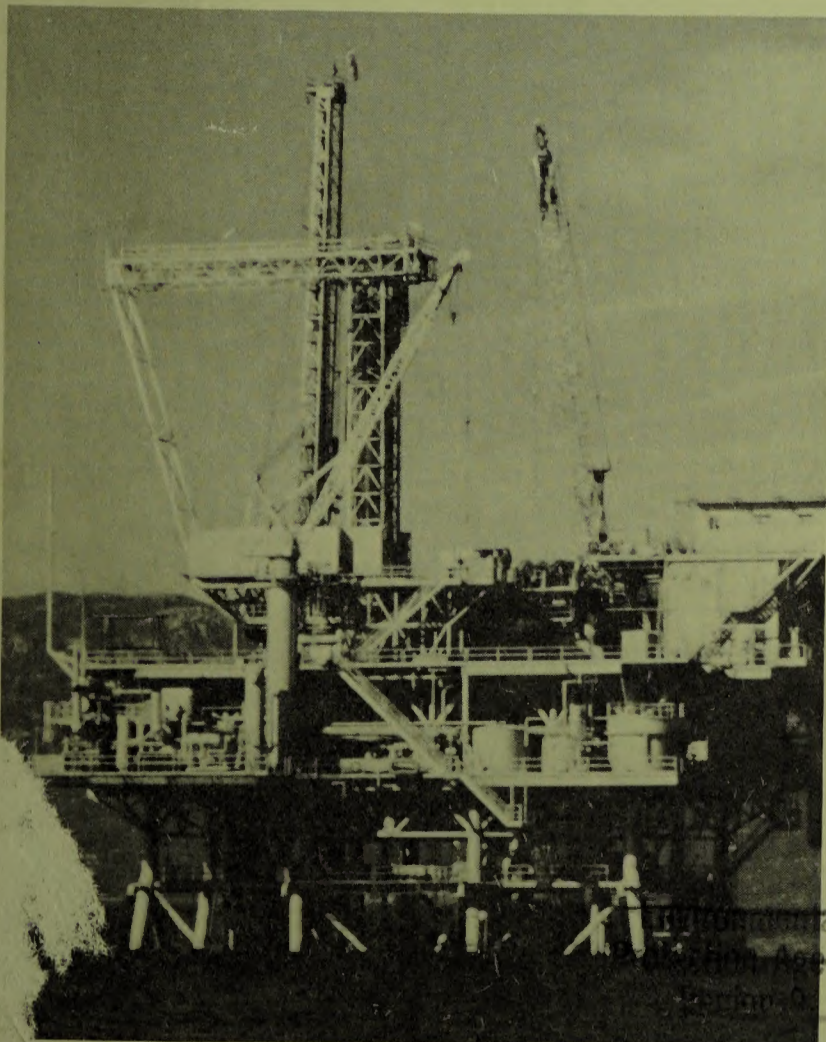
DEPARTMENT OF THE INTERIOR / MINERALS MANAGEMENT SERVICE



**FINAL  
VOLUME II  
ENVIRONMENTAL  
IMPACT  
STATEMENT**

**OCS SALE NO. 73**

**PROPOSED 1983 OUTER CONTINENTAL SHELF  
OIL AND GAS LEASE SALE OFFSHORE  
CENTRAL CALIFORNIA**



Prepared by the Minerals Management Service  
Pacific OCS Region

1340 West Sixth Street, Los Angeles, California 90017

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FINAL

**ENVIRONMENTAL  
IMPACT STATEMENT**

**VOLUME II**

PROPOSED 1983  
OUTER CONTINENTAL SHELF OIL  
AND GAS LEASE SALE OFFSHORE  
CENTRAL CALIFORNIA

OCS SALE NO. 73



Prepared by the Minerals Management Service  
Pacific OCS Region  
1340 West Sixth Street, Los Angeles, California 90017

DEPARTMENT OF THE INTERIOR / MINERALS MANAGEMENT SERVICE

June 1983

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## V. CONSULTATION AND COORDINATION

Consultation and coordination are essential to the success of any program. This section discusses the importance of these activities and provides guidance on how to conduct them effectively. It covers the following topics:

**A. Objectives.** The primary objective of consultation and coordination is to ensure that all parties involved in a program are fully informed and have the opportunity to contribute their views. This helps to build trust, resolve conflicts, and ensure that the program is designed to meet the needs of all stakeholders.

# CONSULTATION AND COORDINATION

## V.

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Consultation and coordination are essential to the success of any program. This section discusses the importance of these activities and provides guidance on how to conduct them effectively. It covers the following topics:

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Consultation and coordination are essential to the success of any program. This section discusses the importance of these activities and provides guidance on how to conduct them effectively. It covers the following topics:



## CHAPTER V

### V. CONSULTATION AND COORDINATION

Consultation and coordination was conducted with Federal, State, and local government agencies, environmental groups, industry, and individual citizens. This coordination was carried out pursuant to the National Environmental Policy Act (NEPA) implementation regulations which require a continuous and open process for determining the range of issues to be addressed and for identifying the significant issues related to the proposed action. This process not only identifies significant issues but also narrows the focus of the environmental impact statement.

A. Resource Inventory. The collection and maintenance of a comprehensive inventory of resource data is an on-going process which encourages communication with all interested agencies and groups. It not only provides the resource data for the analysis of the environmental impact statement, but also identifies significant public concerns.

A meeting was held with the Pacific Regional Technical Working Group (RTWG) committee of the National OCS Advisory Board on June 22, 1982. The agenda included an opportunity to identify and clarify issues related to potential oil and gas development off central-northern California.

The issues which were identified by MMS and the RTWG which relate to Central California were incorporated as appropriate into the Proposed Sale No. 73 EIS. MMS responses to issues raised by the RTWG are as follows:

1. Geotechnical forces. Relationship between the withdrawal of fluids from formations and seismic activity. (Does extraction trigger seismic activity?)

Response: The withdrawal of fluids from formations can cause reservoir compaction and result in subsidence rather than seismic activity. Most of the observed cases of subsidence (Wilmington and Inglewood Fields) are where oil and gas was withdrawn close to the surface. A repressurization program of water injection has stopped, and in some areas reversed the subsidence in the Wilmington Field. A pore-fluid pressure program is usually begun after the start of production and will continue throughout the life of the field.

2. Cumulative effects of discharges on water quality.

Response: The cumulative effect of discharges on water quality have been addressed in Section IV.E.1.a.

3. Paucity of data on water movement and circulation affects discussion of biological environment (food sources, etc.).

Response: The limits to the present knowledge of water movement and ocean circulation are briefly mentioned in Section III.A.4. We are aware of the link between ocean circulation at meso and macro scales and the advection of food, transport of larvae, etc. The same is true for the links among physical, chemical, and biological processes on micro (sub meso) scales such as upwelling.

The Organization of Persistent Upwelling Systems project will address the dynamics of such a system.

4. State (California) Water Quality Control Board is currently (June 1982) preparing an EIS on the Water Quality Plan.

Response: The Water Quality Control Board is working on modifications to the Ocean Plan. Upon the completion of the EIR a copy of the document will be reviewed and incorporated, as appropriate, into the EIS.

5. Assess clean-up capabilities of high pour point oil versus other methods. Can high pour point oil be handled by conventional equipment?

Response: Clean-up capabilities including high pour point oil have been discussed in Section IV.B.2.

6. Effects of "hostile" physical factors (storm surge, wind, wave, weather) on offshore oil and gas operations. What limitation does hostile environment place on operations? What additional risks to biological and human environment are present?

Response: The effects of "hostile" physical factors are discussed in the Effects of the Physical Environment on Oil and Gas Operations, Section IV.A.10. Description of oceanographic and meteorological parameters has also been referenced to previous EISs and the NOAA report (Williams, 1981).

7. Cumulative impacts on Central California should use State's resource estimates for potential State lease areas (Point Arguello to Point Conception) until exploration activity yields different estimates.

Response: The resource estimates for the potential State lease area have been included for analysis of the cumulative affect of oil and gas development for the proposed sale area. See Sections IV.C and D.

8. Disruption of "live bottoms" should be addressed in addition to disruption of spawning areas (for fish).

Response: Disruption of fish feeding and reproductive habitats for commercial and non-commercial species are addressed in Section IV.E.2.c.

9. Incorporate information on critical life stages into analysis of impacts on benthos and fish.

Response: Critical life stages and time of year that is critical have been considered in the analysis of benthic and fish populations in Sections IV.E.2.a, b, and c. For simplicity, the probabilities of an oil spill occurring and contacting benthic and fish populations on a yearly basis have been presented in Sections IV.E.2.a, b, and c. The probabilities of an oil spill occurring and contacting fish populations during critical seasons are also very low.

10. Effects of habitat disruption/destruction on non-commercial species of fish.

Response: See Response #8.

11. Effects of noise (in addition to seismic soundings) on commercial fish stocks. There have been discussions about this issue in other areas, especially with respect to cod in the Canadian Arctic and North Sea.

Response: The effect of noise from geophysical vessel operations on fish is discussed in Section IV.E.2.c. The impact of noise from other activities is not discussed since, judging from the large number of fish congregated near platforms, this noise apparently does not significantly impact fish populations.

12. Potential fouling of commercial fishing gear by hydrocarbons (in addition to loss of equipment on debris, anchors, etc.).

Response: These impacts are discussed in Section IV.E.3.

13. Investigate problem of debris (cement) from trimming (blowing up excess cement) well caps to be flush with bottom. Trawlers affected. Check whether less cement can be used so "trimming" is not necessary (or involves less material).

Response: Wells are permanently abandoned to fill in the holes and to remove structures above the sea floor that may interfere with trawling. In order to complete a well safely, our regulations require that holes be cased to the surface. This procedure may result in some overflow of cement onto the sea floor. Since this cement generally forms a thin layer, it would rarely, if ever, pose a significant problem to trawling operations.

14. Impacts on harvestable fish and invertebrate stocks should include both acute toxic effects and the problem of tainting.

Response: The EIS addresses these issues (see Sections IV.E.2.c and 3.e).

15. Delineation of fishing activity by both area and season is useful - both in text and (especially) on visuals.

Response: Although this information was not available for the DEIS, it was available for the FEIS, and has been incorporated (see Sections IV.E.2.c and 3.e).

16. Provide current data on catch statistics and market value of commercial fish.

Response: The most recent data (1981-1982) available from the California Department of Fish and Game (CDFG) is used in the EIS (see Section III.C.5).

17. Review organization of analyses on fish, commercial fisheries, and sport fisheries. Analysis should focus on fish themselves and continue into fisheries. Both commercial and sportfishing should be addressed.

Response: The EIS follows this format (see Sections IV.E.2.c and 3.e and f).

18. Salmon should be discussed as both a commercial and sport fishery, as appropriate.

Response: Impacts on commercial and sportfishing for salmon are discussed in Sections IV.E.3.e and f.

19. Potential impacts on fishermen competing for limited mooring and berthing facilities.

Response: Competition for port space between fishermen and oil and gas industry is discussed in Section IV.E.3.c.

20. Volume of traffic entering and leaving San Francisco Bay. Formal establishment of traffic lanes in Central/Northern area (north, south and west from San Francisco) is forthcoming. Note that the use of the lanes is discretionary.

Response: The marine traffic entering and leaving San Francisco Bay has been discussed in Section IV.E.3.1.

B. Request for Resource Reports. In accordance with 30 CFR 255.22 Minerals Management Service (formerly Bureau of Land Management) requested other Federal, State, and local agencies to prepare reports describing, to the extent known, any other valuable resources contained within the general area and the potential effect of mineral operations upon the resources or upon the total environment or the use of the area. The request for Resource Reports were sent to the agencies and groups listed below in July 1980.

Responses received from these agencies and groups referred MMS to comments and related information received during the comment period and specifically at the public hearings for Lease Sales 53 and 68. Many of the comments submitted contained concerns which were similar to those for prior lease sales. (Minerals Management Service, Pacific OCS/Lease Sale No. 73 EIS files).

\*Responses received

Federal Agencies

Department of Agriculture  
Forest Service

Department of the Air Force  
Civil Engineering

Department of the Army  
Corps of Engineers

Department of Commerce  
National Oceanic and Atmospheric Administration  
Office of Ecology, and Environmental Conservation  
\*Office of Coastal Zone Management

Office of Fisheries

Department of Defense  
Installation and Housing

- \*Department of Energy
  - \*Economic Regulatory Administration
  - Office of Petroleum Operations
  - \*Federal Energy Regulatory Commission
  - \*Leasing Policy Development

Department of the Interior

- \*Fish and Wildlife Service
- Geological Survey
- Heritage Conservation and Recreation Service
- National Park Service

Department of the Navy

- \*Department of Transportation
  - Coast Guard

- \*Environmental Protection Agency
  - Office of Environmental Review

- \*National Aeronautics and Space Administration

State and Local Agencies

- Governor of California
- California Air Resources Board
- California Coastal Commission
- \*California Department of Boating and Waterways
- \*California Department of Fish and Game
  - California Energy Commission
  - California Public Utilities Commission
- \*State of California Department of Parks and Recreation
- \*State of California Division of Mines and Geology
  - State Lands Commission
- \*Humboldt County, Board of Supervisors
- Del Norte County, Board of Supervisors
- \*Los Angeles County, Department of Regional Planning
- Marin County, Planning Director
- Mendocino County, Board of Supervisors
- Monterey County, Board of Supervisors
- \*San Diego County, Board of Supervisors
- San Francisco, County and City, Office of the Mayor
- San Luis Obispo County, Coastal Energy Impact Program
- \*San Mateo County
  - Santa Barbara County, Board of Supervisors
- \*Santa Barbara County, Department of Environmental Resources
- \*Santa Cruz County, Board of Supervisors
- \*Sonoma County, Board of Supervisors

\*Ventura County, Board of Supervisors

Association of Bay Area Governments  
Association of Monterey Bay Area Governments

\*Trinidad

\*Responses Received

C. Call for Nominations and Comments. In order to assist the Secretary of Interior in implementing Section 102 of the Outer Continental Lands Act, as amended 43 USC 1331-1343 and pursuant to 30 CFR 256.25 nominations were requested for areas on the California Outer Continental Shelf for possible oil and gas leasing. The Secretary also requested comments on the possible environmental impacts and potential use conflicts in specific areas. The area under consideration for the Call extended from the U.S.-Mexico border northward to the California-Oregon border. The Call was published in the Federal Register on November 28, 1980 (45 FR 231).

The Call requested nominations of tracts for leasing of oil and gas in specific areas. A total of 2870 blocks were nominated by fifteen companies.

The Call also requested comments on tracts which should receive special concern and analysis. These concerns consisted of comments on geological hazards, air quality, cultural sites, and multiple uses of the proposed leasing area including recreation, commercial fisheries, biological and vessel traffic. Comments were received which addressed the conflicts which might arise from the leasing of specific tracts or areas. Many of the comments (1,543 postcards) were negative nominations of tracts or areas to eliminate or minimize the risk of damage to the human, marine, and coastal environment. Many comments reemphasize issues identified in Lease Sale No. 53 process. A complete list of comments is available for public review in the MMS - Pacific OCS/Lease Sale No. 73 EIS files.

D. Scoping Process

On December 30, 1982 pursuant to Section 1501.7 of the National Environmental Policy Act of 1969, a Notice of Intent (NOI) was released for Proposed Sale No. 73. The NOI announced that the EIS would focus on the potential impacts of leasing, exploration, and development in the southern portion of the Santa Maria Basin. Comments concerning the range on Proposed Sale No. 73 were due January 31, 1983. Federal, State and local agencies, and interested groups and individuals submitted 724 written comments (includes 669 postcards).

The comments and issues received as a result of the scoping process were summarized and evaluated. Those issues which were identified as significant are discussed within the EIS. Those issues which were eliminated from detail study were not considered significant or have been adequately covered by prior environmental review (See Section I.F and the discussion following in this section, V.D). A complete listing of the issues is available for public review in the MMS Pacific OCS/Lease Sale No. 73 EIS files.



After the issues and concerns received during the scoping process were summarized the following issues were identified:

### Scoping Issues for Proposed Sale No. 73

#### I. Physical Environment

##### A. General Issues

1. Paucity of knowledge of water circulation offshore California. Data on circulation is employed in the determination of oil spill and pollutant discharge trajectories.
2. Paucity of long-term data on offshore wind patterns. Data on wind patterns is employed in air quality and oil spill modeling.
3. Adequacy of present oil spill containment and cleanup techniques in adverse sea conditions.

##### B. Water Quality

1. Degradation of water quality near platforms due to chronic discharges. (See Biological Environment, below)
2. Degradation of water quality in the vicinity of oil spills. (See Biological Environment, below)
3. Increase in water temperature from formation water discharges.

##### C. Air Quality

1. Degradation of air quality by increases in  $SO_x$ ,  $NO_x$  and particulates caused by tankers, platforms and/or onshore OCS-related activity.
2. Restriction of future industrial growth onshore due to strict pollution controls in areas exceeding air quality standards.

##### D. Geohazards

1. Failure of OCS oil and gas related structures due to potential geological hazards which result in release of hydrocarbons or loss of life.
2. Locations of geologic hazards.

#### II. Biological Environment

##### A. General Issues

1. Acute effects of hydrocarbons (oil spills), dispersants, drilling fluids, formation water, and trace metals on marine organisms.
2. Chronic (long-term) effects of hydrocarbons, dispersants, drilling fluids, formation water, and trace metals on reproduction, population density, and community structure of marine organisms.
3. Bioamplification of trace metals and hydrocarbons within marine food webs.
4. Transfer of contaminants from sediments and/or water column to marine organisms.

##### B. Plankton

1. Decreases in photosynthesis due to oil spills and/or increased turbidity.
2. Reduction in planktonic eggs and larvae or marine organisms due to oil spills.

##### C. Benthos

1. Disruption of the physical environment by drill cuttings, platform placement, pipeline trenching, and anchoring.

2. Reduction in endemic species populations and changes in biogeographic transition zone communities.
- D. Fish
1. Disruption of feeding and spawning areas by man-made structures.
  2. Reduction in fish populations or behavioral changes due to noise from geophysical vessel operations.
- E. Marine Mammals and Seabirds
1. Effects of noise from OCS oil and gas exploration and development on the behavior of marine mammals and seabirds; particularly, abandonment of rookeries and changes in migration routes.
  2. Physical disruption of haulout areas and rookeries by pipeline construction and oil spill cleanup operations.
- F. Threatened and Endangered Species
1. Same as E.1 above.
  2. Same as E.2 above.
- G. Special Areas (ASBSs, Estuaries, Marine Sanctuaries, National Parks, Unique Areas)
- Physical disruption of estuaries and unique areas (rocky bottoms) caused by pipeline placement activities.

### III. Social and Economic Environment

- A. General Issues
1. Displacement of industry and change of character of less developed or rural areas.
  2. Increased demand for public and private services and facilities exceeding existing or planned capacity.
- B. Recreation and Tourism
1. Changes in recreation/tourism patterns and expenditures as a result of OCS development or accidents.
  2. Degradation of the visual environment caused by platform placement offshore scenic and pristine areas.
- C. Cultural Resources
1. Disturbance of archaeological and cultural sites by platform and/or pipeline placement.
  2. Reduction of foodstuffs due to oil spills with consequences for subsistence gathering, religious practices and other uses.
  3. Placement of large and relatively permanent sources of magnetic anomalies on the sea floor which may mask detection of shipwrecks.
- D. Commercial Fisheries
1. Reduction in harvestable fish and invertebrate stocks.  
(See Biological Environment, above)
  2. Interference with fishing activity by oil spills, man-made structures, debris, anchor scars and vessel traffic.
  3. Loss of fishing gear (crab pots) due to entanglement with seismic boat cables.
  4. Competition for berthing space and support services.
  5. Regional economic ramification of adverse impacts on fisheries.
- E. Transportation/Navigation
1. Increase in risk of vessel accidents.
  2. Limitations to exploration and development of hydrocarbon resources imposed by the establishment of a Vessel Traffic Separation Scheme.

#### IV. Military Uses

Limitations on exploration and development imposed in military use areas.

##### Alternatives Considered as a Result of Scoping

In accordance with CEQ regulations (40 CFR 1502.14), reasonable alternatives to the proposed action were considered. Alternatives selected for preliminary analysis were selected from Proposed Sale No. 73 scoping comments and from consideration of Sale No. 53 Alternative options.

Alternatives that were examined are described below.

1. Alternative to protect the sensitive Morro Bay biological areas. The primary intent of this Alternative was to reduce the likelihood of an oil spill entering the bay and contacting biological tidal flat and salt marsh habitats and the extensive feeding and breeding areas within the bay.

This Alternative was selected for further analysis in the EIS (Alternative II - Modify the Sale to Protect Sensitive Biological Areas).

2. Alternative to reduce air quality impacts to coastal areas.

This Alternative would establish a 6-mile buffer zone along the entire coast and adjacent to the proposed sale area in order to reduce the impact of air pollution from offshore development on San Luis Obispo and Santa Barbara Counties.

Department of the Interior air quality regulations require emission controls on any source on the OCS that may adversely affect onshore air quality. Air pollution controls would be required before oil and gas development takes place. Given these mitigation measures, it was not considered necessary to include this Alternative.

3. Alternative to defer leasing of tracts with potential geohazards.

The intent of this Alternative would be to eliminate the likelihood of OCS oil and gas infrastructure failure due to geological hazards. This would be accomplished through the elimination of lease areas that appear to have significant geological hazards.

Existing regulations, OCS Orders, and Notices to Lessees require that lessees conduct geologic hazard surveys prior to commencing operations and, if potentially hazardous conditions are identified, to demonstrate to MMS that their infrastructures will be designed to safely conduct operations (see discussion in Section IV.A.10). Given these mitigating measures, it was not considered necessary to include a leasing deferred Alternative for geohazards in this EIS.

Responses to scoping were received from the agencies and groups listed below:

Environmental Protection Agency  
State of California  
Secretary of Environmental Affairs  
State of Oregon  
Department of Land and Conservation

Del Norte County  
Marin County, Planning Department  
Mendocino County, Administrative Office - Planning Analysis Division  
Monterey County, Board of Supervisors  
San Mateo County, Department of Environmental Management  
Santa Barbara County  
Santa Cruz County, Board of Supervisors

City of Carmel by the Sea  
City of Grover City  
City of Pismo Beach  
City and County of San Francisco

Air Pollution Control District  
American Lung Association - Monterey, Santa Cruz, San Luis Obispo Counties  
Association of Monterey Bay Area Governments  
California Gillnetters Association  
California Native Plant Society - San Luis Obispo Chapter  
Environmental Center of San Luis Obispo County  
Federation of Fly Fishers  
Friend of the Earth  
Friends of the Sea Otters  
Green Peace Pacific Southwest  
League of Women Voters - Monterey Peninsula  
League of Women Voters - San Luis Obispo  
Marin Conservation League  
Morro Coast Audubon Society Inc.  
San Luis Obispo County and Cities Area Planning And Coordination Council  
Sierra Club - Loma Prieta Chapter  
Sierra Club - Santa Cruz Regional Group  
Sierra Club - San Francisco Bay Chapter  
Sierra Club - Ventura Chapter

## E. Distribution of the Draft EIS for Review

The DEIS was available for public inspection at the MMS office in Los Angeles and at 54 public locations (i.e., Universities, Public Libraries, and County Planning Offices). Approximately 2,000 copies of the DEIS were distributed for review to Federal, State and local agencies and interested groups and individuals.

The FEIS will be available for public inspection at the same locations noted above. The FEIS will be distributed to various agencies and groups under the categories listed below, to organizations and individuals that made comments on the adequacy of the DEIS and those who requested the FEIS.

### Federal Agencies

U.S. Department of Commerce

National Oceanographic and Atmospheric Administration

National Marine Fisheries Service

Office of Coastal Zone Management

U.S. Department of Defense

Army Corps of Engineers

Department of the Navy

U.S. Department of Energy

Federal Energy Regulatory Commission

Office of Leasing Policy Development

Nuclear Regulatory Commission

U.S. Department of State

U.S. Department of the Interior

Fish and Wildlife Service

Geological Survey

National Park Service

U.S. Department of Transportation

Coast Guard

Office of Pipeline Safety Operations

Office of Safety Affairs

U.S. Environmental Protection Agency

Marine Mammal Commission

### State Agencies

Air Resources Board

Clearing House

Coastal Commission

Department of Fish and Game

Division of Mines and Geology

Lands Commission  
Governor's Office of Planning and Research  
Parks and Recreation  
Water Resources Control Board  
City Governments

Municipal Organizations  
County Agencies

Special Interest/Environmental Agencies  
Industry  
Businesses  
Public Media

F. Comments Received on the Draft EIS

1. Written comments

A total of 291 comment letters were received from Federal, State and local agencies, and interested groups and individuals. Numerous comments of a general nature from individuals were received but have not been published as part of this EIS. They are available for inspection in the MMS Pacific Region office. Comments which provided relevant information, raised questions about the adequacy of the DEIS, or requested clarification about procedures or analyses, were responded to specifically. Revisions in the text were made if deemed required, or appropriate.

Federal

Comment Number

Department of the Air Force  
Deputy for Installation Management

1

Department of the Air Force  
Vandenberg Air Force Base

2

Department of the Air Force  
Vandenberg Air Force Base  
Division of Safety

3

Department of the Army  
Long Beach District  
Corps of Engineers

4

Department of Commerce  
National Oceanic and Atmospheric Administration  
Ecology and Conservation Division

5

Department of the Interior  
Fish and Wildlife Service

6

	Comment Number
Department of the Interior National Park Service	7
Department of Transportation U.S. Coast Guard	8
Department of the Navy Pacific Missile Test Center	9
Department of the Navy Office of the Secretary	10
Environmental Protection Agency Office of Federal Activities	11
Marine Mammal Commission Scientific Program Director	12
U.S. Congressman Leon Panetta	13
 <u>State</u>	
State of California Department of Justice	14
State of California Environmental Affairs	15
Department of Fish and Game	15A
State Lands Commission	15B
California Coastal Commission	15C
Air Resources Board	15D
Department of Conservation	15E
California Energy Commission	15F
Department of Parks and Recreation	15G
Office of Historic Preservation	15H
California Coastal Commission	16

	Comment Number
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County of Monterey Board of Supervisors	20
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Lee Ivy

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Laurie Bevan

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Gordon L. Chan

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Lee M. Lambert

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Albert C. Cuttoir

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Phil Ashley

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Sandy Olliges

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David Goodison

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Barbara Massey

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Richard Brumley

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Michael L. Hodgson

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DEPARTMENT OF THE AIR FORCE  
WASHINGTON 20330

OFFICE OF THE ASSISTANT SECRETARY

April 25, 1983

Mr. Reid T. Stone  
Regional Manager  
Pacific OCS Region  
Minerals Management Service  
1340 West Sixth Street  
Los Angeles, California 90017

Dear Mr. Stone:

This is to provide Air Force comments on the March 1983 Draft Environmental Impact Statement (DEIS) for the proposed outer continental shelf oil and gas lease sale No. 73, offshore central California.

The two military lease stipulations (Pages 2-11 and 2-12 of DEIS) will be required for protection of the Air Force mission offshore Vandenberg AFB, CA for all tracts within the proposed sale area. We understand that a problem regarding onshore air quality has been discussed with Vandenberg AFB personnel at a meeting with you on April 20, 1983.

Request you confirm that the military stipulations will be included in the notice of sale and that a resolution to the air quality problem has been reached. We plan to meet with the Minerals Management Service locally to discuss a Memorandum of Agreement between the Department of the Interior (DOI) and the military departments that will provide the Department of Defense requirements for stipulations and/or exclusions that are acceptable to DOI for future oil and gas lease sales in the outer continental shelf.

Sincerely,

JOHN O. RITTENHOUSE  
Deputy for Installations Management  
Deputy Assistant Secretary of the Air Force  
(Installations, Environment and Safety)

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APR 27 1983

1



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 1ST STRATEGIC AEROSPACE DIVISION (SAC)  
VANDENBERG AIR FORCE BASE, CALIFORNIA 93437

20 APR 1983

United States Department of the Interior  
Minerals Management Service  
Pacific OCS Region  
1340 West Sixth Street  
Los Angeles, CA 90017

Gentlemen

Initial review of the Draft EIS for the OCS sale number 73 has revealed several issues worthy of comment. The safety concerns of the Air Force Western Space and Missile Center were previously addressed, and satisfactorily resolved. An issue not addressed in the OEIS, but of crucial importance, concerns the impact on Vandenberg AFB in terms of air quality. The Draft EIS does not adequately address the cumulative effect of air emissions by OCS activities, including lease sale number 73, upon the air quality of both the Base and the County.

The DEIS should consider the OCS emissions, how they migrate on-shore, effects of the emissions on the Base ambient air quality, and how the increased levels will be considered by local regulatory agencies. The Standard Military Stipulation adequately addresses the range safety concerns, but does not mitigate for the air quality impacts. To fully mitigate, the leases should include a stipulation addressing air quality which includes requirements for monitoring, use of Best Available Control Technology (BACT), and attainment of on-shore state and national ambient air quality standards.

Other details concerning air quality, and other comments pertaining to the DEIS, will be addressed by another letter. Review of the DEIS has been difficult since copies of the document were not easily obtained, and review could not be completed in a timely manner. Therefore, we request an additional 30 day extension of the public comment period. Please send five copies of future documents to my address for staffing and review.

Sincerely,

JACK L. WATKINS, Maj Gen, USAF  
Commander

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DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 1ST STRATEGIC AEROSPACE DIVISION (SAC)  
VANDENBERG AIR FORCE BASE, CALIFORNIA 93437

18 MAY 1983

United States Department of the Interior  
Minerals Management Service  
Pacific OCS Region  
1340 West Sixth Street  
Los Angeles, CA 90017

USCS CONS. DIV.  
MAY 16 1983  
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LOS ANGELES

Gentlemen

I appreciate the opportunity you gave us to air our concerns about the development of OCS Lease #73 at our meeting of 20 April 1983. At that time, we delivered to Mr Stone and staff a letter (Atch #1) that generalized our comments relative to air quality. We have now been able to properly staff and review the Draft EIS. Attached are the more detailed comments (Atch #2) as promised in the aforementioned letter.

Your serious consideration of these comments will help support the "shared use" concept, and prevent OCS development from compromising our mission of national security.

Sincerely,

JACK L. WATKINS, Maj Gen, USAF  
Commander

2 Atch  
1. ISTRAO/CC Ltr, 20 April 83  
2. Comments on Draft EIS

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DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 1ST STRATEGIC AEROSPACE DIVISION (SAC)  
VANDENBERG AIR FORCE BASE, CALIFORNIA 93437

20 APR 1983

United States Department of the Interior  
Minerals Management Service  
Pacific OCS Region  
1340 West Sixth Street  
Los Angeles, CA 90017

Gentlemen

Initial review of the Draft EIS for the OCS sale number 73 has revealed several issues worthy of comment. The safety concerns of the Air Force Western Space and Missile Center were previously addressed, and satisfactorily resolved. An issue not addressed in the OEIS, but of crucial importance, concerns the impact on Vandenberg AFB in terms of air quality. The Draft EIS does not adequately address the cumulative effect of air emissions by OCS activities, including lease sale number 73, upon the air quality of both the Base and the County.

The OEIS should consider the OCS emissions, how they migrate on-shore, effects of the emissions on the Base ambient air quality, and how the increased levels will be considered by local regulatory agencies. The Standard Military Stipulation adequately addresses the range safety concerns, but does not mitigate for the air quality impacts. To fully mitigate, the leases should include a stipulation addressing air quality which includes requirements for monitoring, use of Best Available Control Technology (BACT), and attainment of on-shore state and national ambient air quality standards.

Other details concerning air quality, and other comments pertaining to the OEIS, will be addressed by another letter. Review of the DEIS has been difficult since copies of the document were not easily obtained, and review could not be completed in a timely manner. Therefore, we request an additional 30 day extension of the public comment period. Please send five copies of future documents to my address for staffing and review.

Sincerely,

JACK L. WATKINS, Maj Gen, USAF  
Commander

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Atch 1

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File 11-6-1  
fi

1. References:

- a. WSMC/SEY ltr, 17 December 1980, "Comments on Proposed Outer Continental Shelf (OCS) Oil and Gas Lease Sale #73 Off-shore California."
- b. WSMC/SE ltr, 1 April 1983, "Comments on Draft Environmental Impact Statement, OCS Sale #73, March 1983."
- c. ISTRAO/CC ltr, 20 April 1983, Comments on Draft EIS for the OCS Sale #73.

2. These comments are in addition to those contained in the letter of 17 Dec 80 and emphasize that the "shared use" concept of the area using military stipulations is viable only so long as the additional activity does not compromise the military mission. Military security has not been addressed in the "military stipulation". A minimum requirement is that all photography of military events be prohibited because of National Security considerations.

3. Vandenberg AFB has developed a progressive environmental plan in order to participate fully in the Santa Barbara County efforts to meet clean air standards.

a. Uncontrolled OCS emissions could deteriorate the VAFB air quality to a point that the Santa Barbara County Air Pollution Control District (SBAPCO) could require more expensive emission controls and/or limit the development of new programs at Vandenberg.

b. The Final EIS should consider the cumulative OCS emissions, how they migrate on-shore, effects of the emissions on the Base ambient air quality, and how the increased levels will be considered by local regulatory agencies.

c. The processing of the crude has not been discussed. The potential effects of this on Santa Barbara County need to be addressed.

4. Specific comments on the DEIS:

a. Section IV.E.I.C., pages 4-84 through 4-92.

(1) The projected increments of additional ozone due to the "Most Likely Resource Estimates" (consisting of five permanent production platforms) range from 1 to 5 ppm from Nipomo to Goleta. However, the specific impacts at Lompoc/VAFB are not calculated. The data contained in Table III.A.8.-2, page 3-24 indicate that E and F Stability classes occur at Vandenberg AFB and Pt Arguello 57.4% and 56.2% of the time, respectively. These are the atmospheric stability classes most conducive to maximizing air pollutant concentrations. Thus, it is reasonable to assume that the maximum ozone impacts in Lompoc/VAFB area from OCS development would occur much more frequently than currently projected for the specific locations addressed in the EIS.

Atch 2

(2) VAFB is operating two air monitoring stations, one near the coast at Pt Purisma and one inland in the main base area. These units have been implemented in conjunction with the SBAPCO. Ozone levels at the coastal site tend to average 1 ppm above the inland site. From March 82 through February 83 the following ozone data have been recorded at the main base station:

Maximum Hourly Averages for Ozone in PPHM	No. of hours at Specified Level
7	76
8	18
9	7
10	2

If the projected increases of 1 to 5 ppm due to OCS development occur, the potential exists for the O<sub>3</sub> concentration to frequently exceed the National Ambient Air Quality Standard (NAAQS) of 12 ppm. Two or more hours per year at a level of 12 ppm or greater will cause this area to be designated nonattainment.

(3) The OCS impact projections for O<sub>3</sub> are based upon a mathematical model that appears to be providing estimates below actual monitored data. The maximum background O<sub>3</sub> concentration calculated for Goleta was 4 ppm, yet several exceedances of the 12 ppm level are recorded each year at Goleta.

b. Section IV.I.1.c, page 4-215.

(1) The incremental ozone burden projected to occur at Nipomo from the Conditional Mean Resource Level (CMRL) development (consisting of 30 permanent production platforms) is 4 ppm. If CMRL development were to occur, exceedances of the ozone standard in Lompoc/Vandenberg area would be virtually guaranteed.

(2) BACT for NOx and Volatile Organic Compounds (VOC) emissions are proposed, but not committed to for the Total Development scenario. BACT controls are mandatory if violations of the NAAQS for ozone at Vandenberg are to be avoided.

c. Section IV.H.iii, page 4-234. "No tourism occurs at the beaches contained in VAFB." VAFB has had and will continue to have some of its beaches open to the public. In addition, public beaches are located on both the north and south ends of the base as well as one at the mouth of the Santa Ynez River in the center of Vandenberg.

d. The process for drill mud disposal must be explained. There are limited Class I landfills available and the amount of drill mud disposed in them could greatly reduce their capacity for other hazardous materials.

5. Vandenberg's primary air quality concern is to ensure that the OCS development is properly managed. The Sale #73 DEIS contains projected increases in ozone that will adversely impact the ambient ozone levels in the Vandenberg AFB area and jeopardize our ability to comply with the NAAQS. Vandenberg AFB is obligated to comply with county rules for air pollution control. If the OCS oil development emissions are not adequately controlled, then more

emission controls or offsets will be required of Santa Barbara County residents. As a minimum, this will require a greater effort and increased costs for Vandenberg as a county resident. A worse case could mean limiting operations of existing and future AF programs to give appropriate emission offsets; this is not acceptable to the Air Force.

6. In order to mitigate these potential impacts, the following stipulations should be included in the leases:

a. BACT should be required on all equipment in OCS #73, whether it will be temporary or permanent.

b. Off-shore fuel consumption, throughput and power consumption need to be recorded.

c. Marine vessel emissions, construction, and transportation emissions need to be controlled.

d. The leases are environmentally considered individually. They need to be looked at in toto, so that the cumulative effects can be projected. At present, VAFB is showing ozone at .10 ppm. The standard is .12. It will not take much to put VAFB above the standard.

e. All flaring operations should be equipped with emission control equipment to reduce the SO<sub>2</sub> in the gas.

f. Vapor recovery units should be operational while testing wells, and the gases scrubbed before going to flare.

g. A well documented Emission Summary with supporting calculations that is kept current is essential.

7. These requirements are some of the bare essentials in order for VAFB not to be unduly impacted under the "shared use" concept of the OCS. The costs to be incurred by the OCS development and responsibility for the environment must be shared equitably rather than transferred to the on-shore occupants. The mission at VAFB - the security of the nation - must not be adversely affected by off-shore oil development.



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS SPACE AND MISSILE TEST ORGANIZATION (AFSC)  
VANDENBERG AIR FORCE BASE, CALIFORNIA 93437

1 APR 1983

REPLY TO:  
ATTN OF: WSMC/SE

SUBJECT: Comments on Draft Environmental Impact Statement, OCS sale no. 73, March 1983.

TO: Department of Interior  
Minerals Management Service  
Pacific OCS Office  
ATTN: Mr. Robert Karpas  
1340 W. Sixth St. Room 200  
Los Angeles, California 90017

1. This letter is to retransmit our letter of 10 Dec 1980 to your office, re-emphasize our concern for safety of missile and oil company operations and repeat our request to include the "shared use" military stipulations in the appropriate leases.

2. Oil industry operations in such close proximity to the missile and space booster operations at Vandenberg AFB create a mutual concern for safety. Coordination of all operational activities is essential if an acceptable degree of safety is to be achieved. The "shared use" military stipulations are the first step toward achieving a mutually acceptable safety environment.

3. Request the military stipulations be made part of the appropriate OCS leases as listed in the attached 17 December 1980 letter.

*Theodore J. Eckert*  
THEODORE J. ECKERT, Colonel, USAF  
Director of Safety

1 Atch  
WSMC/SEY ltr, 17 Dec 80

Cy to: WSMC/JA

RECEIVED  
APR 29 1983



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS WESTERN SPACE AND MISSILE CENTER (AFSC)  
VANDENBERG AIR FORCE BASE, CALIFORNIA 93437

17 DEC 1980

REPLY TO  
ATTN OF SEY

SUBJECT: Comments on Proposed Outer Continental Shelf (OCS) Oil and Gas Lease Sale #73 Offshore California

TO: Department of Interior  
Bureau of Land Management  
Pacific OCS Office  
1340 W. Sixth St., Room 200  
Los Angeles, California 90017

1. The Department of Interior Bureau of Land Management News Release dated November 28, 1980 requested nominations and comments on OCS Sale #73 currently scheduled for May 1983. The sale area is south from the California/Oregon border to the U.S. - Mexican border and covers the same Geographic area as previous OCS Sales #35, #48, #53 and #68. This letter is to reiterate the same U.S. Air Force Western Space and Missile Center (WSMC) "shared use" conditions and stipulations for Sale #73 that were specified earlier for the previous sales.

2. The U.S. Air Force Western Space and Missile Center (WSMC) is located at Vandenberg AFB, California. Vandenberg AFB is near Point Arguello and Point Conception at the western end of Santa Barbara Channel. The WSMC Commander operates and maintains the Western Test Range (WTR) as a national range in support of weapon system, missile and space vehicle tests. Ballistic missiles are launched to the west and southwest from Vandenberg AFB and impact 5000 miles downrange in the vicinity of Kwajalein and Guam in the South Pacific Ocean. Some of the nation's largest booster rockets are used to launch space vehicles into polar orbit from Vandenberg AFB. Trajectories for space vehicle launches will vary from southeast to southwest and may overfly the Santa Barbara Channel Islands.

3. The WSMC Commander is responsible for the safe conduct of all missile launches from Vandenberg AFB. In order to fulfill this safety responsibility and accomplish the WSMC missile launch missions in support of national objectives, WSMC requires the coordination and cooperation of all agencies conducting operations in the ocean waters adjoining Vandenberg AFB. The oil company lessee's assurance of the required coordination and cooperation is achieved by mutually acceptable "shared use" stipulations written into selected leases at the time of sale by the Department of Interior. The "shared use" stipulations include "Hold Harmless", "Shelter/Evacuate", and "Control of Electromagnetic Emissions" provisions (attachment 1).

SEE FILE COPY

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ATCH 1

4. The "shared use" agreements (lease and permit stipulations) are designed to allow the oil or mineral extraction lessee almost continuous use of selected areas except for relatively short and infrequent periods of time when the area is required by the U.S. Air Force for missile launches. The protection of life and property is a primary concern of the WSMC Commander. If the Commander determines the missile hazards at a particular site location to be unacceptable, he may order the temporary "evacuation" of an oil rig, or he may require a reduced level of operation with a minimum crew in a "sheltered" condition. The "sheltering" or "evacuation" requirement is to be determined by the Commander depending upon the conditions planned for and prevailing at the time of launch.

5. Duration of an evacuation should not exceed six hours and duration of sheltering should not exceed 30 minutes, although preparation and completion of these conditions may require a longer period of time, depending on location, transportation conditions, and other pertinent factors. Communication and coordination procedures will be designed to meet each situation. Standardization of procedures is desired and they will be coordinated through the Western Oil and Gas Association (WOGA). Questions or comments on these procedures should be referred to WSMC/SEY, (805) 866-3602.

6. As depicted on attachment 2, "shared use" stipulations are required in the leases and drilling permits for the tracts in the following areas:

a. All tracts south of the Santa Barbara Channel Islands and west of a line drawn through San Clemente Island and a point two miles west of Santa Barbara Island and extending to Santa Cruz Island. All tracts south of 35° N latitude and west of a 315° line of bearing from Point Sal.

b. All tracts in the Santa Barbara Channel west of a line from Vandenberg AFB to the eastern end of Santa Rosa Island.

c. Tracts in the Santa Barbara Channel between the two lines extending southeast from Vandenberg AFB require only the "Hold Harmless" stipulation. Attachment 3 is a list of tracts requiring all the attachment 1 stipulations. Attachment 4 is a list of tracts in the Santa Barbara Channel which require only the "Hold Harmless" stipulation. There are no current missile safety requirements necessitating deletion of any tract(s) from the sale.

7. Our OCS Oil Lease Sale Impact Study dated 3 September 1973 is still a valid study and provides the basis for designation of Attachment 3 and 4 tracts and the requirement for "shared use" stipulations. We are requesting AFSC/TEUP forward the WSMC parcel/stipulation requirements to the appropriate military headquarters to ensure they are considered in any consolidated Department of Defense response to the Department of Interior.

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2

8. We request you plan to include attachment 1 stipulations in the leases for those OCS tracts listed in attachments 3 and 4 as appropriate.

CHARLES F. WILHELM, Colonel, USAF  
Director of Safety

- 4 Atch  
1. "Shared Use" Stipulations  
2. Map  
3. Parcel List  
4. Parcel List

Cy to: AFSC/OE/TEUP  
SO/OE/SE  
SAMTO/DO/DDS  
4392 ASG/OE/OEV  
USACOE (Mr Zawadski)  
PMTIC (Code 3200-5)  
OI/USGS (Mr Ounaway)  
State Lands Commission  
(Mr Willard)  
NASA/Real Estate (Ms Haber)  
NASA JSC Safety Office  
(Mr Rod Rose)  
NASA/KSC Shuttle Resident  
Office (Mr P. Murphy)  
AFRCE, West Rgn  
Area Conservation Mgr  
Dir, U.S. Geological Survey  
Dir, Bureau of Land Mgmt  
WSMC/CC/JA/RO/XXP  
6595 STSTG/CC/TS  
6595 MTG/CC  
6595 STG/CC

AFSC/LGAR

Card: SE SEY

*see parcel changes on memo letter AA*

3

HOLD HARMLESS

1. Whether or not compensation for such damage or injury might be due under a theory of strict or absolute liability or otherwise, the lessee assumes all risks of damage or injury to persons or property, which occurs in, on, or above the Outer Continental Shelf, to any person or persons or to any property of any person or persons who are agents, employees or invitees of the lessee, its agents, independent contractors or subcontractors doing business with the lessee in connection with any activities being performed by the lessee in, on, or above the Outer Continental Shelf, if such injury or damage to such person or property occurs by reason of the activities of any agency of the U. S. government, its contractors or subcontractors, or any of their officers, agents or employees, being conducted as a part of, or in connection with, the programs and activities of the Western Space and Missile Center (WSMC), the Pacific Missile Test Center (PMTIC), or other appropriate military agency.

2. The lessee assumes this risk whether such injury or damage is caused in whole or in part by any act or omission, regardless of negligence or fault, of the United States, its contractors or subcontractors, or any of their officers, agents, or employees. The lessee further agrees to indemnify and save harmless the United States against all claims for loss, damage, or injury sustained by the lessee, and to indemnify and save harmless the United States against all claims for loss, damage, or injury sustained by the agents, employees, or invitees of the lessee, its agents or any independent contractors or subcontractors doing business with the lessee in connection with the programs and activities of the aforementioned military installations and agencies, whether the same be caused in whole or in part by the negligence or fault of the United States, its contractors, or subcontractors, or any of their officers, agents, or employees and whether such claims might be sustained under theories of strict or absolute liability or otherwise.

OPERATIONAL  
(Shelter/Evacuate)

1. The lessee agrees that when operating or causing to be operating on its behalf boat or aircraft traffic into individual designated warning areas, the lessee shall coordinate and comply with instructions from the Commander of the appropriate onshore military installation i.e., the Western Space and Missile Center (WSMC), the Pacific Missile Test Center (PMTIC), or other appropriate military agency, when utilizing an individual designated warning area prior to commencing such traffic. Such coordination and instruction will provide for positive control of boats and aircraft operating into the warning areas at all times.

2. The lessee, recognizing that mineral explorations and exploitation and recovery operations on the leased areas of submerged lands can impede tactical military operations, hereby recognizes and agrees that the United

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ATCH 1

States reserves and has the right to temporarily suspend operations of the lessee under this lease in the interests of national security requirements. Such temporary suspension of operations, including the evacuation of personnel, and appropriate sheltering of personnel not evacuated, (an appropriate shelter shall mean the protection of all lessee personnel for the entire duration of any Department of Defense activity from flying or falling objects or substances) will come into effect upon the order of the Commander, Western Space and Missile Center (WSMC) or his authorized designee, the Pacific Missile Test Center (PMTIC), or higher authority, that national security interests necessitate such action. It is understood that any temporary suspension of operations ordered by said official may not exceed seventy-two hours, however, any suspension may be extended by order of the Secretary of Defense. During such periods equipment may remain in place.

3. The lessee agrees to control his own electromagnetic emissions and those of his agents, employees, invitees, independent contractors or subcontractors emanating from individual designated defense warning areas in accordance with requirements specified by the Commander of the appropriate onshore military installation i.e., the Western Space and Missile Center (WSMC), and the Pacific Missile Test Center (PMTIC), or other appropriate military agency, to the degree necessary to prevent damage to, or unacceptable interference with, Department of Defense flight, testing or operational activities conducted within individual designated warning areas. Necessary monitoring, control, and coordination with the lessee, his agents, employees, invitees, independent contractors and subcontractors, will be effected by the Commander of the appropriate onshore military installation conducting operations in the particular warning area: Provided, however, that control of such electromagnetic emission shall permit at least one continuous channel of communication between a lessee, its agents, employees, invitees, independent contractors and subcontractors and onshore facilities.

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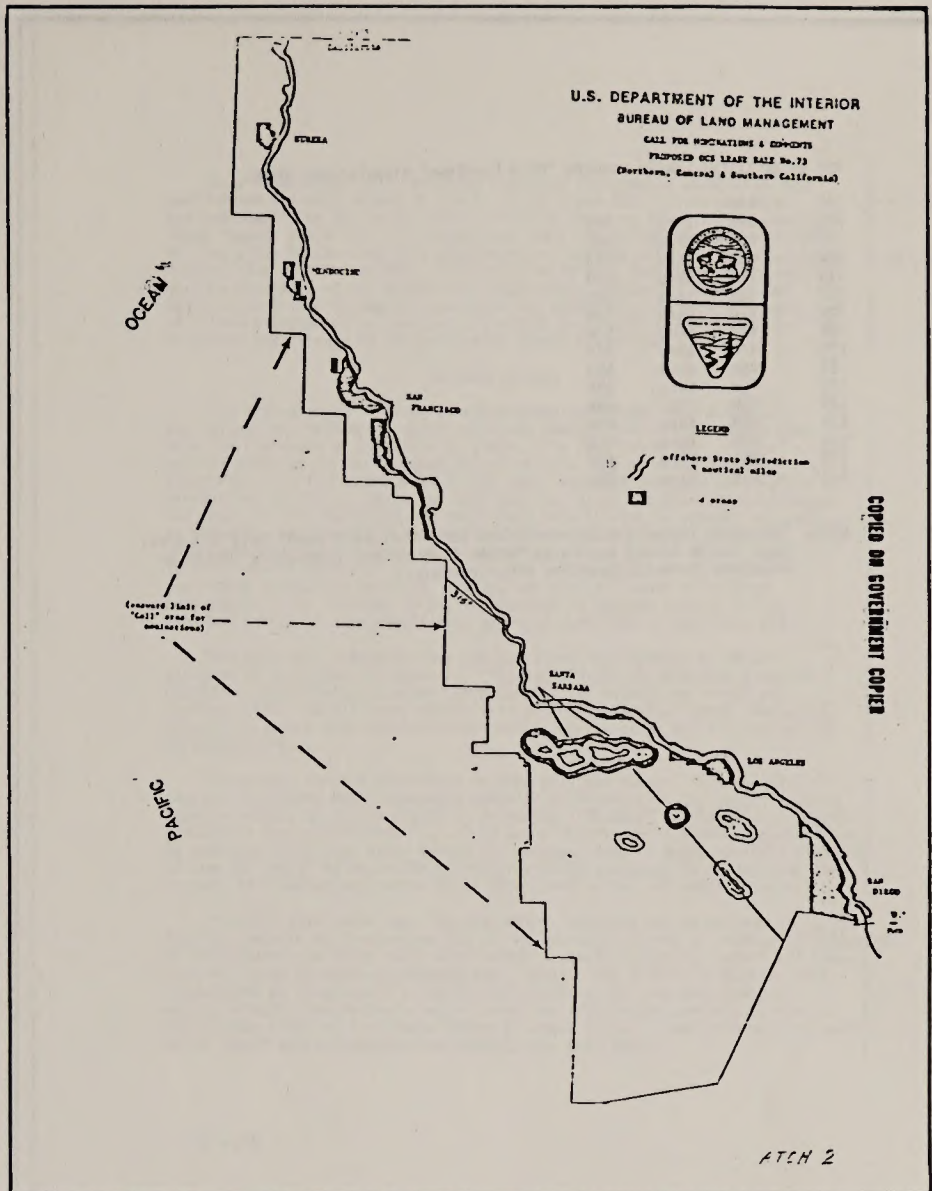
ATL 1

The below listed tracts require "Hold Harmless", "Shelter-Evacuate" and "operational" stipulations.

93W	-	45N	thru	46N
92W	-	45N	thru	46N
91W	-	45N	thru	46N
90W	-	45N	thru	55N
89W	-	45N	thru	55N
88W	-	45N	thru	55N
87W	-	45N	thru	55N
86W	-	45N	thru	55N
85W	-	45N	thru	55N
84W	-	15N	thru	25N and 44N thru 55N
83W	-	15N	thru	25N and 43N thru 55N
82W	-	15N	thru	55N
81W	-	15N	thru	53N
80W	-	15N	thru	53N
79W	-	4N	thru	53N
78W	-	4N	thru	54N
77W	-	4N	thru	52N
76W	-	4N	thru	51N
75W	-	4N	thru	49N
74W	-	4N	thru	48N
73W	-	4N	thru	46N
72W	-	4N	thru	41N
71W	-	4N	thru	42N
70W	-	4N	thru	42N
69W	-	4N	thru	42N
68W	-	4N	thru	42N
67W	-	4N	thru	42N
66W	-	4N	thru	42N
65W	-	4N	thru	42N
64W	-	4N	thru	42N
63W	-	4N	thru	43N
62W	-	4N	thru	43N
61W	-	4N	thru	41N
60W	-	4N	thru	40N
59W	-	4N	thru	39N
58W	-	4N	thru	37N
57W	-	10N	thru	35N
56W	-	10N	thru	35N
55W	-	10N	thru	33N
54W	-	10N	thru	30N
53W	-	10N	thru	30N
52W	-	10N	thru	29N
51W	-	10N	thru	28N
50W	-	10N	thru	27N
49W	-	10N	thru	26N
48W	-	10N	thru	25N
47W	-	10N	thru	23N
46W	-	10N	thru	15N

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ATL 3



ATCH 2

45W	-	10N	thru	17N
44W	-	10N	thru	16N
43W	-	10N	thru	15N
42W	-	10N	thru	15N
41W	-	10N	thru	15N
40W	-	10N	thru	14N
39W	-	7N	thru	13N
38W	-	7N	thru	12N
37W	-	7N	thru	10N
36W	-	7N	thru	9N
35W	-	7N	thru	8N

All parcels south of 35° N latitude and west of a 315° line of bearing from Point Sal.  
Includes parcels number:

485	through	497	San Luis Obispo Chart N1 10-3
529	"	542	
573	"	587	
617	"	632	
661	"	677	
705	"	722	
749	"	767	
793	"	812	
837	"	857	
881	"	902	
925	"	949	
969	"	993	

1	"	24	Santa Maria Chart N1 10-6
45	"	68	
89	"	113	
133	"	157	
177	"	201	
221	"	245	
265	"	289	
309	"	333	
353	"	376	
397	"	421	
441	"	467	
485	"	503	
529	"	547	
573	"	591	
617	"	635	
661	"	679	
705	"	723	
749	"	768	
793	"	812	
837	"	856	
881	"	899	
925	"	950	
969	"	995	

NOTE: The above listed tracts are in the Sale #73 area. Some tracts listed may be in Marine Sanctuaries, previously leased or withdrawn from the sale for other reasons.

32

The below listed tracts require "Hold Harmless" stipulations only.

77W	-	53N	
76W	-	52N	thru 54N
75W	-	50N	thru 54N
74W	-	49N	thru 54N
73W	-	47N	thru 53N
72W	-	46N	thru 53N
71W	-	47N	thru 52N
70W	-	47N	thru 52N
69W	-	47N	thru 51N
68W	-	46N	thru 50N
67W	-	46N	thru 49N
66W	-	45N	thru 49N
65W	-	45N	thru 48N
64W	-	46N	thru 47N
63W	-	46N	thru 47N
62W	-	45N	thru 46N

NOTE: The above listed tracts are in the Santa Barbara Channel Sale #73 area. Some tracts listed may be in Marine Sanctuaries, previously leased or withdrawn from the sale for other reasons.



DEPARTMENT OF THE ARMY  
LOS ANGELES DISTRICT, CORPS OF ENGINEERS  
P. O. BOX 2711  
LOS ANGELES, CALIFORNIA 90033

RECEIVED  
APR 26 12 25 PM '83

IN REPLY REFER TO  
SPLPD-R

April 25, 1983

MINERALS MANAGEMENT SERVICE  
PACIFIC OUTER CONTINENTAL SHELF  
LOS ANGELES, CALIFORNIA

Regional Manager  
Pacific OCS Region  
Minerals Management Service  
1340 West Sixth Street  
Los Angeles, California 90017

Dear Sir:

This is in response to a letter from your office which requested review and comments on the Draft Environmental Impact Statement (DEIS) for the proposed 1983 Outer Continental Shelf Oil and Gas Lease Sale offshore central California (OCS Sale No. 73).

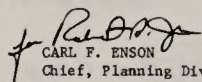
Conclusions in the DEIS concerning significance of impacts are based on the "expected" conditions of one oil spill of greater than 1,000 barrels (bbls) contacting land segments or targets. However, it appears that impacts due to higher frequency, lower magnitude spills, or spills which may be larger but which may not reach land, were not considered or assigned much weight in significance determinations. An analysis of cumulative impacts on water quality and fish and wildlife, both within and outside of the sale area, should be presented in the DEIS incorporating these types of events, as well as an analysis of impacts of larger (10,000 bbls or more) catastrophic events.

Section 10 permits will be required from the Corps of Engineers, should the United States Coast Guard's approved "traffic separation scheme" be extended past Point Conception. Permits will also be required for any pipeline placed in State waters, or for any work along the coast that falls below the Mean High Tide Line. We suggest that you contact our Regulatory Functions Branch at telephone (213) 688-5606 regarding requirements for filing permit applications at your earliest convenience in order to expedite the permitting processes.

-2-

Thank you for the opportunity to review and comment on this document.

Sincerely,

  
CARL F. ENSON  
Chief, Planning Division



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
Washington, D.C. 20235  
OFFICE OF THE ADMINISTRATOR

April 26, 1983

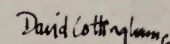
United States Department of the Interior  
Minerals Management Service  
Pacific Outer Continental Shelf  
1340 W. Sixth Street  
Los Angeles, CA 90017

Dear Sir:

This is in reference to your draft environmental impact statement for the proposed OCS Oil and Gas Lease Sale No. 73, Central California. Enclosed are comments from the National Oceanic and Atmospheric Administration.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving 15 copies of the final environmental impact statement.

Sincerely,

  
Joyce M. Wood  
Chief  
Ecology and Conservation Division

Enclosure

cc: Dan Henry  
Minerals Management Service  
18th & C Street, N.W.  
Washington, D.C. 20240



10TH ANNIVERSARY 1970-1980  
National Oceanic and Atmospheric Administration  
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tradition of service to the Nation





UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION COMMENTS ON  
CENTRAL CALIFORNIA LEASE SALE NO. 73

The National Oceanic and Atmospheric Administration (NOAA) has reviewed the Draft Environmental Impact Statement (DEIS) on the proposed Central California Lease Sale No. 73. Our comments on this document follow:

Fisheries and Marine Mammals

NOAA's National Marine Fisheries Service (NMFS) has reviewed the sections of the DEIS pertinent to its programmatic responsibilities. NMFS reports that the DEIS provides a lengthy discussion of the species of fish targeted by commercial fishermen and the methods used to catch those species.

The DEIS indicates that more detailed information on the commercial fisheries of central and northern California is provided in the final environmental impact statement for OCS Lease Sale No. 53. Additionally, the California Department of Fish and Game "Atlas of California Coastal Marine Resources" is also cited as a source of information on the locations of specific fishing sites in the area. While both of these documents are of general use in determining where commercial fishing activities take place, they provide little information as to the intensity of the fishing pressure on an areal basis. 5.1

Such information can be developed however using available, though unpublished, Loran-C coordinate readings from logbook data provided to the California Department of Fish and Game by commercial fishermen who trawl the area. This information on the intensity of fishing pressure, and site specific data on species caught can be extremely useful in averting conflicts between commercial fishing activities and oil and gas operations. We recommend that such data be compiled and included in the final EIS for Lease Sale No. 73. 5.2

We have further concerns regarding marine mammals. The California Department of Fish and Game has identified in excess of 21 harbor seal hauling sites adjacent to the lease area (Miller et al. 1982, Draft report, Harbor seal, *Phoca vitulina*, censuses in California, 1981 and 1982). Pups have been observed at several of these sites indicating the use of those haul outs as rookeries. The principal rookeries in the sale area are located between Point San Luis and Diablo Cove. One of the largest harbor seal rookeries in California is located southeast of the sale area, between Point Conception and Government Point. 5.3



We are concerned that increased levels of disturbance associated with exploration and development of tracts in the Santa Maria Basin may have adverse impacts on the harbor seals utilizing the area and adjacent coastline. These impacts could vary from occasional startling of harbor seals off their hauling sites to the long term abandonment of hauling sites or rookery areas. A worst case effect from this disturbance would be a reduction in the reproductive potential of the harbor seal population. Given the level of OCS activity described in the EIS, we think the probability of severe impacts due to direct disturbance is low; but activities that have the potential for affecting the fitness of the population should be avoided. 5.4

Recommendations

The most probable sources of disturbance to coastal marine mammal populations are helicopter overflights and coastal construction associated with the placement of pipelines on shore. The DEIS notes that lessees will be notified in the Proposed Notice of Sale that aircraft will be restricted from flying below 1200 feet near important pinniped and seabird terrestrial habitats. Since the seal haul out sites are distributed throughout the area, we recommend that the overflight restrictions be amended to apply to a 1-mile lateral zone along the coastline adjacent to the sale area. We also recommend that the text of the overflight provision as it will appear in the Proposed Notice of Sale be included in the final EIS in the section describing mitigating measures. We believe that all other provisions anticipated to be included in the Information to Lessees section of the Proposed Notice of Sale should also be fully described in the final EIS. 5.5

The DEIS also indicates that two pipelines are expected to be constructed to bring the oil onshore. Planning efforts to determine pipeline corridors should fully consider the potential for disturbing harbor seal hauling sites. We will continue to work closely with the Minerals Management Service to ensure that onshore construction activities do not disrupt hauling or rookery sites. 5.6

To provide further protection to near pristine coastal fish and shellfish coastal resources, NOAA recommends adoption of Alternative II, establishing a 10-mile protection zone centered on Morro Bay. As noted in the DEIS, a 10-mile protection zone would allow "... a) 12 hours for oil spill cleanup equipment to be deployed in 20 knot winds before oil reaches shore allowing possible diversion of the oil and b) 12 hours for oil spill cleanup equipment to be deployed and 5 hours for cleanup activities in 15 knot winds before oil reaches shore." 5.7

The DEIS also notes that "In many cases, the best way to protect shoreline from oil impacts is to disperse the oil at sea with the use of chemical dispersants. If dispersants are to be used, they probably should be applied before oil comes within 5 miles of shore (Lindstedt-Siva, 1977). The 10-mile protection zone established by Alternative II would also increase the time that the oil, moving directly toward shore, would reach the shore (approximately 12 hours). During this time, a significant amount of evaporation, dissolution and weathering of oil would occur, reducing the quantity and toxicity." 5.8



United States  
Department of the Interior

Fish and Wildlife Service  
Lloyd 500 Building, Suite 1692  
500 N.E. Multnomah Street  
Portland, Oregon 97232

In Reply Refer To: Your Reference:

April 22, 1983

Mr. Reid T. Stone  
Regional Manager  
Pacific OCS Region  
Minerals Management Service  
1340 W. Sixth Street  
Los Angeles, California 90017

Dear Mr. Stone:

This memorandum is in response to your request of March 9, 1983, for comments concerning the Draft Environmental Impact Statement, Proposed 1983 Outer Continental Shelf Oil and Gas Lease Sale Offshore Central California, OCS Sale No. 73. We have reviewed the subject document and attended the public hearings held in Santa Maria, California, on April 13, 1983. Our comments are as follows:

General Comments

The reliance on Sale 53 FEIS as a "background and backup" document for the Sale 73 DEIS makes it somewhat difficult to evaluate the document. We find the non-designation of specific tracts and the adoption of broad area designations to be a complicating factor in our review.

The DEIS is a reasonably current summary of published literature with the application of results from Minerals Management Service, Bureau of Land Management, State of California, and privately sponsored research since Sale No. 53. However, the sections concerning ocean fisheries seem to depend too heavily on 1976 commercial and party boat catch statistics compiled by the California Department of Fish and Game. The descriptive section on the various commercial fish stocks does provide some limited current (1982) information relative to the Santa Maria Basin. Information describing the longline, deepwater trawling, and the developing spot prawn fisheries from the California Department of Fish and Game and the Pacific Fisheries Management Council could be incorporated. 6.1

Information from three oil company sponsored biological reconnaissance studies for tracts in the Santa Maria Basin is cited in the DEIS. It appears that additional information from these studies concerning rock outcroppings and similar areas in the Santa Barbara Channel could be used to describe the extent of these features in the project area, the habitat value, relative scarcity, environmental sensitivity, and richness. 6.2

A recent proposed listing of Morro Bay as a Marine Sanctuary (Federal Register Vol. 48, No. 41, March 1, 1983) should be discussed in any subsequent revisions of the DEIS and in the FEIS. 6.3

In reference to the distribution and abundance of sea otters, the kinds of major shifts in the distribution cited in the DEIS are probably not real. Except at the ends of the range south of Pt. Estero and north of Monterey, these shifts do not appear in the analyses of the ground surveys (which is generally agreed are more accurate) or in the results of tagging studies. The relative abundance data obtained by the University of California Santa Cruz (UCSC) aerial surveys are quite variable, while the ground surveys are not. Since the UCSC surveys were not designed specifically to obtain sea otter population data and are more variable, inferences made using this information should be made with caution. It is suggested that the section describing the distribution and abundance of sea otters (III.B.6., pgs. 3-41 through 3-46) be revised using information contained in Estes and Jameson (1983a, 1983b). 6.4

More detailed information should be provided in the FEIS concerning the potential relationships among oil spills, the Davidson Current, and the status of the California sea otter population. Documentation should include reference to VanBlaricom and Jameson (1982). 6.5

Specific comments concerning the DEIS are attached (see Attachment 1).

In summary, the draft environmental impact statement for the proposed lease sale describes most of the environmental issues in an acceptable manner. It is suggested that some of the alternatives (e.g. deletion of nearshore tracts) proposed during the public hearings in Santa Maria be considered for possible inclusion in the final environmental impact statement. We appreciate the opportunity to comment on this document. If you have any questions, please do not hesitate to contact us.

Sincerely yours,

*Richard I. Myshak*  
Richard I. Myshak  
Regional Director

Attachments

Attachment 1

Specific Comments

Page iii. The summary of potential impacts under the biological environment section does not list sea otters. This implies that the effects of the proposed action on sea otters will be "very low" (p. 2-18). Given the results of the oil spill risk analysis for the proposed action (LaBelle et al. 1983 draft; IV.4.E.2.d. (p. 4-111) and Table IX.F-1), such an omission is inappropriate.

6.6

Page 3-50. It should be noted that the distribution of gray, humpback, and right whales is in coastal waters rather than in offshore waters as are the other whales listed in Table II.B.6-1.

6.7

Page 3-52. Scientific name for California least tern is Sterna antillarum browni.

6.8

Page 3-52. The discussion of the estuarine food web should include the role of attached, floating, and decaying algae.

6.9

Page 3-55. The list of Estuaries of Ecological Concern in central California should include San Luis Obispo Creek, Pismo Creek, Oceano Lagoon/Arroyo Grande Creek, San Antonio Creek, Jalama Creek, and other estuarine/lagoon areas. Wetlands of the San Luis Obispo and northern Santa Barbara coast should be delineated by use of a map and/or table. Their value to steelhead trout, migratory waterfowl and shorebirds, and resident passerine species, including endangered species, could also be depicted in a tabular manner. Additional information concerning area of ecological importance can be found in the Pacific Coast Ecological Inventory User's Guide and Information Base (FWS/OBS-81/30).

6.10

Page 2-23. The following two sentences should be rewritten: "The status of the Southern sea otter is questionable. Until it is determined whether the population is still increasing or is decreasing, predictions are impossible." It is suggested that the revised sentences read as follows: "The Southern sea otter was listed as threatened under the Endangered Species Act of 1973 in 1977. At the present time the population is at best stable with no signs of growth since about the mid-1970's." Support for these statements can be found in two manuscripts recently provided to your staff. These are: (1) Estes and Jameson (1983a draft) and (2) Estes and Jameson (1983b draft). Additional information is contained in Estes (1981).

6.11

Page 3-38. Sei whale is also on the Federal list of endangered species. A word is missing from the second line from bottom, end of sentence.

6.12

Page 3-41. Pinnipeds, lines 5 and 6. The two most abundant pinnipeds on land are the northern elephant seal and the California sea lion. The scientific name of the northern fur seal is Callorhinus ursinus.

6.13

Page 3-41. The Center for Coastal Marine Studies, University of California-Santa Cruz (1980) study is not the only source of information available on distribution and abundance of sea otters. Additional information is available from the Fish and Wildlife Service's (FWS) Piedras Blancas Field Station.

6.14

Page 3-44. It should be noted that there is now some fairly strong evidence indicating the population may be less than the 1800 animals cited.

Cayucos Pt.: Peak numbers of sea otters occur from Morro Bay to Cayucos Pt. during the winter-spring period. This peak is not due to the influx of breeding animals, but due to the influx of males during the non-breeding season. This information is available from California Department of Fish and Game (CDFG) aerial survey counts at the ends of the range, and Sue Benesh's Pacific Gas and Electric Company reports.

6.15

Page 3-44. Cambria-Piedras Blancas: The conclusion that large numbers of otters move north from the Cambria-Piedras Blancas area is not supported by counts made by FWS and CDFG in 1976 and 1982. A June count in 1976 showed that 12.5% of the population was in the area. A spring 1982 count and a fall 1982 count showed that 15.5% and 15.1% of the population was found in the area, respectively. These data indicate a relatively constant number of animals in the area. It is true, males do begin to move into reproductive areas in the last spring/early summer period, but the distribution is diffuse and changes due to their influx are barely discernable.

6.16

Page 3-44. Cape San Martin-Pt. Sur:

The three counts cited above yield, at different seasons and years, 28, 27, and 25% of the otters, respectively, in the area. This is, in every case, lower than stated in the EIS.

6.17

Page 3-44. Pt. Lobos-Monterey Harbor:

FWS and CDFG counts in the area yield 17.3, 13.5, and 15.3 percent of the total population, respectively, during the summer 1976, spring '82, and fall '82 counts. The higher figure in 1976 may well represent a true change in composition and distribution in the Monterey area since a large male group was located off Hovden cannery at that time. By 1981, if anything, the population

6.18

in the vicinity should have increased slightly by immigrating males. However, this change would be minor and difficult to discern. A decrease attributable to southward movement is probably not real, but an artifact of the sampling technique.

Pages 4-4 to 4-18. The oil spill model may need additional refinement to incorporate the higher tidal and storm energy states from westerly and southwesterly storms, as experienced on the California coast during the winter of 1982-83.

6.19

Page 4-33. Table IV.A.8.a-1 should also include information from the proposed production platforms from Sale 53 in the Santa Maria Basin to give a better picture of the scale of cumulative discharge of effluents, muds, and cuttings. This table contrasts with a statement on page 4-132 mentioning 30 platforms.

6.20

Other information in this section on effluents and discharges is highly informative and summarizes most of the published water quality data from OCS discharges. However, the application of results from mid-Atlantic, Gulf of Mexico, Cook Inlet, and even the Tanner-Cortez Bank may be inappropriate to the Santa Maria Basin.

Page 4-52. There should be mention of the Fisheries Training stipulation.

6.21

Page 4-111. The analysis given regarding the direct contact of oil on sea otters is inadequate. The statement that "Sea otters are expected to suffer high mortality due to direct contact with oil" should be stronger. We believe that exposure of sea otters to crude oil in natural environments will result in death. Our view is supported by the Kooyman and Costa (1978) cited on page 4-109 of the DEIS. We see no reason to believe the assumption that "Mortality due to contact is 75%." This should be revised to 100%.

6.22

Page 4-111 and 112. The comments regarding the supposed genetic bottleneck of the sea otter population are incorrect. For further information, Ralls, Ballou, and Brownell (1983) should be reviewed (see Biological Conservation 25:209-232, 1983). The genetic bottleneck experienced by the population has not been severe enough to produce a loss of genetic diversity, and additional mortality of 25% or more would not be expected to "reduce the gene pool sufficiently to make recovery questionable."

6.23

Even 50% mortality would leave a population of over 600 otters, and Ralls et al. (1983) calculated that a translocated population founded with many fewer animals than this would still retain a large proportion of the genetic diversity presently existing in the California sea otter population.

Page 4-112. Although the density of sea otters near the southern end of the range may be lower than other areas, the importance of this segment of the population may be greater than their numbers indicate. There is little evidence that the population is growing. However, the potential for growth is greatest near the ends of the range where unoccupied habitat is found. Females do not appear to be dispersing into these areas at a very high rate. Therefore, what growth there is may be attributable to this small nucleus of females that have reestablished south of Morro Bay. It has taken this group 6 years to grow from around six animals to between 20 and 25. Even a relatively small oil spill, coupled with other increased man-caused mortality, could set back population growth at the southern end of the range. This aspect of population growth must be taken into consideration when assessing impacts of oil on the population.

6.24

Page 4-129. Although peregrines prey on birds captured in flight, moderately oiled birds can still fly and may be more susceptible to capture because of their weakened condition. This could impact peregrines by: (1) secondary oiling of their plumage, and (2) subject them to toxic effects of oil from ingestion of oiled birds. Also in some sections of the lease area, a spill affecting 30 miles of coastline could impact as many as three eyries or up to 12% of the population.

6.25

Pages 4-134 to 136. Applying the conditions specified for when diversions are ineffective to contain oil spills appear to have been applied only to Morro Bay in the Study Area. This seems to imply that other wetlands, estuaries, and creeks are effectively protected. The expected effectiveness of the diversions during storm conditions or winter/spring runoff periods should be stated.

6.26

Page 4-200. The possible impacts to sea otters listed under Endangered and Threatened Species, Alternative II are somewhat misleading. The likely impact on sea otters in the event of a spill entering Morro Bay is stated to be low. However, it should be noted that few sea otters use Morro Bay and that the main impact from an oil spill would be to otters in the area outside the bay.

6.27

Page 4-204. Under Endangered and Threatened Species, it is stated that some species "face extinction over the next 25 years." These should be listed. The statement that "the survival of some populations of endangered whales is also in question" should be documented. The only whale population for which this statement might be true is the right whale in the eastern North Pacific.

6.28

Pages 4-230 to 233. Impacts from pipeline construction and oil transportation corridors are described in several sections of the DEIS. The commercial and sport fishing and recreation impact analyses are clearly delineated in this section of the DEIS. However, impacts on pipeline construction and/or potential offshore terminals is not evident in this section.

6.29

REFERENCES

- Estes, J.A. 1981. The case of the sea otter. pp. 167-180 in P.A. Jewell and S. Holt (eds.), Problems in management of Locally Abundant Wild Mammals. Academic Press, NY
- Estes, J.A. and R.J. Jameson. 1983a. Size and status of the sea otter population in California (Draft manuscript)
- Estes, J.A. and R.J. Jameson. 1983b. Summary of population surveys and tagging studies of the California sea otter population (Draft Manuscript)
- VanBlaricom, G. and R.J. Jameson. 1982. Lumber spill in central California waters: Implications for oil spills and sea otters. Science 215:1503-1505.



United States Department of the Interior

Fish and Wildlife Service  
Lloyd 500 Building, Suite 1692  
500 N.E. Multnomah Street  
Portland, Oregon 97232

6a

In Reply Refer To: Your Reference:  
May 6, 1983

Mr. Reid T. Stone  
Regional Manager  
Pacific OCS Region  
Minerals Management Service  
1340 W. Sixth Street  
Los Angeles, California 90017

USGS - CONS. DIV.  
MAY 10 1983  
RECEIVED  
LOS ANGELES

Dear Mr. Stone:

This memorandum is in further response to your request of March 9, 1983, for comments concerning the Draft Environmental Impact Statement, Proposed 1983 Outer Continental Shelf Oil and Gas Lease Sale Offshore Central California, OCS Sale No. 73. The following comments were developed by our Endangered Species Office, Sacramento, and are as follows:

General Comments

**Endangered species:** There is no mention of the salt marsh bird's beak, a listed species which co-occurs in estuaries with the light-footed clapper rails. Also, no discussion is included in the DEIS concerning candidate invertebrates (e.g. globose dune beetle, Morro blue butterfly), vertebrates, or plants which could be adversely affected by the proposed sale.

6a.1

**Southern sea otter:** The discussion on the present status of the sea otter population is not supported by available data.

6a.2

Additional specific comments concerning the DEIS are attached (see Attachment 1).

Again, the draft environmental impact statement for the proposed lease sale describes most of the environmental issues in an acceptable manner. Alternative II is expected to reduce potential impacts to endangered species. The specifics concerning reduced impacts to sea otters (and all endangered species) should be included in the final environmental impact statement. Additional information concerning endangered species may be obtained by contacting Mr. Carl Benz of our Endangered Species Office (FTS 448-2791). We appreciate the opportunity to comment on this document. If you have any questions, please do not hesitate to contact us.

6a.3

Sincerely yours,

*Bill Meyer*  
William H. Meyer  
Acting Regional Director

Attachments

2

Attachment 1

Specific Comments

Page 3-44, 1st par. Sea otters have been sighted as far south as Malibu and San Diego.

6a.4

2nd par., line 3. The phrase "...has substantially recovered..." is entirely subjective and relative to an arbitrary number and range size. You may choose to use a different word.

6a.5

line 6. The survey period should be listed. California Department of Fish and Game (CDFG) data indicate that there has been no significant growth for the past 10 years.

6a.6

line 7. Benz and Kobetich (1980) should be cited U.S. Fish and Wildlife Service (1982). Please note that this reference does not suggest that the population has reached carrying capacity as the statement suggests; i.e., "the population may now have reached a plateau." A more appropriate reference may be CDFG.

6a.7

line 9. A census in November 1982 by the CDFG and the Service counted about 1,400 animals throughout the range (including dependent pups).

6a.8

3rd par. (and pg. 3-45). How accurate is the information provided in Figure III.B.4-4? Does the Minerals Management Service have a series of data that can be averaged? If so, why were these data not averaged? The subsequent text on sea otters implies that more than one survey was made. Does the single census mapped in the report represent a high, medium, or low count?

6a.9

Page 4-25 1st full par. Under the discussion of mammals, there is no mention of sea otter vulnerability to oil. Some data are available and are discussed in other publications (see Recovery Plan for references).

6a.10

Page 4-111, par. 3. There is no mention of ability of sea otters to detect oil (see Recovery Plan for appropriate references). Also, item 2, "Mortality due to contact..." should be 100 percent. There are no data that suggest that with a major oil spill, oiled otters will clean themselves and survive.

6a.11

Page 4-113, par. 2. This section would be more useful if it included a more detailed discussion of the effects relative to types of oil, nature of contamination, and other factors on a species-by-species basis.

6a.12

par. 6, 1st line. How were the estimates derived and by whom?

6a.13



United States Department of the Interior

NATIONAL PARK SERVICE  
WASHINGTON, D.C. 20240

7

IN REPLY REFER TO:  
475  
26 APR 1983

Memorandum

To: Regional Manager, Pacific OCS Region  
From: Acting Associate Director, Planning and Development  
Subject: Draft Environmental Impact Statement for Central California (OCS Sale No. 73)

RECEIVED  
APR 29 1983  
NATIONAL PARK SERVICE  
PLANNING AND DEVELOPMENT

The National Park Service has reviewed the draft environmental impact statement for the proposed Outer Continental Shelf Oil and Gas Lease Sale Number 73 and has the following comments to offer.

We have reviewed this document as the Agency having the management responsibility for Channel Islands National Park, Santa Monica Mountains National Recreation Area, Cabrillo National Monument, Golden Gate National Recreation Area, Point Reyes National Seashore and Redwood National Park. These areas were established to protect and preserve nationally significant resources.

Our concern falls in two categories, drilling and exploration, and oil spill clean up. All of the above mentioned areas of the National Park System could be affected by an oil spill related to OCS Sale 73. While the draft does take note of the general consequences of drilling, exploration and oil spills upon the coastal environments, we suggest that particular reference be made to the possible consequences upon areas of national significance cited above. Channel Islands National Park is the only area which may be affected directly by exploration and development.

7.1

Channel Islands National Park contains some of the most important pinniped and sea bird habitats on the West Coast of the United States. All proposed activity must be designed to minimize adverse impacts on these valuable resources. The staff at Channel Islands National Park is available for assistance on these matters.

In addition to mention of Channel Islands National Park and Point Reyes National Seashore, the probability of oil spill damage to other National Park Service areas along the California coast should be noted in the final environmental impact statement. In discussions of the potential environmental consequences of the proposed lease offering please add Cabrillo National Monument, Santa Monica National Recreation Area, Golden Gate National Recreation Area, and Redwood National Park.

Thank you for giving the National Park Service an opportunity to comment on this document.

*David A. Wright*



DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

MAILING ADDRESS:  
U.S. COAST GUARD (C-WP-4)  
WASHINGTON, D.C. 20593  
PHONE (202) 426-3300

16475

15 APR 1983

Regional Manager  
Pacific OCS Region,  
Mineral Management Service,  
1340 W. 6th St.  
Los Angeles, CA 90017

Dear Representative:

The appropriate Coast Guard staff elements have reviewed the Draft Environmental Impact Statement: Outer Continental Shelf Oil/Gas Lease Sale No. 73, Offshore of Central California. We offer no comment at this time. 8.1

We appreciate the opportunity to coordinate these environmental statements.

Sincerely,

W. B. Hissel  
Chief, Planning, Coordination  
and Analysis Staff  
By direction



DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

MAILING ADDRESS:  
COMMANDEER (MCS)  
ELEVENTH COAST GUARD DISTRICT  
UNION BARR BLDG.  
400 OCEARGATE  
LONG BEACH, CA. 90802  
16475/30  
11 May 1983

Mr. John Fields  
Minerals Management Service  
Pacific OCS Office  
1340 W. Sixth St.  
Los Angeles, CA 90017

Ref: OCS Sale No. 73

Dear Mr. Fields:

The Draft Environmental Impact Report for OCS Sale No. 73 addresses the proposed additions and modifications to the existing traffic separation schemes which have been recommended by this office and the Twelfth Coast Guard District. These proposals are being submitted to the International Maritime Organization for adoption and a Notice of Proposed Rulemaking is being prepared. It is anticipated that these recommended routing measures will be implemented in one form or another on approximately 1 December 1984.

It is requested, therefore, that the Notice of Sale for OCS Sale No. 73 contain a stipulation to the effect that no drilling of any kind would be allowed in traffic lanes, safety fairways or precautionary areas. Exploratory drilling would be allowed in all other areas subject to case-by-case determinations for locations within traffic lane buffer zones. No permanent platforms would be allowed within 500 meters of any traffic lane. It is felt that a stipulation of this type is necessary to forewarn potential bidders that their ability to explore and develop certain tracts which are affected by the above proposals could be hampered. 8e.1

If you have any questions or comments on this matter, you should contact LCDR Jan TERVEEN or me at (213)590-2301.

Sincerely,

L. E. BEAUDIN  
Captain, U. S. Coast Guard  
Chief, Marine Safety Division  
By direction of the District Commander

Copy: CCGD12(m)

RECEIVED  
MAY 17 12 03 PM '83  
MARINE SAFETY DIVISION  
U.S. COAST GUARD  
LONG BEACH, CALIFORNIA



DEPARTMENT OF THE NAVY  
COMMANDER  
PACIFIC MISSILE TEST CENTER  
POINT MUGU, CALIFORNIA 93042

IN REPLY REFER TO:  
3200-4  
3100  
Ser 1920  
26 APR 1983

3200-4  
3100  
Ser 1920  
26 APR 1983

From: Commander, Pacific Missile Test Center  
To: Manager, Minerals Management Service, 1340 West Sixth Street, Room 200, Los Angeles, CA 90017

Subj: Draft Environmental Impact Statement, Outer Continental Shelf Sale No. 73; comments on

Ref: (a) Fonecon btwn Mr. R. Karpas, Minerals Management Service, and Mr. P. Foster, PACMISTESTCEN, of 10 Mar 1983

1. A review of the Draft Environmental Impact Statement (DEIS) for Outer Continental Shelf (OCS) Sale No. 73 and the submission of any comments or recommended changes were invited by the telephone conversation, reference (a).

2. Accordingly, it is noted that though the OEIS is quite thorough, and correctly addresses most aspects of anticipated impacts to military operations posed by oil lease sales, certain recommendations appear to be worthy of consideration.

3. It is recommended that the sentence enclosed in parentheses under heading iii, Military Stipulation No. 1, page 2-11, be deleted and replaced by a note applicable to all the military stipulations to the effect that:

These stipulations will apply to tracts, determined through consultation with the Department of Defense (DOD), to be located in those military operating areas which are compatible with joint military and civil use.

4. It is recommended that the last sentence of the paragraph entitled, "Military Uses," on page 2-19 of the OEIS, be changed to read: 9.1

However, in those areas east of a line joining 34°-20'N, 120°-46'W and 35°-25'N, 121°-45'W, these impacts could be adequately mitigated with the invocation of the standard military stipulations.

5. It is recommended that the last sentence of the paragraph entitled, "Military," on page 2-25 of the OEIS, be deleted.

6. Regarding the potential conflict between OCS Lease Sale No. 73 and the Pacific Missile Test Center (PACMISTESTCEN) mission, it is noted that: PACMISTESTCEN missile range areas, offshore Vandenberg Air Force Base, which lie west of a line joining 34°-20'N, 120°-46'W and 35°-25'N, 121°-45'W are routinely scheduled for high priority air-to-air, air-to-surface, and surface-to-air missile launch operations. The weapons involved include target of opportunity seekers, heat seekers, home on noise, and others of similar potentials. Such operations demand availability of an area free of nonparticipating traffic or structures while providing for visual, data gathering sensor coverage. Exclusive access to those defined areas is considered vital to the PACMISTESTCEN effort and, therefore, to the DOD mission. 9.2

Subj: Draft Environmental Impact Statement, Outer Continental Shelf Sale No. 73; comments on

7. The PACMISTESTCEN point of contact for matters pertaining to this issue is Mr. Paul Poater, Code 3200-4, telephone (805) 982-8731.

Copy to:  
CNO (OP-642)  
COMNAVTRSYSCOM (AIR-06)  
PACMISTESTCEN LO WASH OC  
COMNAVBASE SAN DIEGO  
FACSFAC SAN DIEGO  
COMWSMC

R. L. WATERS  
By direction



DEPARTMENT OF THE NAVY  
OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20380

10

22 April 1983

Regional Manager, Pacific OCS Office  
1340 W. Sixth St.  
Room 200  
Los Angeles, California 90017

Dear Mr. Stone,

The Draft Environmental Impact Statement OCS Sale No. 73 has been reviewed and the following comments are submitted.

The DEIS correctly points out that the currently proposed leasing area overlaps substantially with areas designated as military operating areas. It further indicates in various sections that "...impacts expected to military activities remain high". The area indicated on the chartlet at enclosure (1) identifies operating areas within the sale area that are essential to assure vital instrumentation coverage for missile/target operations that are geographically impossible to obtain elsewhere. Missile hazards in the areas of concern are incompatible with either permanent oil structures or exploratory vessels. 10.1

Minerals Management Service will be requested by separate correspondence to exclude portions of the proposed Sale No. 73 area, which include sectors 5c, 5d, and 6c of warning area 532 indicated on enclosed chartlet.

As always, my staff and I will be pleased to provide a detailed briefing to appropriate MMS representatives regarding the exclusion request.

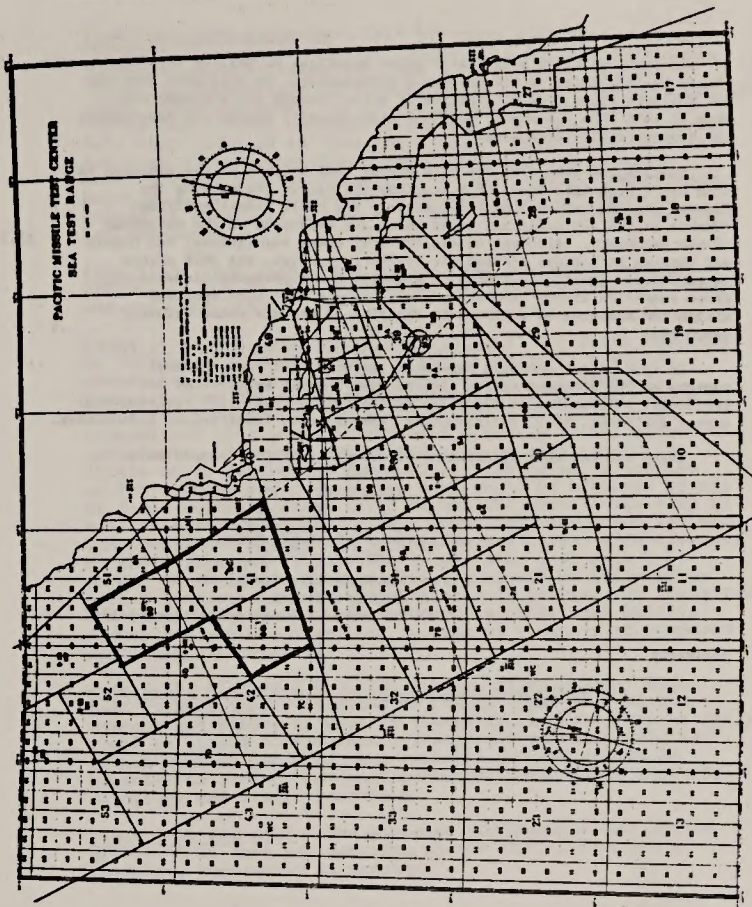
*Charles Untermyer*  
CHASE UNTERMEYER  
Deputy Assistant Secretary  
(Installations and Facilities)

cc  
Mineral Management Service, Washington D.C.  
OP-009B34  
Commander, Pacific Missile Test Center, Pt Mugu, Ca  
Assistant Secretary of Defense, Manpower, Reserve  
Affairs, and Logistics

encl  
Chartlet of Operating Areas

CONTINUED FROM 1120.11

2



VI-34

11



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 26 1983

OFFICE OF  
THE ADMINISTRATOR

Harold E. Doley, Jr.  
Director Minerals Management Service  
Department of the Interior  
Washington, D.C. 20240

Dear Mr. Doley:

The U.S. Environmental Protection Agency (EPA), in accordance with our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act, has reviewed the draft environmental impact statement (DEIS) for the Proposed Outer Continental Shelf (OCS) Oil and Gas Lease Sale # 73, offshore Central California.

Overall, EPA believes that the DEIS presents much useful information concerning this sale, including a broad discussion of the major impacts expected and descriptions of the living resources in the area of the sale proposal. We do believe, however, that additional important information needs to be included in the final EIS (FEIS) relating to the effects of effluent discharges, environmental studies, mitigation measures and air quality to provide greater insight into the potential magnitude of the impacts from this proposal. We have enclosed specific suggestions related to the data needs. Our major concerns relate to the potential impact of the proposal on air quality in the southern portion of the Santa Maria Basin, and on the resources of Morro Bay and the Channel Islands National Marine Sanctuary. These are described below.

This DEIS covers a large portion of the coast of California from Point Conception in Santa Barbara County north to the California-Oregon border, with a focus on the air quality impacts in the southern portion of the Santa Maria Basin. This broad area includes several coastal counties that continue to have problems with the attainment and maintenance of National Ambient Air Quality Standards (NAAQS). On February 3, 1983 EPA proposed in the Federal Register to approve or disapprove the nonattainment area plans for ozone and/or carbon monoxide for portions of a number of nonattainment counties covered by this EIS (see detailed comments for a list of these areas). Further problems exist because some of these nonattainment counties are having difficulty in developing an approvable nonattainment area plan. 11.1

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MINERALS MANAGEMENT SERVICE  
PACIFIC OCS OFFICE  
LOS ANGELES, CALIFORNIA

- 2 -

Since EPA has proposed findings that the State Implementation Plans (SIPs) are inadequate for some of these counties we are concerned that activities resulting from this sale could possibly exacerbate existing NAAQS violation, especially for ozone. If this were the case and the state was not able to give EPA an approvable plan, it triggers a construction ban on major stationary sources of the air pollutant in question, and the Federal government might be forced to promulgate a plan for these areas.

The language of Sections 118 and 176(c) of the Clean Air Act and the Act's legislative history appear to place a responsibility with the Department of the Interior to ensure that its actions are compatible with State efforts to attain and maintain NAAQS in onshore areas. However, the DEIS does not clearly describe how the Department of the Interior will accomplish its commitment that emissions shall be "fully reduced" where projected emissions from an OCS facility significantly affect onshore air quality of a nonattainment area. We note that the DEIS states in such a situation "If this cannot be accomplished through application of BACT, additional reductions would be required through emission controls or through the acquisition of offshore or onshore emission offsets." (Page 9-88)

The FEIS should include some further analysis on the impact of these OCS facilities with respect to the control strategy demonstration for these affected onshore counties. Without further information and analysis it appears to us that this action would make it considerably more difficult for California, the affected coastal counties, and the Federal government to attain and maintain the National Ambient Air Quality Standards.

As one of the Alternatives to the proposed sale configurations, the DEIS includes "Alternative II—Modify the sale to protect sensitive biological areas." Specifically, this proposal would create a ten-mile buffer zone in the vicinity of Morro Bay. This bay is considered to be one of the largest bay wildlife habitats on the California Coast. As the DEIS states, selecting this alternative would reduce potential impacts from oil spills by providing time for cleanup, containment and weathering of oil from platform oil spills, as well as reducing the potential impacts to visual resources from platform placement. The DEIS also states that if the buffer is effective in preventing oil from entering Morro Bay, impacts on estuaries and wetlands, endangered species, local commercial fisheries, and visual resources would be reduced to insignificant.

In light of these potentially major benefits, we believe this alternative should be identified as the preferred alternative. We note also that the DOI analysis shows that Alternative II would "reduce the proposed sale area by less than 1 percent" and "not significantly change the development and transportation scenarios."

Finally, we note that the DEIS states that a spill in the proposed sale area has a high likelihood of contacting the waters surrounding the Channel Islands National Marine Sanctuary and would have significant impacts on the fur seals and birds which are dependent on the resources of the Sanctuary. Although we realize that laws, regulations, OCS Orders and Notices to Lessees address oil spills in general, the DEIS offers no additional specific measures to mitigate these potential impacts on these sensitive living resources. We recommend that more specific mitigation measures be analyzed in the FEIS to protect these valuable resources.

In view of our concerns regarding the potential environmental impacts of the proposed action alternative, and our suggestions for additional information in the FEIS, we are rating this draft environmental impact statement, ER-2, environmental reservations, insufficient information.

Thank you for this opportunity to comment on this proposed sale.

Sincerely,

Pasquale Alberico  
Acting Director  
Office of Federal Activities (A-104)

Enclosure

11.2

EPA'S SPECIFIC COMMENTS ON PROPOSED OCS SALE # 73 OFFSHORE CENTRAL CALIFORNIA  
Water Quality Comments

The DEIS notes that a "Biological Stipulation" on OCS leases is a possible mitigation measure for the proposed action, but does not discuss the actual implementation of the stipulation for specific lease tracts. Since this stipulation appears to be an important and necessary measure to safeguard the living resources, the FEIS should specify whether it will be a required mitigation measure. If this provision will only be applied to isolated cases, the FEIS should specify the decision criteria which will be used in its application.

11.3

The FEIS should include all appropriate temporal and spatial site-specific information that is available regarding the biological resources of the lease sale area, especially for areas of special importance to commercial and sport fisheries, seabirds, marine mammals and Areas of Special Biological Significance, and other topographic and oceanographic characteristics of relevance to them. In any case, we suggest that the FEIS should include a list of the ongoing environmental studies applicable to this lease sale, including projected dates of completion and the relative importance of these studies with respect to the lease sale decisions, e.g. information from the California Shelf Circulation Study, sea otter studies, and meteorological buoy data, and the ongoing field studies regarding the impacts of drilling muds and cuttings. The FEIS should also discuss the relationship between the availability of data and the leasing/exploration/production time frame.

11.4

The DEIS mentions ocean dumping of drilling fluids as an alternative disposal method to discharging them onsite. If this option is to be seriously considered, the FEIS should include the other "berging" option of land disposal. Any discussion of disposal options should include the estimated costs of berging such materials, the availability of suitable disposal sites and the safety aspects of berging.

11.5

The FEIS should discuss the effects of drilling effluents on the area's commercial and sport fisheries. In this context, the potential environmental consequences from the phenomenon of platform attraction offshore Central California waters should be addressed, whereby fish are attracted to offshore structures and thus are exposed to the higher concentrations of drilling effluents associated with these structures. Also, a minor correction is needed in the drilling fluids discussion at DEIS p. 4-38. The National Academy of Sciences Report should be available to Mid 1983.

11.6

The DEIS notes that 5 production platforms and 155 development wells are likely from this proposal. While the DEIS does address the effects of the discharge of formation waters from this large number of wells, this discussion should be expanded in the FEIS to include consideration of the cumulative and long-term effects from other oil and gas production in the vicinity of the Santa Maria Basin. The FEIS should also include an estimate of the leasing levels and where production is likely to be concentrated from this sale.

11.7

Air Quality Comments

For your information, the following are EPA's Proposed Approval/Disapproval of July 1982 Nonattainment Areas Plans:

	O <sub>3</sub>	CO
Sonoma County	Disapproval	Disapproval
Marin County	Disapproval	Disapproval
San Francisco County	Disapproval	Disapproval
San Mateo County	Disapproval	Disapproval
Santa Cruz County	Approval	
Monterey County	Approval	
Santa Barbara County	Approval	

11.8

Source: 48 FR 5074 Feb. 3, 1983 (public comment on disapprovals closes on May 5, 1983.)

In addition, EPA identified the western portion of Santa Barbara County (48 FR 5006) as failing to attain the standard for total suspended particulates by the statutory deadline of December 31, 1982.

The DEIS predicts a "moderate" air quality impact for coastal regions in central California adjacent to the proposed sale areas. The DEIS states that "it is likely, therefore, that OCS facilities associated with Proposed Lease Sale No. 73 would be required under Department of Interior air quality regulations to apply emission controls." (p. 2-16.) The DEIS also states "However, a determination of the specific emission controls to be required would not be made until an application to construct has been reviewed by MMS and more site-specific modeling studies have been performed." (p. 491). The FEIS should clarify how likely the installation of control measures would be. For example, data regarding control of air pollutants from existing OCS sources in the Southern California area may be useful in this analysis.

11.9

There appear to be discrepancies between the second paragraph under "Summary of Emissions" (p. 4-43) and Table IV.A.8-1 (p. 4-44). Assuming the data in the table to be correct, the first sentence in that paragraph should begin, "Emissions of NO<sub>x</sub>, SO<sub>x</sub>, and TSP...", and the last sentence should begin, "Emissions of VOC and CO..." Also note that page 4-89 repeats the text on page 4-88.

11.10

MARINE MAMMAL COMMISSION  
1625 EYE STREET, N.W.  
WASHINGTON, DC 20004

26 April 1983

Mr. Reid T. Stone  
Regional Manager  
Pacific OCS Region  
Minerals Management Service  
1340 West 6th Street  
Los Angeles, California 90017

Dear Mr. Stone:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the "Draft Environmental Impact Statement, OCS Sale No. 73 Proposed 1983 Outer Continental Shelf Oil and Gas Lease Sale Offshore Central California" and offers the enclosed comments concerning the assessment of the possible impacts of the proposed action on marine mammals. As noted in the comments, the DEIS does not provide an accurate or realistic assessment of the possible direct and indirect effects of the proposed action on marine mammals.

We doubt that it will be possible to prepare a Final Impact Assessment without preparing and getting comments on a second draft of at least those sections of the DEIS dealing with marine mammals. We therefore recommend that you consult with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service to get a more realistic assessment of the possible direct and indirect effects of the proposed action on non-threatened and non-endangered, as well as threatened and endangered, species and populations of marine mammals and that, if necessary, you prepare and distribute a second DEIS for review and comment.

If you or your staff have any questions concerning our comments or the aforementioned recommendation, please let me know.

Sincerely,

R. J. Hofmen, Ph.D.  
Scientific Program Director

Enclosure

cc: Mr. Richard B. Roe  
Mr. William F. Sheke

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MAMMAL COMMISSION  
APR 27 1983

MARINE MAMMAL COMMISSION  
225 EYE STREET, N.W.  
WASHINGTON, DC 20004

COMMENTS ON THE DRAFT ENVIRONMENTAL  
IMPACT STATEMENT, OCS SALE NO. 73  
PROPOSED OUTER CONTINENTAL SHELF OIL  
AND GAS LEASE SALE OFFSHORE CENTRAL CALIFORNIA

At least twenty-nine species of marine mammals, including seven species of endangered whales (gray, humpback, right, blue, fin, sei, and sperm whale) and the southern sea otter population, which was designated "threatened" in 1977, occur in the lease sale area. The assessment of the possible direct and indirect effects of the proposed action on these species and populations is incomplete, contradictory in places, and not up to the standards which we have come to expect from DEISs for recent lease sales in other areas (e.g., OCS Lease Sales No. 57 and 76).

For the reasons noted below, the impact assessment should be carefully edited and expanded, among other things, to: (a) provide a more comprehensive synthesis and evaluation of available information on the southern sea otter population; (b) consider an additional alternative deleting certain tracts in order to minimize the probability of an oil spill occurring and contacting areas inhabited by sea otters; (c) consider possible effects on U.S. positions and obligations for managing fur seals under the Interim Convention for the Conservation of North Pacific Fur Seal; and (d) provide better assessments of the possible adverse effects of the proposed action on non-endangered and -threatened, as well as endangered and threatened species and populations of marine mammals.

SPECIFIC COMMENTS

Page iii, par. 5: This paragraph summarizes conclusions concerning the probable effect of the proposed action on the biological environment. It should be expanded to indicate that sea otters and other marine mammals, as well as fur seals, could be affected adversely by the proposed action and that adverse effects could be caused by construction activities, drilling muds, drill operations, etc., as well as by oil spills. 12.1

- 2 -

Page 1-6, last sentence: This sentence indicates that the Bureau of Land Management is responsible for the leasing of submerged Federal lands and that the Geological Survey (USGS) is responsible for the supervision of offshore operations after lease issuance. It is our understanding that parts of the Bureau of Land Management and the U.S. Geological Survey have been combined to form the Minerals Management Service and that the aforementioned administrative and supervisory tasks are now the responsibility of the Minerals Management Service. If this understanding is correct, the document should be carefully edited to assure that all such statements are corrected. 12.2

Page 1-10, last line: The phrase "and the Marine Mammal Protection Act of 1972" should be inserted between the comma and the word "as". 12.3

Page 2-7 - 2-9, Biological Stipulation: The first sentence in this section states that: "This stipulation provides protection for all biological resources." It appears, however, that the stipulation provides little more than a mechanism for identifying and protecting unique benthic communities that could be affected directly by drilling operations. That is, the stipulation appears to provide little or no protection for mobile, free-swimming species, or for species and communities that could be affected by oil or other contaminants carried beyond the general vicinity of drill platforms and pipelines. Thus, the referenced sentence and subsequent statements concerning the likely effectiveness of the biological stipulation (e.g., sen. 2 on page 2-9) should be revised, or the discussion should be expanded to better indicate how the stipulation will provide for identification and protection of biological resources other than benthic communities in the immediate or general vicinity of proposed operational facilities. 12.4

Page 2-15, Fisheries Training Program Stipulation: Since this stipulation is intended to reduce impacts on marine mammals and birds, as well as fisheries, it more appropriately would be titled "Conservation Training Program Stipulation". If not already included, the training program should be expanded to include contract personnel involved in aircraft, shipping, and other operations. 12.5

Pages 2-16 and 2-17: The sentence beginning on the bottom of page 2-16 does not continue on the top of page 2-17. Something apparently is missing. 12.6

- 3 -

Page 2-18, pars. 2 and 4: Some of the conclusions in these paragraphs do not seem justified from information presented elsewhere in the DEIS. From information provided, for example, it is difficult to conclude that possible direct and indirect effects on seals, sea lions, whales, porpoises and dolphins are anything but uncertain. Thus, these and other parts of the DEIS should be revised to provide a clearer and more accurate indication of the state of knowledge concerning the possible direct and indirect effects of the proposed action on marine mammals. 12.7

In addition, sea otters should be discussed in the paragraph on endangered and threatened species (par. 4) rather than in the paragraph on marine mammals as presently is the case.

Page 2-21, par. 2: Among other things, this paragraph indicates that, if an oil spill occurred and could be prevented from entering the Morro Bay area, potential impacts on endangered species could be reduced from moderate or high to insignificant. Paragraph four on page 2-18 states that: "Impacts to all Endangered Species from oil spills would be very low (less than 2 percent mortality) since no large spills would be expected to occur and contact habitat utilized by these species" (emphasis added). These statements appear to be contradictory and one or both should be clarified. 12.8

We also note that the draft oil spill risk analysis for this proposed sale (Labelle et al., 1983) indicates that spills originating in hypothetical spill locations P8, P14, and P15, as shown in Figure IV.A.4-3, have the highest probability of contacting areas inhabited by sea otters. It appears, therefore, that the risk of oil spills contacting areas inhabited by sea otters might be reduced substantially by deleting tracts around hypothetical spill locations P8, P14, and P15. We therefore suggest that the possible costs and benefits of deleting these tracts, as well as those within the 10-mile zone centered on Morro Bay (Figure II.A.2-1) be assessed and that this assessment be included in the FEIS.

Page 2-23, par. 3: This paragraph states that: without the proposal, marine mammals will suffer impacts from sewage, increased tanker and recreational traffic ...; most species of whales and pinnipeds are increasing annually and should continue to do so; the status of the southern sea otter is questionable; and, until it is determined whether the population is increasing or decreasing, predictions are impossible. The introductory phrase "without the proposal" implies that the listed impacts would not occur if the lease sale proceeds

- 4 -

as proposed and, to avoid this interpretation, it probably should be changed to read: "With or without". Also, while there is evidence that northern elephant seals, the California population of northern fur seals, and perhaps a few other pinniped populations in California may be increasing, there is no basis for concluding that "most whales and pinniped numbers are increasing annually and should continue to do so". Finally, we are uncertain as to what predictions are impossible until it is determined whether the southern sea otter population is increasing or decreasing.

For the reasons noted, this paragraph should be revised to read something like: 12.9

"Marine Mammals. With or without the proposal, marine mammals and their habitat likely will be affected by sewage, increased tanker and recreational traffic, existing oil and gas leases (Federal and state), expanding population centers along the coast, changing climatic conditions and other factors. Available information is insufficient to determine whether, or to what extent, the "no sale" alternative might benefit or otherwise affect marine mammals.

Page 2-23, par. 6: This paragraph contains a number of statements which are confusing and of no apparent relevance to the assessment of possible cost and benefits of the "no sale" alternative. As an example, the third sentence in the paragraph is confusing in that there is but one sea otter population that could be affected by the proposed action and the status of that population is not in question - i.e., it is listed as "threatened" under the Endangered Species Act. Therefore, this paragraph, like the paragraph concerning marine mammals, should be revised to provide a clearer and more accurate description of the possible cost and benefits of the "no sale" alternative. Other segments of this section also should be revised to provide clearer and more accurate descriptions of the possible cost and benefits of the "no sale" alternative - e.g., while it no doubt is true that tourism will continue to increase, with or without the proposed action, it may well be true that the rate of increase would be greater under the "no sale" alternative. 12.10

Pages 3-36 and 3-41, Marine Mammals: This section indicates that more than twenty-two species of cetaceans are known to occur in Central-Northern California waters. It lists these species, and describes the migratory routes of the gray whale, but provides very little else. It should be expanded to indicate the distribution, movements, relative abundance and, as possible, the feeding habits and feeding areas, breeding areas and other areas of similar importance to cetaceans that regularly occur in or near the lease sale area. 12.11

Page 3-38, Table III.B.4-1: The sei whale is listed as "endangered" under the Endangered Species Act and should be so indicated in this table. 12.12

Page 3-41, Pinnipeds: Although this section is more informative than the preceding section on cetaceans, it does not identify all factors that should be considered in assessing the possible impacts of the proposed action on pinnipeds. As an example, it provides no information on diet or feeding areas which is necessary to assess the possible second-order effects of oil spills. Similarly, while Figure II.B.4-3 indicates that northern fur seals apparently are the most common pinniped seen at sea during the winter and spring, there is no mention of the fact that many if not most of these seals probably are from the Pribilof Island population that the Pribilof Island population presently is declining, and that both the California and Pribilof Island populations are subject to the terms and provisions of the Interim Convention for the Conservation of North Pacific Fur Seals. 12.13

This section, like the preceding one on cetaceans, should be expanded to provide a better indication of factors including treaty obligations, that must be considered to assess the possible effects of the proposed action.

Page 3-41, par. 3: The scientific name for the northern fur seal is *Callorhinus ursinus*, not *Mirounga angustirostris*. 12.14

Pages 3-41, 3-44 to 3-46, Sea Otters: This section contains a number of erroneous statements and omits a number of facts which are relevant to the assessment of the possible direct and indirect effects of the proposed action on sea otters. It is not true, for example, that the CCMS data were the only ones available when the DEIS was written (re: sen. 3 on p. 3-41). Similarly, since the best available data (c.f., the Southern Sea Otter Recovery Plan) suggest that there were 16,000 to 18,000 otters in California prior to the beginning of exploitation, there is no basis for the statement on page 3-44 that "The sea otter in California has substantially recovered from its near extirpation in the last century" (emphasis added).

With regard to omissions, the discussion does not note that: (1) the southern sea otter population is designated "threatened" under the Endangered Species Act; (2) the designation was due primarily to increasing tanker traffic and the resultant increase in risk of oil spills in and near the population's range; (3) the Fish and Wildlife Service has developed and adopted a Recovery Plan to facilitate protection and recovery of the population; and (4) available census data indicate that the population has not increased, and may have declined somewhat, in recent years. Additionally, the discussion makes no mention of essential habitat components (e.g., kelp and shellfish) which could be affected adversely by oil spills, drilling muds, construction activities, etc. (see pars. 5 and 6 on page 4-101). 12.15

We assume that these and other deficiencies in this section will be identified and resolved during the on-going consultations with the Fish and Wildlife Service noted on page 5-9. Therefore, we offer no further comments or suggestions for improving this section.

Page 3-50, Table III.B.6-1: The California distribution of gray, humpback, and Pacific right whales should be listed as "nearshore" rather than "offshore". 12.16

Page 4-14, pars. 1-4: Among other things, these paragraphs note that the Oil Spill Risk Analysis Model characterizes spills into three volume classes, that the model moves the oil as a point in 3-hour increments, and that, in reality, oil does not move as a point but rather as a mass with dimension. If possible, it might be helpful to indicate the likely mass (area covered) of oil spills of various sizes. 12.17

Page 4-25, par. 1: The cited reference (Geraci, unpublished) in the next to the last line of this paragraph is not included in the bibliography. In addition, the MMS-funded research by Dr. Geraci was with cetaceans, (bottlenose dolphins), not seals. Also, since the work was done primarily with trained dolphins, the sentence should be changed to read something like: "Recent results of the MMS-funded research ... has indicated that trained dolphins are able to detect surface slicks of oil under experimental conditions" 12.18

Page 4-25, par. 3: This paragraph should be expanded by adding a sentence such as the following: "Compensating metabolic increases cannot be maintained indefinitely so that significant increases in thermal conductance due to oiling probably will result in death". 12.19

Pages 4-109 - 4-117, Impact on Marine Mammals: As noted below, this section does not provide a realistic assessment of the possible direct and indirect effects of the proposed action on marine mammals. Many conclusions are not supported with data, calculations, or literature citations and, in some cases, the author or authors seem to have concluded that no information justifies a "no impact" determination. 12.20

Page 4-110, Table IV.E.2.d-1: This table makes little sense. It indicates, for example, that nothing is known about the potential impacts of oil and OCS related noise and disruption on baleen and toothed whales, and then concludes that the expected impacts of the proposed action are very low. (As noted below, the Alaska OCS Office is supporting studies that are relevant and should be described.) Similarly, it indicates that there probably would be moderate to very high impacts on sea otters from contact with oil and that nothing is known about the effect of oil on sea otter prey species, and then concludes that the expected impact of the proposal on sea otters is very low. 12.21

Pages 4-111 and 4-112, Sea Otters: Since the southern sea otter population is listed as "threatened" under the Endangered Species Act, the discussion of possible impacts on the population should be included under the section entitled "Impact on Endangered and Threatened Species". 12.22

Page 4-111, par. 2: It is not possible, from the information presented, to assess the likely validity of the four assumptions listed in this paragraph. It would seem, for example, that mortality due to contact with oil probably would be closer to 100 percent, rather than 75 percent, and that mean density of animals would be closer to 10, rather than 20, per nautical mile. 12.23

Page 4-111, last par.: This paragraph indicates that the southern sea otter population has already gone through a "genetic bottleneck" and that death of more than 25 percent of the population could affect the gene pool sufficiently to make recovery questionable. The rationale for these determinations is not provided and they do not seem to be supported by the relevant paper listed on page 6-21 of the bibliography (Ralls, et al., Genetic Diversity in California Sea Otters: Theoretical Considerations and Management Implications). 12.24

Page 4-112, par. 2: The last sentence in this paragraph states that: "During the winter season, otters move north and impacts within the proposed sale area could be negligible". This and other statements in this section assume that oil would have no effect on kelp, shellfish, or other components of sea otter habitat and the assumption should be stated or the statements revised. 12.25

Page 4-112, par. 4: Breeding populations of northern fur seals occur on the Commander and Kuril Islands, as well as on the Pribilof Islands and San Miguel. Animals from some of the northern populations, as well as the San Miguel population, may inhabit or migrate through the lease sale area during the winter months. Therefore, the assessment of possible impacts on the northern fur seals should be expanded to consider this possibility. Additionally, the rationale should be provided for the determination that an oil spill near San Miguel might kill 15 to 30 percent, rather than some other percent, of the California population. 12.26

Page 4-112, par. 5: Although it is true that only a small number of Guadalupe fur seals occur in or near the proposed lease sale area, it is not necessarily true, as implied in this paragraph, that loss of these animals would have no significant impact on the population of which they are a part. That is, the total population may be small enough such that the loss of relatively few individuals could impair or prevent recovery. Thus, this assessment should be expanded to provide a clearer indication of both the possible direct and indirect effects on the Guadalupe fur seal population. 12.27

Page 4-112, pars. 7 and 8: These paragraphs indicate that oil spills probably would have little if any impact on harbor seals, sea lions, and elephant seals in and near the proposed lease sale area. This probably is a reasonable assessment of the likely direct impacts of oil spills, but does not consider possible indirect effects on the distribution or abundance of primary and secondary prey species. Therefore, the assessment should be expanded to indicate possible second-order, as well as first-order, impacts. 12.28

Page 4-113, par. 1: The justification for the conclusion that "potential impacts from an oil spill are estimated to be insignificant for all of the cetaceans" is questionable. The assessment assumes, without stating, for example, that the results of experiments with captive bottlenose dolphins are applicable to all species of cetaceans, free-ranging as well as captive. It also assumes, without stating, that cetaceans do not feed in or near the proposed lease sale area or that oil will not affect the distribution or abundance of primary or secondary prey species. Finally, it assumes, incorrectly, that porpoise, like the great whales, are widely spaced such that no more than a "few" animals would contact a spill should one occur. Thus, this assessment, like the preceding ones concerning sea otters and pinnipeds, should be expanded to provide a clearer and more realistic indication of the possible direct and indirect effects of oil spills. 12.29

Page 4-113, Toxic Effects of Oil: The first sentence in the last paragraph of this section states that: "Presently the impacts due to the toxic effects of oil are estimated to be very low (insignificant) ..." The preceding three paragraphs indicate that very little is known about either the short- or long-term toxic effects of oil on marine mammals. It would seem, therefore, that the stated conclusion is not justified and that the only reasonable conclusion is that the probable short-term and long-term toxic effects of oil on marine mammals are uncertain. 12.30

Page 4-114, Effects of Oil on Food: This section concludes that reduction of prey species due to oil contamination will result, at most, in loss of a few percent of the years' pup or calf production. The conclusion appears to be based on assumptions that: (1) all marine mammals feed on pelagic fish and plankton; (2) all marine mammals can switch prey or move to alternative feeding areas if primary prey or preferred feeding areas are affected by oil spills; and (3) decreases in food supplies will affect reproduction, but not survival. All of these assumptions are not true for all species of marine mammals and the assessment therefore should be done on a case-by-case basis, on groups of animals having similar diets and feeding habits. 12.31



Page 4-114, last par.: Something is missing between lines 5 and 6. 12.32

Page 4-115, par. 1: The Alaska OCS Office presently is supporting studies to better determine how OCS-related noise might affect the movements of both bowhead and gray whales. These studies should be described briefly and the results incorporated into this section. 12.33

Page 4-116, POTENTIALLY TOXIC CHEMICALS: The last sentence in the first paragraph should be deleted since it contradicts the preceding two sentences. 12.34

Page 4-116, PROPOSED SALE AREA: The last sentence in this section should be changed to read something like: "The likely impacts cannot be predicted". 12.35

Page 4-117, Southern California: Many of the preceding comments apply to this section as well. It is not clear, for example, why 15 to 30 percent, rather than 100 percent, of the San Miguel fur seal population might be affected by an oil spill, and what predictions are impossible until it is determined whether the southern sea otter population is increasing or decreasing. Relative to the last point, the discussion should be expanded to indicate the studies which the Minerals Management Service is conducting or is planning to make such determinations. 12.36

Page 4-126, Table IV.E.2.f-1: This table contains some questionable information. As an example, it seems unlikely that there are possible gray whale feeding areas in the places indicated. Conversely, it would be appropriate to add an "f", for possible feeding areas, to each of the sea otter entries. 12.37

Page 4-129, first complete sentence: As noted earlier, there seems to be little justification for the conclusion that: "Impacts to gray whales from noise and disruption are potentially very low due to changes in migratory routes". 12.38

Page 4-129, Guadalupe Fur Seal: As noted earlier, the significance of possible impacts on the Guadalupe fur seal is dependent upon the proportion of the population present, not the absolute number of animals present. 12.39

Page 4-203, Marine Mammals: As drafted, much of this section is irrelevant. The issue, for example, is not whether marine mammal populations are increasing or decreasing, but rather how the proposed action will affect the increase or decrease. As noted earlier, there is no basis for the statement that "most whales and pinniped numbers are increasing annually and should continue to do so". If available data 12.40

are insufficient to accurately predict the possible direct and indirect effects of the proposed action on marine mammals, the DEIS should say so. It also should indicate steps that are being taken or considered to obtain the information necessary for reliable impact assessment.

Page 4-204, Endangered and Threatened Species: This section, like the preceding section on marine mammals, provides virtually no information on the possible cost and benefits of the "no sale" alternative. If available information is insufficient to accurately predict how the proposed action might affect endangered and threatened species and populations, the DEIS should so state and indicate the steps that are being taken or considered to obtain the necessary information. 12.41

Page 5-9, Endangered Species Consultation: Many of the problems noted in the preceding discussions presumably will be identified and resolved during the on-going consultations with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. To avoid such problems in future DEISs, consultation ideally would be completed and the necessary revisions made before the DEISs are released for review and comment by the public and other agencies. 12.42

Page 9-3, Endangered and Threatened Species, Marine Mammals and Seabirds: This section is somewhat confusing as drafted. As an example, we know of no natural events that periodically result in significant reduction of any or all marine mammal populations. Assessing impact in terms of recovery time is reasonable, but should, perhaps, be linked to human generation time, rather than natural events, since maintenance of management options for future generations is a generally accepted conservation goal. The criteria for assessing severity of impacts could, for example, be stated as follows 12.43

VERY HIGH - A population reduction for which recovery to the present size, distribution and, where appropriate, growth rate will take more than one human generation (about 15 to 20 years);

HIGH - A population reduction for which recovery ... will take 8 to 15 years;

MODERATE - A population reduction for which recovery ... will take 3 to 8 years;

LOW - A population reduction for which recovery ... will take 1 to 3 years;

VERY LOW - A population reduction for which recovery ... will take 1 year or less.

SUMMARY COMMENTS

This DEIS does not provide an accurate or realistic assessment of the possible direct and indirect effects of the proposed action on either endangered and threatened, or non-endangered and non-threatened, species and populations of marine mammals. Substantial revisions and additions, as well as editing, will be required to provide a realistic assessment. It may not be possible to identify and resolve all of the deficiencies without preparing and getting comments on a second draft. Therefore, the Minerals Management Service should consider preparing and circulating a second draft before attempting to do a Final Impact Assessment.

LEON E. PANETTA  
15TH DISTRICT, CALIFORNIA

COMMITTEE  
BUDGET  
CHAIRMAN  
TASK FORCE ON RECONCILIATION  
AND BUDGET ENFORCEMENT  
BUDGET COMMITTEE  
AGRICULTURE  
HOUSE ADMINISTRATION  
(ON LEAVE)

MAJORITY REGIONAL WHIP

Mr. Reid Stone  
Regional Manager  
Pacific OCS Region  
Minerals Management Service  
1340 W. Sixth St.  
Los Angeles, California 90017

Dear Mr. Stone:

This letter represents my recommendations in response to the Minerals Management Service's March 9 Federal Register announcement requesting comments on the Draft Environmental Impact Statement (DEIS) for Outer Continental Shelf oil and gas Lease Sale 73.

I am pleased that the U.S. 73 DEIS reflects enactment of P.L. 97-394, which prohibited expenditures of funds by the Department for the procurement, leasing bidding, exploration or development of lands north of row N817 of the Universal Transverse Mercator Grid System. However, I regret that the Department did not hold scoping hearings prior to completion of the draft document, despite the recommendation of my January 28, 1983 letter to Mr. John Lane of the Minerals Management Service (MMS) Pacific OCS Region. That letter, a response to the Department's "Notice of Intent" to prepare an environmental impact statement for U.S. 73, reflected strong interest in scoping hearings on both my part and that of many persons in the coastal areas adjacent to the U.S. 73 areas. In addition to fulfilling the Department's obligation to accurately determine the local government and public interest in Lease Sale 73, scoping hearings prior to completion of the DEIS would have provided a valuable opportunity to avoid time-consuming and costly delays in the lease sale program.

As stated in my January 28 letter, my continued interest lies in ensuring sufficient opportunity for the Department to fully ascertain local government and public concern regarding offshore oil and gas leasing, and provides the basis for my comment and recommendations on the U.S. 73 DEIS. Consistent with that continuing interest, I make the following recommendations:

- 1.) Schedule a hearing considering the DEIS in Morro Bay, California.

In my view, the Department has afforded itself insufficient opportunity to date for determining local government, business and public opinion regarding the impact of U.S. 73. That lack of opportunity will not be significantly offset by the proposed hearing

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Congress of the United States

House of Representatives

Washington, D.C. 20515

March 22, 1983

NEWS - CONG. DIV.

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LOS ANGELES

Mr. Reid Stone  
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March 22, 1983

in Santa Maria alone. As a result of my continued support for a comprehensive assessment of local opinion regarding Lease Sale 73, I reiterate my request that the Department expand its opportunities to receive comment from those most likely to be affected by the proposed Lease Sale. I strongly urge that at least one hearing to receive public comment on the L.S. 73 DEIS be held in Morro Bay, California. This hearing would not supplant, but would occur in addition to the proposed April 13, 1983 Santa Maria hearing.

Several factors argue in favor of Morro Bay as an additional hearing site. As the DEIS itself correctly states, the central and northern California coast's commercial fishing industry is a mainstay of the local communities in the L.S. 73 area. According to the L.S. 73 DEIS, 10%, 11%, and 12% of the total state landings of Petrale Sole, Rockfish and Lingcod, respectively were made at Morro Bay in 1976. Further, 17% of the state's Rock Crab landings were made at nearby Port San Luis during the same year. A concentration of sportfishing activity occurring at Morro Bay is also recognized in the DEIS. As a centers of local commercial and sport fishing in the L.S. 73 area, Morro Bay and Port San Luis are more suitable sites for hearings to review the effectiveness of the L.S. 73 DEIS in assessing the impact of the offshore lease sale upon fisheries than Santa Maria, which is several miles from the sea, as well as the concentration of fisheries activity in the L.S. 73 area.

The Pt. Buchon area is also an important habitat of the threatened Southern Sea Otter. A 1981 aerial survey of the Southern Sea Otter's known range indicated a relative abundance of otters near Pt. Buchon. In fact, nearly 40% of the otters observed were found between Pt. Piedras Blancas and Port San Luis, a distance representing roughly 20% of the Otter range. The estimated mortality of otters coming in contact with spilled oil within the range is high. The impact of offshore development upon the southern sea otter population diminishes dramatically as the estimated size of that population drops to zero south of Port San Luis. Public comment from those who live and work near this threatened species could more accurately be determined by a hearing in Morro Bay rather than in Santa Maria, which lies far to the south of the otter's known range.

Other significant natural resources in the L.S. 73 area which may be affected by offshore development are clustered in the northernmost portion of the lease area as well. For example, the overwhelming majority of State Beaches and Parks (Cayucos, Morro Strand, Atascadero, Avila, and Pismo State Beaches; and Morro Bay and Montana de Oro State Parks) shoreward from the L.S. 73 area all lie within roughly 15 miles of Morro Bay. Skiff and party boat rental and launching -- an indicator of the primarily water-oriented recreation

Mr. Reid Stone  
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in the lease area -- is concentrated at Morro Bay as well. Many of those directly managing, living near, visiting, and conducting business near, these recreational areas have an immediate interest in offshore development and its effects upon themselves and their coast.

A concentration of commercial and sport fishing, the presence of the threatened southern sea otter habitat, and the significant recreational opportunities which are concentrated at Morro Bay all may be affected by L.S. 73. The opinion of those who depend upon the Morro Bay offshore area for their recreation and livelihood must be accurately assessed prior to completion of the EIS. Their comments and suggestions may be essential for the proper formulation of a truly credible and comprehensive assessment of the impacts of offshore oil and gas development from Lease Sale 73.

2.) Modify Alternative 2 to encompass sensitive biological areas.

I am also concerned that Alternative 2--which would modify the sale to protect sensitive biological areas--does not reflect sufficient sensitivity to the impacts of offshore development upon those northern L.S. 73 tracts which have not already been enjoined -- albeit temporarily -- by litigation from development. The scope of the area considered by this alternative is too restrictive to effectively protect those sensitive biological and economic resources mentioned in Recommendation 2.) I urge the Department (as has the Congress in its conference report to P.L. 97-394) to take into consideration the special biological and economic importance of these particular areas by:

- requesting public comments regarding the formulation of Alternative 2, and;
- by modifying the scope of Alternative 2 to include those areas indicated by comment received.

3.) Extend period for public comment on the L.S. 73 DEIS.

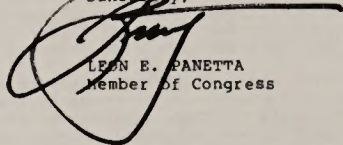
Finally, I am concerned by the limitations upon public comment imposed by the March 9, 1983 Notice in the Federal Register. Credibility in the Department's commitment to receiving public comment on the DEIS, as well as valid Departmental regulations, are undermined by the imposition of a 45-day -- rather than a 60-day -- comment period on the L.S. 73 DEIS. Part 516 of the Departmental Manual, Section 4.24 clearly states that the minimum review period for a draft EIS will be sixty days from the date of transmittal to the Environmental Protection Agency (EPA). These final revised procedures (DM 516, Sec. 4.24) are in compliance with both the National Environmental Policy Act (NEPA) and regulations promulgated by the Council on Environmental Quality (CEQ), and were announced as final in the Federal Register of April 23, 1980.

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I urge the Department to observe these properly-promulgated and apparently-valid regulations, or to extend the L.S. 73 DEIS comment period to permit a total of 60 days of public comment from the date of transmittal of the DEIS to the EPA. The date of the L.S. 73 DEIS's transmittal is presumably marked by the March 11 notification announcing availability of the DEIS in the Federal Register.

Thank you for the opportunity to bring to your attention these very important matters.

Sincerely,



LEON E. PANETTA  
Member of Congress

LEP/mc

JACK VAN DE KAMP  
Attorney General

14  
State of California  
DEPARTMENT OF JUSTICE  
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April 26, 1983

James Watt  
Secretary of the Interior  
U.S. Department of the Interior  
18th and C Streets, N.W.  
Washington, D.C. 20240

Regional Manager  
Pacific OCS Region  
Minerals Management Service  
1340 West Sixth Street  
Los Angeles, California 90017

Dear Sirs:

Comments on Draft Environmental  
Impact Statement OCS Sale No. 73

This letter provides my comments on the Draft Environmental Impact Statement ("DEIS") for OCS Sale No. 73. The comments on the DEIS submitted on behalf of the Governor of the State of California by the Secretary of Environmental Affairs as well as the State agency comments attached thereto are adopted and incorporated by reference. The comments of the California Coastal Commission, and materials attached thereto, are also adopted and incorporated by reference. While these comments are generally consistent with those of the Governor and the state agencies, they are submitted pursuant to the Attorney General's independent constitutional, statutory and common law authority to represent the People of the State of California.

Initially, it should be noted that the sale area includes those tracts the leasing of which was enjoined in litigation over Lease Sale 53. That injunction remains in effect and these tracts should be deleted from any further consideration for leasing.

The DEIS issued for Lease Sale No. 73 is deficient in a number of respects, both substantive and procedural. The issues dealing with the document and its manner of preparation are presented in the materials referenced above. The following points, however, are worthy of special note:

1. Scoping:

Scoping is a process by which the agency seeks public input as a guide to determining the scope of the issues to be addressed in an EIS. In the past, the Department of Interior has routinely scheduled meetings in areas to be impacted at which members of the public would be able to express their views on the scope of the EIS. Here, however, Interior announced on December 30, 1982 that written scoping comments would be accepted until January 31, 1983. Despite many requests for scoping meetings which members of the public could attend, no meetings were held. On March 9, 1983, only five weeks after the scoping period closed, the DEIS for the sale was released.

The process adopted by Interior to scope the DEIS seriously impeded the ability of the public to participate in the process. Moreover, had Interior provided for greater public input into the preparation of the DEIS, the DEIS would not contain the many deficiencies now found in this document. Also, given the extremely brief period of time between the close of the scoping period and the issuance of the DEIS, it is difficult to accept that the DEIS was prepared on the basis of the results of the scoping process. This is clearly contrary to the requirements of the Council on Environmental Quality regulations implementing NEPA. Those regulations clearly require that scoping occur immediately upon the decision to prepare an EIS and be the basis for the drafting of that document.

2. Comment Period:

Upon issuance of the DEIS, the Mineral Management Service ("MMS") announced that written comments on the DEIS would be accepted until April 26, 1983, or 48 days following the issuance of the DEIS. This is in clear violation of Part 516 of Interior's own departmental manual. That manual clearly provides that the minimum review period for a DEIS is to be 60 days. (45 F.R. 27547.) Interior has provided no explanation for this violation of its own regulations.

3. Public Hearings:

On April 13, 1983, the MMS held a single day of hearings to receive public testimony on the DEIS. Because one day was inadequate to hear from all the interested members of the public,

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three hearings were held simultaneously at a single location which is inland of the most affected coastal communities. There was no reason for Interior to schedule only a single day of hearings on an environmental statement reviewing a project of this magnitude. Nor was there any reason for Interior to adopt a procedure of holding multiple hearings simultaneously which effectively precluded the members of the public from fully participating in the entire hearing.

4. Streamlining:

On April 15, 1983, the California Coastal Commission conducted a public hearing on the DEIS for Sale 73. At that time, several representatives of the MMS addressed the Coastal Commission. They informed the Coastal Commission that Sale 73 was to be considered as proceeding according to the procedures which existed prior to the adoption of the "streamlining" regulations.

Those pre-streamlining procedures called for the following steps: (1) request for resource reports; (2) call for nominations and comments; (3) tentative tract selection; (4) scoping meetings; (5) draft environmental statement and subsequent public hearings; (6) endangered species consultation; (7) final environmental Statement and Secretarial Issue Document; (8) proposed notice of sale; (9) coordination with the State; (10) notice of sale; and (11) sale.

The Department of Interior has not adhered to its own regulations with regard to the steps which precede an OCS lease sale. While a call for nominations was published on November 11, 1980, Interior has never engaged in tentative tract selection for this lease sale. Because this lease sale is being conducted according to the pre-streamlining procedures, Interior should not proceed until it has performed all of the steps required by these procedures.

5. Expansion of the Sale Area:

The DEIS contains a large number of references to the areas north of Morro Bay. Concerns have been expressed that these references are included because Interior intends in the Fall to publish a supplemental EIS for the Northern California areas in an attempt to proceed with a sale in these areas. Interior could only engage in such an action by significantly delaying Sale 73. Such

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delay would be necessary for Interior to fulfill the procedural steps which precede a lease sale and because Interior, due to the Congressional ban on expending funds on the Northern California area, could only begin such steps after September 30, 1983.

6. Lack of Specificity:

As the substantive comments on the DEIS indicate, this document is completely lacking in specificity. Instead of focusing upon the environment of the area proposed for leasing, the DEIS engages in broad general discussions of dubious relevance. The DEIS should review in detail the environment of the area proposed for sale and then detail the impacts. The document should then discuss in detail those impacts which are expected to occur outside the sale area. The general nature of the DEIS means that it provides the Secretary with an inadequate source of information for use in making his decision.

7. Alternatives to the Proposal:

The DEIS presents three alternatives to the proposed sale: deletion of three full tracts and portions of four other tracts to create a buffer zone around Morro Bay, delay the sale, and conduct the sale. As the comments of the Coastal Commission indicate, this is clearly an inadequate range of alternatives. The Secretary has not discussed the possibility of the goals of the sale being attained in a less environmentally damaging fashion.

However, even assuming that the range of alternatives is adequate, their treatment here is inadequate. A thorough analysis of alternatives is the linchpin of an EIS. Interior has the duty to express its course of inquiry and its reasoning in evaluating the various options open to it, including the costs and benefits associated with each alternative.

The analysis in the DEIS of the benefits and costs of the alternatives does not meet the requirements of NEPA. Instead of analyzing relative costs and benefits, the DEIS focuses on the impacts to the environment from other sources. The DEIS does not even attempt the balancing for the limited range of alternatives presented. The DEIS should have presented a much broader range of alternatives and examined each for its relative cost and benefits. Only in this fashion would the mandate of NEPA have been met.

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8. Hazardous Waste Sites:

The DEIS at page 4-83 makes reference to three designated dumpin areas within proposed Sale 73. However, only one is discussed and the other two are dismissed as being of no importance. The tract references for the one dump site discussed are completely nonsensical. A decisionmaker can hardly determine the impacts of his decision when the document on which he is relying does not provide accurate information.

However, the DEIS, at page 4-215, also makes reference to a second "low level radioactive dump site, located 56 miles off Point Arguello," without any further discussion of this dump site. This reference to a low level radioactive dump site off o Point Arguello apparently refers to an inactive dumping site covering an area of 90 tracts within the proposed sale area. This inactive site was used in the past to dispose of radioactive waste, explosives and toxic chemical ammunition. The failure of the EIS to discuss the impacts should these wastes be released by drilling activities clearly is a significant deficiency.

At the April 15, 1983 California Coastal Commission hearing on Lease Sale 73, the representatives of the MMS indicated the difficulties in determining the location of the materials dumped into these sites. In fact, in most cases, accurate records of the amounts and locations of the materials dumped have not been maintained. The DEIS does not address any method for locating these materials prior to drilling. The DEIS only states, "A bottom survey of the area in which the dump sites are located should be run prior to the actual exploration or development activities." Such a non-mandatory bottom survey is clearly an inadequate manner in which to determine the location of these highly toxic materials.

In light of this uncertainty, one would have anticipated a detailed discussion of the impacts from the release of these toxic materials during OCS operations as well as methods of mitigation. The DEIS, however, discusses the impacts of releasing large amounts of radioactive or chemical wastes in only the most cursory manner and does not discuss any mitigation of the possible effects of such releases.

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James Watt, Secretary of the Interior  
Regional Manager, Pacific OCS Region  
Minerals Management Service  
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Given the inaccurate tract descriptions provided by Interior for one dump site, the fact that a second radioactive dump site is not even discussed, and the fact that Interior is not requiring a mandatory bottoms survey, the conclusion of Interior that, "The probability of one or more of these disturbances contacting the dumping area is low," is completely unsupported. In order to be adequate, the DEIS must, at a minimum, address in detail the possibility of drilling operations releasing substantial quantities of these toxic wastes and the impacts of such a release upon the surrounding environment. It is also likely that Interior's lack of information on the location of these waste and impacts upon release and apparent inability to obtain that information mandates that a worst case analysis be done on the release of such materials into the surrounding environment. See Sierra Club v. Sigler (5th Cir. 1983) 695 F.2d 957.

9. Cumulative Impacts:

The DEIS makes a fundamental error in the fashion in which it deals with cumulative impacts. Beyond the only minimal treatment of such impacts the DEIS deals in cumulative impacts only by comparing the Sale 73 impacts to the potential contribution from other sources. The DEIS does not deal with the increment added by Sale 73 to those impacts from other sources. However, it is this incremental impact of the action when added to other past, present and reasonably foreseeable actions that the agency is supposed to consider.

Moreover, even the consideration given is deficient in that it fails to deal with the impacts from a number of other projects. While the DEIS does make passing reference to the impacts of Sale 53 and of the leasing by the State of California between Point Conception and Point Arguello, the document does not deal with the impacts of past and future leasing in the Santa Barbara Channel. In the recent past, Interior has made three offerings of tracts in the Santa Barbara Channel with many tracts being leased. Currently a great deal of exploration activity is going on in this area with a variety of impacts which will contact Santa Barbara County. The failure of the DEIS to consider these impacts means that it is clearly inadequate.

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James Watt, Secretary of the Interior  
Regional Manager, Pacific OCS Region  
Minerals Management Service  
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April 26, 1983

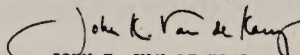
10. Worst Case Analysis:

The DEIS for Sale 73 contains no worst case analysis. However, the regulations of CEO implementing NEPA clearly require a worst case analysis for this project. See Sierra Club v. Sigler, supra. In fact, given the nature of the impacts from this project it is probable that more than one worst case analysis is necessary. As noted above, Interior should prepare a worst case analysis dealing with the release of large amounts of toxic waste. Moreover, Interior should prepare such an analysis dealing with a massive oil spill. Interior's failure to undertake either of these analyses again means that this document is inadequate.

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The DEIS issued for Sale 73 is clearly deficient on a broad range of issues. It appears that this DEIS is "so inadequate to preclude meaningful analysis", and therefore Interior should prepare and circulate a revised draft of the entire document. 40 C.F.R. § 1502.9(a). Adopting such an approach would also allow Interior to correct the procedural deficiencies in the preparation of the DEIS. Interior would thus be able to prepare its DEIS following tract selection and full scoping. This must be considered the preferred path for Interior to follow.

Very truly yours,

  
JOHN K. VAN DE KAMP  
Attorney General

15



State of California  
SACRAMENTO

April 25, 1983

GORDON W. DUFFY  
Secretary of  
Environmental Affairs

James Watt  
Secretary of the Interior  
U.S. Department of the Interior  
18th and C Streets, N.W.  
Washington, D.C. 20240

Dear Secretary Watt:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (EIS) on Lease Sale 73. As Governor George Deukmejian's OCS Coordinator, I am submitting the following comments:

California is committed to working with the Department of the Interior to ensure that oil and gas development is supported where there are sufficient needed resources which can be extracted with minimal risks to our environment. We hope these comments on the Draft EIS will assist you in preparing the analysis on which you will base your decisions regarding Lease Sale 73.

Balancing the diverse national, state and local interests which must be considered in leasing offshore oil and gas resources is a difficult task. Secure and abundant sources of energy are needed to maintain a healthy economy, yet a healthy environment is indispensable for maintaining the well-being of our citizens. Often these two goals seem to clash, but I firmly believe that a balance between economic development and environmental quality is achievable. In the case of Lease Sale 73, the balance will be found by making available for lease tracts which include significant oil and gas resources and which can and will be developed with maximum protection for the environment.

Significant oil and gas discoveries in the Lease Sale 48 and 53 areas will provide the country with much needed domestic oil and gas reserves. Over 500,000 barrels per day of peak oil production is anticipated as a result of these Sales. We are hopeful that oil discovered in the Lease Sale 73 area will soon add to this production figure. History has shown, however, that when the public and decision-makers are provided less than thorough discussions of the implications of a proposal, no development occurs, or, at best, delays occur that could have been avoided. To ensure that Lease Sale 73 is not delayed, I recommend that the Final EIS be strengthened in a number of areas.

Many of these areas are identified in the attached comments of state agencies and in the comments of local governments and citizens that you will be receiving. Comments from state agencies reviewing the Draft EIS are summarized in Attachment A. Two comments that I want particularly to bring to

-2-

your attention are the recommendations to use the most current available information in the preparation of the Final EIS and the recommendation for stipulations to protect fisheries. The full text of state agency comments are included in Attachment B. These comments identify areas where the Draft EIS should be corrected or where additional information and/or analysis are needed to bring the Draft EIS into compliance with the National Environmental Policy Act.

We consider all of the comments by state agencies of significance, and I trust that in preparing the Final EIS you will consider and respond to each of them. The following highlights several issues of paramount importance to the State of California.

First, improving and protecting air quality is a major concern of the State. The Draft EIS shows that unless adequately mitigated, the emissions from Lease Sale 73 OCS activities will add to the burden of onshore pollution and result in violations of health-based State and federal ambient air quality standards. Failure to achieve and maintain the air quality standards not only poses a threat to health, but in the case of national standards, will cause economic injury as a result of the imposition of sanctions under the Clean Air Act and the necessity to severely limit onshore industrial development. The EIS must be used to assist the State of California in protecting environmental quality by studying the cumulative effects of offshore oil and gas development and by thoroughly considering possible mitigation measures.

15.1

Second, transporting oil produced in the Santa Maria Basin and the Santa Barbara Channel to refineries is another serious issue. As you know, the State, in conjunction with the oil industry, local governments, and various federal agencies, has been studying oil transportation alternatives for the last eight years. In the Draft EIS you assume that about 50% of the oil produced as a result of Lease Sale 73 will be transported to Los Angeles area refineries by pipeline beginning in 1988. While we hope that pipeline transportation will be available, it may not be. The EIS should evaluate the effects of other transportation scenarios. Your analysis should consider the effects of moving all the oil produced as a result of the Sale to refineries by either tankers or, alternatively, by a pipeline to the Gulf Coast.

15.2

Third, in light of your April 8, 1983 decision not to consider leasing north of Morro Bay through federal fiscal year 1984, I trust that the Final EIS will be focused on the Lease Sale 73 area, below Morro Bay. Discussion of areas north of Morro Bay only contributes to unnecessary concern and feeds resistance to the Sale.

15.3

Fourth, I recommend that Alternative II be adopted with modifications. Alternative II is the best means for meeting the goals of producing energy while protecting the environment. This Alternative deletes tracts within 10 miles of Morro Bay from the Sale to protect the sensitive biological areas found there. We believe that with some modifications, Alternative II will balance the goals in the OCS Lands Act (meeting the national interest in

15.4

developing energy resources while protecting other ocean and coastal resources) and provide for the well-being of California's citizens.

Alternative II should be altered to delete the nearshore tracts deleted from Lease Sale 53. Tracts within 10 miles of Morro Bay, Pismo Beach, Port San Luis and the Santa Maria River mouth should be deleted from the Sale. Sensitive biological areas extend along the coast south of Morro Bay and deletion of tracts which were excluded from leasing in previous sales would continue to provide protection in these areas.

15.5

In addition, the tracts currently under litigation as a result of Lease Sale 53 should be deleted from consideration. Oil and gas development in the litigated area would threaten the Southern Sea Otter habitat. Additional study and discussion among your staff and the California Department of Fish and Game will be required to determine how close to shore leasing can occur west of the litigated tracts without endangering the habitat of the Southern Sea Otter. The balance between the goals of energy production and environmental quality would best be met by providing this reasonable protection for endangered species.

15.6

Fifth, we are very concerned about leasing tracts where radioactive wastes, explosives, and toxic chemical munitions have been disposed. Areas where these wastes were dumped must be identified. Leases for tracts that include these areas must include stipulations that will ensure these wastes are not disturbed in any way.

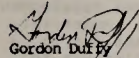
15.7

Sixth, I strongly recommend that adequate public hearings be held prior to the adoption of the Final EIS of Lease Sale 73. Local governments, environmental groups and some members of the general public are extremely concerned about the proposed Sale. I believe that development offshore California can only occur in an expeditious and balanced manner if it is built on a partnership of the private sector, local governments, the public, environmental groups and federal and state agencies. I cannot emphasize too strongly the important role that local governments will have in the development of energy resources offshore California.

15.8

We are looking forward to reviewing the next version of this EIS. If I or my staff can be of any help to you, please contact me or Jan Sharpless, Deputy Secretary, at 916/322-5840.

Sincerely

  
Gordon Duffy  
Secretary of Environmental Affairs

Attachments

SUMMARY OF STATE AGENCY COMMENTS

Department of Fish and Game

The Draft Environmental Impact Statement (EIS) is inadequate in the portrayal of existing resources (it relies on obsolete surveys) and in the discussion of potential impacts related to oil spill risks, cumulative effects, commercial fisheries, drilling fluids and formation waters, fishery and other living marine resources, and area characterization. The document also fails to address the possible adverse impacts resulting from contact with existing radioactive, and dredge material disposal sites located within the lease area. The effect of No Sale, Alternative IV, is misleading. The amount of damage to fish and wildlife populations and their use decreases from the greatest threat coming from Alternative I and the least from Alternative IV. Modification of Alternative II to delete more tracts from this Sale is desirable.

State Lands Commission

The DEIS is inadequate and substantial revisions are necessary before the issuance of a Final EIS. The EIS prepared for Lease Sale 53 and the State comments submitted on that Sale should be used for guidance in reformulating the analysis of Lease Sale 73. Erroneous assumptions regarding the level of reserves in the area and the need to modify or construct major refineries are made. The "worst case" analysis is not conducted. Evaluation of cumulative impacts and discussion of mitigation measures to respond to identified potential impacts are inadequate. Geologic hazards are not adequately analyzed and the general level of analysis and information is too general, specific focus of the document should be on the impacted area, not on the entire north and central coast.

Coastal Commission

The DEIS is inadequate and the Lease Sale should be delayed due to the inability to justify leasing this biologically important area in the face of a worldwide oil glut and due to the lack of sufficient onshore infrastructure. The adoption process for the Coast Guard's five mile wide fairway through the lease area should be completed prior to leasing. The DEIS itself is inadequate and fails to meet the minimum requirements of NEPA and the OCS Lands Act. The geographic study area in the DEIS is too broad, far exceeding the actual area to be leased. The document fails to develop an adequate range of alternatives to the proposed Sale, one of which will be chosen by DOI. Alternatives deleting specific tracts to provide buffer zones to protect marine mammals as well as recreational and sensitive biological resources should be added. The document does not analyze issues in a sufficient level of detail to allow for sound decision-making. An in-depth analysis of cumulative impacts that will occur as a result of this as well as previous lease sales, is not provided. An analysis of the impacts of a "worst case" scenario is not included as required by NEPA. The mitigation measures presented in

the document are inadequate and in some cases deferred for development at a later stage in the process. Specific changes to the stipulations are recommended. All tracts presently being litigated should be deleted.

Air Resources Board

Comments limited to the DEIS. The agency has not had sufficient time to review the reference reports related to air quality. The DEIS assumes incorrectly that DOI's air quality regulations pertaining to offshore operations adequately protect California's onshore air quality. Federal regulations do not consider the cumulative effects of OCS development and do not establish appropriate levels of significance and exemption formulas. The DEIS incorrectly maintains that ozone impacts will be mitigated by existing federal regulations. Estimates of the number of wells to be drilled and the emissions from drilling are too low when taking into consideration the level of activity occurring under Lease Sale 53. The DEIS fails to consider a number of mitigation measures available to reduce NOx emissions. The document also fails to sufficiently evaluate refinery capacity.

Department of Conservation

The DEIS provides geotechnical data and analysis adequate for the evaluation of the lease sale with respect to seismic design and geologic hazards. Site specific surveys to be carried out in accordance with the new MMS review policy must be performed, reviewed, and applied in order to adequately identify geologic hazards. The State should be given the opportunity to provide expertise during the preparation of site specific surveys as well as review them in their draft form. The reserve estimates appear adequate.

California Energy Commission

The DEIS does not discuss the cumulative impact of this lease sale in combination with other sales on the State's refinery capacity. The document presents conflicting peak production figures and does not adequately describe the type of crude to be produced. Data on retrofitting cost figures is also not provided. Given these deficiencies it is impossible to assess the conclusions presented in the document regarding impacts on the State's refineries.

Department of Parks and Recreation

Alternative II is preferable in that several tracts and portions of tracts would be deleted creating a ten mile zone centered on Morro Bay allowing for added time for oil spill containment and reducing visual impacts. The DEIS should identify proposed pipelines which may cross state park lands and provide an analysis of potential impacts to state park resources.

Office of Historic Preservation

The Office is looking forward to receiving documentation of compliance with the National Historic Preservation Act which requires federal agencies to identify all sites of cultural significance which are listed or eligible for inclusion in the National Register of Historic Places.

Attachment B

Index to State Agency Comments

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4. Discharges of both drilling fluids and formation waters and their potential impact, both acute and chronic, on resources appear to be minimized. With respect to the discharge of drilling fluids, we have consistently pointed to the existing divergence of opinions and published data with regard to the chronic and sublethal effects of this material. It is our opinion that until the claims for no effects are adequately substantiated, drilling fluids should be disposed of on land. 15a.4

5. The effects of the No Sale Alternative (1V) on resources appear to be somewhat misleading. The description of the future of existing living marine resources without the proposed project is worded in such a way that the inference can be drawn that oil exploration and development activities would counter routinely occurring negative influences as opposed to contributing new burdens to the existing resource base. 15a.5

Specific comments with regard to the inadequacy of the subject document are:

- Pages 2-23, 2-24, 4-107-109, 162-164, 166-167, 190, 203, 209, 220, 231. - The DEIS inaccurately characterizes the importance and future of commercial fisheries and the fish resources upon which they are dependent as bleak. Statements such as, "without the proposal, California commercial fishermen are expected to sustain economic losses due to natural fluctuations in fish and shellfish populations, competition with other fishermen, changes in market conditions, and restrictions on fish harvests," are in our opinion, unupportable and appear to assume that resource fluctuations, market conditions and restrictions can only be in a negative direction. This assumption appears to ignore or does not take into account that current State and Federal management practices and regulations are designed to sustain optimum levels of most, if not all, exploitable fish stocks. 15a.6
- Page 4-163. - The importance of local commercial fisheries within the proposed sale area is, in our opinion, minimized with respect to value. The report utilizes 1976 Fish and Game published reports, although more recent data was furnished to MMS staff by the Department's Morro Bay office in 1982. That information was not utilized in the subject document. Preliminary landing data for 1980 indicates an ex-vessel value of approximately \$1,890,000 to trawl fishermen from Morro Bay and Avila. This represents a six-fold increase from the 1976 value. In addition, no mention was made of the pink shrimp fishery valued at \$250,000 to \$600,000 yearly since its inception in 1979, nor was the value of an important hook-and-line rockfish fishery cited which is worth about \$500,000 yearly. 15a.7
- The report's description of rocky and sandy intertidal benthos (Pages 3-26 to 32, and 4-94 and 95) is, in our opinion, simplistic and misleading. The value, extent, and frequency of rich intertidal areas in central California is under-reported. There is a wealth of documents from a variety of academic institutions 2

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The Resources Agency

State of California

Memorandum

Date: April 7, 1983

To: Gordon Duffy  
Secretary of Environmental Affairs  
1102 - Q Street  
Sacramento, California 95814

From: Department of Fish and Game

Subject: DEIS - OCS Sale No. 73 Central California (SCH 83030809)

The Department has reviewed the Draft Environmental Impact Statement (DEIS) from the U.S. Department of the Interior/Mineral Management Service (MMS) for the proposed 1983 outer continental shelf oil and gas lease sale offshore central California (OCS Sale No. 73). OCS Sale No. 73 calls for the lease of approximately 2,000,000 acres (360 tracts) from 3 to 65 miles offshore, between Pt. Conception and Morro Bay, for hydrocarbon production and development.

With regard to the adequacy of the DEIS, we have the following general and specific comments regarding resource description and impact potential.

The document's portrayal of existing resources and potential impacts is inadequate in the following general areas:

- Results of the Oil Spill Risk Analysis Model are overemphasized. There are many instances where severe potential impacts on marine resources and their habitat are ignored because the model suggests a low probability for contact of a spill on mainland coastal areas. This "statistical" protection afforded by the model is not, in our opinion, adequate. 15a.1
- The actual contribution of the proposed project to "cumulative effects" evaluations is not made clear. Initial portions of the text indicate that some of the crude oil produced in the southern Santa Maria Basin will be tankered to and refined in the San Francisco area. The actual increased risk to sensitive coastal, island, and embayment habitat found along the tankering route from this added development should be discussed in the document. 15a.2
- The document appears to minimize the importance of commercial fisheries and the potential impact of oil and gas development on them. It is stated in various sections that commercial fishermen are expected to sustain economic losses due to natural fluctuations in fish and shellfish populations and other factors. However, there does not appear to be any supporting material for claiming such an overall downward trend. We recommend that the downward trend in natural fluctuations be documented, or that references in the document to this trend be deleted. 15a.3

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and resource agencies, much of it published, describing rich and unique floral and faunal assemblages near the study area. For example, the Department's Diablo Cove reports can be used to characterize the intertidal resources between Point Buchon and Point San Luis. 15a.8

The characterization of area (10) north of Spooner Cove to Point San Luis (Page 3-31) provides another example of this kind of problem. The characterization offered is incomplete and inadequate. This area contains a number of unique areas and species such as unusually shallow colonies of the hydrocoral, *Allopora californica*. There is sufficient data available to document the importance of this area to numerous species of fish, invertebrates and algae as well as its importance to the California sea otter for food, rafting and pupping. This area may be the only growth area for the sea otter in the southern end of their range, assuming that the central portion of their range is now at carrying capacity. 15a.9

4. The reference to a paucity of information on subtidal benthos near the study (Page 3-32) is, in our opinion, misleading. Again, we would refer to the Department's Diablo Cove reports and academic reports that are available. 15a.9

5. The discussion of fish resources (Pages 3-33 to 37) does not adequately portray the importance of rockfish and sablefish, or the characterization of epipelagic species and further, it fails to provide information on important benthic species. 15a.10

6. The section regarding commercial fisheries (Pages 3-73 to 78) contains what appears to be a series of misleading statements and omissions, such as: a) a failure to discuss shark, shrimp, and sea urchin fisheries in the Morro Bay area; b) a lack of discussion of the use of bottom trawl and roller gear, which provide the principal methods of rockfish capture; c) a statement that northern anchovy catches are increasing in central California when, in fact, they are decreasing; d) listing purse seine as the major gear type used to capture Pacific herring, when gill nets account for nearly 60 percent of the landings; e) that red abalone are fished extensively in central-northern California, when in fact this species has not been harvested extensively in this area since 1969; and f) that spot prawns are harvested by traps in the Morro Bay/Avila area when, in fact, they are harvested by trawling with an estimated annual ex-vessel value of \$125,000. 15a.11

7. The Santa Cruz study data on sea otter (Page 3-41) are referred to as "... the only ones available at this time." However, the Department has considerable data spanning a number of years on sea otter distribution and populations. These data are available and we believe they should have been utilized. This section on sea otter (Pages 3-41 to 46) contains a number of assumptions which appear to us to be based largely upon a single 15a.12

set of observations conducted in May, 1981. This information is then utilized to delineate sea otter distribution on a broad basis. Use of this information in that manner leads to a number of problems such as: a) the number counted is represented as a percent of the total population whereas it is at least a percentage of the total counted; b) it is assumed that the increase in the Cayucos Point area is due to an influx of breeding animals. This may or may not be the case as this area has a large male group which may or may not be breeding animals; and c) population shifts within the sea otter range may be a result of counting error.

8. The analysis of impacts to the sea otter as a result of an oil spill (Page 4-111) is based upon four assumptions. Assumption four, i.e., that the May 25, 1981 observations are representative of sea otter numbers in the spring may or may not be met and therefore, the projections of probable impacts may not be valid and we believe they could be much higher. 15a.13

We have the following additional concerns regarding impacts of the project on fish and wildlife resources:

1. Disturbed sediments from pipeline laying and installation of platform structures can result in impacts to water quality, particularly in hard bottom areas, such as the fishing grounds at Santa Lucia Bank. 15a.14
2. Drilling muds, cuttings, and formation water will produce local water quality degradation. Hard bottom communities, particularly those associated with Santa Lucia Bank, could be impacted. 15a.15
3. Geophysical operations are known to impact set-gear fisheries (e.g. crab, lobster, etc.) and interfere with bottom trawl, midwater trawl, and troll fisheries. Fish avoidance of seismic activity is still an open question and may result in catch losses to local commercial fishermen when multiple geophysical vessels work the same area. 15a.16
4. Major man-made structures include platforms, pipelines, and wells. These structures could cause undesirable effects should they contact existing radioactive or old dredge material disposal sites containing contaminated materials. Multiple platforms in certain limited areas could cause moderate impacts to hard bottom communities, affect petrale sole spawning grounds, and alter grey whale migration routes. Laying down pipeline is expected to adversely impact endemic species of the Nipomo Dunes area and may significantly impact the bottom trawl fishery. Competition for harbor- and vessel-related services is expected. 15a.17
5. Evaluation of the impacts of an oil spill were based in great part on results generated by the Oil Spill Risk Analysis Model. A most likely case was developed for the probable or expected level of development, a high case for complete development, and cumulative impacts from the total of all OCS and State development. 15a.18

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The most likely case is expected to result in one spill greater than 1,000 barrels which would probably contact the northern end of San Miguel Island; the high case increases chances for multiple spills, changes in direction of spill movement (e.g., strikes the mainland coast), and tankering spills; cumulative impacts include eight major spills with a number of them outside the study area from tankering mishaps. One of the many disclaimers on oil spill risks issued in the DEIS is found on Page 4-18, "the actual environmental risk may prove significantly higher or lower than discussed in this report." Should a large oil spill occur as a result of any of the aforementioned cases, then the following impacts could occur with varying degrees of predictability:

- a) Minor water quality problems in the Santa Maria Basin, but severe problems should the oil enter a confined estuary or embayment such as Morro Bay.
- b) Major impacts to biologically sensitive intertidal benthos within the study area from Pt. Buchon to Pt. San Luis (rocky) and Pismo Beach (sandy), or any of many other sensitive rocky or sandy intertidal zones from Pt. Reyes Headlands in the north to the Channel Islands in the south.
- c) Moderate effects on the subtidal benthos should repeated spills affect hard bottom communities, but a major impact should a tanker spill contact Cordell Bank.
- d) Minor to moderate impacts to squid and herring stocks outside the study area.
- e) Substantial adverse impacts to the northern fur seal and other pinniped populations should a spill contact the northern end of San Miguel Island during the breeding season and a similar effect on the sea otter population or the marine mammal rookeries at Ano Nuevo Island and the Farallon Islands should a spill reach these areas.
- f) Threats to seabirds include the ash storm petrel and Cassin's auklet populations near San Miguel Island and the rhinoceros auklet population at Pt. Arguello, the food source (northern anchovy) of the brown pelican, and major seabird rookeries at the Farallon Islands.
- g) Should a spill enter Morro Bay, major impacts will occur to salt marsh vegetation (cordgrass and pickleweed) plus fish and wildlife, including the endangered least tern and California black rail; other likely and sensitive embayments include Drakee - Limantour Estero, Bolinas Lagoon, and San Francisco Bay.
- h) Commercial fishing impacts in the study area include disruption of the anchovy fishery and potential threats to mariculture operations in Morro Bay; outside the area, anchovy, squid, and herring fisheries and mariculture operations, particularly in Drakee Estero, are threatened.

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- 1) Should a spill strike the coast in the study area, the local sportfishing industry would be severely impacted; Santa Cruz Basin sportfisheries would also be jeopardized by a spill contacting their area.

We have ranked the alternative actions listed in the DEIS in order of increasing adverse effects on fish and wildlife resources as follows:

- A) Alternative IV - No Sale. This alternative would result in the least damage to fish and wildlife populations and their use.
- B) Alternative III - Delay the Sale. - A delay would postpone the occurrence of impacts and in the interim, "improvements may occur in technologies for oil spill prevention and recovery, deepwater drilling and production techniques, or for exploration and production in hostile environments which may lessen the risk of some adverse impacts. Also, new information on oil and gas resources may become available from drilling on adjacent existing leases and the economic feasibility of developing an area will probably improve." (Page 2-21). 15a.19
- C) Alternative II - Modify the Sale to Protect Sensitive Biological Areas. This alternative would result in more damage to fish and wildlife than the above alternatives. However, we would like to see the existing proposal modified. In the DEIS, tracts within a 10-mile zone around Morro Bay are removed. We recommend that this buffer zone be altered to include an additional 27 tracts, or parts thereof, such that it extends from the northern boundary of the sale area to Pt. San Luis. Ten of those tracts are presently in litigation. Sensitive and unique intertidal areas, seabird habitat, and the southern sea otter would thus be afforded greater protection. Also, there are ninety tracts proposed for sale that are situated within the inactive dumping site located offshore between Pt. Sal and Pt. Arguello. This area was used to dispose of radioactive waste, explosives and toxic chemical ammunition. Unless it can be conclusively demonstrated that each lease tract does not contain such materials, these tracts should be deleted from the sale. These deletions would significantly reduce adverse impacts on marine resources.
- D) Alternative I - Sale. This proposal constitutes the greatest threat to fish and wildlife resources. Even with the training program stipulations attached, the risks of impacts to California's coastal natural resources remains significantly greater than the above three alternatives.

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This completes our comments. If you wish to arrange for discussion of our comments, please contact Rolf Mall, Environmental Services Supervisor for the Marine Resources Region in our Long Beach Office; telephone (ATSS) 635-5155.

EC *Fullerton*  
Director

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State of California

Memorandum

To : Mr. Gordon Duffy
Secretary for Environmental Affairs

Date : April 8, 1983

File No.

From : EXECUTIVE OFFICE
1807 12th Street, Sacramento 95814

Subject: Comments to OCS Lease Sale 73 Draft Environmental Impact Statement (DEIS)

The staff of the State Lands Commission have reviewed the subject document and submit these comments pursuant to your request.

General Background and Summary Comments

The Draft Environmental Impact Statement for OCS Lease Sale 73 discusses impacts of oil and gas activities offshore Northern and Central California. Originally, the Call for Nominations for Lease Sale 73 included all federal Outer Continental Shelf (OCS) basins offshore California. The scope of the proposed sale was subsequently limited to OCS basins offshore Central and Northern California from Point Conception to the California/Oregon border.

The document, in its present form, is inadequate. The assumptions, errors, and omissions, when taken in their entirety, suggest that substantial revisions are necessary before the issuance of a Final EIS.

Discussions of environmental impacts are generally poor and based upon assumptions which are difficult to justify considering available information about discoveries in the OCS Lease Sale 53 area.

15b.1

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presently stated estimated mean recoverable reserves from OCS Lease Sale 53. Such reserves have been estimated to be between 1 and 10 billion barrels.

The major deficiency in this EIS is the basis chosen for the evaluation of impacts. The document does not analyze the proposed sale under the "worst case" circumstances as required by the Council on Environmental Quality (CEQ) Guidelines.

15b.2

For the "worst case" analysis, the 5% probability of resource potential should have been used to determine the magnitude of potential impacts which could occur from the proposed action and the mitigation necessary to adequately respond to such impacts.

The EIS also assumes that no major refinery modifications or construction or other coastal development will occur as a result of this lease sale.

15b.3

The discussions of cumulative impacts are either cursory or fail to include relevant information from other known activities. While the document identifies some of the other projects related to this project, there is no evidence that the projected impacts of those projects were considered in the impact analyses.

15b.4

Mitigation measures to respond to the identified potential impacts of the proposed sale are not presented or discussed in the EIS. The only mention of any kind of mitigation is that related to the present OCS orders and proposed stipulations.

15b.5

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Specific Comments

Page 1-10 - The entire regulatory framework, including State and local agencies, should be listed.

15b.6

Page 2-1 - The earlier estimates for the OCS 48, 53, and 68 Lease Sales should be examined and compared to the subsequently known discoveries. Detailing any discrepancies should provide a basis for evaluating the production figures on which this whole analysis is based.

15b.7

Figure II A.1. c-1 - Yearly Oil and Gas Production

Page 2-4 - The estimate peak oil production is, we believe, underestimated at 250,000 barrels per day. New finds on OCS Lease Sale 53 tracts are expected, by industry estimates, to produce 500,000+ barrels per day.

15b.8

Page 2-6 - The assumption that California refineries have adequate capacity to handle all OCS production needs further analysis. Admittedly, in the aggregate, California refineries have the capacity to handle the OCS crude. But, the EIS doesn't seem to adequately address the fact that Los Angeles Basin refineries may not be able to take on the projected heavy, high sulfur OCS crudes without modification in physical plant, product output or both.

15b.9

The need for new refineries (either topping or complex), significant refinery expansion and upgrading, and/or a major shipping facility for the export of crude oil should be recognized as possible effects of additional OCS production.

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The assumption of an onshore facility and pipeline to Los Angeles are "best" conditions from which to develop the environmental analysis. The EIS must consider the impacts from projects on the OCS which may be, in absence of policies to the contrary, likely to occur, i.e., OS&T facilities, tankering of oil from offshore points, etc.

The footnote implies that MMS has the discretionary power to approve the siting of marine terminals in State lands. This is incorrect.

Page 2-22 - 25 - The cataloguing of future trends is interesting, however, it is not particularly useful. The point of the cumulative impact analyses is to detect the incremental or marginal effects of this project.

15b.10

Section III - The Affected Environment - This section is general and contains cursory information about the environment which is to be affected. Much of the information is not applicable to the lease area since the information covers Monterey Bay, San Francisco, and other areas of Northern California well north of Morro Bay.

15b.11

Page 3-1 - The discussion of geology pertains to all of Northern and Central California, not just the lease sale area. This analysis fails to provide any specific discussion of geologic features in the lease sale which might affect subsequent oil and gas developments.

15b.12

Page 3-3 - Geologic hazards associated with the proposed leasing are not specific to the lease sale area. No evidence exists which indicates MMS has attempted to locate areas where hazards exist.

15b.13

Geologic Hazards Graphic No. 3 - This composite of maps is not specific enough to analyze effects of the leasing for oil and gas projects. The EIS on page 3-3 recognizes this deficiency and suggests the need for additional surveys and field work.

15b.14

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Page 3-4 - The EIS gives no information about the magnitudes, frequencies, accelerations, and durations of seismic events affecting the proposed lease area. 15b.15

Page 3-7 - The information contained in the sections on Physical Oceanography is for all of Northern and Central California and not the lease sale area. The discussion must include more specific information about the known physical oceanography of the lease sale area. 15b.16

Page 3-10 - More complete and specific information about significant wave heights and periods needs to be developed for the proposed lease area. 15b.17

Page 3-13 - The discussion of chemical oceanography is not specific to the lease area. Additional information specific to this area needs to be developed. 15b.18

Page 3-13 - The information about water quality is more appropriate to a general discussion of all of Northern and Central California. More specific information about water quality in this area is needed to form an adequate baseline from which to determine the anticipated level of impacts necessary to the decision-making process and to determine the changes which could result from this leasing. 15b.19

Page 3-14 - The statement that "... oceanic water quality along Central California appears very good to high." is not validated by any specific evidence. A cite should be given as to the basis for this statement. Table III A.6-1 provides information on only one site specific to the lease area, i.e., Morro Bay at the northern terminus of the affected area. 15b.20

Page 3-19 - More specific information about Climate and Meteorology in the lease area needs to be developed. Important information needed is the number of fog-free days, wind durations and velocities, and storm effects. 15b.21

Page 3-26 - Biological Environment - Inadequate information exists from which to analyze the effects of the proposed leasing. The discussion is exceedingly general and is not specific to the proposed lease area. Much of the information is only relevant to California north of the lease area. Surveys of available literature and/or biological field sampling should be done to more definitively identify the biological environment of the proposed lease sale area. 15b.22

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Page 3-29 - Rocky Intertidal - The assumptions used in characterizing sensitive habitats show no evidence that field samplings were conducted in the lease area. All the references discuss areas at Point Arguello or south and areas far to the north of the lease area. Samplings may be required to determine whether or not sensitive habitats exist in the intervening region, if available information is inadequate. 15b.23

Page 3-32 - Insufficient information exists to characterize benthic habitat, much less benthic species. The EIS states there is an inadequate literature base to characterize the benthic communities in the proposed lease area. 15b.24

Page 3-47 - As the document points out, oil spills can reach the shorezone and estuarine. As such, the EIS should document the marine resources found in these areas. 15b.25

Page 3-52 - It appears most of the document's information on estuaries concerns areas outside the lease area. Tables III B.7-1 and III B.7-2 contain three areas inside the lease area. The remainder are located outside the area. More specific information for the estuaries which might be affected by this leasing should be included. 15b.26

Figure III, C.7-1, Page 3-82 - Local governments administer important coastal recreation areas that should be listed. 15b.27

Page 3-87 - The discussion of cultural resources is only very general and lacks specific data on potential marine cultural resources sites. This area is noted for its possible shipwreck locations. Area specific cultural surveys need to be completed prior to leasing so that cultural sites can be analyzed and protected. 15b.28

Page 4-1 - The impact analysis is based upon "the most likely resource estimate". Peak production under this estimate would be approximately 80,000 barrels per day, which equates to two platforms or less. The early exploration efforts of OCS Lease Sale 53 tracts indicate that "the most likely resource estimate" cannot be justified. The EIS for Lease Sale 53 used 150,000 barrels per day peak production. Substantial justification of these resource numbers needs to be provided or more reasonable numbers need to be used to develop "worst case" scenarios based on the highest possible resource level. Justification should include tract maps showing structural targets and other relevant information. 15b.29

It appears the MMS has attempted to develop analyses of environmental impacts of this lease sale under the best possible conditions. The CEQ Guidelines require "worst case" analyses.

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Page 4-1 - The assumption that no additional refinery capacity will be needed as a result of this lease sale may be without justification. Existing onshore California production, Alaskan imports, foreign imports, and potential production from existing offshore leases will, at some point, tax California's existing refinery capacity. None of these existing supplies can be "backed out" without major modifications to the refineries or their processing slates, which could result in other environmental impacts. Refinery expansion or new refineries could be a result of the current scheduling of this proposed lease. The analysis of these questions is required by the provisions of NEPA. 15b.30

Page 4-1 - The requirement for use of pipeline transportation of crude oil from the lease area is not a stipulation of the leases. Therefore, the assumption of pipeline transportation cannot be the basis for the environmental analysis. OS&T facilities and tanking have been allowed in other lease sales and as such, represent a "worst case" scenario. The impact analysis is inadequate without the analysis of "worst case" situations. 15b.31

Page 4-3 - The discussion of tanking to the Gulf Coast seems inconsistent with the earlier discussion. While we think the EIS is probably accurate at this page, the unexplained assumptions and analysis prevent us from agreeing or even attempting to reconcile the differences. 15b.32

Page 4-5 - The model used to evaluate impact areas for oil spills appears invalid. The model is generated over a large area (Washington/Oregon State line to the Mexican Border) in contrast to the proposed lease area (Point Conception to Morro Bay). It is questionable how local currents and wind velocities, which are of primary importance in determining where a spill would migrate, could be considered by a large scale model with, at best, a 2-3 km resolution. Further, no baseline wind and current measurements exist for most of this area. The Vandenberg site appears to have topographical features which would invalidate its use as a measure point. 15b.33

It appears from the analysis that five sources of wind data were used in the model. Only one of these stations, the Vandenberg site, is located within the lease boundaries. As such, the model results are most likely inappropriate for this area. Either the model uses the five weather stations given to construct an average wind velocity spectrum or it relies on a topographically affected site, Vandenberg. Better area specific data must be developed prior to leasing to give adequate modeling results.

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Launch points for oil on page 4-12 are equally nebulous. Possible development areas are not postulated for this impact analysis. The launch points appear to be indiscriminate and unrelated to any development or high traffic areas where accidents might occur.

Page 4-18 - It is misleading to use OCS 68 as an example of how few tracts are actually bid upon. The percentage was considerably higher in OCS Sale 53, i.e., 73% in a recognized frontier area. With the announced discoveries, the proposed sale could result in an equal or greater percentage of tracts leased as compared to the total offered. 15b.34

Page 4-19 - The results of the oil spill model are most likely inadequate, since no development scenarios were postulated. The model results are not valid due to an inadequate baseline for winds and surface currents. 15b.35

Page 4-25 - Conspicuous is the absence of any analysis of the capability of oil spill equipment to respond to an oil spill in the lease area. Such analyses are required and should consider the availability of equipment, response time, and the limits of effectiveness for the equipment with consideration of environmental conditions which exist in the lease area. 15b.36

Page 4-38 - The statement that coral species exist presents further evidence that a lease area specific biological survey is needed prior to leasing. These habitats should be identified and protected. 15b.37

Page 4-38 - The reference to Shinn et al. (1980) is not included in the bibliography. The EIS appears to imply these studies were done for this lease sale. However, the reference is not applicable to the lease area. The two coral species (Montastrea Annularis and Agaricia Agaricitea) are reef builders and tropical species. Cooler water solitary corals (Hydra) would be expected in the lease area. 15b.38

There is a substantial body of references which are more appropriate to cooler water species. These should be summarized in this EIS. These still, however, do not assess the chronic effects on such communities of long-term exposure to drilling muds.

Page 4-43 - The summary of emissions presented on Table IV A.3. C-1 is underestimated. Emission estimates would be higher if a more realistic and/or highest possible level of production and reserves were used. 15b.39

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Page 4-43 - The discussion of changes in economic activity is much too general. It includes the entire State of California. More specific information relevant to changes caused adjacent to the lease area is appropriate. 15b.40

Page 4-45 - More specific information regarding geologic hazards in the lease area needs to be provided prior to leasing. The information presented is non-specific. Specific locations of slumping, mass movement, faulting, and shallow gas need to be identified for the lease area. 15b.41

Page 4-45 - The information regarding seismic activity is inadequate. Specific information about expected earthquake activity should be provided, including expected magnitudes, accelerations, and durations. 15b.42

Page 4-53 - The operational constraints of these oil spill containment equipment need to be evaluated. 15b.43

Page 4-63 - The map of State oil and gas sanctuaries should be updated. Governor Brown signed Senate Bill 1858, authored by Senator Milton Marks, into law on September 27, 1982. The sanctuaries now include San Francisco, Marin, San Mateo, Sonoma, Napa, Alameda, Santa Clara and Del Norte Counties. 15b.44

Page 4-68 - A significant number of projects have been omitted from the list of projects considered in the cumulative impact section. Impacts from existing operations and future activities associated with OCS Lease Sales 48, 53, and 68 must be included using realistic estimates of projects which will, and might result. Further, activities on existing State leases and additional Alaskan production must be considered. 15b.45

Page 4-70 - The information regarding the State leasing of lands between Point Conception and Point Arguello is inadequate and erroneous. The EIR prepared for the State's leasing used the 5% probability level for estimating the environmental impacts, not the 95% probability level. This EIR should be used in conjunction with the evaluation of cumulative impacts required in this proposed EIS. 15b.46

Page 4-70 - We find no analysis in the EIS which indicates that any of the projects listed were ever considered in the analysis of cumulative impacts. 15b.47

Page 4-72 - The cumulative impacts of the discharge of drilling fluids is not considered. The project specific discharges appear to be underestimated. 15b.48

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Page 4-73 - The analysis of the impacts from the discharge of formation fluids is inadequate. Formation fluids have a high oxygen demand, often contain soluble heavy minerals, and can affect marine life. 15b.49

Page 4-84 - The analysis of the impacts to air quality is inadequate. Consideration should be given to developing "worst case" hypothetical developments for analyzing the impacts of this development. This method also allows the inputting of emissions from existing and projected sources in order to assess cumulative effects. 15b.50

The existing discussion gives no information about what sources were used, from where emissions would occur, the methodology used, and whether cumulative emissions were considered. The analysis is also substantially weakened by assuming a much lower level of production than would reasonably be expected from the proposed lease area.

Page 4-125 - There is a passing note here that dispersants might be used, but there is no discussion of the specific effects of using them. 15b.51

Page 4-129 - This document repeats an earlier error that oiled birds will not present a hazard to Peregrine Falcons. Since lightly oiled birds will be able to fly, they may be taken by falcons. The likelihood increases if their condition is impaired in any way which, of course, is likely even if lightly oiled. 15b.52

Page 4-129 - To quote the EIS, "One pair of Bald Eagles represents four percent of the breeding population.", of the State?, coast? 15b.53

Page 4-155 - It is not accurate to say that any development within the coastal zone is subject to the land use contracts of the local jurisdiction. Projects in state waters, waterward of the mean high tide line, are not. 15b.54

Page 4-177 - The EIS states that any spill would be smaller than the AMOCO CADIZ or IXTOC I spill. This is another example where the lack of explicit assumptions and/or the background reasoning does not adequately justify or support such a statement. 15b.55

Page 4-189 - The impact analysis for vessel traffic is insufficient since it doesn't consider the effects of new IMCO standards on vessels used to transport crude oil and crude oil products. Further, the document assumes the best case, i.e., pipeline to Los Angeles and low oil production, not the worst case, no pipeline transportation and high production. The worst 15b.56

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case needs to be assessed since there are no assurances that the best case will occur.

Page 4-195 - Is the Gulf Coast included in the analyses of refining impacts outside the sale area? 15b.57

Please call me or Dwight E. Sanders (2-7827) should you or your staff require additional information or clarification of these comments.

*Claire T. DEDRICK*  
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 Executive Officer

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CALIFORNIA COASTAL COMMISSION  
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COMMENTS OF THE CALIFORNIA COASTAL COMMISSION  
 ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT  
 LEASE SALE 73, SANTA MARIA BASIN

Adopted April 15, 1983, after Public Hearing  
 San Francisco, California

BACKGROUND AND SUMMARY

Lease Sale 73 was originally reviewed by the Coastal Commission in January 1981. At that time, 24 million OCS acres between Mexico and Oregon were proposed to be included in the Lease Sale. The proposal also included tracts in the Santa Maria Basin extending seaward 40 miles from those offered previously in Lease Sale 53 and tracts extending landward to State waters. In commenting on this proposal, the Commission adopted a resolution stating, among other things, that:

- 1) the area being considered was too large for rational planning; and
- 2) tracts north of San Luis Obispo Bay (line 809 Exhibit I) should not be included because environmental baseline studies had not been completed, there was no coherent national energy policy, and no commitment to public participation.

Because of the problems associated with drilling offshore central and northern California, in December 1982 Congress prohibited the Department of the Interior from spending any funds on the further consideration of oil and gas leasing north of Morro Bay during the fiscal year from October 1, 1982 until September 30, 1983 (Exhibit I). Despite this restriction, the OEIS has not been revised and still contains many references that appear to indicate that the leasing of the entire central and northern California coastline is still being considered. To ensure that the Department is proceeding in a manner consistent with Congressional funding restrictions, all maps and text references to the leasing of areas north of Morro Bay should be deleted from the final EIS. 15c.a

The Commission successfully challenged broad lease sale areas like "California" in litigation on the National Five Year OCS Leasing Program. In response to that decision, in July 1982, the Department adopted "streamlined" leasing procedures, ostensibly designed to increase the overall efficiency of the OCS program. The Department has stated that the basic elements of the procedures include telescoping, or performing certain steps in the process simultaneously rather than sequentially; offering sales on an areawide rather than tract specific basis; preparing areawide environmental impact studies (EIS's); conducting post-sale tract evaluation for determination of fair market value; and phasing environmental studies and collection of geohazard data. Lease Sale 73 is the first California sale that applies the new leasing procedures, though it was begun prior to adoption of the new program. The Commission, Alaska, Florida, Oregon, Washington, Massachusetts, the Natural Resources Defense Council, and other organizations have challenged the size and lack of specificity of leasing areas generated by the streamlining procedures in the revised Five Year Program.

April 15, 1983

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In the official description of the streamlining process, the Department relies on "scoping" or meetings with state and local governments to aid in the development of alternatives and necessary DEIS information. This Commission and numerous local governments have requested scoping meetings, which have not been held. Thus, the Commission can only conclude that the revised federal procedures of "streamlining" have severely reduced citizen, state, and local participation in the lease sale. This is particularly unfortunate since the Congressional limitation on the size of the proposed sale make increased public participation and a site-specific document quite possible. At the Commission's public hearing, a representative of the MMS stated that the DEIS in fact did not apply new streamlining procedures but followed the old procedures, lending further support to the Commission's position that the Sale should be delayed to clarify the scope of the DEIS.

The major concerns with the present DEIS are as follows:

- 1) The document is inadequate in its presentation of information and data on the proposed lease sale. This is due principally to the fact that the DEIS for the revised Lease Sale 73 persists in addressing leasing of the entire California coast and not the lease sale area between Point Conception and Morro Bay. The result is an inadequately broad DEIS which improperly addresses the biological, geological, physical, and socioeconomic impacts for the actual lease sale area. Since Congress prohibited the Department from leasing the whole coast of California, the Department had an obligation to draft a more site specific EIS. 15c.b
- 2) The mapped area for Lease Sale 73 is identified only generally as the Santa Maria Basin, without specific tracts being identified. The maps do not adequately identify nearshore tracts that may be a part of the sale. Also, it is unclear whether the Lease Sale includes the 29 tracts from Lease Sale 53 that are currently protected from sale by a court injunction. All 29 tracts should be eliminated from the offering. 15c.c

This lease sale comes at a time when previously sold tracts in the same area are still being explored and development has not even begun. Difficult environmental issues raised during Lease Sale 53 are yet to be resolved. Resource data promised at the time of Lease Sale 53 has not been completed. The degree of onshore development associated with Lease Sale 53, as well as the cumulative effects of the sale, were inadequately predicted. In review of individual plans of exploration (POEs), local governments and the Commission have had to deal with air quality problems, commercial fishing conflicts, and inadequate support facilities for crew boats and supplies that were not addressed in the Lease Sale 53 FEIS. Therefore, the Commission continues to conclude that the later POE stage is an improper arena to deal with such issues. They must be resolved at the lease sale stage, prior to the creation of exploration and development expectations. 15c.d

Because the Interior Department is accelerating its DCS leasing program without consideration of other important components that must precede DCS leasing, the present lease sale represents a premature action that can only lead to improper and disorderly use of coastal resources. The pace of leasing will not assure that coastal resources are preserved for "multiple uses," but will result in oil production at the expense of other priority uses. Therefore, Lease Sale 73 should be delayed until adequate planning for its dealing with its impacts has been completed. 15c.e

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The Commission adopts the following resolution:

I. COMMISSION POSITION

A. Delay Sale

It is the position of the California Coastal Commission that the Department of the Interior should delay Lease Sale 73. The Commission has determined that such a delay is the only reasonable and rational alternative available to the Department of the Interior to deal with the serious inadequacies in the DEIS and to allow federal and state agencies to carry out their responsibilities for protecting the commercial, biological, and recreational resources within the Lease Sale 73 area. There are several important reasons for delaying the sale. The Department of the Interior provides no explanation as to why this area of significant biological and commercial importance, without proposed or existing onshore industrial infrastructure, should be immediately developed in a period of a world-wide glut of oil. The development of U.S. oil reserves is indeed an important aspect of securing and maintaining a healthy national economy. However, it is counterproductive to develop oil reserves without proper environmental planning in an area where oil drilling impacts may significantly damage both the recreational based economy of two counties and a major fishery area of the United States. 15c.f

Finally, the Coast Guard has proposed a five-mile wide fairway through the lease sale area, in which the U.S. Army Corps will not permit any structures. This proposal must be embodied in Federal regulations and then acted on by a United Nations committee. These procedures should be completed and the Fairway established prior to any sale of the Lease Sale 73 tracts. Yet, the sale is currently scheduled to be completed before the fairway can be established. 15c.g

The Delay Sale alternative in the DEIS must be considered in depth. It currently receives passing mention in a paragraph that such an alternative "may not change" the assumed impacts. The Commission strongly disagrees with this conclusion. If the Department conducted the Sale in an orderly manner after the production of Lease Sale 53 is on line, the Department could significantly reduce impacts by use of Lease Sale 53 infrastructure (pipelines, port facilities, etc.). A sale at this time in an essentially frontier area devoid of the infrastructure exacerbates the boom/bust cycle of oil development and its onshore impacts. 15c.h

B. Consistency

The Commission formally requests the Department to submit a consistency determination prior the final notice of sale. Federal regulations implementing the CZMA require the Department to submit this determination 90 days before its final approval of the lease sale. This requirement has been affirmed by the U.S. Court of Appeals in California vs. Watt. The Commission has previously described the enforceable policies of the Coastal Management Program (CCMP) in its recommendation on Lease Sales 48, 53, and 68. These documents are incorporated herein by reference to assist the Department in formulating its consistency determination. The Commission notes that the Regulatory Framework discussion at page 1-6 of the DEIS omits Consistency Review of DCS Lease Sales. Based on California v. Watt, the Commission believes that the Department must include such review into its process. Failure to do so causes the Commission to question whether the Department reasonably intends to consider state consistency review in its sale. 15c.i

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C. Renaming Lease Sale Area

The California Coastal Commission has received disturbing information (See Exhibit II) indicating that the Department of the Interior plans to change the scope of the lease sale area after the Final Environmental Impact Statement is issued and the congressional resolution has expired. The new designation for the sale would be "DCS Lease Offering - October 1983." The new designation would enable the Department to once again expand the Lease Sale to the Oregon border by issuing a "supplemental" Environmental Impact Statement. 15c.j

The Commission requests the Department to provide an explanation for the proposed name change and to clarify the scope of the lease area prior to the proposed notice of sale.

D. Inadequacy of DEIS

The Commission believes the Department must prepare a new DEIS for Lease Sale 73, given the serious procedural and substantive inadequacies of the present document. The DEIS does not meet procedural requirements of NEPA by providing insufficient opportunity for public comment. The DEIS is inadequate in its analysis of issues previously identified by numerous commenters. The Commission by this reference incorporates as a part of its recommendation the submittal of San Luis Obispo County, attached as Exhibit VII. 15c.k

E. Previous Commission Actions

The Commission and the State of California have been participants in offshore petroleum leasing and development since Sale 35, held in 1975. Further positions were taken on Sales 48, 53, and 68. Through these position statements and through "consistency" reviews of DCS exploration and development plans, the Commission has clearly indicated to the Interior Department where offshore petroleum leasing and development can and cannot take place consistent with the California Coastal Management Program (CCMP). The CCMP allows offshore petroleum development in areas near existing petroleum or other industrial developments. The CCMP also protects scenic undeveloped coastal areas, special marine life breeding areas, and areas of potential vessel traffic hazards. Under the CCMP, the Commission has considered the national interest in domestic petroleum development and weighed that against the national interest in preserving sensitive natural coastal and marine resources. This "balancing" has resulted in the Commission concluding that offshore petroleum leasing and development should not take place in the following DCS areas: Santa Monica Bay (Sales 35, 48, 68); the Coast Guard designated vessel precautionary area offshore the Ports of Los Angeles and Long Beach (Sales 48, 68); the Ecological Preserve seaward of the City of Santa Barbara (Sale 68); areas within six nautical miles of the Santa Barbara Channel Islands (now the Presidentially-designated Channel Islands Marine Sanctuary), areas offshore the rural, scenic, and undeveloped coastal areas of Mendocino, Sonoma, Marin, San Mateo, and Santa Cruz Counties (Sale 53); areas within six miles of 22 significant marine mammal and seabird resources areas, and within 20 miles of seven special scenic areas along the central and northern California coasts (Sale 53); areas in Federal marine sanctuaries for the Point Reyes-Farrallon Islands area and the proposed Monterey Bay sanctuary; and areas within 12 miles of the range of the threatened sea otter (Sale 53). 15c.l

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II. FINDINGS

A. Introduction

The California Coastal Commission has reviewed the Department of the Interior's proposed Draft Environmental Impact Statement (DEIS) for DCS Lease Sale 73 and has determined that the document fails to meet the minimal requirements of the National Environmental Policy Act (NEPA) and the DCS Lands Act (DCSLA). Specifically, the FEIS:

- 1) Is too broad. It reviews a geographic area which far exceeds the actual area of the lease sale.
  - 2) Does not cover an adequate range of alternatives that reflect the complexity of impacts associated with the proposed development.
  - 3) Fails to address the issues raised in sufficient detail for the redefined Lease Sale Area, including biological, socioeconomic, and physical environmental impacts.
  - 4) Disregards the cumulative impacts of the potential drilling activities on the biological environment and the land uses of adjacent coastal counties.
  - 5) Has not included a worst case analysis in the document.
  - 6) Provides inadequate mitigation measures for impacts associated with the lease sale.
  - 7) Does not adequately describe the lease sale area (i.e., tracts to be offered).
- B) Fails to adequately consider navigational safety.

Congressional policy expressed in OCSLA seeks to assure orderly and expeditious development of oil and gas reserves subject to environmental safeguards. The Commission finds that the recent pace of DCS activity has been anything but "orderly." For example, applicants have sought approval of DCS plans of exploration and development without adequate provision for onshore support facilities. This is a direct result of the Department's de facto policy of "Lease Now: Plan Later." In addition, Congress advised the Department to consider and recognize the responsibilities of states and local governments for preserving and protecting marine, human, and coastal environments, as required by OCSLA. The DEIS has failed to provide sufficient analysis to satisfy these Congressional goals. The later discussion of onshore issues stresses this problem. The Commission, therefore, requests that the DEIS carefully consider and analyze how development and activities associated with the potential drilling will be conducted consistent with current onshore circumstances. The points outlined above are discussed in further detail below.

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B. Focus of OEIS

Based on comments received from numerous California coastal governments and the California Coastal Commission (January 21, 1981 letter, Exhibit III), the United States Congress limited Lease Sale 73 to tracts south of Morro Bay (Exhibit I). However, the Lease Sale 73 OEIS persists in discussing in a general way the resources of and expected impacts in an area extending for over 600 miles to the Oregon border; the actual lease sale extends for approximately 80 miles along the California coast. The result is a document which generally addresses areas and impacts that are not under consideration, while effectively "overlooking" the critical areas that will be impacted. The Commission believes that the EIS for Sale 73 should be a site-specific document which considers the impacts that the project will have on other regions. Thus, for example, San Francisco Bay will be severely impacted by a sale which proposes to tanker 25 percent of its crude oil there for refining. In overlooking such impacts, the Department of the Interior violates its own decision adopting the streamlined OCS sale procedures which describe the process as follows: "although the information submitted to BLM will be broader than what is submitted under the current process, it is expected that it will be useful in focusing the NEPA document analysis on areas most likely to be developed and areas of greatest concerns." (OEIS, 5 Year Program, p. 19)

15c.1

If the Department wishes to streamline the OEIS process for Lease Sale 73, it should comply with its own established guidelines. The streamlining should also include lease sale maps which accurately and unambiguously present the Lease Sale area.

C. Project Alternatives

The DEIS for Lease Sale 73 initially presented six alternatives, two of which are disregarded on technical grounds (six mile buffer and geohazards). Alternative Two proposes to reduce the likelihood of an oil spill entering the biologically productive and sensitive Morro Bay estuary by eliminating three tracts adjacent to the estuary, thereby creating a ten mile zone centering on Morro Bay. This alternative underscores the Commission's concern with the fragmented and superficial analysis of the DEIS. The DEIS neglects to consider the equally important biological and recreational coastal resources south of Morro Bay. These include the extensive rocky intertidal marine habitats downcoast to Point San Luis, as well as the smaller rocky intertidal areas along Pismo and Shell Beaches (i.e., Dinosaur Caves). There are also important rocky intertidal areas further south at and adjacent to Mussel Point, Point Sal, Purisima Point, Point Arguello, and Point Conception. The coastal area down to Point San Luis is within the range of the Southern Sea Otter, a species designated as "threatened" by the Department of Fish and Game.

The smaller coastal lagoons at the mouth of Pismo Arroyo Grande, San Antonio, and Jalama Creek are also biologically significant. The large coastal lagoons and tidal mudflats of the Santa Maria and Santa Ynez Rivers are extremely important and should be given the same consideration as Morro Bay.

The recreational resources include scattered pocket beaches south of Morro Bay to Pismo Beach and the extensive Pismo Beach sand dunes. A large portion of this dune area is within a State park, which serves thousands of ORV and beach enthusiasts from central and southern California. A buffer protecting these areas is certainly as important as the one proposed for Morro Bay. All of these resources have been identified and mapped in local coastal plans, DFG Atlas, and in the USFWS Inventory Maps. That information does not appear to have been examined in the DEIS.

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Based on the sensitivity and importance of these resources, the Commission once again recommends the following additional list of necessary alternatives which must be analyzed in the FEIS (see Exhibit II):

- (1) Deletion of all nearshore tracts in the entire sale area east of those previously leased in Lease Sale 53 from Morro Bay to Purisima Point to provide protection for both marine resources and extensive recreational resources. This buffer will provide necessary protection for biological resources of San Luis Bay, the Santa Maria River and, to the south, the marine intertidal pinniped haul-out areas, seabird roosting sites, and rare and endangered species. This buffer will protect the recreational resources of Pismo State Beach and southward.
- (2) Deletion of litigated tracts and all tracts to the west of the litigated tracts to protect the adjacent coastal areas, the Big Sur coast, and sea otters.
- (3) Deletion of tracts located within the proposed vessel safety fairway system as described in the Federal Register notices dated 6/24/82 and 10/14/82, deletion of tracts within five miles of hazardous waste dumpsites described in the OEIS, deletion of tracts located within prime fishing grounds based on existing fish block data and other available information to minimize conflicts with commercial fishing.

15c.2

15c.

15c.4

(NOTE: USFWS in July 1980 also documented the resources in this area in its comments on Lease Sale 53, included here as Exhibit IV).

Given the number of issues within the OEIS that are inadequately reviewed and analyzed, the Commission supports adoption of Alternative Three in the DEIS--delay of sale--to allow sufficient time to prepare an adequate environmental document that corrects all the identified environmental inadequacies for the lease sale area.

The two alternatives deleted by the Minerals Management Service for technical grounds should also be considered by the DEIS. The first of these alternatives, which involves a six mile buffer designed to reduce air pollution impacts on the adjacent counties, was improperly rejected. The OEIS states that preliminary analysis indicated that air pollution from offshore development would not be significantly reduced if a six mile buffer zone was established. It is not clear what parameters and criteria the Department used to delete this alternative. Presently, OCS regulations allow more air pollution to occur from platforms further from land, since it is assumed that air pollutants disperse relatively evenly as they move towards the shore. This regulation is designed to create a pollution gradient which will decline to a certain predictable level as it reaches the coast. Given that the platforms in the six mile buffer would be regulated to pollute less than the further seaward platforms, their deletion would probably not affect the gradient as much if the more seaward platforms were deleted. The DEIS must explain the air pollution modeling used for rejecting this alternative more thoroughly, because recent studies by the BLM show that offshore air pollutants do not disperse evenly towards the shore in a linear fashion, but that they move in clouds, or "pulses."

15c.5

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The Geohazards Alternative was also dropped from the DEIS since existing regulations, OCS orders, and Notice to Lessees require the development of a hazard survey prior to commencing operations. Under this new procedure, the lessee must demonstrate to Minerals Management Service that their structures will be designed to safely conduct operations. Previously, geohazard surveys for an entire lease were completed prior to sale of the lease. Existing geological information on the Santa Maria Basin demonstrates that this area contains a number of significant geological hazards. The OEIS states on page 3-5 that "geologic hazards in the Santa Maria Basin are shallow gas and gas-charged sediments, shallow slope failures, potential fault rupture of the sea floor, relatively strong seismic shaking, and steep slopes." The OEIS goes on to state that shallow slope failures have occurred on slopes less than 2° and that indications exist that mass transport may have resulted from loss of soil strength due to seismic shaking.

15c.6

These geologic hazards affect the Santa Maria Basin areawide and do not appear to be limited to specific tracts. Therefore, hazard surveys on individual leases will do little to eliminate the hazard of mass transport of unstable slopes from adjacent lease areas. It is critical that a comprehensive Basin-wide geohazard survey be completed prior to sale so that proper leasing decisions may be made at the planning level as NEPA requires. The Commission strongly recommends the use of the geohazard procedures used by the Department in previous lease sales along the California coast.

The Commission requests clarification on the location of the hazardous waste sites mentioned in the EIS at pages 3-20 and 4-215. One of these sites appears to be 56 miles off Point Arguello and the other seems to be in the northern portion. From the existing OEIS, it is impossible to determine if these areas are the same or different sites. The EIS is obviously inadequate in its analysis of the impacts of such sites on leasing and needs to be supplemented. The Commission has determined that the MMS must map the exact location and nature of the wastes dumped in the lease area and prohibit drilling within either 5 miles or any other appropriate distance necessary to assure safety.

15c.7

D. Issues Raised in Scoping Process

Pages 1-14 and 15 list the issues identified in scoping letters from coastal governments and agencies, private citizens and organizations. The OEIS does not deal with these issues on a level of detail and analysis that allows for sound planning decisions to be made.

15c.8

E. Biological Analysis

The biological analysis is of principal concern given the quality and quantity of these resources in the lease sale area and the potential impact upon them from oil spills and drilling muds.

The marine resources of Point Conception and areas immediately north represent a major transition zone between northern and southern marine species, documented in numerous publications and in the Commission's own 1978 LNG terminal siting study. The uniqueness of the area is further demonstrated by its biological productivity. Productivity in coastal ecosystems is governed by a number of factors, of which temperature, light, and available nutrients are the most important. Under favorable light and temperature conditions and a supply of abundant nutrients, plankton blooms will occur. These small photosynthetic organisms form the base of the marine food chain, without which the abundance and diversity of marine species

15c.9

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would not be possible. The availability of nutrients is primarily a function of prevailing winds, which can, under proper conditions generate surface currents away from the coast, thereby drawing up to the surface colder nutrient and oxygen-rich water. These upwellings are limited to certain areas where they occur on a regular basis, which results in a particularly biologically diverse and productive environment. These upwelling areas are also of major commercial significance since major fisheries are usually found in these areas (i.e., such as the Peruvian anchovy fishery). Upwellings constitute only one percent of the ocean surface, but represent 50 percent of the world's fishery. There are only three areas of major upwellings between San Francisco Bay and Point Conception. The Point Conception upwelling is the largest and most intense, extending from and around Point Conception northwards to Point Buchon. The area between Point Sal and Point Arguello is the area of most intense upwelling. Therefore, the Point Conception area is a major fishery of commercial and biological significance.

Numerous commercial fishing conflicts have arisen from Lease Sale 53 in the Santa Maria Basin. The Commission has considered 37 consistency certifications for POEs over the last year and one-half. In at least three-quarters of these projects, commercial fishing conflicts were unresolved by the review process of the Minerals Management Service. In nine concurrences, commercial fishing required special Commission attention resulting in a change in the type of drilling rig or change in drillsite locations. The Commission had to object or partially object to five POEs because commercial fishing could not be resolved and in practically all of the remaining POE's protection of commercial fishing required special attention with additional meetings, mapping or dragging requirements. All of these projects delayed the companies, due to the failure of the MMS to adequately assess at the outset, the need to resolve commercial fishing conflicts. The conflicts must be addressed and resolved at the lease sale stage by tract selection and stipulations that protect the commercial fishing industry. The conflicts in Lease Sale 53 could have, in large part, been avoided if the Department had examined mapped fish block data and either avoided leasing those areas or required special measures to protect them. Impacts of leasing on commercial fishing must be considered in an OEIS and such impacts cannot be postponed. The record on Lease Sale 53 clearly shows that the Department has not resolved these issues at later stages.

15c.10

Turning to specific inaccuracies in the OEIS, the future of the commercial fishing industry is characterized as bleak. For example, the summary of impacts at p. 2-24 states that even without the sale, California commercial fishermen are expected to sustain economic losses due to natural fluctuations in fish populations, competition with other fishermen, and other factors. The Commission requests the Department to document that conclusion because it ignores current state and federal management programs designed to maintain fish stocks. Also, the value of local fisheries is minimized by the use of outdated reports. The OEIS at p. 4-163 uses 1976 OFG statistics when later 1982 data is available and in fact was supplied to the Department. The current landing data from trawl fishermen in Morro Bay and Avila has increased six-fold over the 1976 data. Thus, the Commission requests the Department to utilize the most current data which will assuredly more accurately reflect the importance of commercial fishing to the regional economy. In addition, no mention was made of the pink shrimp fishery valued at \$250,000 to \$600,000 yearly since its inception in 1979, nor was the value of an important hook-and-line rockfish fishery cited which is worth about \$500,000 yearly. These corrections must be made to accurately reflect the value of commercial fishing.

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Despite the obvious biological significance of the Santa Maria Basin area, the DEIS undertook only a general biological survey of the lease sale area, relying on an aerial videotape survey of the coastal areas and existing biological surveys and research. The OEIS even acknowledges the paucity of marine biological data for the area north of Point Conception by stating on page 3-28 that little has been written about endemic species north of Point Conception, but that "it is assumed that intertidal and shallow subtidal areas just north of Point Conception have some endemic species..." In regards to the subtidal benthos, the DEIS states on page 3-32 that "although little information is available on the bottom communities of the region, it is reasonable to assume that they are productive and diverse, owing to the indirect evidence of abundant upwelling and high fisheries landings."

15c.12

Recent work by Chambers Consultants for State Tidelands leasing in the Point Arguello to Point Conception area has resulted in the discovery of 15 new species (plus seven new species from other studies) and a new form of a known species (see Exhibit V). Chambers also found 49 rare species in the area. Arco Oil Corporation has done a biological survey on leases 201 and 207 in the Santa Maria Basin (Lease Sale 53) and has also found new benthic species. Many of these species have been found in soft bottom areas. (Exhibit V) This information is available and should be considered by the Department in its lease sale decision.

15c.13

These recent discoveries in addition to existing information attest to the significance, on a national level, of the marine biota in the Santa Maria Basin. However, the DEIS proposes only to require a pre-construction survey (pages 2-7,8) for those platforms located on hard bottoms. This type of limited survey fails to recognize the overall uniqueness of the area and the possibility that some leases may not be developable given the biological significance of the benthos. The Commission finds only that a pre-sale survey will, again, allow for the proper planning of the lease area before commitments are made to the sale of all the leases.

15c.14

The often significant concern with the lease sale is the impact of oil spills and drilling muds disposal on marine organisms. Oil spill impacts are usually given the most attention with offshore leasing because of its obvious direct impact on marine intertidal organisms, seabirds, and marine mammals. There is not as much attention given to the significance of the long-term water quality impacts and the effect of these pollutants on the entire marine food chain.

15c.15

The DEIS concludes, on pages 4-73, that discharge of drilling fluids will result in no significant environmental impacts. On page 4-76, it states that the impacts from formation water "are expected to be very low to unmeasurable (except zinc)."

15c.16

The basis for establishing the low toxicity of the drilling muds is a series of 96 hour static bioassays of used drilling muds and drilling mud components and some sublethal and long-term (106 day) experiments with a range of invertebrates.

What is neglected by the OEIS is a final statement that the planned discharge of upwards to 449,051 barrels (from five platforms) cannot be considered without significant environmental impacts until further studies on the toxicity are completed. The DEIS fails to discuss bioamplification and accumulation in the food chain. The DEIS claims on page 4-72 that drilling mud and other pollutants settling to the benthos will not move into the food chain significantly since "metals are not easily dissolved from the clays and sulphide minerals to which they are intimately bound." This statement is only true if the oxygen concentration in the water is at a certain level. As the oxygen level decreases (which is

15c.17

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often the case with benthic areas), the localized water column will become a stronger reducing environment which results in bound metals chemically breaking away from the sediments and becoming free ions. In this "free" state these heavy metal ions can be assimilated by benthic organisms or brought up by upwellings and/or storms. Certain bacteria will also play a role in converting insoluble metals from drilling muds and formation water into a soluble form which can be assimilated by marine organisms.

The DEIS is inadequate because it fails to consider the effect of turbidity on phytoplankton growth. Light is a necessary requirement for primary production (phytoplankton growth) in early spring. Turbidity resulting from drilling muds dumping could result in reduction of light below a critical level resulting in greatly reduced primary production.

15c.18

The DEIS bases its statement of "low environmental impact" of formation waters on the dilution effect of ocean waters. Again the DEIS does not address the problem of bioaccumulation. Depending on the direction of ocean currents, thermoclines, and depth of discharge, this type of effluent can be injected and dispersed directly into areas of plankton blooms. This high concentration of plankton will ingest nutrients as well as toxic materials. In areas of significant plankton blooms, the food chain can be relatively short with intermediary sized organisms eliminated and larger fish consuming the plankton directly. This can result in a relatively rapid transfer and accumulation of toxic material in higher marine organisms.

15c.19

Since the Lease Sale area is within an area of significant upwelling, the DEIS must consider the possible bioamplification of toxins in the marine food chain over the long term and what effect this may have upon their physiology and reproduction. The DEIS acknowledges the lack of knowledge on the sublethal effects of toxic discharges from platforms on page 4-40; preliminary studies have found gill abnormalities in red snapper around platforms, with other fish showing no effects or improved vitality over fish in non oil areas. The toxins found in drilling muds and formation waters have the potential to affect the physiology, metabolism and reproduction of marine organisms. Such effects in any population of exposed organisms can result in serious impacts to the ecology of the marine ecosystem which may have far-reaching effects.

15c.20

The DEIS projects that the potential lease sale development will result in 3.00 spills greater than 1,000 barrels (95 percent probability), 1.67 spills of 1-10,000 barrels (81 percent) and 1.32 spills of greater than 10,000 barrels (78 percent). The DEIS also establishes probabilities of a spill hitting the shoreline. The Commission is concerned that the oil spill modeling is based on inadequate weather data. Previously, weather data for developing oil spill models has come from only two land stations, one at Dxnard and the other on San Miguel Island. This weather data does not give an accurate picture of the actual weather and current conditions in the Lease Sale 73 area. It is possible, therefore, that oil spill probabilities for hits at the Channel Islands and central coast areas are considerably higher.

15c.21

The Commission finds that the oil spill modeling does not adequately consider the effects of the northwest flowing Davidson current, during the winter season, upon transport of oil into the Big Sur area. This current extends for approximately 50 km offshore. A July 1980 memorandum from the National Fish and Wildlife Laboratory to the Bureau of Land Management (July 2, 1980) stated that the

15c.22

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monitoring of a February spill of two million board feet of lumber near Point Arguello demonstrated that a strong northward current existed. The majority of the spilled lumber came ashore from Carmel to Pismo Beach within a period of 30 days.

In terms of containing oil spills, the Commission has found that the existing oil spill containment and cleanup equipment cannot protect sensitive coastal resources, even in moderate seas. According to the U.S. Coast Guard, containment may reach at best 50 percent and may be as low as 10 percent. A recent report from the International Tanker Owners Pollution Federation concludes that if a larger volume of oil is released into the sea relatively close to shore, it's "highly unlikely that even the best organized cleanup flotilla can prevent some, if not most, of the oil reaching the coastline." (Exhibit VI)

15c.23

The OEIS should consider the shortcomings of the oil spill containment technology by providing for buffer areas of sufficient width to protect sensitive habitats from potential oil spills (i.e., Commission recommended alternatives). These habitats include marine mammal and seabird breeding and nesting areas. Of particular note is the Southern Sea Otter, which is on the Federal Endangered and Threatened Species list. The otter's present range extends southward down to Point San Luis in the Santa Maria Basin. The DEIS states that the impact to endangered species from a spill would be very low (less than 2 percent mortality) (p. 2-18; DEIS). The Commission believes that the premise of low impacts based on percentage figure inadequately reflects the possible impact of a spill on the species. Two percent mortality is not tolerable when it involves any risk to the long-term survival of the species. Further, the analysis of impacts to the sea otter as a result of an oil spill (Page 4-111) is based upon four assumptions. Assumption four, i.e., that the May 25, 1981 observations are representative of sea otter numbers in the spring may or may not be met and therefore, the projections of probable impacts may not be valid and could be much higher.

15c.24

The Santa Cruz study data on sea otters (Page 3-41) are referred to as "...the only ones available at this time." However, the Commission is aware of considerable other data spanning a number of years on sea otter distribution and populations. These data are available and should have been utilized. This section on sea otters (Pages 3-41 to 46) contains a number of assumptions which appear to be based largely upon a single set of observations conducted in May 1981. This information is then utilized to delineate sea otter distribution on a broad basis. Use of this information in that manner leads to a number of problems such as: (a) the number counted is represented as a percent of the total population whereas it is at best a percentage of the total counted; (b) it is assumed that the increase in the Cayucos Point area is due to an influx of breeding animals. This may or may not be the case as this area has a large male group which may or may not be breeding animals; and (c) population shifts within the sea otter range may be a result of counting error.

15c.25

The Sea Otter is extremely vulnerable to oil spills because oil seriously reduces the insulating properties of its fur, resulting in hypothermia, and possibly death to the animal. The Commission requests the MMS to examine the effect of wetting agents on otters and believes this information must be known prior to sale. The MMS should also impose a drilling ban from September to April to protect whales and otters. Such effects to the otter can occur with oil that has been weathered for 30 days. This period of time puts a good portion of the sea otter's present range in reach of an oil spill from the proposed lease sale, as well as other marine mammals and birds in the Channel Islands. (The DEIS states on page 4-225

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that San Miguel Island has a 60 percent chance of being hit.) In recognition of the biological value and sensitivity of this marine mammal, the Commission suggests that the Department consider a 12 mile buffer zone from the nearest point of the Otter's range. This 12 mile buffer has been previously adopted by the Commission in Lease Sale 53, and was included as the Governor's Recommendation on previous lease sales. The buffer would allow any oil spilled time to dilute and evaporate to a degree, while also allowing for additional spill response time. This 12 mile buffer area coincides with Alternatives 1 and 2, presented earlier (north of the year 2000 moratorium line, Exhibit I), and the Lease Sale 53 tracts, previously recommended for deletion by the Commission; these tracts are presently under litigation by the Commission.

The DEIS does not discuss in detail the inadequacy of present onshore and offshore spill cleanup capabilities. The industry has only two onshore spill trailers, Mr. Clean I in Santa Barbara (Clean Seas), and Mr. Clean II at Port San Luis. It is estimated that the response time for these stations on a spill at Point Arguello area would be on the order of 7 to 8 hours. The Commission believes that this is not an adequate response time. Additionally, the industry has no offshore spill capabilities north of Point San Luis; this further underscores the need of the DEIS to consider and analyze the 12 mile buffer. The DEIS needs to identify a detailed onshore siting and deployment plan for oil cleanup facilities designed to intercept weathered oil reaching the critical breeding and nesting areas of marine mammals and seabirds in the Channel Islands and central coast of California, as well as coastal lagoons and wetlands in San Luis and Santa Barbara Counties.

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The DEIS states that the recreational impacts and subsequent impacts to the local economy are expected to be very sensitive if an oil spill contacts the mainland (pg. 4-171). The result in lost revenues would be \$232 million to the San Luis economy over a 30 day period (15 percent more if at peak season) and 720 million in lost revenues for impacted areas north of the Sale Area (15 percent more if at peak season). This results in a staggering loss of revenues of \$955 million during off-season and over a billion dollars during peak season. Again, the DEIS must provide more indepth analysis of the readiness of local government and the industry to deal with a major oil spill hitting the coastline. Since there are very few cleanup facilities in place, an appropriate siting plan for more facilities and a comprehensive response (for both local governments and industry) must be analyzed and developed by the OEIS prior to the sale of the leases.

15c.28

F. Cumulative Impacts

Of considerable concern to the Commission is the lack of indepth discussion and analysis of cumulative impacts of leasing in the Sale area. The previous Lease Sale 53 resulted in 86 tracts being leased. The projected number of oil spills of over 1,000 barrels for the 20 year period of Lease Sale 53 development is 3.29; the projected number of spills for Lease Sale 73 for 1,000 barrels 3.00. Since both of these lease sales are in the same area, this results in a doubling of the number of oil spills that could occur. This fact substantially changes the projected economic and biological impacts in the DEIS to the San Luis, Santa Barbara, and Monterey County areas.

15c.29

The DEIS does not consider the amount of land required for onshore processing facilities, crew and supply bases for Lease Sales 53, 73, and Reoffering 2. For example, the DEIS on page 4-229 states that Port San Luis would have to accommodate 60 crew boat trips per week and provide adequate docking or mooring space. The projected development could result in at least a doubling of this

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level of activity at Port San Luis. Even though the certified San Luis Land Use Plan identifies Port San Luis as an appropriate crew basing area, it requires that an alternative siting study be performed by the industry prior to consideration of expanded crew basing at the Port. It must be emphasized that the DEIS uses too low a crew boat trip figure for each platform. Actual counts in the Channel have shown a range of 25 to 30 trips per month, not 8 per month. The Commission requests the Department to correct these inaccuracies--especially since the actual counts are based on Environmental Reports approved by the Department itself.

The DEIS inadequately recognizes the present difficulties in finding adequate on-land support areas for the proposed lease development. There is a point past which offshore development will exceed the ability of coastal governments to accommodate onshore support facilities. Such a situation will result in conflict between uses and elimination of other important coastal land uses such as recreational and coastal dependent industries (non-energy related). These losses will not be to the benefit of the people of the State of California, and will be inconsistent with federally and state mandated coastal management programs.

The Commission believes that the areas already leased in the Channel and north of Point Conception exceed the ability of Santa Barbara and San Luis Obispo Counties to accommodate onshore support facilities. These two counties are struggling to keep up with the rapid pace of OCS development and select suitable onshore support areas (including processing facilities). Without proper coordination and cooperation from the Federal government, which has not occurred in this or in past sales, a lease sale at this time is inappropriate.

Given the limited access to Port San Luis, lack of flat onshore support and storage areas, inadequate breakwater, and inadequate roads, the County must consider other more appropriate areas for both crew and supply bases. This study involves a needs assessment, which will be completed this summer, and then a siting analysis. Santa Barbara County is presently considering permit applications for a crew and supply base at the Gaviota Marine Terminal. The Pipeline Transportation Committee is also studying siting alternatives for supply and crew bases. The Commission feels that it is incumbent upon the Department to delay the sale until these decisions have been made.

The cumulative impact of air quality has also not been adequately discussed by the DEIS. Since the onshore pipeline is a major factor in reducing both air emissions and oil spills, the DEIS must concentrate further on available pipeline alternatives. The DEIS only considers pipeline transport of oil south to Los Angeles refineries; there is no analysis of the alternative of taking the pipeline inland to the major north-south oil pipeline distribution system. This alternative would eliminate air quality limitations which exist with refining all Lease Sale 53, 73, and Santa Barbara Channel oil in Los Angeles refineries; the oil could be shipped either to San Francisco, Los Angeles, or central California refineries.

There is no consideration given in the DEIS to the use of an onshore pipeline. The projected oil reserves in OCS waters for both the Santa Barbara Channel and OCS Point Conception north are so large now that there is no doubt of the economic feasibility of the pipeline. Furthermore, the DEIS should consider a scheme which requires a "pipeline" fee of each lessee (i.e., at the time of sale) to finance construction of the pipeline immediately.

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The cumulative biological impacts for Lease Sale 73 were previously discussed in the biological section. The DEIS does not consider the cumulative impacts of Lease Sale 53. Given the sensitive and unique nature of biological resources in the lease sale area, it is important that the DEIS consider the cumulative impacts of these two leases (including Re-Offering Sale 2). Most of the biological impacts associated with the Lease Sale cannot be accurately measured until "in the field" monitoring of drilling operations in the lease area is performed. Therefore, the biological monitoring should be performed first on platforms from Lease Sale 53 before the sale of Lease Sale 73 tracts. In this matter, a properly designed biological monitoring program can begin to answer many of the critical impact questions raised in the previous biological discussion. This procedure would again argue for the delay of sale of Lease Sale 73.

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G. Resource Estimates

The DEIS proposes a new method for determining resources which includes a "learning curve" and subjective assessments of future field types and size distributions. The new method "assumes that knowledge gained from early exploration efforts will be used to direct future activities." Since Sale 73 is not the first sale in the area, the Commission believes that the Department should examine earlier estimates from at least Sale 53 (and possibly Sale 48 and 68) and compare them to later known discoveries. This would be a more accurate data base for predicting resource estimates for Sale 73 rather than basing such estimates on an "assumption." Based on the exploration experience of Sale 53 and the numerous published accounts of commercial finds, the expected production is much higher than originally estimated. Turning to the figures predicting peak production, the estimated peak oil production is underestimated at 250,000 barrels per day. New finds on OCS Lease Sale 53 tracts are expected, by industry estimates, to produce 500,000+ barrels per day. Further, the estimated peak of 82,000 barrels per day figure used to determine the magnitude of potential impacts in the environmental analysis is unrealistic. This production level is equivalent to the output of two platforms or less for the total lease sale area. This is an unlikely scenario.

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H. Reports

When the Department decided to lease tracts in Lease Sale 53, it did so prior to completion of environmental studies, reports, and other federal agency decisions that affected the location of appropriate tracts for lease. Many of these reports are still unavailable:

- 1) Commercial and Sports Fishery Oil Toxicity Study (final report due May 1983)
- 2) Northern California Risk Assessment to Marine Coastal Habitat (revising the draft final report)
- 3) Marine Mammals and Sea Bird Study for Central and Northern California (draft final report due August 1983)

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The Commission requests the completion of such studies prior to Sale 73 in order to assure that adequate information will be used in the lease sale decision. The Commission also is aware of pending studies of the impacts of seismic surveys on whales. This information would also be needed to adequately assess the environmental effects of the sale.

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I. Worst Case Scenario

The DEIS does not include an analysis of the impacts associated with a worst case scenario. This would include a development scheme which involved only tankering of the lease sale oil and the largest projected oil spill. The Commission believes that NEPA and recent court decisions require the provision of a worst case analysis. The DEIS should also consider and include the cumulative impacts from Lease Sale 53 and Re-Offering Sale 2 in its worst case analysis.

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J. Stipulations

The DEIS does not state that the stipulations discussed at p. 2-7 will be included as a part of the mitigation measures. It is therefore extremely difficult for reviewing agencies not only to discern, but also to comment upon, the adequacy of the proposed mitigation. In effect, MMS advises the reviewers that it will deal with the issue later. The new streamlining procedures also allow the proposed notice of sale (presumably identifying the tracts in the sale area to be offered and the applicable stipulations) to be published at the same time as the FEIS. Thus, there is likely to be no time frame for consideration of stipulations as mitigation for impacts identified in the OEIS process. Because of the compressed time frame, the Commission forewarns the MMS that the following changes to stipulations are necessary.

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1. Pipelines

Due to the fast pace of exploration and development of the Santa Maria Basin and the numerous announced finds of Texaco, Chevron, Phillips, Occidental, Arco, and Union, the Commission believes that the oil must be transported to shore and onshore by pipeline. Thus, a pipeline stipulation should be applied to all lessees and should not focus on feasibility, but on establishing the planning and permitting methodology for pipeline construction. The pipeline requirement must be applied at the outset to the lease area as a whole prior to piecemeal development of the individual leases. No individual lessee will assume responsibility for a common carrier pipeline.

2. Biological Surveys

The DEIS implies that surveys will only be required for rocky bottom areas. Yet recent surveys of soft bottom areas have revealed new and unusual species which are biologically significant. The MMS presently waits until a lessee submits a Plan of Exploration and then if "MMS has reason to believe that a biologically sensitive area exists" it may require a survey. Without supporting information, the DEIS appears to advise the companies that surveys will not be required in soft bottom drilling locations. The Commission objects to the present procedure because it fails to provide adequate information to assure that biological resources are identified and protected. It also fails to assess the cumulative effect of multiple drill sites on biological resources.

3. Commercial Fishing

The MMS must impose a stipulation requiring, not merely encouraging, lessees to participate in a commercial fishing training program. The Commission has observed in the past year numerous commercial fishing conflicts with exploratory drilling and the DEIS itself predicts 10 percent economic loss to the industry (p. 2-17), though this figure applies to "the area as a whole." It is not clear from the

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DEIS what is the "area as a whole, i.e., Santa Maria Basin, or entire state. In any event, commercial fishing will be severely adversely impacted by oil development. Therefore, the stipulation should set up a fund which can be used to offset such losses through establishment of hatcheries or similar measures.

4. Subsea Completions

If nearshore tracts are offered for sale, a stipulation should required installation of subsea completion within 12 miles of the shoreline.

5. Air Quality

Lessees should be required to use best available control technology on rigs and platforms. Measures to reduce further NO<sub>x</sub> emissions from drilling rig operations should be imposed.

6. Cetaceans

A stipulation must be included similar to one in the Secretarial Issue Document, which states that "OCS related activities may be suspended by the Deputy Conservation Manager to prevent significant adverse impacts to migrating whales." The gray whale is often spotted within 50 miles of the coastline and normally travels with 3-5 miles of shore.

7. Navigation

To minimize conflicts with navigation, a stipulation must be included that prohibits surface structures or exploratory drilling being located on the OCS within the Fairway Routes to be established by the Coast Guard. In this way, collisions of vessels with OCS structures or crew end supply boats, and possible resulting oil spills can be avoided.

The Santa Maria Basin does not currently have an established Vessel Separation Scheme as the Santa Barbara Channel does, but it does have Estero Bay with its five marine terminals where tankers enter and leave daily. The Coast Guard presently is conducting a study of Port Access Routes to designate the safest routes for navigating vessels to travel to avoid OCS development and other possible uses of the ocean.

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State of California

## Memorandum

To : OCS Policy Coordinator

Date : April 18, 1983

Subject: Comments on Lease Sale 73 Draft Environmental Impact Statement

Gordon Duffy, Chairman  
From : Air Resources Board

We have reviewed the draft Environmental Impact Statement (draft EIS or DEIS) on Lease Sale (LS) 73. Our comments will pertain only to the air quality aspects of the draft EIS.

In conducting our review of the draft EIS we were not able to include comments on three referenced reports upon which the air quality portion of the draft EIS is based. These reports, "Hypothetical Oil and Gas Transportation Scenario of Proposed Lease Sale 73 Offshore Central California," "Air Quality Impact of Proposed OCS Lease Sale 73 Offshore Central California," and "A Handbook for Estimating the Potential Air Quality Impacts Associated with Oil and Gas Development Offshore California," contain the assumptions and bases for the statements made in the draft EIS. These three reports were not attached to the draft EIS. On March 14, 1983, we requested copies of these reports from John Lane of the Minerals Management Service (MMS) and did not receive them until April 1, 1983. Without an analysis of these three reports, we cannot adequately assess or verify the statements contained in the draft EIS regarding the air quality impacts from LS 73. Because the documents are quite lengthy we will need an additional month to conduct our review. Upon completion of our review, we will submit additional comments.

General Comments

California is faced with the dilemma of being required by the federal government to reduce pollution levels in its coastal areas, while at the same time facing the very real potential for increased emissions in these areas from offshore oil and gas development in federally controlled waters. For these reasons, we are particularly concerned about the air quality impacts associated with OCS oil and gas development.

The development of oil and gas resources off the Southern California Coast has been increasing at a rapid rate over the past several years. For example, since 1980 the number of drilling vessels operating in the Santa Barbara

Due to space limitations and the bulk of the materials submitted to the MMS regarding the Draft EIS for proposed Lease Sale No. 73, all written comments have not been included in this volume. The following documents have been reviewed by the EIS staff and responses to specific comments have been prepared as indicated.

- Attachment I - Proposed Lease Sale No. 73 Area - Santa Maria Basin.
- Attachment II - Department of the Interior Press Release.
- Attachment III - Comments of Leasing on the Outer Continental Shelf - the California Coastal Commission unanimously adopted the following comments on leasing on California's Outer Continental Shelf is proposed OCS Lease Sale No. 73.
- Attachment IV - Comments on DEIS for Proposed OCS Lease Sale 53.
- Attachment V - New Marine Plants and Animals That Have Been Discovered off the California Coast As a Result of Recent Biological Surveys.
- Attachment VI - ARTICLE - WATCHING THE WORLD
- Attachment VII - San Luis Obispo County and Cities.

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Channel and Santa Maria Basin has increased from three to eleven. Also, plans have been prepared by Exxon for developing the Santa Ynez Unit, and are being prepared by others to construct new offshore platforms and other related facilities to produce oil and gas. This development will impact coastal areas where California currently faces air pollution problems. In fact, both Santa Barbara County and Ventura County are facing an EPA proposed construction ban and the possibility of federal funding sanctions for failure to meet national ambient air quality standards by the Clean Air Act mandated deadlines.

Our primary concern with LS 73 is the potential for unmitigated increases in air pollutant emissions. The draft EIS indicates that the Department of Interior (DOI) air quality regulations will prevent or mitigate any adverse onshore air quality impacts. We would not have concerns over air quality impacts from this lease sale if we shared the view that the DOI's air quality regulations will adequately mitigate onshore impacts. However, based on our thorough technical analysis<sup>1</sup> we do not believe that the DOI regulations are adequate to protect California's onshore air quality. The DOI air quality regulations have been challenged by a lawsuit, which is filed by the State, and is now pending in federal court.<sup>2</sup>

Very briefly, these regulations require sources to control or offset their emissions if they exceed distance-based exemption levels (100 tons per year at three miles, 200 tons per year at six miles, and so on) and if the predicted (by modeling) onshore impact of their emissions exceed approximately two percent of the federal ambient air quality standards. These rules do not require cumulative impacts to be addressed. Thus individual projects could be exempt under DOI regulations even though cumulatively the DOI exemption level and significance tests are exceeded.

An example of our concern is illustrated by DOI's 100 tons per year exemption level for sources three miles offshore. This level is nearly five times greater than the

<sup>1</sup> See the July 23, 1979 and June 19, 1980 letters from the State of California Governor's Office to Chief, Conservation Division, U.S. Geological Survey, Subject: "California Comments on Proposed Air Quality Rules for Oil and Gas Operations on the Outer Continental Shelf."

<sup>2</sup> California v. Watt (U.S.D.C., C.D. Cal. #81-3234-CBM (MX)).

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local air pollution control district level requiring application of best available control technology for sources up to three miles from shore. Practically speaking, the inadequacy of the DOI regulations to protect onshore air quality could result in additional burdens being placed on onshore sources to make up for the increase of unmitigated emissions from OCS sources. These inadequacies could also subject the state to continued federal sanctions.

Specific Comments

1. DEIS Statement, Page 2-4, 4-44, Table IV.A.8-1, and 4-65:

"Various types of exploratory drilling rigs... would be used to drill an estimated 12 exploratory [and 9 delineation] wells throughout the entire proposed sale area to evaluate the sale area's potential." The draft EIS estimates for the Maximum Annual Emissions for LS 73 are based on the fact that an average of 10 to 16 exploratory wells a year will be drilled.

## Comment:

The primary source of emissions during exploratory drilling is the diesel engines used on the drilling vessels. These engines are used for vessel propulsion and drilling. Each vessel typically has three or four 3300 horsepower engines, which are similar to diesel locomotive engines. Other sources of emissions are the support vessels used to transport workers and supplies to and from the drilling vessels. Oxides of nitrogen (NOx) are the main pollutants of concern from drilling vessels. For example, average NOx emissions during drilling for a typical drilling vessel can range from 60 to 90 pounds per hour. To put this into perspective, this rate is six to nine times the level that would trigger a requirement that emissions increase be fully offset for a new source in Santa Barbara County. It should be noted that there are only five stationary sources in Santa Barbara County which have annual NOx emissions greater than those from a single vessel drilling four wells per year.

Based on our experience with past exploratory drilling activities, we are concerned that the estimated emissions shown in the draft EIS per well drilled are underestimated.

If three to four vessels per year operated on LS 73 leases, 10 to 15 wells would be drilled during a peak year. NOx emissions from this well drilling activity are

15d.2

estimated to be between 600 and 900 tons per year\*. NOx emissions from support vessels are estimated to be between 200 and 300 tons per year. Thus, peak NOx emissions of between 800 and 1200 tons per year could result during the exploration phase, in contrast to the 379 tons per year indicated in the draft EIS.

As our comments indicate, what is more important than the number of wells drilled is the number of drilling vessels operating in the area. It would be helpful if the draft EIS discussed the number of drilling vessels expected and the associated emissions. Also, because of significant air emissions associated with drilling vessels as presented above, MMS should make every effort to require the installation of best available control technology and the selection and use of the lowest emitting equipment to reduce emissions from drilling vessels to the maximum extent practicable. A Joint Industry/Government Task Force has recently identified mitigation measures for reducing NOx emissions from drilling vessels.<sup>3</sup> Oil companies have agreed to implement such controls pending American Bureau of Shipping approval.

15d.3

2. DEIS Statement, Page 2-6:

"California refineries have the capacity to process all oil produced from the proposed action (Yamasaki, 1982). No new refineries will be required in California as a result of Proposed Lease Sale No. 73. However, modifications to refineries could be required to process the expected heavy and sour Proposed Sale No. 73 crude oil."

Comment:

The draft EIS does not discuss the need for refinery modifications that may be necessary to process LS 73 crude in California because of higher than average metals content. Assays of heavy OCS crudes have found some of

15d.4

\* Based on average NOx emissions of 550 pounds per 10<sup>3</sup> gallon of fuel, and fuel consumption of 213,000 gallons for a 10,000 foot well.

3 Assesment of NOx Control Measures for Diesel Engines on Offshore Exploratory Drilling Vessels and Rigs, Radian Corporation, July 1982.

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these crudes to contain a high concentration of metals, particularly vanadium.<sup>4</sup> High metals content in crude can poison the catalysts used in crude oil refining.<sup>5</sup>

3. DEIS Statement, Page 2-7:

"Potential Mitigating Measures" [No measures are proposed for mitigating air quality impacts]

Comment:

The draft EIS does not present a discussion of potential air quality mitigation measures which could be used to reduce the impact of LS 73 activities. We have been addressing this issue for several years and believe a number of control measures are available to minimize onshore air quality impacts.<sup>6</sup> These measures include: injection timing retard to reduce NOx from diesel engines, subsea electrical cables to replace platform based power generating equipment, use of low NOx diesel engines and turbines, use of water injection to reduce NOx from gas turbines, low NOx burners for process heaters, and the use of low sulfur fuels and hydrogen sulfide removal equipment to reduce sulfur dioxide emissions. We also believe that emissions from onshore facilities can be reduced to mitigate increases in offshore emissions.<sup>7</sup> In fact the Air Resources Board and local districts have entered into a number of agreements with various oil companies to mitigate OCS emissions. These include the Shell Beta agreement (1979), the Chevron Platform Grace agreement (1979), the Exxon Hondo A agreement (MOA I 1980), and the most recent Exxon Santa Ynez Unit agreement (MOA II 1982).

15d.5

Each of the companies has agreed to reduce emissions substantially to ensure no substantial adverse onshore air quality impacts will result from their OCS projects. For

4 Testimony of Margaret Felts of the California Energy Commission before the Assembly Committee on Natural Resources, March 15, 1983, and personal communication with Margaret Felts on April 12, 1983.

5 Southern California Coastal Pipeline Feasibility Study, Part C, December 1982.

6 Air Quality Aspects of the Development of Offshore Oil and Gas Resources, California Air Resources Board, February 1982.

7 See footnote 6.

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example, in the most recent Exxon agreement, Exxon has proposed innovative controls in the form of vapor balance during tanker loading at a nearshore marine terminal, water injection on small offshore turbines, and an advanced NOx control technology demonstration on its onshore power plant. Not only will these actions significantly reduce emissions, but they will also advance the state of the art in pollution control. These measures are included in Exxon's Development and Production Plan for the Santa Ynez Unit which was submitted and accepted by MMS. Additionally, Exxon has agreed to shutdown its Offshore Storage and Treatment Facility to provide partial offsets for emissions increases from the proposed Santa Ynez development project.

To address exploration drilling emissions a Joint Industry/Government Task Force was formed last year to study methods for reducing NOx emissions from drilling vessels. The task force identified available controls to reduce NOx emissions by up to 20 percent.<sup>8</sup>

Since the study was completed in mid-1982, oil companies have agreed to these controls and the California Coastal Commission has required that these controls be implemented as soon as approval is obtained from the American Bureau of Shipping.

4. DEIS Statement, Page 4-3, Paragraph 5:

"Processed oil would be transported from this facility [at Nipomo Mesa] (assumed to have existing treatment facilities) to Gaviota (in the Santa Barbara Channel) via an onshore pipeline that is assumed to be constructed as a result of previous lease sales. Oil would be transported from the Gaviota facility as follows: 1) 50 percent of the oil would go to Los Angeles area refineries via an onshore pipeline (this pipeline is presently being considered by the Petroleum Transportation Committee (PTC; 1982)); 2) 25 percent of the oil would be tankered from the Gaviota marine terminal north to the San Francisco Bay area refineries; and 3) the remaining 25 percent of the produced oil would be tankered to the Gulf of Mexico area refineries (Galveston, Texas) via the Panama Canal." [emphasis added]

15d.6

8 See footnote 3.

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Comment:

The estimated maximum annual emissions from proposed LS 73 (as outlined in Table IV.A.8-1 of the draft EIS) are based on the preceding transportation scenario. As a document on which decision makers must base their decisions, the draft EIS should address the validity of this assumed transportation scenario and identify other transportation alternatives that could feasibly be followed and the resulting air quality impacts of these alternatives. For example, if (1) assumed refinery capacity is not available in the San Francisco Bay Area, (2) the assumed coastal pipeline is not constructed, (3) the assumed coastal pipeline does not have capacity for the crude oil production of LS 73 or (4) the pipeline is constructed with a destination other than the Los Angeles Basin, alternate transportation scenarios will be developed. We believe, based on extensive involvement with these issues, that there exists a considerable possibility that any of the above may occur. Therefore, prudence requires the analysis of other transportation alternatives. Alternate transportation scenarios such as transport of the oil by pipeline to existing pipelines in the San Joaquin Valley or tankering all of the oil to varied destinations (Los Angeles, Gulf of Mexico and San Francisco Bay) will have very different air quality impacts.

5. DEIS Statement, Page 4-4:

"California refineries (Los Angeles and San Francisco Bay Area) are assumed to have the capacity and would process all of the Proposed Sale No. 73 crude oil that is shipped or piped to them. The total capacity of the California refineries is 2.5 million bbls. These refineries were operating at only 62 percent capacity during the second quarter of 1982. No new refineries are proposed or expected; however, since much of the proposed Sale No. 73 crude oil is anticipated to be heavy (low API) and high in sulfur content, then costly modifications (i.e., retrofitting) to the refinery process would be needed."

15d.7

Comment:

The draft EIS assumes that California refineries have the capacity to and will process 75 percent of the oil produced from LS 73. This is based on the current low capacity factor for California refineries (62 percent). Complex refineries are needed to refine heavy crude oil high in sulfur content into high demand products such as gasoline, diesel, and jet fuel. Many of the refineries included in the 2.5 million barrels total are not complex

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refineries<sup>9</sup> - that is, refineries having facilities for processing heavy crude oil of the type expected in this lease. Also, the potential high metals content of LS 73 crude may impair the use of this crude in California refineries [see comment 2]. The assessment of whether or not California refineries will have sufficient capacity to process LS 73 oil was not based on projections of refinery capacity during the years of production of the proposed lease sale but on current capacity factors. It would be useful to base this assessment on projected capacity factors to allow an estimate to be made of the availability of California's complex refineries that are not committed to refining some other source of heavy crude (i.e., Kern County crude, Alaskan North Slope crude, or OCS crudes from previous lease sales). Where this oil is refined will determine how the oil from LS 73 is transported and what the potential air quality impacts will be.

- 6. DEIS Statement, Page 4-44, Table IV.A.8-1: Estimated Maximum Annual Emissions Proposed OCS Sale No. 73.

Comment:

The draft EIS does not contain sufficient information to adequately evaluate all the emissions estimates presented in this table. We do, however, have some preliminary comments on the developmental and production phases. Exploratory phase comments were discussed in Comment 1.

Development Phase: It is unclear if the emissions estimates for development drilling takes into consideration that two drilling rigs are often used per platform. Also, it is unclear if emissions from intermittent sources such as crane engines are taken into consideration.

Production Phase: It is unclear if production phase emissions estimates include emissions associated with onshore gas and oil processing.

- 7. DEIS Statement, Pages 4-68 and 4-70: Several other nearby projects are listed as having been considered in assessing cumulative impacts from LS 73.

<sup>9</sup> "Annual Refining Survey," Oil and Gas Journal, March 21, 1983.

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15d.8

15d.9

Comment:

The draft EIS does not explain how these other projects (LNG Terminal, LS 53, etc.) were factored into the cumulative impact analysis.

- 8. DEIS Statement, Page 4-84 to 4-92:

Information in the draft EIS regarding the computer simulation modeling results is summary in nature.

Comment:

The draft EIS does not contain sufficient information to permit an adequate evaluation of the modeling results. Information on the specific models used, source strength, distance of the source from shore, and the meteorological conditions assumed are not presented in the draft EIS. To the extent this information is included in the reference document, we will provide detailed comments upon completion of our review. However, we have provided some comments below on the modeling analysis based on statements and conclusions made in the draft EIS.

- 9. DEIS Statement, Page 4-85:

"Maximum calculated onshore concentrations of inert pollutant associated with Proposed OCS Sale No. 73 are presented in Tables IV.E.1.c-1 and IV.E.1.c-2. Inert pollutants were modeled for the exploratory, development, and production phase. Ozone was modeled for the production phase only since impacts due to ozone would be highest during this phase. The concentrations are compared with the Department of the Interior (DOI) Significance Levels as well as Federal and State Ambient Air Quality Standards (AAQS)."

Comment:

Ozone modeling was performed for the production phase, but was not performed for either the exploratory or development phase of activities. The air quality impact for these two latter phases should be addressed in the draft EIS, as exploratory and development emissions can have significant impacts on onshore ozone concentrations.

We have performed an ozone modeling analysis for exploratory drilling activities in the Santa Barbara Channel.<sup>10</sup> This screening analysis, based upon adverse meteorological conditions, shows that exploratory drilling

<sup>10</sup> See footnote 6.

15d.10

15d.11

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activities can result in a significant increase in onshore ozone concentrations. Specifically, onshore ozone concentrations were estimated to increase by 10 to 72 percent, depending on initial pollutant concentrations. The higher level ozone increases could result in violations of the state and federal ozone standards in an onshore area that otherwise would not have had violations.

- 10. DEIS Statement, Page 4-85:

In the discussion of modeling results, the draft assumes that all impacts or emissions below DOI significance levels are insignificant.

Comment:

As discussed in our general comments, we do not agree that the "significance levels" established in DOI's regulations are justified or adequate to protect onshore air quality.<sup>11</sup> The DOI regulations provide that an increase in pollution levels less than approximately two percent of the national ambient air quality standard is insignificant. Portions of the area that will be affected by emissions from LS 73 development (e.g., southern Santa Barbara County) have air quality problems and have not attained national health-based ambient air quality standards. Since pollutant concentrations in excess of those standards are already detrimental to public health, California has taken the position that any increase in these concentrations cannot be regarded as insignificant.<sup>12</sup> Additionally, the DOI significance test does not address state ambient air quality standards, which are in some cases more stringent than the national standards.

- 11. DEIS Statement, Page 4-88, Paragraph 6:

"Modeling was performed with trajectory endpoints at Nipomo, Santa Ynez and Goleta. The results are shown in Table IV.E.1.c-3. The maximum ozone increments were 1 and 10 pphm. The federal and state AAQS for ozone are 12 and 10 pphm, respectively. Since future baseline levels already exceed the state AAQS and almost exceed the federal AAQS, the Proposed Sale No. 73 sources could lead to violations of the standards. However, it must be noted that the models were run assuming very restrictive

<sup>11</sup> See footnote 1.

<sup>12</sup> See footnotes 1 and 2.

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15d.12

15d.13

meteorological conditions. These conditions are expected to prevail only 2 or 3 days per year."

Comment:

The draft EIS indicates that LS 73 could result in onshore violations of federal and state ozone standards about 2 or 3 times a year. The state of California's health-based oxidant (ozone) standard is considered violated if it is ever equalled or exceeded (Title 17, California Administrative Code, Section 70200). The federal ozone standard can be exceeded only once per year.<sup>13</sup> Therefore, projected ozone levels above standards for 2 or 3 days per year will result in the violation of state and federal ozone standards. If OCS emissions are not mitigated sufficiently to ensure air quality standards are not violated, then additional controls will have to be placed on other sources to attain the standards. Additionally, sanctions under the Clean Air Act can be imposed on sources located in onshore areas where the federal standards are violated.

- 12. DEIS Statement, Page 4-189, Paragraph 2:

"Vessel Traffic. Additional support vessel traffic expected to occur as a result of selection of Alternative I is as follows: Crew boats will be used to transport personnel to and from wellsites or platforms either from Port San Luis or Gaviota according to Transportation Scenario No. 1. In the southern Santa Maria Basin, two trips per week per wellsite are predicted to be made during exploratory phases of the proposal. A similar number of trips would be made (per platform) during development and production. Supplies taken to the wellsites or platform would originate from Gaviota. Two trips per week (per wellsite or platform) are expected to be made by a supply boat during the exploratory, development and production phases."

Comment:

The draft EIS implies that about ten crewboat roundtrips per week will be associated with the development and production phases of LS 73. This estimate appears to represent the low range of crew boat trips expected. For example, Exxon Company, U.S.A. in their Santa Ynez Unit Environmental Report (Production) submitted to the MMS in

<sup>13</sup> Ambient Air Quality Standards, ARB Fact Sheet 38, January 1983.

111

15d.14

April 18, 1983

October 1982, predicts for the same number of platforms 21 crewboat roundtrips per week. As mentioned in Comment 1, support vessels can comprise a substantial portion of emissions associated with exploratory drilling.

13. DEIS Statement, Pages 4-215 to 4-217 and 4-85 to 4-92:

"The end product of these modifications is the conditional mean estimate for undiscovered oil and gas resources given hydrocarbons are present for the unleased Federal OCS portion of the planning area. Due to the inclusion of unidentified prospects and a learning curve in the generation of these estimates, resources are included that cannot reasonably be assumed to be discovered as a result of the specific sale being addressed in the EIS, for this reason, it was decided to use this estimate for the "high case" scenario in the EIS. A "most likely" estimate of resources to be discovered and developed as a result of the sale was made taking into account the knowledge of the particular area's geology, economic considerations, exploration history, and potential learning curve in conjunction with finding rates in other OCS areas worldwide."

15d.15

Also, DOI states that impacts from the production scenario for 970 million barrels of reserves ("conditional mean") are almost identical to impacts from the 291 million barrels of reserves scenario ("most likely").

Comment:

The "conditional mean" estimate of oil and gas to be recovered from the LS 73 area is 970 million barrels of oil and 950 billion cubic feet of gas. The "most likely" estimate of oil and gas to be recovered from the LS 73 area is 291 million barrels of oil and 285 billion cubic feet of gas. Because of the significant differences between the "conditional mean" and "most likely" estimates of resources the development of the additional 333 percent oil resources associated with the "conditional mean" scenario would result in additional platforms, processing, and transportation facilities. These facilities in turn would result in increased emissions and onshore air quality impacts. It is unclear to us why the draft EIS conclusions regarding air quality impacts are the same for the two scenarios.

As stated earlier, the above comments are based on information contained in the draft EIS. Because we just recently received the supporting documents to the draft EIS, we will submit our comments on those documents following our review.

THE RESOURCES AGENCY OF CALIFORNIA

State of California

Memorandum

To : Honorable Gordon Duffy  
Secretary of Environmental Affairs

Date : APR 21

Subject: OCS Lease Sale No. 73,  
Santa Maria Basin,  
Draft EIS  
SCH No. 83030809

From : Department of Conservation—Office of the Director

The Department of Conservation has reviewed the Draft EIS for OCS Lease Sale No. 73, prepared by the Federal Department of Interior, Minerals Management Service (MMS). The Draft EIS addresses the proposed leasing of 360 tracts for oil and gas exploration and development in the Santa Maria Basin, offshore Central California.

Our review is based on the proposed leasing program and the information contained in the Draft EIS. Comments were prepared by our Division of Mines and Geology and Division of Oil and Gas, and are restricted to areas of staff expertise.

The two major areas of review and comment are:

- Geotechnical evaluation; and
- Oil and gas reserve estimates.

Geotechnical Evaluation

The geotechnical data and analysis are adequate for evaluation of the leasing proposal, with respect to seismic design and discussion of geologic hazards.

We also note the new MMS environmental review process for OCS lease sale proposals. As has been announced, the new policy will no longer require pre-lease geologic or seismological surveys. These surveys have previously been used to identify particular tracts for stipulation of hazard avoidance measures. The new policy places greater reliance for identification of geologic hazards on site-specific surveys, which will be required of successful bidders after the leases are awarded. Identification of hazards is essential as they may impact the safety of proposed structures or oil exploration and recovery activities.

15e.1

We recognize that this new policy can be effective from a geotechnical standpoint; however, it requires assurance at the EIS stage that the subsequent site-specific studies will be performed and reviewed, and their findings applied.

STATE OF CALIFORNIA—THE RESOURCES AGENCY

GEORGE DRUKMEJIAN, Governor

CALIFORNIA ENERGY COMMISSION  
1316 NINTH STREET  
SACRAMENTO, CALIFORNIA 95814



March 30, 1983

Gordon Snow  
Assistant Secretary  
Resources Agency  
1416 Ninth Street  
Sacramento, CA 95814

Dear Dr. Snow:

SUBJECT: PROPOSED 1983 OCS OIL AND GAS LEASE SALE NO. 73 -  
OFFSHORE CENTRAL CA, DRAFT EIS, SCH #83030809

The California Energy Commission has reviewed the subject document and offers the following comments.

Refineries

The DEIS does not consider the Lease Sale 73 crude oil in the context of the cumulative crude oil production resulting from other sales nor the cumulative impacts that total OCS production might have on the state's refineries. It states that the approximate 10,000 b/d of a peak production of 21,075 b/d projected for pipelining to Los Angeles refineries and the 5,000 b/d tankered to San Francisco refineries can be accommodated by these refineries. However, if it is a part of a more substantial OCS contribution to the state's refineries (and this is not quantified or even discussed), then Lease Sale 73 contributes to the need for expensive retrofitting. The report considers the estimated retrofit costs of \$10 to \$800 million per refinery and thus Lease Sale 73's 15,000 b/d contribution constitutes a "low impact" to individual refineries.

15f.1

We are unable to ascertain amounts of Lease Sale 73 crude anticipated to be available to California refineries other than that for the peak year. Table II A.1.C-1 does not agree with the 1993 21,075 b/d peak production figures used within the text. Another peak production figure of 16,860 b/d is given in footnote 5 to Table IV.A.8-1 on p. 4-44.

Honorable Duffy  
Page Two  
APR 6 1983

The Draft EIS describes the regulatory procedures to mitigate geologic hazards that will occur during the post-sale phase, and a Platform Verification Program which should provide necessary safeguards. To further strengthen this process, we would suggest that the State of California be given the opportunity to provide expertise during preparation of site-specific geologic and seismological survey studies, and an opportunity to review them in the draft stage.

15e.2

Oil and Gas Reserve Estimates

The oil and gas reserve estimates appear reasonable and adequate at this phase of the leasing program.

15e.3

Thank you for the opportunity to provide comments on this Draft EIS. If you require further assistance, please contact Esther Maser, Environmental Program Coordinator, at 322-5873.

*Esther Maser*  
Interim Director

cc: J. F. Davis, Ph.D., State Geologist  
S. Cordova, Acting Chief, Division of Oil and Gas

Jr. Gordon Snow  
Page 2

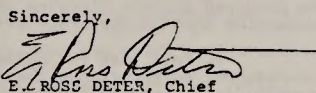
The document does not identify what percent Lease Sale 73 crude is of the cumulative amounts expected to be refined in California nor the timeframe of that production. Other than it is expected to be "heavy and high in sulfur content", the characteristics of Lease Sale 73 crude are not specified. Without this basic information it is impossible to assess the report's conclusions that:

- the California refinery system can process all the Lease Sale 73 crude that is either pipelined or tankered to it, with or without retrofitting; and,
- that Lease Sale 73 crude oil both "represents a partial contribution to the requirement for expensive modifications to the refinery process" and is a low impact to individual refineries.

15f.2

Analysis and data on what is included in the cost figures for retrofitting (\$10 to \$800 million) also is lacking so we cannot comment on the adequacy of the estimate.

If you have any questions concerning the review of this document please contact Cheri McFarland at 324-3223.

Sincerely,  
  
E. ROSS DETER, Chief  
Siting and Environmental Division

ERD/CMCF:tdw

State of California

15g  
The Resources Agency of California

### Memorandum

Date : April 4, 1983

To : Mr. Gordon Duffy  
Secretary of Environmental Affairs

From : Department of Parks and Recreation

Subject: Draft Environmental Impact Statement  
O.C.S. Sale No. 73, U. S. Department of  
the Interior, Minerals Management Service  
SCH 83030809

The Department has reviewed the subject project and has the following comments. We are concerned with impacts from oil spills and pipeline construction on State Park System resources.

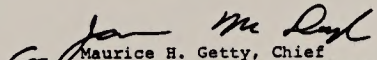
The Department feels that Alternative II (Modify the Sale to Protect Sensitive Biological Areas) is more acceptable than the proposed project.

Alternative II would eliminate 3 tracts and portions of 4 other tracts which coincide with a ten (10 mile) zone centered on Morro Bay; reducing the potential for impacts by insuring more time for cleanup, containment and weathering of an O.C.S. platform oil spill. This would also reduce the impacts to the visual resources of the area due to the placement of the platforms further offshore.

15g.1

The Final Environmental Impact Statement should identify proposed pipelines which may cross State Park System lands. The location of the pipelines should be plotted on U.S.G.S. Quad sheets and the impacts to State Park System resources should be addressed.

15g.2

  
Maurice H. Getty, Chief  
Resource Protection Division  
cc: Debbie Weldon

State of California

15h  
The Resources Agency of California

### Memorandum

Date : 4 April 1983

To : Gordon Duffy  
Secretary for Environmental Affairs  
1102 Q Street - Sacramento 95814  
attn: Rosanne Shapiro  
In reply, refer to: OCS 830405A

From : Department of Parks and Recreation

Subject: OCS Sale #73 - SCH #83030809

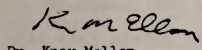
The Office of Historic Preservation has reviewed the Draft EIR for the proposed lease sale noted above.

The US Minerals Management Service should be aware that Section 106 of the National Historic Preservation Act of 1966 (P.L. 89-665) and 36 CFR 800 require federal agencies to identify all cultural properties located in the proposal's potential impact area, which are listed in or eligible for inclusion in the National Register of Historic Places.

15h.1

We look forward to receiving from the Minerals Management Service documentation indicating their compliance with the federal legislative mandates mentioned. We will proceed with our review upon receiving this information.

If you have any questions, please direct them to Nicholas Del Cioppo of my staff by calling (916) 322-8703.

  
Dr. Knox Mellon  
State Historic Preservation Officer  
Office of Historic Preservation

cc- Anna Polvos  
State Clearinghouse

RECEIVED  
APR - 8 1983  
State Clearinghouse

State of California, George Deukmejian, Governor

138  
California Coastal Commission  
631 Howard Street, 4th Floor  
San Francisco, California 94105  
(415) 543-8555

CONS. DIV.  
APR 20 1983  
RECEIVED

April 21, 1983

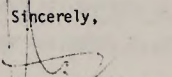
Reid Stone  
Regional Mineral Manager  
Pacific OCS Region  
Mineral Management Service  
1340 W. Sixth Street  
Los Angeles, CA 90014

Dear Mr. Stone:

Enclosed for your review and consideration are the comments on your DEIS on OCS Lease Sale 73 that were unanimously adopted by the California Coastal Commission on April 15th. Please note that under the requirements of the federal Coastal Zone Management Act, it will be necessary for the Interior Department to prepare a determination of the lease sale's consistency with California's coastal management program. That consistency determination will have to be submitted to the Commission at least 90 days before the final notice of sale.

16.1

Thank you for this opportunity to make these comments.

Sincerely,  
  
Michael L. Fischer  
Executive Director

Enclosure

MLF/eds



Due to space limitations and the bulk of the materials submitted to the MMS regarding the Draft EIS for proposed Lease Sale No. 73, all written comments have not been included in this volume. The following documents have been reviewed by the EIS staff and responses to specific comments have been prepared as indicated.

- Attachment I - Comments of the California Coastal Commission on the Draft Environmental Impact Statement Lease Sale 73, Santa Maria Basin.
- Attachment II - Department of the Interior Press Release.
- Attachment III - Comments of Leasing on the Outer Continental Shelf - the California Coastal Commission unanimously adopted the following comments on leasing on California's Outer Continental Shelf is proposed OCS Lease Sale No. 73.
- Attachment IV - Comments on DEIS for Proposed OCS Lease Sale 53.
- Attachment V - New Marine Plants and Animals That Have Been Discovered off the California Coast As a Result of Recent Biological Surveys.
- Attachment VI - ARTICLE - WATCHING THE WORLD
- Attachment VII - San Luis Obispo County and Cities.



COUNTY OF DEL NORTE

450 "H" STREET  
CRESCENT CITY, CALIFORNIA 95531

March 18, 1983

AREA CODE 707  
464-3101

John Lane  
POCS Office  
1340 West Sixth Street, Room 200  
Los Angeles, California 90017

RE: DEIS Lease Sale No. 73

Dear Mr. Lane:

Our review of the draft EIS on the proposed 1983 Outer Continental Shelf oil and gas lease sale, offshore of central California, has determined that the document does not adequately address offshore leasing beyond San Luis Obispo and Santa Barbara Counties. (Any comment regarding the adequacy of addressing issues of those two counties should be submitted by those counties.) The record of the final document shall clearly state that the environmental impact statement is not applicable beyond the proposed action; "leasing those unleased tracts from Point Conception through Tow N 816 UTM Grid System".

17.1

We feel that the document is vague in stating what local governmental jurisdictions the document attempts to address. The document is internally inconsistent because the text, charts and graphics do not clearly focus on the project area. This inconsistency makes it difficult to assess the impacts, if any, of the proposed project beyond Morro Bay from a physical, social or political standpoint.

17.2

The final document should either focus its assessment on the project area (Morro Bay to Point Conception) or explain the logic, rationale or purpose of including generalized discussions beyond the project area.

Sincerely,

*Richard L. Brown*  
RICHARD L. BROWN  
Chairman, Board of Supervisors

RLB/EP/aw  
cc: Senator Keene  
Assemblyman Hauser

BOARD OF SUPERVISORS  
COUNTY OF DEL NORTE  
STATE OF CALIFORNIA

RESOLUTION NO. 83-071

RESOLUTION IN RESPONSE TO CALL FOR COMMENTS  
ON THE DRAFT ENVIRONMENTAL STATEMENT FOR  
PROPOSED OCS LEASE SALE #73

WHEREAS, the Pacific OCS office, Minerals Management Service, of the U.S. Department of the Interior has issued a Draft Environmental Impact Statement for their proposed October 1983 central California lease offering known as Lease Sale #73; and

WHEREAS, the Minerals Management Service on March 9, 1983 on pages 9951-9953 of Vol. 48, No. 47 of the Federal Register has requested comments on the central California OCS leasing proposal from individuals, representatives of organizations, and public officials; and

WHEREAS, written comments on the draft EIS will be accepted by the Minerals Management Service until April 26, 1983; and

WHEREAS, the County of Del Norte has reviewed the draft Environmental Impact Statement for the October 1983 OCS lease offering known as Lease Sale #73 and found it inadequate for reasons herein described; and

WHEREAS, the draft Environmental Impact Statement does not adequately disclose the anticipated impacts from the proposed action on existing conditions and uses of the offshore and onshore

affected areas or adjacent areas; and

WHEREAS, the draft Environmental Impact Statement does not adequately quantify impacts and direct effects of the proposed action on the Coastal Zone of the State of California, nor does it indicate the degree of conformance of the proposed action with the laws, goals and policies of the State of California including the California Coastal Act, California's federally-approved Coastal Zone Management Plan, county Local Coastal Plan (LCPs); and

WHEREAS, the draft Environmental Impact Statement does not present an adequate range of alternatives to the proposal nor does it include a sufficiently high-resolution look at the impacted area and its existing resources and uses, incorporates no "worst-case" analysis of impacts, includes no analysis of impacts on rare and unique species, nor does it adequately identify or analyze cumulative impacts which are likely to result from leasing and development on tracts within this sale combined with prior and planned lease sales and development; and

WHEREAS, the draft Environmental Impact Statement does not consider an alternative which addresses that leasing not be conducted in areas to the north of the line between Row N808 and Row N809 of the Universal Transverse Mercator Grid System (approximately the Santa Maria River); and

WHEREAS, the Minerals Management Service has denied the opportunity for "scoping meetings" as provided for in the relevant CEQ Guidelines in order to identify issues to be

utilized in determining the scope of the draft EIS; and  
WHEREAS, the Minerals Management Service has refused to hold adequate and accessible public hearings on the draft EIS in affected coastal communities which may be impacted by the proposal; and

WHEREAS, above and beyond the inadequacies of the draft EIS with respect to the present limited sale area encompassed by Lease Sale #73, the present draft Environmental Impact Statement would be inadequate and inappropriate as a basis for future decisions outside of the 360-tract October 1983 sale area and unsuitable for use as the basis for an area-wide central and northern California OCS Planning Area EIS.

NOW, THEREFORE, BE IT RESOLVED, that the DEL NORTE COUNTY BOARD OF SUPERVISORS of Del Norte County, California, does hereby adopt this resolution, finding the draft Environmental Impact Statement for the October 1983 OCS lease offering to be inadequate and not in compliance with relevant federal and state laws.

BE IT FURTHER RESOLVED, that this resolution shall be forwarded to the Regional Manager, Pacific OCS Region, Minerals Management Service, 1340 W. Sixth Street, Los Angeles, CA 90017 to arrive prior to April 26, 1983.

PASSED AND ADOPTED by the Board of Supervisors, County of Del Norte, State of California, this 11th day of April, 1983, by the following polled vote:

-3-

AYES: Supervisors Burns, Brown, Crockett, Smedley and Dee.  
NOES: None.  
ABSENT: None.

*Richard L. Brown*  
RICHARD L. BROWN, Chairman  
Board of Supervisors

ATTEST:

*John D. Alexander*  
JOHN D. ALEXANDER, County Clerk-Recorder and ex-officio Clerk of the Board of Supervisors, County of Del Norte, State of California

I hereby certify the foregoing to be a true and correct copy of the original on file in this office.

Dated: APR 11 1983

ATTEST:  
JOHN D. ALEXANDER

County Clerk and ex-officio Clerk of the Board of Supervisors, County of Del Norte, State of California.

By *Joyce McMillan*  
Deputy

-4-

**18**  
**Marin County**  
**Planning Department**

Public Center - San Rafael, California 94903

Telephone 499-6269

Marjorie W. Macris, AICP, Director

April 22, 1983

Mr. John Lane  
Minerals Management Service  
Pacific OCS Office  
1340 West Sixth Street  
Los Angeles, CA 90017

RE: Marin County Comments on MMS Draft Environmental Impact Statement, OCS Sale No. 73

Dear Mr. Lane:

Enclosed, please find Marin County's comments on your Draft EIS for OCS Sale No. 73. We call your attention to our Board of Supervisors Resolution 83-136, of April 12, 1983, attached, and to the new material specifically appended to our comments. Also enclosed are copies of previous comments and communications with your office which are relevant to this sale.

Please consider all of the attached documentation as part of our County's official comments on the Sale No. 73 DEIS.

Very truly yours,

*Marjorie W. Macris*  
Marjorie W. Macris  
Planning Director

MWM:mb

Attachments:

Board of Supervisor's Resolution  
Planning Department Comments  
Drift Bottle Maps  
Comments by Thomas Ragland  
Comments by Richard Tinney  
Factsheet by Diane Kopec  
Collection Of Marin County Responses on Sale #73, RS-2, and Department of Interior Five-Year Program

RECEIVED  
APR 25 1 51 PM '83  
MARIN COUNTY PLANNING DEPARTMENT  
LOS ANGELES, CALIFORNIA

**18a**

RESOLUTION NO. 83-136

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF MARIN, IN RESPONSE TO CALL FOR COMMENTS ON THE DRAFT ENVIRONMENTAL STATEMENT FOR PROPOSED OCS LEASE SALE #73

WHEREAS the Pacific OCS Office, Minerals Management Service, of the U.S. Department of the Interior has issued a Draft Environmental Impact Statement for their proposed October 1983 central California lease offering known as Lease Sale #73, and

WHEREAS the Minerals Management Service on March 9, 1983 on pages 9951-9953 of Vol. 48, No. 47 of the Federal Register has requested comments on the central California OCS leasing proposal from individuals, representatives of organizations, and public officials, and

WHEREAS written comments on the draft Environmental Impact Statement will be accepted by the Minerals Management Service until April 26, 1983, and

WHEREAS the County of Marin has reviewed the draft Environmental Impact Statement for the October 1983 OCS Lease offering known as Lease Sale #73 and found it inadequate for reasons herein described, and

WHEREAS the draft Environmental Impact Statement does not adequately disclose the anticipated impacts from the proposed action on existing conditions and uses of the offshore and onshore affected areas or adjacent areas, and

WHEREAS the draft Environmental Impact Statement does not adequately quantify impacts and direct effects of the proposed action on the Coastal Zone of the State of California, nor does it indicate the degree of the conformance of the proposed action with the laws, goals and policies of the State of California including the California Coastal Act, California's federally-approved Coastal Zone Management Plan, county Local Coastal Plans (LCPs), California's pipeline policy, or California's air quality standards, and

WHEREAS the draft Environmental Impact Statement does not present an adequate range of alternatives to the proposal nor does it include a sufficiently high-resolution look at the impacted area and its existing resources and uses, incorporates no "worst-case" analysis of impacts, includes no analysis of impacts on rare and unique species, nor does it adequately identify or analyze cumulative impacts which are likely to result from leasing and development on tracts within this sale combined with prior and planned lease sales and development, and

WHEREAS the draft Environmental Impact Statement does not consider an alternative which addresses the long-held position of the State of California and affected local governments to the effect that leasing is inappropriate in areas to the north of the line between Row N808 and Row N809 of the Universal Transverse Mercator Grid System (approximately the Santo Morio River), and

WHEREAS the Minerals Management Service, in spite of requests from numerous affected local agencies, has denied the opportunity for "scoping meetings" as provided for in the relevant CEQ Guidelines in order to identify issues to be utilized in determining the scope of the draft Environmental Impact Statement, and WHEREAS the Minerals Management Service has refused to hold adequate and accessible public hearings on the draft Environmental Impact Statement in affected coastal communities which would be impacted by the proposal, and

WHEREAS the Minerals Management Service has shortened the comment period from 60 days as provided by Department of Interior regulations to 45 days, in spite of numerous requests for the full 60-day comment period, and

WHEREAS required NEPA procedures, CEQ guidelines, and Department of Interior regulations have not been adhered to in the preparation of the draft EIS or throughout the pre-lease planning process for this sale and the above mentioned procedural deficiencies have precluded interested members of the public from adequate opportunity for participation in the environmental review process, and

WHEREAS above and beyond the inadequacies of the draft Environmental Impact Statement with respect to the present limited sale area encompassed by Lease Sale #73, the present draft Environmental Impact Statement would be wholly inadequate and inappropriate as a basis for future decisions outside of the 360-tract October 1983 sale area and unsuitable for use as the basis for an area-wide central and northern California OCS Planning Area EIS, and

WHEREAS key environmental studies now funded and underway by the Minerals Management Service are necessary to inform decisions about the proposed action but will not be completed until after October 1983 proposed date of sale, and therefore the sale date should be delayed.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors, County of Marin does hereby adopt this resolution, and by reference the attached technical comments, finding the draft Environmental Impact Statement for the October 1983 OCS Lease offering to be inadequate and not in compliance with relevant federal and state laws, and

BE IT FURTHER RESOLVED that this resolution and the attached technical comments should be forwarded to the Regional Manager, Pacific OCS Region, Minerals Management Service, 1340 W. Sixth Street, Los Angeles, California 90017 to arrive prior to April 26, 1983.

PASSED AND ADOPTED at a regular meeting of the Board of Supervisors of the County of Marin, State of California, on the 12th day of April, 1983, by the following vote, to-wit:

- AYES: SUPERVISORS: Gary Giacomini, Harold C. Brown Jr., Al Aramburu, Bob Roumiguere
- NOES: SUPERVISORS: Bob Stockwell
- ABSENT: SUPERVISORS: None

*Bob Roumiguere*  
CHAIRMAN OF THE BOARD OF SUPERVISORS  
COUNTY OF MARIN

ATTEST:

*Van Gillespie*  
Van Gillespie  
Clerk of the Board

MARIN COUNTY COMMENTS  
DRAFT ENVIRONMENTAL IMPACT STATEMENT, OCS SALE #73  
US MINERALS MANAGEMENT SERVICE

April 11, 1983

Prepared By: Warner Chabot, Energy Coordinator and  
Dr. Ruthann Corwin, OCS Consultant, Marin County Planning  
Department

Introduction

As one of several coastal counties of California which have had the experience of a major oil spill, and as one of many counties with bay shorelines affected by chronic pollution from oil transportation and refining activities, Marin County has followed the proposed lease sales off the Central and Northern California coast with major concern. We are not reassured that any of our problems will be adequately addressed, given their coverage in this document. We find this DEIS seriously inadequate, and suggest that for more time needs to be spent in its preparation to speak to the many concerns that are being raised by the California public and its representatives.

I am speaking today representing the Marin County Planning Department. We have had serious concerns over the last few years with the approach of the Federal Government toward offshore development. These problems involve procedural, technical, and interpretive questions. This record leaves us without assurance of adequate protection for air or water quality, or for the protection of our coastal environments. I am submitting a copy of these materials for the record. These issues are serious enough that we expect each item to be addressed in the FEIS, in sufficient detail that predictions and mitigation measures can be discussed at the level where the impacts will actually occur: at the level of the local jurisdictions.

In addition, Marin County will continue to use the very limited time we have been given to prepare additional comments prior to the April 25 deadline.

The County has prepared comments and letters of review over the past few years when it appeared that oil development might occur off the Sonoma and North Marin coast and off Santa Cruz and San Mateo to the south, as part of the original Lease Sales #53 and #73. We know that the odds are that we will experience another major spill, if not from nearby development, then from the tanker traffic which this DEIS postulates will occur from development off Central California.

We are deeply concerned over other impacts from nearby developments, such as the effects of the disposal of drilling muds and cuttings, the need for onshore supply bases, fresh water and other land-based requirements, etc. We are not addressing these for the Marin area at this time since the leasing proposal before us is for the Santa Barbara and San Luis Obispo County coasts only. We expect full attention to be given to these concerns if the northern areas are proposed for leasing. We expect a new, site-specific EIS, of that time. We are watching this proposal to see how well the work is done. We have seen no adequate risk analyses for the Central or Northern coast to date.

Although we are outside the sale area, we are well within its impact zone. We are therefore most concerned about efforts to move precipitously on this complex proposal

18b.1

18b.2

and speed its approval with inadequate study and attention to alternatives, and without adequate public input and discussion.

The document contains no "worst case" analysis, either for the sale area itself or for all the areas at risk in the proposal's impact zone. The statements that are called "cumulative impacts" are not based on an analysis of all the cumulative impacts that can be expected from California OCS development plus other activities in this region. The alternatives that are presented in the DEIS are the absolute minimal possibilities for protection of the Marin environment, its living resources, or the California shoreline, and are in direct violation of the National Environmental Policy Act.

18b.3

We consider the impacts to the San Francisco Bay area counties to be serious enough and this document sufficiently inadequate with respect to their discussion that the proposal should not be approved. When you add the deficiencies from a cumulative impact perspective on all the areas of the California coast that will be affected by this and other offshore developments, there appears to be no justification for proceeding. I will comment first on impacts to Marin County, and will illustrate the problems regarding cumulative assessment with a discussion of effects on marine productivity.

18b.4

Impacts to Marin County

On January 19, 1971, the Arizona Standard collided with another Standard Oil tanker under the Golden Gate Bridge in dense fog, and spilled 800,000 gallons of oil. Contamination from that spill went as far south as Santa Cruz, and as far north as Drakes Bay in Marin, severely fouling Stinson and Balinas beaches. We know from this experience that a major spill can spread for many miles along the coastline. Thousands of birds died, millions of marine organisms were smothered or poisoned, and on Duxbury Reef the striped crabs had not returned to their pre-spill numbers as of last year, the grey periwinkle, never common on the reef, has virtually disappeared, and a marine worm important to the base of the food chain had not recovered. Hundreds of people were required to respond to the disaster, and the costs were spread over the region, including everything from volunteer time to shortage of hay experienced by farmers later in the season.

Spills anywhere off the Lease Sale #73 area or along the tanker route to San Francisco could affect the San Francisco Bay Area coasts in a month or less, during the months from October to February especially, and during other times of the year depending on the nearshore currents. These possibilities are illustrated in the California Cooperative Ocean Fisheries Investigation (CalCOFI) Data Atlas #16, which records all the drift bottle results from experiments done from 1955 to 1971 (1).

18b.5

These studies record the actual drift of material (bottles) on the ocean surface, and present a maximum elapsed time from release to landfall (since the bottle may have come ashore some time before it is found).

For example, a drift bottle released off Pt. Sal in the outer Sale #73 area was collected on the north Marin County coast after 33 days in November, 1969. (See the attached record, p. 131). A tanker accident off Monterey Bay in February could bring oil north to the San Francisco coast in three days or less or from off Big Sur in seven days or less (see attached record, p. 27).

The top speed of the currents off California are estimated to range from 10-26 miles per day (20-50 cm/sec). From Pt. Buchan to the Golden Gate is around 180 miles, or a worst case possibility of oil spreading north from a major blowout in the Sale area arriving

along Marin County shores within seven days. Along the tanker route north, a spill could spread to the Bay area or the Pt. Reyes-Farallon Islands Marine Sanctuary within a few days directly from the Central Coast, or off the Golden Gate.

We have submitted specific comments regarding the inadequacies of the oil spill trajectory model on several previous occasions (see attached collection of Marin County responses). We incorporate by reference the detailed critique of the oil spill distribution discussion in the DEIS prepared by Natasha Atkins of the Friends of the Sea Otter, and the comments on physical oceanography by Jeff Erickson for the East Bay Chapter of the Sierra Club.

18b.6

We disagree strongly with the statement that "virtually no spills" are expectable in the San Francisco Bay region, p. 4-19. The model was run only for launch areas in the lease proposal, not for the tanker routes that will carry, according to the DEIS, 25% of the oil discovered to be refined in the San Francisco Bay area. For the conditional mean, the "high" estimate, that represents about 240 million barrels of oil brought into the region, or something around 100,000 BOPD during the peak year, from this proposal alone. Using the accident spill rates given on p. 4-16, this gives a chance of .15 spills greater than 10,000 barrels, and .30 spills under 1000 barrels. (This in itself is not a "small" spill, since it is equal to 42,000 gallons.) Page 4-98 points out the cumulative possibility of a ten day hit is 52% for Agate Beach/Duxbury Reef. The current status of the reef is considered under stress. We do not feel the impacts can be dismissed as moderate, or that a moderate impact involving several years recovery (DEIS, p. 9-3) is insignificant. We object to the offhand reference to oil fate on p. 4-98, for reasons we have previously discussed regarding retention of toxic fractions beyond 3 days.

18b.7

These spill rates are themselves questionable. They are based on Coast Guard records which are not complete. They present a partial and somewhat confusing output in terms of fractional spill possibilities by three size categories of spills. It does not help that the tables have major typographical errors, i.e. the symbol for "greater than or equal to" 1000 BBL on p. 4-16 where "less than or equal to" is intended, we assume. It is also critical that data be presented in terms of potential total amounts of oil that might be introduced into the marine environment. We request that the latter information be included in the FEIS for better public understanding, and in order to allow more realistic predictions of toxic effects. Predictions of toxic effects need "most likely" and "worst case" estimates of amounts spilled, not fractional spills of indeterminate size.

To conclude that no spill impacts are likely to occur to the Pt. Reyes-Farallon Islands "target areas", and to ignore the threats to the San Francisco Bay counties' coastlines from tanker transportation, or from strong northward flowing currents five months of the year, would be to ignore the historical record and scientific evidence to the contrary.

Whether or not we get a major spill from this proposal, it is certain that increased tanker traffic and additional transfer and refining operations will occur in the Bay area. These will add to the known pollution from on-going operations that are affecting the water quality of the Bay and the air quality of the region.

18b.8

Petroleum hydrocarbons are already above the EPA acceptable limits for the northern bay waters, according to a study on estuarine pollution done at the Lawrence Berkeley Laboratory (2). The frequency of spill incidents at the transfer points is high. The Tiburon Marine Laboratory has shown that petroleum hydrocarbons are one of the substances adding to the stresses that are sickening the striped bass population in the Bay. Many fish are caught with tumors and parasites, and the fishery may be threatened by the pollution levels.

We consider the work done on this proposal as illustrated in the DEIS totally lacking with respect to the discussion of the impacts on San Francisco Bay and the Bay area region from increased tanker transportation, transfer, and refinement operations. San Francisco Bay is the largest estuary system on the Northern California coast, and it has been treated in MMS risk studies as if a line were drawn across the Golden Gate and no Bay environment exists. We expect that specific attention will be paid to the Bay area in the Final EIS on this proposal, since it is a major sensitive area within the proposal's impact zone, given the transportation expectations.

18b.9

Marin is one of the few counties of the coast with extensive wetlands. Both Tomales Bay and Drakes Estero have openings too wide and with currents too strong for any boom-type protection to be of use. The state of the art in oil spill containment and control is such that we cannot expect much oil from a major accident to be recovered before it has irretrievably entered the environment. No real progress in the efficiency of booms or recovery equipment in high sea states has been made over the last ten years. Oil which gets into Tomales Bay or Drakes Estero might be expected to remain for decades trapped in the sediments. Evidence from oil spills in West Falmouth, Massachusetts, and in the estuaries of Brittany, France, and elsewhere is that toxic fractions of petroleum can be retained in the sediments and can continue to pollute the waters and affect the marine communities for years (4). We would like to see specific contingency planning done at the local protection level, such as done in Rhode Island (5).

18b.10

#### Marine Productivity and Cumulative Effects

##### STATEMENTS IN THE DEIS:

Regarding mortality to organisms generally, in the long-term productivity summary on p. 4-244 it is stated "In most cases, impacts would be short-term unless significant long-term changes in the food web occur." Further along it states, "No long-term changes in productivity would be expected."

Under the total development scenario, impact on subtidal benthos, p. 4-218, it is stated, "... there are an expected 800 wells from 30 production platforms within the sale area. As with the most probable case of development, expected impacts in the immediate vicinity of the platforms are expected to be moderate (a significant interference with ecological relationships lasting for less than two years) for soft bottoms and moderate to high (a significant interference with ecological relationships lasting for two or more years) to hard bottoms. Regional impacts are expected to be low. If platforms are concentrated on a hard bottom area, the entire hard bottom area could be altered resulting in a high impact to the area and possible significant (moderate) to the region.

18b.11

Under cumulative impacts, subtidal benthos, p. 4-219, it states, "Especially probable is the construction of concentrated production platforms on or very near several hard bottom areas. If this occurs, regional moderate impacts from pipelines and oil spills probably will remain the same as discussed above, but the chance of significant impacts to benthic communities from oil spills would be increased by an unpredictable amount."

For fisheries resources, p. 4-109 (and substantially the same on p. 4-221), "The cumulative effect of all these stresses on fish populations, particularly fishing pressure, is expected to cause large to very large decreases in fish populations. The very small (insignificant) additional stresses on fish populations that the proposal is expected to add is not expected to significantly harm any fish populations."

4

The conclusion regarding fishery impacts is that the proposal "could result in a moderate impact to fish resources (moderate to high reduction to the population sizes of a few species) if a large oil spill contacts large concentration of salmon, Pacific herring, or northern anchovies. Specifically, although unlikely, the proposal could result in: 1) a moderate reduction in salmon populations lasting 5 years or more; 2) a moderate reduction in Pacific herring populations lasting 3-4 years, and 3) a small 1-2 year reduction in northern anchovy or squid populations."

Serious impact to plankton are described on pp. 4-22, 4-23. The conclusion drawn is that the response of zooplankton is short-term and that "there are seldom any significant prolonged changes in open water near spills." Impacts to plankton were dismissed in the scoping procedure (see p. 1-16) as "localized activities, and from oil spills." Reference is made to the Sale #53 FEIS, and the statement made that since this project has lower resource estimates, "... the impacts to Plankton are considered to be insignificant within the entire proposed sale area."

##### PROBLEMS WITH THESE STATEMENTS:

It is highly questionable whether several years reduction in even one species of an important fishery should be regarded as moderate. From a local or even regional perspective, such an impact would be high if it displaced jobs or forced a fishery operating on the margin to close down.

18b.12

In terms both of damage to the reproductive potential of the fish species themselves and to benthic and planktonic food sources for maintenance of the fisheries, locally significant short-term damage and the potential for overall decreases in marine productivity throughout the region may result from this proposal and from the cumulative effects of this and other petroleum development activities and other sources of marine pollution.

18b.13

The lack of attention to bottom fish and to pelagic fish which feed on bottom fish and to pelagic fish which feed on bottom organisms is indicative of the inadequacy of this assessment.

18b.14

This DEIS makes a fundamental logical error regarding the significance of cumulative effects. The significance of cumulative effects is not in the comparison of this project's contribution to the potential for damage from other sources, it is in the additive nature of these impacts plus the damage that is likely to occur.

If a fishery is already stressed, then the addition of physical and chemical impacts from offshore industrial development which threaten both the fisheries and the food organisms on which they depend, may allow a threshold of toxicity or loss of critical food or habitat factors to be crossed.

18b.15

In population biology, researchers study the "limiting factors" for an organism's welfare. These are the specific needs, for particular food types or sizes, for shelter or reproductive locations, etc., which determine in part why organisms are distributed the way that they are, and size of the population. The assessment of cumulative effects is intended to discover whether the total influence of human activities can cause the loss of species or populations. One way is to determine limiting factors for species and to evaluate the effects of cumulative development on those factors. The analysis is not intended to be used to dismiss each additional activity in a chain of activities because no one stage of development causes impacts that are significant when compared to the whole.

18b.16

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This DEIS totally fails to make any reasonable effort at cumulative assessment from the perspective envisioned under NEPA and the CEQ guidelines: Section 1508.7 "Cumulative Impacts" is the impact on the environment which results from the incremental impact of the action when added to other, past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (emphasis added).

On p. 4-103, the DEIS omits reference to the potentially important secondary impacts on fish resources of the loss of benthic or planktonic food sources. Direct mortality to food sources from an oil spill is noted for one species (herring, see below). In addition, the cumulative effects of chronic pollution, and from drilling muds and cuttings contamination and physical disturbances, could have significant effects on the survival of food organism communities on which marine productivity depends.

18b.17

The lack of modelling of the distribution of spilled oil in the water column or sediments, and the inadequate modelling of the dispersion of drilling muds and cuttings in the marine environment, make any statements regarding the localized effects of toxic substances questionable.

18b.18

At the MMS workshop on dispersion modelling, in February of this year, it was clear that little work had been done on estimating the "far field" fates of drilling muds. Mention was made by Robert Ayers of Exxon Production Research Company that using barium as a tracer the fine fractions of the muds were found in sediment traps 5-6 miles from the discharge during an East Coast study. Other studies in the Gulf of Mexico and Alaska indicate larger areas than this DEIS assumes (i.e. 1000 meters from a platform, p. 4-99).

18b.19

We would like to incorporate by reference the work done by two individuals for the Marin Conservation League's Project Coastwatch, Dr. Thomas Ragland and Diane Kopeck (attached) and the testimony of the latter before the MMS, regarding the toxic elements in drilling muds, formation waters, and petroleum hydrocarbons. In addition, we believe specific attention must be paid to the work of E.D. Tragonza, C.N. Mooers, and others of the Naval Postgraduate School, and Projects CODE and OPU5 in which many California institutions are cooperating, regarding upwellings, plumes, and other gradients in oceanographic conditions which may affect the distribution and fate of toxic substances and their effects on the biota (6).

18b.20

In addition to direct mortality to food organisms of the lower trophic levels (organisms low on a given food chain, usually primary producers, such as phytoplankton, and herbivores, such as zooplankton and various fish species, and filter feeders such as the hydroids, worms, etc.), there are potentially indirect effects from altering the community compositions of these organisms. For example, many fish populations fluctuate naturally in relation to the availability of food of the correct size during critical larval stages. If a major spill or chronic effect shifted the plankton community to species of different size classes, for instance, then those the larval anchovy require during the initial feeding days following spawning, one or more year classes would be eliminated in the areas affected. More information on this critical food availability limiting factor in anchovy population success may be obtained from George Hemingway at UC San Diego. We note the jaw malformation and survival levels for anchovy found in Marine Biological Consultant's work on oil toxicity for relatively low levels (50 ppb) of exposure (7). No reference is made to this work done for the MMS.

18b.21

Reference is made on p. 4-22 to enhanced growth of phytoplankton, but none to the inhibition of photosynthesis. Studies referenced by J.W. Anderson in the API publication

18b.22

6

on laboratory effect of oil and the UN FAO/GESAMP 1977 study show significant effects on photosynthesis of oil or oil fractions at levels found in previous oil spills (1-500 ppm).

18b.22

On p. 4-104 it is noted that an oil spill could cause mortality of organisms on which larval herring feed. "Recovery is expected to take a few (3-5) years at most." No comments on the effect of loss of food organisms for the other two species individually noted (anchovy, squid) are included. The total number of species considered here is woefully inadequate in presenting any realistic picture of what might happen to California fisheries.

18b.23

Regarding the impacts from man-made structures and from effluents and discharges, potential damage to benthic food resources for the fish are not mentioned or estimated. Total loss of benthic areas due to rig emplacement, pipeline laying, physical alterations due to muds and cuttings, and longer-term effects of chemical toxicity from discharges are not estimated, although some quantification of areas of effects are described in the text.

18b.24

With respect to intertidal areas, after mentioning the State sale, Federal sales 35, 48, 68 (omitting mention of Sale #53), vessel accidents, and visitor use of the beaches, the document says on p. 4-219 "Quantification of all these cumulative impacts is impossible." One is forced to assume that the same is believed by the documents' preparers for subtidal benthic impacts.

18b.25

This is not true. A rough estimate of the total area affected can be made, and its implications for the fisheries given. This was done for drilling muds and cuttings in Cook Inlet and for the Georges Bank under MMS contract. Estimates can be made of the areas to be lost from rig emplacement, pipeline laying subsea completions, etc. Although individually each of these effects may be small, cumulatively they may be highly significant, and in specific locations, they may eliminate critical populations.

18b.26

The distribution of benthic organisms is not random over the proposed area. The benthic areas need to be mapped and the principle communities in relation to fisheries' food chains described.

18b.27

We incorporate by reference the work of Mary Lou Biggs which was made part of the testimony of the Coastal Commission (Lists of New and Rare Benthic Invertebrate Species in the Pt. Conception - Pt. Arguello area), and her testimony before the MMS regarding the adequacy of biological research and stipulations for marine invertebrates.

18b.28

Scenarios of possible emplacement of 80+ platforms, 57+ subsea completions, 400+ miles of pipeline, and 2,700 wells (see below regarding cumulative activities considered) in the total southern Santa Maria Basin and the Santa Barbara-Ventura Basin areas can be and should have been developed which locate concentrations (sets of platforms and total number of wells) in plausible locations given the generalized understanding of the geological pools. Possible pipelines, marine terminals, subsea completions, and other facilities can also be mapped for a rough estimate of total areas affected, and for description of potential bottom communities affected.

##### CUMULATIVE ACTIVITIES ASSUMPTIONS:

Table IV.D. 4-1 needs to be corrected and totaled with the proposed activities from Sale #73. The total numbers of reinjection wells should also be given. Forty-seven injection wells were assumed for the 110 development wells on the State sole. How many for this sale? If there are 332 + 1322 = 1654 exploration, delineation, and development wells

7

from other projects, plus 920 possible high estimate wells, plus let us say 10% of the other project development wells as service wells, we are looking at a possible total of 2,700 + wells in the impact area of this proposal, each adding tons of toxic materials to the marine environment.

We note here that the State sale gave 63 million, not 630 million, as the estimated BBO produced, 110 development wells, not 147, plus the 47 injection wells (FEIR, Sale of State Tide and Submerged Lands between Pt. Conception and Pt. Arguella.)

18b.29

A table giving the predicted volumes of effluents and discharges for all offshore oil and gas developments needs to be given in place of the single low estimate (most likely) table given on p. 4-33, and the discussion of the high estimate impact of water quality on p. 4-214. What is the total tannage of each toxic substance in these discharges likely to be added to the marine environment of Southern California from the existing and proposed operations?

18b.30

In addition to the number of spills distinguished by greater or less than certain size limits, both a project estimate and a cumulative estimate of the potential quality of oil spilled into the Central and Southern California marine environments should be given.

18b.31

If this work is done, meaningful predictions of potential damages to marine communities can be made. We can then assess the actual costs and tolerable levels of damage in terms of the potential for recovery of damaged systems and possible thresholds and safety factors.

18b.32

We would like to incorporate by reference the work of Richard Tinney, OCS Director for the Center for Environmental Education, prepared for Project Coastwatch, which includes possible economic value interpretations for the natural resources of the sale area. These range from 40 billion to 30 trillion dollars for only a portion of the resources that could be estimated. Mr. Tinney investigated the scientific market value, deterrent value, and protein equivalence value for some species of marine mammals, sea birds, pelagic fishes, and invertebrates. It is important to note what he did not include: commercial fisheries such as herring, squid, sole, crab, and halibut, whales, any plants, plankton, or insects. These numbers do not include the value of nature-based recreation and tourism. We also note other values, such as the genetic diversity of marine organisms providing raw materials for pharmaceutical research (8). Because of these omissions, these seemingly high values must be seen as low bound estimates of the value of the marine ecosystems of the Lease Sale 73 area. Because they do not include the value of marine resources along the tanker routes, they represent a low estimate of the total value of marine resources at risk.

18b.33

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We are also including a copy of the Project Coastwatch Citizen's Guide to Lease Sale #73 as part of the record of our comments.

REFERENCES

1. Crowe, Fred J. and Richard A. Schwartzlase. Release and Recovery Records of Drift Bottles in the California Current Region 1955 through 1971. ColCOFI Atlas No. 16, Scripps Institution of Oceanography, La Jolla, CA June 1972.
2. Ritschard, R., V. Berg and M. Henriquez. Estuarine Impacts of Fossil Fuel-based Energy Technology: A Case Study. Lawrence Berkeley Laboratory LBL-1314S, Berkeley, CA, September 1981.
3. Dr. Gordon Chan, College of Marin Marine Biology Laboratory, Kentfield (personal communication, Richard Charter, April 18, 1983).
4. We wish to incorporate by reference Sanders, Howard L., J. Frederick Grassle, et al. Anatomy of an Oil Spill: Long-term Effects from the Grounding of the Barge Florida off West Falmouth, Massachusetts, Journal of Marine Research, Vol. 38, No. 2, 1980; and Amoco Cadiz, Fates and Effects of the Oil Spill, proceedings of the International Symposium, CNEXO, France, 1981.
5. Rhode Island Department of Environmental Management. State of Rhode Island Oil Spill Contingency Guide: Protection Strategies for Vulnerable Coastal Features, prepared by the Coastal Resources Center, University of Rhode Island (undated).
6. For example we specifically reference Traganza, E.D. and J.C. Concord. "Satellite Observations of a Cyclonic Upwelling System and Giant Plume in the California Current", Coastal and Estuarine Studies I, American Geophysical Union, 1981, pp. 228-241.
7. See references in Ragland, Thomas E. "Critique of Biological Criteria used in POCS-MMS Final Environmental Impact Statement (FEIS - S3) for Lease Sale S3 and Draft Environmental Impact Statement (DEIS - 73) for Lease Sale 73", attached to these comments.
8. See for a specific example, D.W. Ehresman et al. "Antiviral Substances from California Marine Algae", J. Phycol. 13, 1977, pp. 37-40.

18c

COUNTY OF MARIN:

SPECIFIC TECHNICAL COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE CENTRAL CALIFORNIA OCS LEASE OFFERING OCTOBER 1983 KNOWN AS LEASE SALE #73

This section of the comments submitted on behalf of the County of Marin deals with specific line-by-line and individual topic areas which are included in the DEIS. These comments are to be addressed in the final Environmental Impact Statement for the sale in addition to those concerns raised in the County of Marin Resolution in Response to the Call for Comments on the DEIS, and all attachments thereto.

We request that a specific response to each of these issues to be included in detail in the final EIS for this lease offering. We do not consider a grouping or categorization to be an adequate way of addressing these concerns, and we therefore request that each one be treated and responded to individually in the final EIS:

page number section inadequately-addressed issue follows

page iii. IV. A. Alternative I

If "oil spills are assumed expected when the Oil Spill Analysis Model predicted a 25 percent probability or greater of one or more spills occurring and contacting land segments or targets." then why does the DEIS not look more closely at the direct biological effects of these "assumed" spills as well as the cumulative effects of a number of medium or even small oilspills on the marine life of the sale area.

(same page reference as above)

Physical Environment. In this section, particularly because it is essentially the Executive Summary for this decisionmaking document, the problem of air quality impacts should be quantified in some way. The assignment of the term "moderate" without defining it anywhere but in the index of the DEIS is misleading. "Moderate" as utilized here should be defined with more specificity. Some further description is necessary here of the emission controls which would "reduce the predicted impacts to low".

18c.1

(same page reference as above)

Biological environment. Please include number of individual animals in this section of the final EIS so that the reviewer or decisionmaker can gain some idea of how many individuals of a species are at risk in any of these relatively high-probability scenarios which you have mentioned here. High impacts such as 2-15% of mortality of the California population of certain seabird species, and a 25% mortality of the California population of the California northern fur seal deserve to be presented here in actual numbers of animals and so included in the FEIS document.

(same page reference as above)

Socioeconomic Environment. Please define "small use adjustments" as utilized here as well as a more specific determination of what the term "high" means in relation to impacts to water supply systems in the proposed sale areas. Does this mean a serious overdraft of the existing water supply system? Possible overdraft of groundwater supplies? Pressure to build new reservoirs? Ground subsidence?

(same page reference as above)

Socioeconomic Environment. Further definition of the specific kinds of impacts to Port San Luis should be included in the final EIS section on Alternatives. Would an

expanded breakwater be necessary to accommodate the type of uses associated with OCS activities? Would fill and rip-rap pads need to be constructed to allow OCS bases adequate yard and storage areas?

iv. IV. Comments. The DEIS comment period and the location and format of any public hearings would be a total mystery to anyone reading this document with an interest in participating in the pre-lease planning process or providing comments on the proposal. Likewise, the reader would have no way of knowing where to send written comments or what the deadline for receipt of such comments might be. Disagreements in the cutoff date for signing up to testify at the public hearings occurred between the Federal Register Notice and the Pacific OCS Office Newsletter which were the only other public notice of the format and timeframe for public comment. This disagreement in what little notice provided by MMS created erroneous deadlines and confused the public, further undermining the public access to the input process preceding this leasing action. The fact that the DEIS itself (as the document under review) contained none of this information on the review methodology or review period further complicated the process for interested members of the public and for local governments who were sent a copy of the DEIS but who are not mailed either the POCS Newsletter or the Federal Register.

18c.2

page 1-1. Chapter I. I. Purpose and Need for Action. Here it is stated that "The purpose of this environmental impact statement (EIS) is to aid in fulfillment of Section 102(2)(B) and the requirements of the National Environmental Policy Act by making environmental information available to public officials and citizens before decisions are made with respect to Proposed Sale No. 73." Stating this in the beginning of the document does not make it a fact. The lack of scoping meetings as requested, the lack of adequate notice (as identified in iv.IV. above) of the nature of the public comment period, the shortened comment period of only 45 days instead of the required 60 days, the three simultaneous hearing processes combined into only one hearing location which was not an affected coastal community, and the fact that inadequate alternatives have been included in the DEIS are all factors which point to the insincerity of efforts to conduct an open and accessible public input process as required under the provisions of NEPA, the CEQ guidelines, and the OCS Lands Act and Amendments.

18c.3

page 1-4. 7. Section 7 consultation. A separate Section 7 consultation for this leasing proposal will be necessary which is independent from that conducted for OCS Lease Sale #53, due to the new areas proposed for leasing, particularly nearshore off of Pt. Buchon and Morro Bay where leasing is proposed immediately adjacent to the kelp forests which are the habitat of the California sea otter population. In addition, particular attention should be given during this new endangered species consultation to the areas, such as offshore areas near Pismo Beach, which are important to the range expansion of the otter population.

18c.4

page 1-6 through 1-13. In the portions of this subsection which delineate the regulatory framework for the proposed leasing action, significant editing appears to have taken place since the formulation of the FEIS for the previous OCS Sale #53. Most references to the role of an individual state have seemingly been omitted, as have references to the local government role. References to state and local roles have been carefully edited and either deleted or rephrased in ambiguous language. The actual line-by-line text of the relevant sections of both the OCS Lands Act and Amendments and the Coastal Zone Management Act should be included here in the final EIS on Sale #73 instead of the edited text now included in the present DEIS.

18c.5

page 1-12. CZMA consistency consultation with the State of California must be



conducted by the Department of Interior to ensure that the act of leasing tracts is consistent with California's Coastal Zone Management Plan (CZMP). The proposed leasing action may not proceed until the State of California has concurred with the consistency determination made by the Department of Interior.

18c.6

page 1-13. Categorization only of issues raised during the written scoping process and inclusion in the DEIS of the issues raised only as categories is not an adequate manner of dealing with these concerns. It appears that the DEIS itself was in fact already written and finalized prior to the written scoping process. The fact that the legally-required scoping meetings were not held at all even after repeated requests by numerous agencies and individuals is also an indication of the lack of an adequately conducted and implemented scoping process. Local government concerns do not appear to have been considered in the formulation of the DEIS at all.

18c.7

page 1-14. I. Scoping Issues for Proposed Sale No. 73. A. General Issues. 1. Paucity of knowledge of water circulation offshore California. This critical topic continues to be a problem, and one which is not dealt with adequately in the DEIS. The continuing problem lies in the fact that little is known about the nearshore and offshore ocean current patterns off the coast in the area proposed for leasing. Relevant studies which are now underway on behalf of the Minerals Management Service will not be completed until after all major decisions on this leasing action have passed.

18c.8

page 1-14.ii. Biological Environment. A number of these issues remain unresolved in the DEIS, primarily because key Minerals Management Service Environmental Studies remain uncompleted and will not be completed in time to be taken into account in the FEIS. These studies include a) The Commercial and Sport Fishery Oil Toxicity Study, The Northern California Risk Assessment, The Marine Mammal and Seabird Study for Central and Northern California. It appears that these studies, which bear on most of the concerns expressed in the "Biological Environment" section of submitted written scoping comments as categorized here will remain unaddressed in the FEIS due to the inadequate database available with which to make meaningful decisions.

18c.9

page 1-15. Social and Economic Environment. A. General Issues. 1. Under the discussion of displacement of industry and change of character of less developed or rural areas, some more objective analysis should be included in the final EIS. The DEIS throughout is prone to making quick but nonobjective value judgement about such factors as the detrimental impact of oilspills on the tourism industry, or about the degree of visual degradation which drilling rigs would introduce in an otherwise pristine natural vista. A more realistic assessment of factors such as these must be part of the final EIS.

18c.10

page 1-16. Listed issues at the top of this page are supposedly treated elsewhere in the DEIS, but no reference is made to the location of their discussion, and in fact a number of these important topics do not appear to be treated anywhere in the DEIS at all. Cross-referencing as to where these topics are covered in the text are necessary in the FEIS.

18c.11

(same page as above)

Plankton. Impacts on Plankton are understated here and there is no substantiation here or elsewhere in the text for these arbitrary conclusions. If "the possible greater impacts to planktonic larvae of certain fish and benthic invertebrates is discussed elsewhere in the DEIS" how does this assumption coincide with the previous statement that "impacts on Plankton would be localized and short-term from hydrocarbon explorations and development activities"?

18c.12

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page 1-17. Additional alternatives must be included in the final EIS. These additional alternatives must include one which addresses deletion of all of the approximately fourteen nearshore tracts which lie between the state tidelands and the tract areas leased under the previous OCS Sale #53. An additional alternative must be included in the final EIS which addresses deletion of all tracts to the north of the line between Row N808 and Row N809 of the Universal Transverse Mercator Grid System (UTMGS). Both of these alternatives, or a combination of the two, would provide significant enhanced protection for sensitive biological features including Morro Bay, Pismo Beach, intertidal communities near Pt. Buchon, and the range of the California sea otter. Item 2 indicates that a six mile buffer was considered to address increase mitigation of air quality impacts, but makes no mention that the additional advantages of a biological nature which would be afforded by this or a similar alternative were even considered before such an alternative was rejected out-of-hand. The rejection of an alternative to defer leasing of tracts with potential geohazards appears to counter the lack of geohazards knowledge created by the recent abandonment of pre-lease geohazards studies prior to offering tracts for lease. Considering the presence of the offshore Hosgri fault system which runs right through the area proposed for leasing, rejection of an alternative which would defer leasing of tracts with potential geohazards without any analysis of this alternative seems premature at best. This alternative should also be included in the FEIS.

18c.13

page 2-1. Nowhere on this page nor anywhere else in the DEIS is the actual physical delineation of the specific areas proposed for leasing included. Instead, a 360-tract area is generally described, but it is not indicated that this 360-tract area also includes tracts which have already been leased as well as tracts currently under injunction due to pending litigation. A good quality, detailed map of the actual tracts and their numbers and a graphic overlay of which ones are proposed for leasing must be included in the FEIS, for no such map appears in the DEIS, making it inadequate.

18c.14

page 2-3. 3. Statements that the RAC estimates comprise information from the entire OCS area, including State waters and leased federal OCS, do not allow the reviewer to get any idea just what approximate percentage of the RAG estimated resource is likely to a part of the tracts proposed for leasing in this sale. This makes any realistic cost-benefit analysis impossible.

18c.15

page 2-4. Most likely resource estimate. More information about how these resource estimates were evolved from the RAG estimates is needed in the final EIS. This is especially true because most of the development assumptions and timetables, and therefore the impact analysis, is predicated on these assumptions of resource potential. If the RAG estimates, for instance, are off significantly, then the error factor increases by several orders of magnitude for some assumptions made as a basis for this DEIS.

18c.16

page 2-4. c. Development timetables. The drilling of only 12 exploratory wells throughout the entire proposed sale area seems an unrealistic figure in light of the recent experiences with the exploratory scenario for OCS Sale #53. The likely number of platforms and development wells seems understated here in the DEIS, and should also be presented in the FEIS in conjunction with the anticipated development scenario for the Sale #53 tracts which are adjacent to those currently proposed for leasing.

18c.17

page 2-6. If continual references are going to be made in the text of the DEIS to

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the "Yamasaki 1983" document as a basis for conclusions made in the DEIS, then some executive summary or other synopsis of this document should be presented in the final EIS for reference. The Yamasaki 1983 paper is not readily available, has not been made available to all persons who requested it in a timely manner during the DEIS review period, and plays a key role in most conclusions on this page. This oversight should be corrected in the FEIS.

18c.18

(same page as above) The DEIS fails to mention the longstanding policy of the State of California that OCS leasing should go forward only in those areas where produced crude could be transported by pipeline. Clear delineation of this policy should be a part of the FEIS and the FEIS should also include some mention of which areas of the Sale #73 tracts proposed for leasing are likely to meet this policy criteria.

18c.19

page 2-8. The Biological Stipulation mentioned here has not been successful in protecting unusual, rare, and uncommon ecosystems or ecotones in the Sale #53 experience. An expanded and strengthened Biological Stipulation should be included in the FEIS which uses as a basis some of the lessons learned from experience with new and unusual species in areas of Lease Sale #53. Much has been learned about the biological significance of this particular central California area and its importance as a biological transition zone created by the mixing process which occurs here between the cold northern waters and the warmer waters of southern California. Some of this knowledge should be incorporated in the FEIS on this new sale.

18c.20

page 2-15. Fisheries Training Program Stipulation. This is a very important stipulation and is treated in the DEIS with only a short one-paragraph "Evaluation of Effectiveness". A more thorough discussion in the FEIS should be included.

18c.21

page 2-16. i. Physical Environment. The degree of degradation of water quality should be quantified here directly as part of the text. Referring the reviewer to an Appendix tends to gloss over the actual meaning of the terminology utilized. This should be corrected in the FEIS.

18c.22

(same page as above) Air Quality. Again, the degree of impact relative to baseline conditions should be delineated as part of the discussion at this point in the final EIS.

18c.23

(same page as above) Subtidal Benthos. Here, the degree of impact is quantified to some degree in the text.

18c.24

page 2-17. Public Services and Facilities. The statement is made here that expected impacts to water supply systems would be high for the proposed sale area. What percent of overdraft of local systems? in Morro Bay area? in the Pismo Beach area? in the northern Santa Barbara area?

18c.25

(same page as above) Commercial fishing. The FEIS should state the approximate percentage of the geographic area of the proposed sale which would be closed to commercial fishing activities by the combination of this sale and Lease Sale #53-derived activities. The discussion in the DEIS is far too general to cover this important topic. Considered in this analysis should be the entire exploration and development scenario, including drillships and anchor cables, fixed platforms, OS&T's and pipeline rights-of-way which might interfere with fishing activities.

18c.26

(same page as above) Visual resources. The statement is made in the DEIS that "the proposed development would have a low impact (minor degradation in visual quality;

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most people accept the change, etc.). No basis for this arbitrary statement is given, nor is any explanation given for the phrase "most people accept the change". Has the Minerals Management Service conducted some sort of public survey upon which to base this statement? If so, the documentation should be included in the FEIS

18c.27

(same page as above) Ports and Harbors. The DEIS projects high impacts to Port San Luis. The official policy recently adopted by the Port San Luis Harbor Commission prohibits most of the uses envisioned for this port in the DEIS. The final EIS should address in some manner some other proposed ports where this activity may be expected to be diverted.

18c.28

page 2-18. Page 2-18, as is the case with a number of other pages within the DEIS, does not appear to be a continuation of the page before it. Page 2-18, does, however, start out with what appears to be an important statement about something, and the full text of the first paragraph of page 2-18 should be included in the FEIS.

18c.29

page 2-19. Marine Traffic. If the statement that low impacts to marine traffic in the central California and Santa Barbara Channel areas would occur as a result of this sale is going to be presented here as a conclusion in this manner, some discussion of the current status of planning for established vessel traffic lanes should be included in the FEIS at this point. Except for the Santa Barbara Channel itself, such lanes have not yet been established and are not planned for final designation at any time in the near future.

18c.30

(same page as above) The statement is made in the DEIS that existing platforms in the sale area are confined to the Santa Barbara Channel area. This does not in any way address the certain fact of new offshore structures in the Sale #53 tracts off of Pt. Arguello, Pt. Sal, and Pt. Conception.

18c.31

page 2-22. 4. The DEIS makes the statement that "Changes to the Physical, Biological, and Socioeconomic resources over the next 25 years without the proposal and future OCS Lease Sales, would still occur." and refers the reviewer to another portion of the DEIS document.

18c.32

(same page as above) ii. Biological Environment. Intertidal Benthos. This section also uses "normal" impacts to the marine environment which would be expected to occur without the sale as a justification for minimizing the biological effects of the sale. These statements, as well as those in the preceding section which refers to agricultural runoff, do not take into account upgrading of existing sewage treatment facilities, federal "Clean Water" projects, or changes in the use of agricultural chemicals which might affect this conclusion as stated in the DEIS.

18c.33

page 2-23. Marine Mammals. Again, marine mammals are assumed to suffer impacts from everything from sewage to changing climatic conditions along the coast. The fact that spilled oil on the surface of the ocean is the real hazard to many of the species of marine mammals (particularly the southern Sea Otter) should be mentioned.

18c.34

(same page as above) The reference to rails as secretive animals with little remaining habitat should be expanded in light of the fact that they are among the endangered and threatened species.

18c.35

page 2-24. Pt. Reyes/Marine Sanctuaries. Some comparison of impacts to the Pt. Reyes National Marine Sanctuary with and without the sale should be looked at in the FEIS, since approximately 25% of the crude anticipated to be produced during Sale #73

18c.36

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operations is projected to be tankered to the San Francisco Bay Area.

page 2-25. Comparison of Alternatives and Impacts. The range of alternatives presented in the DEIS is inadequate. The FEIS should address at least two additional alternatives in addition to those presented in the DEIS. One alternative should assess the option of deleting all tracts off of Morro Bay as well as off of Avila, Pismo Beach, and northern Santa Barbara County which lie east of those tracts proposed for leasing or which were leased under OCS Lease Sale #53. This "nearshore tract deletion" option would involve approximately fourteen tracts (including partial tracts) and could serve to significantly improve the protection of critical fishery areas, nearshore biologically significant habitats (including a portion of the range of the threatened California Sea Otter), the important estuary at Morro Bay, and extensive sensitive intertidal resources in the Pt. Buchon area. A second additional alternative should be included in the FEIS which addresses deletion of all tracts which lie to the north of the line between Row N-808 and Row N-809 of the Universal Transverse Mercator Grid System (UTMGS) to protect the estuary at Morro Bay, the intertidal areas off of Pt. Buchon, and the range of the threatened California Sea Otter.

page 3-8. The statement is made in paragraph 4 that "Nearshore current data for most of the Central California coastline is lacking," but elsewhere on this page a detailed explanation of the behavior of these currents is included. This discussion should clearly indicate in the FEIS a visual or graphic of what is known about nearshore current patterns along the entire west coast, including the Oregon and Washington coastlines.

(same page as above) In the final paragraph on this page the reliability of drifter studies is questioned because of the limited numbers of releases, but no mention is made of the fact that of the drifter studies which have been done, a strong similarity of findings has resulted from a number of independent study efforts. This replication indicates reliability of data.

page 3-15. This page fails to note wetlands and estuaries of importance such as those associated with the mouths of the Santa Ynez River, Santa Maria River, the Big Sur River, the Little Sur River, the Carmen River, and the Salinas River.

page 3-16. Paragraph 5 on this page states that radioactive waste dumping has occurred in central California waters. A very specific analysis should be included in the FEIS which develops an additional alternative which would allow for the deletion of tracts within a broad radius of the known radioactive dumping area which is located within the Sale #73 tracts proposed for leasing.

page 3-18. Manganese is spelled "Manganese" in the DEIS.

page 3-20. This map (figure III.A.7-1) should be included in the FEIS with an overlay of the Sale #73 tracts for reference.

page 3-37. Table II.B.3-1. The section on Petrale sole on this map identifies a spawning area off of Pt. Sal. This area should be delineated on a map in the FEIS with an overlay of the Sale #73 tracts.

page 3-40. The Figure III.B.4-1 should be overlaid in the FEIS with the Sale #73 tracts.

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page 3-45. Figure III.B.4. This chart should be overlaid with the Sale #73 tract map in the final EIS.

page 3-78. Shrimp. The FEIS should locate the important spot prawn fishery which is referred to off of Morro Bay and Avila on a visual or graphic and delineate its location in relation to tracts proposed for leasing in Sale #73 and include this visual in the FEIS.

page 3-83. Paragraph three should include the Pismo Beach, Grover City, and Avila areas in its naming of tourist/recreation centers of importance when the FEIS is prepared.

(same page as above) Paragraph four should focus specifically on the tourism industry within the sale area on a more local basis, in addition to the DEIS analysis.

(same page as above) Tourism. This section seems to be biased in the DEIS by attempting to understate the value of tourism to a coastal area. By attempting to diminish the apparent tourism values by trying to justify deletion of meetings, and other activities, the desirability of the coastal environment and ambiance for meetings is not taken into account.

page 3-84. Underestimating the multiplier effect of tourism-derived income to the local economy by stating that the tourist industry serves the resident population as well could enter significant errors of magnitude into the conclusions of the DEIS. The final EIS should recognize that many businesses in a coastal-tourism-based community exist only because of the need created by the coastal tourism trade (this is obviously true for motels but still applicable in the case of stores and restaurants) and that these businesses would not have been established without the demand. If the demand were to cease to exist, the businesses would also cease to exist. If one summer season were to be impacted significantly, a number of these businesses would face bankruptcy.

page 3-85. Table II.C.8-1. Value of tourism in central California coast (1979). This table speaks to tourism values which are in many cases far away from the tracts proposed for leasing. The FEIS must include a similar chart which focuses in, community-by-community, on the shoreline communities which would be directly affected by being in the immediate vicinity of OCS activities, such as Port San Luis, Avila, Pismo Beach, Grover City, and others.

page 3-90. Paragraph three. What is the new projected timeframe for establishment of specific vessel-traffic zones off the coast of central California and what geographic relationship do these vessel-traffic lanes have to tracts proposed for leasing. There seems to be a serious unaddressed conflict between vessel traffic and areas proposed for leasing, particularly in the northern end of the Sale #73 tracts.

page 4-2. Table iv.a.1-1 This visual should also contain the range of possible resource estimates (low, medium, high, conditional mean) in the FEIS.

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page 4-2. Table iv.a.1-1. This visual should also contain the range of possible resource estimates (low, medium, high, conditional mean) in the FEIS. Inclusion of only one set of data creates the illusion of the existence of higher resource potential than is likely to actually exist.

page 4-6. Figure IV.A.4-1. The DEIS version of this map should have an overlay showing the sea otter range as does Figure IV.A.4. on page 4-7.

page 4-20. The assumptions presented in this section regarding the chance of spills contacting the sea otter range are not adequately explained in the DEIS.

page 4-21. B. Effects on Marine Life. The information presented in this section does not reflect the present level of scientific data on chronic and sublethal effects of petroleum hydrocarbons in the marine environment. Concentration of these materials in the food chain, biomagnification, and related issues should be thoroughly addressed in the FEIS.

page 4-22. References in paragraph four to toxicity data for short-term (4-day) LC50 ranges should indicate also the effects of levels lower than lethal and their effect on life cycles and overall marine productivity in the final EIS.

page 4-27. Historic problems with mud mounds interfering with commercial fishing operations should be a part of the discussion of this problem in paragraph three. The DEIS treats the mud mound problem as if it is a hypothetical one, and the FEIS should do better.

(same page as above) Paragraph 5. Although the physical presence of the exploratory drilling rig is temporary, developmental drilling rigs are not as temporary but will spatially preclude fishing activity for a lengthy period of time.

page 4-28. Mud mounds are also sometimes a problem which results from Subsea pipeline installation and should be mentioned in this discussion in the FEIS. The mud mounds are not a temporary feature and can have in the past excluded large areas from fishing activities to the long-term detriment of the overall productivity of the fishery.

page 4-41. This subsection should categorize all of the onshore areas to be immediately impacted by the sale proposal as either attainment or non-attainment for all measured air pollution components. The San Francisco Bay Area should be included in this analysis since a significant portion of the produced crude is assumed to be tankered to this area. There should be a thorough consideration of these factors in the FEIS.

page 4-53. Paragraph five. The feasibility of containment and mechanical cleanup and the circumstances under which it is infeasible or ineffective must be mentioned at this point in the FEIS. This discussion should include discussion of capabilities

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and deployment conditions possible for booms, various types of skimmers, and discuss the biological hazards of chemical dispersants.

page 4-62. Figure IV.C.2-1. This figure purportedly showing state tidelands oil and gas sanctuaries is out of date. More extensive state tidelands oil and gas sanctuaries now exist.

page 4-72 and 4-73. There is no scientific evidence for the statement made in the DEIS that "The low (slight elevations in turbidity trace metal concentrations, hydrocarbon levels, COD, etc.) and moderate level (higher conc.) impacts to water quality are expected to disappear within a few hours after cessation of mud dumping." Recognition should be given here in the FEIS that a large body of scientific opinion indicates that these substances may travel long distances over long periods of time and are likely to accumulate in "sinks" at the lower end of subsea canyons.

page 4-74. Some indication should be given in the FEIS in this chart of the levels above ambient for these materials which can be expected in the areas of highest concentration as a result of combined cumulative effects of OCS sales #68, #53 and #73.

page 4-76. More substantiation for the assumption that one spill greater than 1000 barrels will occur as a result of proposed Sale No. 73 should be given.

page 4-78. Some basis for comparison to assist the reviewer in comprehending the very large quantities of discharged materials which are being discussed here would be useful. The FEIS should address the numbers presented in the DEIS discussion relating to sediments moved during pipeline placement and quantities of formation water in some kind of relative terms which the layperson could understand.

page 4-83. The information presented in this subsection of the DEIS indicates that there is a high likelihood that a radioactive dump site is likely to be contacted by drilling in the Sale #73 area. This could present a very significant hazard to the fishery, to personnel on the drilling rig, and to the overall fishery economy of the region. A new figure or graphic should be prepared for the FEIS which indicates what the location of these nuclear waste dumps might be in relation to the tracts being proposed for leasing under OCS Lease Sale #73.

page 4-83. Total confidence is placed in the DEIS discussion that the nuclear waste canisters will be located by the operators site survey prior to commencement of drilling activities. This assumption is the basis for the conclusion in the DEIS that "This will reduce the potential very high impact to very low." The discussion of potential conflicts with nuclear waste disposal site which might result from drilling activities or other OCS activities should be more thoroughly addressed in the FEIS for it to be considered adequate. This topic certainly deserves more discussion than one or two paragraphs afforded it in the DEIS.

page 4-85. A more complete discussion of the results of tracer studies done by consultants to the Minerals Management Service should be included in the FEIS. Implications of these tracer studies for information in the DEIS, this section should be updated in the FEIS. Of particular interest was the observation that pollutant clouds travel onshore relatively intact and do not disperse over a wide area in the manner which has long been assumed to be the case.

page 4-94. A detailed discussion in paragraph two of the particular kinds of

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disturbance to the structure of the intertidal zone which are anticipated should be included in the FEIS. 18c.75

page 4-95. Paragraph three indicates that high ecological losses to rocky intertidal areas cannot be positively ruled out and that this would be particularly true in the event of multiple spills hitting the same area before reproductive recovery has been obtained. What is the likelihood of this specific sequence of events occurring in relation to Lease Sale #73? A discussion must be included in the FEIS of these probabilities. 18c.76

(same page as above) Paragraph four discusses the hypothetical recovery time for impacted communities which suffer from a high ecological loss. Some estimate of the range of recovery times for these areas should be included in the FEIS. 18c.77

page 4-98. What substantiation is there for the statement to the effect that "no spill is expected to contact the islands themselves"? This should be documented and substantiated in the FEIS. 18c.78

page 4-100. Paragraph two. The statement that platforms could alter the assemblages on hard bottoms for a radius of 100 meters seems to counteract the statement made in the third paragraph that the highest impacts from drilling muds and cuttings to hard bottoms will be in those areas where the currents are weak. Stronger currents would seem to have the potential to carry waterborne materials from the discharges further and therefore spread the impacts over a larger area. Recent studies on the east coast indicate that discharges have been detected up to six km. from the point of discharge. This information should be included in the FEIS. 18c.79

page 4-103. Paragraph six indicates that various impacts could occur to fishery stocks. A higher resolution look at the areas in the immediate vicinity of Sale #73 tracts which are proposed for leasing is in order in the FEIS. This section in the DEIS is too broad. Analysis should include spawning areas and high-yield fishery tracts. 18c.80

page 4-104. Paragraph three. Anadromous fishes. The use of chemical cues by Anadromous fishes should be addressed in more detail in the final EIS. Low levels of pollutant materials in the water column which result from OCS discharges of muds and cuttings should be addressed as potential masking agents for these important chemical cues. The chemical cues may be critical to particular life-stages, such as homing in on a spawning area, which could affect the overall viability of a species. 18c.81

page 4-111. Assumptions made in the section on sea otters in the DEIS do not take into account the differences in habitat within the sea otter range when assigning the risk-per-coastline-segment to the otter population. Assuming a certain fixed number of animals per mile of coast is not taking into account the localized nature of the kelp forest canopy and the otter's preference for certain habitats. 18c.82

page 4-114. Human Activity and Noise. More discussion of the various types of noise intrusion which can be introduced to the nearshore environment and to the coastal environment should be included in the FEIS. The effects of startling caused by noise and human intrusion on feeding and other behavioral patterns of seabirds and marine mammals should be covered in this section. The results of recent studies of the conflicts between seismic survey vessels and fishing activities, and the recent conflicts of seismic activities with the migration of the California Grey Whale should be addressed in the final EIS. 18c.83

page 4-116. The discussion here of the potentially toxic effects of discharged drilling muds is not adequate. The FEIS should present the state-of-the-art data on drilling muds discharges, including indications from the recent Georges Bank study indicating bioaccumulation of drilling mud components in marine organisms. 18c.84

page 4-118-119. The discussion of impacts on seabirds is generally inadequate. A number of impact categories have been ignored altogether, and impacts which are addressed are underestimated. 18c.85

page 4-122. The statement is made in paragraph four that nesting sites of most birds are not vulnerable to oil. Some mention should be made of inadvertent contamination of the nest and young by the oiled parent bird. 18c.86

page 4-123. Paragraph three states that "Repeated disruption may cause abandonment of a rookery by sensitive species." Abandonment of a rookery could have major impact on certain species if the rookery is a major one and significant to the survival of a significant portion of the species' overall population. This may be the case with the least tern and perhaps with other species as well. 18c.87

page 4-131. ii. Cumulative: In discussing the impacts which will occur without the sale, no account is taken of probable future improvements in the level of sewage treatment or of probable changes in the configuration of tanker traffic from activities other than this specific sale such as Sale #68 and Sale #53. The ominous statement is made that "Others face extinction over the next 25 years." Which species face extinction? 18c.88

page 4-132. The statement at the top of this page is ambiguous and indicates a severely inadequate base of data upon which to consider threatened or endangered species in pre-lease decisionmaking. Please elaborate in the FEIS and include degree of spill risk in percentages from various source activities including Sale #73. 18c.89

page 4-133. Paragraph four. Discuss the wave energy specifically within Morro Bay and the effect that this is likely to have on any oilspill contacting Morro Bay and its residence time, in the FEIS. 18c.90

(same page as above) Paragraph five. Destruction of Pickleweed in salt marshes should be discussed as a component in the extinction of the endangered black and clapper rails. 18c.91

page 4-134. Paragraph seven. The wave height range at the entrance of Morro Bay and any special limitations on deployment of booms at this entrance should be addressed here, since it is one of the primary entrances of concern. It also leads to Morro Bay, the estuarine environment of most concern because of its importance to the overall ecological balance of the region. Numerous boating accidents have occurred due to the treacherous wave configurations which result from the nature of this particular entrance. There are those who think that this estuary could not be boomed at all on any but the calmest of days. If this is true, then Morro Bay is at an unacceptably high risk from leasing in its vicinity. 18c.92

page 4-135. Paragraph six. Oil Spills. There is no basis for the statement made here that no spills are expected to enter an estuary within the Proposed Sale Area, and that significant impacts are not anticipated. The FEIS should document this assumption if it remains in the FEIS. 18c.92

page 4-138. Paragraph five. The conclusion in the DEIS that information provided from the Santa Barbara spill indicates a recovery time of less than a year is erroneous. Carefully documented studies conducted on long-established transects on Duxbury reef off the coast of Marin county after a Chevron tanker spill in the early 1970's indicated that five years after the spill some species had not recovered. (Chan). 18c.93

page 4-140. Paragraph seven indicates that impacts to the Farallon Islands and the Pt. Reyes-Farallon Islands National Marine Sanctuary could experience a spill due to tankering. Since 25% of the produced crude is anticipated to be tankered to San Francisco directly through the waters of the Sanctuary and in close proximity to the Farallon Islands, more than one short paragraph should be devoted to these potentially severe impacts on seabirds and marine mammals in the FEIS. 18c.94

page 4-141. ii. Conclusions. Impacts to the Point Reyes/Farallon Islands Marine Sanctuary dismissed as not expected to occur due to the proposed action is an unsubstantiated allegation with no basis in statistical fact. Please explain how this conclusion was reached in the FEIS discussion in light of the fact that 25% of the produced crude is anticipated to be tankered to San Francisco. 18c.95

page 4-149. Paragraph six. Development. To what degree and approximately what percent of the time during which activities does water demand exceed a platform's desalination equipment? Discuss this factor of importance to coastal communities in more depth in the FEIS. 18c.96

page 4-151. Paragraph three. Address the question of where additional railroad sidings would be necessary in greater detail in the final EIS. 18c.97

(same page as above) Paragraph seven. Port San Luis is assumed here to be utilized as a crew base. This statement does not take into account recent policy decisions made by the Port San Luis Harbor Commission excluding crew base uses from Port San Luis. 18c.98

(same page as above) Paragraph eight. Indications that Santa Barbara county is overdrafting its water supply should be addressed in conjunction with cumulative water demands anticipated from all OCS operations anticipated as a part of Sale #68, Sale #53, and Sale #73. The degree of potential for subsidence, salt water intrusion, a lowering of the water table should be assessed. 18c.99

page 4-153. section d. Impact on Coastal Land Use. This section indicates some obvious direct effects of the act of leasing tracts upon the land and water uses of the coastal zone of the State of California. Compliance with local LCP's of projected land-use classifications and uses is not quantified in the DEIS and should be a part of the FEIS. 18c.100

page 4-156. All paragraphs. All of these items indicate a change in land uses which will be directly precipitated by the leasing action in an irrevocable manner. This factor needs to be addressed in the FEIS. 18c.101

page 4-158. Again, this information should be updated to reflect the current policies of the Port San Luis Harbor Commission that Port San Luis is not to be utilized as a crew base. 18c.102

page 4-159. Locations of potential platform fabrication yards which are mentioned in paragraph two should be addressed. 18c.103

(same page as above) e. Impact on Commercial Fisheries. i. Commercial fisheries economic impact analysis conducted in conjunction with the FEIS should look at a realistic multiplier. The multiplier effect in the local economy is likely to be higher for the commercial fishing industry than for the tourism industry, but the DEIS mentions no multiplier at all for the fishing industry. 18c.104

page 4-161. Paragraph three. The statement is made that parts of the sale area have sediments similar to sediments near the Southern California pipeline which has created the fishing conflicts due to mud mounds. The FEIS should delineate which parts of the sale area are likely to present this conflict and indicate their proximity to important fishing areas. 18c.105

page 4-162. Paragraph four. What is the substantiation for the statement that impacts to the commercial fishing industry as a whole are expected to be low (less than 10 percent economic loss to the industry)? Are certain portions of the fishing industry likely to experience a higher degree of damage than others as a result of OCS activities? 18c.106

page 4-163. Paragraph five. What is the basis for the arbitrary conclusion that OCS crew and supply boats could anchor and moor in Port San Luis without causing conflicts between fishing vessels? Substantial numbers of vessel trips are assumed for Port San Luis elsewhere in the DEIS. these factors should be brought into agreement in the FEIS. 18c.107

page 4-164. Paragraph one. Why would development costs be high? 18c.108

(same page as above) Paragraph four. Define "small" as used here. 18c.109

page 4-168. Paragraph five. Pipeline installations. Conflicts between sportfishing and pipeline-laying operations should be explored in more detail. 18c.110

(same page as above) Paragraph seven. Vessel collision hazards introduced into the sportfishing equation should be discussed in the final EIS. 18c.111

page 4-172. Paragraph six. The possibility of a break occurring at the landfall end of a pipeline should include the possibility of deliberate acts of vandalism. 18c.112

page 4-174. Paragraph eight. Impacts from noise should be treated in more detail as they may have a significant impact on specific biological communities in the area of the source of noise. 18c.113

page 4-176. Paragraph seven. h. Impact on Tourism. More detailed dollar values of tourism associated with coastal communities in the immediate sale area should be a part of the FEIS analysis, broken down on a county-by-county basis and where the data is available, on a community-by-community basis. 18c.114

page 4-177. Paragraph five. Please justify the conclusion that the resulting degradation in visual quality of the proposed sale area as is stated in Section IV.E.3.i. would tend to discourage people from visiting the locations where the onshore facilities are sited only on a temporary basis. 18c.115

page 4-189. Paragraph five. Here it states that twenty-five percent of the crude oil produced in the southern Santa Maria Basin would be tankered to San Francisco resulting in a total of 39 round trips per year from Gaviota to San Francisco by a 27,000 DWT tanker, for a distance traveled in the peak year of 211,200 miles. What 18c.116

does all of this tankering do to the risk analysis performed to assess risks to the population and range of the California Sea Otter.

page 4-199-200. The advantages of this option (adoption of alternative II) are clearly understated in the DEIS. An additional alternative should be included which addresses the deletion of nearshore tracts off of Pismo Beach and northern Santa Barbara County, as well as a second additional alternative which addresses deletion of tracts north of the line between Row N-808 and Row N-809 of the UTMS Grid System. 18c.117

page 4-210. Paragraph eight. What constitutes a slight reduction in the quality of a visual resource? What objective criteria is the preparer of the DEIS utilizing to support this conclusion? 18c.118

page 4-215. b. Impact on Ocean Dumping. 1. Discussion. Again the probability that a bottom survey prior to exploratory drilling will locate all containers of nuclear waste including those which have been buried or carried by the currents seems low. Discuss this matter in this section of the FEIS. 18c.119

page 4-219. Paragraph six. iii. Cumulative impacts in the Sant Maria Basin on intertidal and other resources are not adequately addressed. Likewise with the probability of impacts to hard-bottom benthic habitats which are likely to contain rare and unique species which are a matter of record from pre-exploratory biological site surveys conducted within Sale #53 tracts. The DEIS makes the statement that such cumulative impact assessment is "impossible", but this does not comply with legal requirements for cumulative impact assessment. The DEIS discussion of cumulative impact assessment is inadequate. 18c.120

page 4-228. Paragraph two. e. Impacts on Seabirds. Impacts on seabirds as discussed in this section are not adequately quantified. The FEIS should contain a more detailed discussion indicating how these conclusions were reached. 18c.121

page 4-229. The DEIS assumes that at full production the proposed crew base at Port San Luis would have to accommodate 60 crew boat trips per week and provide adequate docking or mooring space. This assumption seems to be in conflict with an earlier statement in the DEIS that space-use conflicts at Port San Luis are not expected to occur with the fishing industry. It also does not address the recently-adopted policy of the Port San Luis Harbor Commission that crew boat utilization of the port is not a permitted use. 18c.122

page 4-230. E. Impact on Commercial Fisheries. The numerical estimates of spills, platforms, miles of pipeline, platforms and wells are orders of magnitude greater in this discussion than elsewhere in the DEIS. The FEIS should make the distinction as to which scenario it is addressing. 18c.123

page 4-238. Paragraph five. Why does the introduction of tankering of substantial amounts of crude into San Francisco Bay not significantly increase the risk of spill hit here? 18c.124

page 4-243. J. Unavoidable adverse impacts. Paragraph five. Discussion of the potential for jeopardy to the California Sea Otter which could result in extinction should be addressed. The definition of high impacts to an estuary should be further defined here in the FEIS as well. 18c.125

page 4-244. K. This section should be expanded and is inadequate in the present 18c.126

form in the DEIS. Impact analysis should be more detailed and less subject to generalities.

page 5-6. D. Scoping Process. No adequate scoping process which includes meetings between MMS and affected local governments as repeatedly requested has been conducted for Sale #73. The DEIS makes the statement that "those issues which were identified as significant have been distributed to 54 public locations (ie. universities, Public Libraries, and County Planning Offices) throughout the coastal Counties or public inspection. No notice of this distribution was ever given to interested public agencies or to the general public, and participating MMS document repositories which are mentioned have never received such a compilation of scoping issues. 18c.127

page 5-8. Typo. Page 5-8 and page 5-9 are out of order in the DEIS.

18d

Due to space limitations and the bulk of the materials submitted to the MMS regarding the Draft EIS for proposed Lease Sale No. 73, all written comments have not been included in this volume. The following documents have been reviewed by the EIS staff and responses to specific comments have been prepared as indicated.

Attachment I - Additional technical comments on behalf of Marin County on the Draft Environmental Impact Statement for the Proposed OCS Lease Offering October 1983 known as Lease Sale #73

Attachment II - Critique of biological criteria used in POCSS-MMS Final Environmental Impact Statement (FEIS-53) for Lease Sale 53 and Draft Environmental Impact Statement (DEIS-73) for lease sale 73

19

TELEPHONE: (707) 468-4221

RECEIVED  
APR 25 1983  
COUNTY OF MENDOCINO  
BOARD OF SUPERVISORS  
COURTHOUSE  
UKIAH, CALIFORNIA 95482

April 19, 1983

Mr. Reid Stone, Manager  
Pacific OCS Office  
Minerals Management Service  
Federal Building, Room 200  
1340 West Sixth Street  
Los Angeles, CA 90017

Re: Comments of Mendocino County in Response to the Call for Comments on the OCS Lease Sale #73 Draft Environmental Impact Statement

Dear Mr. Stone:

We would like to thank you for the opportunity to submit comments on the Draft Environmental Impact Statement for the Department of Interior's Proposed OCS Lease Offering October 1983 (known as Lease Sale #73). This letter, the attached resolution, and other attachments represent the response of the County of Mendocino to the March 9, 1983 Federal Register Notice (pp. 9951-9953 of Vol. 48, No. 47) requesting comments on the central California leasing proposal known as OCS Lease Offering October 1983 or Lease Sale #73.

Review of the Draft Environmental Impact Statement indicates that it is inadequate and does not comply with the requirements of NEPA. In addition, it has been the experience of Mendocino County that the DEIS document was not developed in conformance with CEQ Guidelines including those requiring "Scoping" meetings between DOI and local officials as requested. 19.1

We find that the DEIS does not address the direct impacts from sale activities which could affect the coastline of Mendocino County due to the northward ocean current patterns which prevail during the winter months. Impacts on the Mendocino coast from oilspills which might travel from the tracts being considered for lease in the Santa Maria Basin should be addressed in more thorough detail in the Final EIS. 19.2

THE BOARD OF SUPERVISORS

TOM CROFOOT  
FIRST DISTRICT

DAN HAMBURG  
SECOND DISTRICT

JIM EDDIE  
THIRD DISTRICT

JOHN CIMOLINO  
FOURTH DISTRICT

NORMAN de VALL  
FIFTH DISTRICT

In addition, shoreline impacts resulting from the transportation of produced petroleum to San Francisco Bay from the Santa Maria Basin should be addressed in a comprehensive manner in the Final EIS. The DEIS indicates that 25% of produced crude would be tankered to the San Francisco Bay area, and that such tankering would certainly increase the risk of oil spills contacting the Mendocino coast. The degree of increased risk and the resulting mitigation measures being considered should be included in the discussion, as well as an assessment of the likelihood of tankering which might extend north to the Puget Sound area in the event that the Northern Tier pipeline is completed. This would obviously significantly increase the risk of oil spills contacting the Mendocino coast from nearshore tankering and should be the subject of a full risk analysis in light of productive rocky intertidal zone which characterizes much of the Mendocino coast, as well as the several critical estuaries which are important to the commercial fishing industry in this region.

19.3

The geographic scope of the Final EIS should focus on a more specific analysis of the 360 tracts actually planned for leasing under this proposal. Map presentations and DEIS document analysis which includes Mendocino County coastal areas is in no way adequate to be used as a basis for a future area-wide assessment of the central and northern California OCS Planning Area.

19.4

We particularly feel that the DEIS does not adequately address the geological considerations which need to be made as a result of the high seismicity of the offshore area being proposed for leasing. The presence of the offshore Hosgri fault should be more completely taken into account in the Final EIS.

19.5

The area proposed for leasing is also important to several species of marine mammals, and the projected impacts of leasing are not adequately considered in the DEIS. Impacts on the migration patterns of the California Grey Whale, the limited range of the threatened sea otter, and the large marine mammal populations of the Channel Islands National Marine Sanctuary should all be addressed in the Final EIS.

19.6

Several bird species which are part-time inhabitants of the Mendocino Coast are on a migratory pathway which also takes them to Morro Bay. Impacts of oil spills on this critical estuary and the results of an oil spill contacting Morro Bay during a period of high residence of specific bird species should be a part of the Final EIS.

19.7

We are also concerned that the Department of the Interior comply with the final requirements of the Coastal Zone Management Act and submit the final configuration of this leasing proposal to the California Coastal Commission for Consistency Certification prior to the sale.

19.8

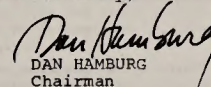
We would like to state that the current 45-day comment period on the DEIS is inadequate and does not comply with Department of Interior Regulations and we would like to ask that you extend the comment period to permit the normal 60-day response deadline as with previous sales. Further, the scheduling of only one public hearing on the DEIS hundreds of miles from Mendocino County has certainly not given our agency the legally required opportunity to comment in a public hearing format on this proposal. We request that at least one northern California hearing be held on this DEIS to obtain the required comment from affected shoreline communities and industries.

19.9

Please incorporate all attachments, as well as this letter, in the record as the response of Mendocino County to your call for comments on the DEIS.

Thank you.

Sincerely,



DAN HAMBURG  
Chairman

DH:rb  
Attachments

19a

RESOLUTION IN RESPONSE TO CALL FOR COMMENTS  
ON THE DRAFT ENVIRONMENTAL STATEMENT FOR  
PROPOSED OCS LEASE SALE #73

WHEREAS, the Pacific OCS Office, Minerals Management Service, of the U.S. Department of the Interior has issued a Draft Environmental Impact Statement for their proposed October 1983 central California lease offering known as Lease Sale #73; and

WHEREAS, the Minerals Management Service on March 9, 1983 on pages 9951-9953 of Vol. 48, No. 47 of the Federal Register has requested comments on the central California OCS leasing proposal from individuals, representatives of organizations, and public officials; and

WHEREAS, written comments on the draft EIS will be accepted by the Minerals Management Service until April 26, 1983; and

WHEREAS, the County of Mendocino has reviewed the draft Environmental Impact Statement for the October 1983 Lease offering known as Lease Sale #73 and found it inadequate for reasons herein described; and

WHEREAS, the draft Environmental Impact Statement does not adequately disclose the anticipated impacts from the proposed action on existing conditions and uses of the offshore and onshore affected areas or adjacent areas; and

WHEREAS, the draft Environmental Impact Statement does not adequately quantify impacts and direct effects of the proposed action on the Coastal Zone of the State of California, nor does it indicate the degree of conformance of the proposed action with the laws, goals and policies of the State of California including the California Coastal Act, California's federally-approved Coastal Zone Management Plan, county Local Coastal Plans (LCPs), California's pipeline policy, or California's air quality standards; and

WHEREAS, the draft Environmental Impact Statement does not present an adequate range of alternatives to the proposal nor does it include a sufficiently high-resolution look at the impacted area and its existing resources and uses, incorporates no "worst-case" analysis of impacts, includes no analysis of impacts on rare and unique species, nor does it adequately identify or analyze cumulative impacts which are likely to result from leasing and development on tracts within this sale combined with prior and planned lease sales and development; and

WHEREAS, the draft Environmental Impact Statement does not consider an alternative which addresses the long-held position of the State of California and affected local governments to the effect that leasing is inappropriate in areas to the north of the line between Row N808 and Row N809 of the Universal Transverse Mercator Grid System (approximately the Santa Maria River); and

WHEREAS, the Minerals Management Service, in spite of requests from numerous affected local agencies, has denied the opportunity for "scoping meetings" as provided for in the relevant CEQ Guidelines in order to identify issues to be utilized in determining the scope of the draft EIS; and

WHEREAS, the Minerals Management Service has refused to hold adequate and accessible public hearings on the draft EIS in affected coastal communities which would be impacted by the proposal; and

WHEREAS, the Minerals Management Service has shortened the comment period from 60 days as provided by Department of Interior regulations to 45 days, in spite of numerous requests for the full 60-day comment period; and

WHEREAS, required NEPA procedures, CEQ guidelines, and Department of Interior regulations have not been adhered to in the preparation of the draft EIS or throughout the pre-lease planning process for this sale and the above-mentioned procedural deficiencies have precluded interested members of the public from adequate opportunity for participation in the environmental review process; and

WHEREAS, above and beyond the inadequacies of the draft EIS with respect to the present limited sale area encompassed by Lease Sale #73, the present Draft Environmental Impact Statement would be wholly inadequate and inappropriate as a basis for future decisions outside of the 360-tract October 1983 sale area and unsuitable for use as the basis for an area-wide central and northern California OCS Planning Area EIS; and

WHEREAS, key environmental studies now funded and underway by the Minerals Management Service are necessary to informed decisions about the proposed action but will not be completed until after October 1983 proposed date of sale, and therefore the sale date should be delayed.

NOW, THEREFORE BE IT RESOLVED, that the Board of Supervisors County of Mendocino, does hereby adopt this resolution, and by reference the attached technical comments, finding the draft Environmental Impact Statement for the October 1983 OCS lease offering to be inadequate and not in compliance with relevant federal and state laws; and

BE IT FURTHER RESOLVED, that this resolution and the attached technical comments should be forwarded to the Regional Manager, Pacific OCS Region, Minerals Management Service, 1340 W. Sixth Street, Los Angeles, CA 90017 to arrive prior to April 26, 1983.

The above and foregoing resolution was introduced by Supervisor de Vall, seconded by Supervisor Cimolino and carried, this 19th day of April, 1983 by the following vote on roll call:

AYES: Supervisors Crofoot, Eddie, Cimolino, de Vall, Hamburg  
NES: None  
ABSENT: None

WHEREUPON, the Chairman declared the resolution adopted, AND SO ORDERED.

  
CHAIRMAN

ATTEST: ALBERT P. BELTRAMI  
Clerk of Said Board

By: Julie Billings  
Deputy Clerk of the Board

TECHNICAL COMMENTS ON BEHALF OF MENDOCINO COUNTY ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED OCS LEASE OFFERING OCTOBER 1983 KNOWN AS LEASE SALE #73:

A. THE DEIS IS NOT ADEQUATE UNDER THE REQUIREMENTS OF THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA):

1) PROCEDURAL INADEQUACIES: Numerous inadequacies in the NEPA and CEQ-Guidelines processes have been well documented throughout the pre-lease planning process for OCS Lease Sale #73. These include but are not limited to the following:

- (a) the shifting by Interior from tract specific to area-wide planning mid-way in the process for Sale #73.
- (b) at the same time Interior instituted "streamlining" mid-way through the planning process for Sale #73.
- (c) by abandoning the required "scoping" meetings prior to preparation of the DEIS, Interior has violated even their own streamlined process as outlined in the Supplement to the Final EIS on the proposed accelerated OCS oil and gas Leasing Program (page 18).
- (d) curtailment of the comment period on the DEIS from the established 60 days to only 45 days is a violation of Interior's own regulations on environmental review.
- (e) the single public hearing in Santa Maria is not adequate to provide the necessary opportunity for public and local government comment on the DEIS in the affected communities.
- (f) all local agencies should clearly express concern that the current DEIS for the October 1983 OCS Sale not be utilized as a basis for environmental assessment of an expanded sale encompassing additional coastal areas at some future date. It is in no way adequate even for a basis for such an effort.

2) LACK OF WORST CASE ANALYSIS: Where actual environmental impacts cannot be adequately quantified, legal precedents have been established for the need to include an analysis of a "worst case" scenario in the EIS.

The Sale #73 DEIS includes no such scenario. For Sale #73 such a worst case analysis would probably be a collision of two loaded tankers, a tanker-platform collision, or the collision of a tanker with an offshore storage and processing vessel. Another worst-case scenario could involve an uncontrolled blowout of a well during weather conditions which preclude the use of oilspill containment technologies.

It is important that reviewers each reiterate the need for this worst-case analysis as it applies to Sale #73, and include this data in the final EIS.

3) LACK OF CUMULATIVE IMPACT CONSIDERATIONS: One of the weakest areas of the Sale #73 DEIS is its analysis (or lack of analysis) of the cumulative impacts of several different leasing actions all occurring within a relatively confined geographical area in the Santa Maria Basin.

1

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19b.3

These cumulative impacts include those from Sale #68, Sale #53, the new State Tideland Sale from Pt. Conception to Pt. Arguello, and next year's proposed Sale #80.

Cumulative impacts in the areas of water quality, air quality, lost fishing space, increased spill risk, and vessel traffic lanes should be addressed in depth in the final EIS.

4) LACK OF SPECIFICITY TO SALE SITE: If one thing is apparent in the Sale #73 DEIS, it is that the document was originally part of a previously-formulated area-wide document for an area-wide Lease Sale #73 extending northward to the Oregon border. Subsequent to the adoption by Congress of the AuCoin provision on the FY1983 Interior Appropriations Bill, Interior hastily redrew and reorganized their DEIS for the sale, removing sections and portions which dealt directly with coastal impacts and resources to the north of Morro Bay.

The result is a document which is certainly not area-wide, but likewise is not looking at the remaining sale area in the necessary degree of resolution. With a 360 tract sale area the environmental assessment should be of sufficient resolution to permit the best possible design of mitigation measures for the expected relatively high degree of impacts.

The final EIS should be reformulated to be more site-specific to the sale area and thereby hopefully provide answers to some of the questions left to generalities by the DEIS. This is necessary in order to identify appropriate mitigation measures and stipulations.

5) INADEQUATE ALTERNATIVES: The DEIS presents only minimal alternatives to the proposal.

There is the preferred alternative (offer all available tracts within the sale area), then there is the alternative to delay, the alternative not to proceed, and the required "environmentally-preferable" alternative which proposes to delete only portions of approximately four tracts off of Morro Bay.

A consensus has evolved among many of the local governments that an additional alternative should be included in the Final EIS which would also delete all of the tracts shoreward of Sale #53 off of Pismo Beach, Grover City, Arroyo Grande, and the beaches of northern Santa Barbara County. A buffer zone in this area has long been recommended and was first left there by Secretary Andrus and later by Secretary Watt under Sale #53.

Other local governments would be well-advised to be concerned about establishing and supporting the generic concept of such a buffer zone and its implications for pre-lease planning in other areas. Support for this nearshore deletion option would help establish the precedent of buffer zones to protect air quality and tourism and recreation industry.

In addition continued support for the position of no leasing to the north of the line between Row N808 and N809 on the UTMGS maps (approximately the Santa Maria

2

19h.4

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River).

6) LACK OF CONSIDERATION OF NEW AND RARE SPECIES: Several new and previously unidentified species have been found in association with the biological site surveys for which have preceded exploratory drilling operations in the Sale #53 tracts of the Santa Maria Basin.

These unusual organisms are likely to also be present on some of the tract areas being considered for offering under Lease Sale #73 and have received no coverage in the DEIS. Requests should be made by local agencies to see that they are included in the final EIS.

B) IMPORTANT ASPECTS OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT ARE NOT IN COMPLIANCE WITH THE REQUIREMENTS OF THE COASTAL ZONE MANAGEMENT ACT (CZMA):

1) ONSHORE DEVELOPMENT AND LAND USE: The onshore development and land use changes which occur as a result of OCS activity are one of the primary direct effects of offshore drilling and its onshore support activities on the land and water uses of the state's coastal zone. A support base, for instance, may be needed to support OCS activities even though the activities themselves may be some distance away. Of particular importance in land use considerations is the degree to which the projected uses are in conformance with the Local Coastal Plan (LCP) of the onshore area.

The most obvious land use considerations involve siting of onshore facilities such as crew bases, supply bases, and locations for pipeline landfalls, marine terminals, and oil and gas processing facilities. Secondary impacts may involve increased demand for fresh water supplies in an area with existing water shortages, increased vehicle traffic as a result of transportation of personnel and supplies over local roads, and the potential conflicts for berth space which could displace activities of the commercial fishing industry.

The DEIS does not adequately look at these and related impacts nor does it suggest mitigation measures which might balance some of these problems. Land use considerations are by no means limited to the communities directly shoreward of the tracts being offered in the October 1983 sale. The transportation scenarios for Sale #73 assume the tankering of approximately 25% of produced oil to the San Francisco Bay area, so shoreline impacts could be anticipated all along the transportation route.

2) SEA OTTER POPULATION: During the pre-lease deliberations on Lease Sale #53, the California sea otter emerged as an important consideration. Because of its limited range and extreme vulnerability to oil it is listed as a "threatened" species under the federal Endangered Species Act. The vulnerability of the otter population to spilled oil and the possibility that oilspills resulting from activities anywhere within Lease Sale #73 could travel throughout the entire sea

3

19b.6

19b.7

19b.8

otter range makes the otter one of the potentially directly impacted species.

During the winter months, northward current patterns along the central California coast would be likely to transport spilled oil north along the Big Sur coast with a resultant high potential for mortality to otters. This movement of the ocean currents parallel to shore combined with an onshore wind means that an oilspill occurring far offshore could impact the otter range well to the north of the sale area during the winter and well to the south during the rest of the year.

The DEIS assigns a fairly high risk of spill hit to shoreline segments which contain a high percentage of the otter population, particularly around Cayucos and Pt. Buchon. The document does not, however, analyze the ability of the otter population to recover from various degrees of impact on its population. Range expansion seems to be occurring primarily in the area shoreward of the tracts proposed for lease in the central and northern portions of Lease Sale #73. The DEIS fails to address whether or not this area may prove to be perhaps the most critical to the otters future survival.

The DEIS also fails to take into account the "leveling" of the total otter population in recent years and what this may indicate about the increased vulnerability of the otter population.

The DEIS states that "a large tanker spill could result in greater than 30 percent mortality" but does not follow out what that level of mortality would mean to the survival of the otter.

3) AIR QUALITY: There is ample meteorological evidence that air emissions from various sources on the OCS will have a negative impact upon air quality onshore. Recent BLM-funded studies have shown that pollutant plumes do not disperse as readily over water as they do over land but rather move onshore as a concentrated "cloud". During this time while the pollutants are blowing onshore, a photochemical process takes place which changes their composition and readies them to be components of onshore smog.

The hydrocarbons and other emissions which originate on the OCS can be a major contributor to onshore air quality problems. It is possible for pollutants contributed from these OCS-related offshore sources to push the onshore area into non-attainment of the federally-mandated air quality standards. This can result in sanctions against onshore emission sources, and even expensive retrofit of onshore industry.

Although the DEIS recognizes the existence of this problem, it does not address the issues involved in sufficient detail nor does it adequately quantify the likely economic costs to onshore communities. Such costs should be provided not only for San Luis Obispo and Santa Barbara Counties, but also for communities in the San Francisco Bay Area and Los Angeles Basin where air quality may be adversely impacted by the oil transportation segment of the Sale #73 scenario.

Several more detailed discrepancies exist in the Sale #73 DEIS as regards to the anticipated air quality impacts. They include, but are not limited to, the following: (a) the DEIS makes no mention of secondary particulates (formed in the atmosphere due to chemical reactions); (b) lack of modelling of ozone impacts

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19b.9

from exploratory operations; (c) the incorrect assumption that NOx emissions are not a precursor for ozone; (d) the DEIS fails to include onshore gas processing facilities in the assessment of air quality impacts (e) the DEIS assumes that drilling a 5,000 foot well and an 8,000 foot well would produce the same emissions.

And of course, one of the remaining major problems with regard to air quality is the fact that the Department of Interior Air Quality Regulations for the OCS allow relative increases of pollutant discharges the further offshore the operation is located. These regulations would be inadequate to protect onshore air quality in California's shoreward wind regime.

Of utmost concern in local analyses of air quality impacts of Sale #73 should be an attempt to attach numbers as much as possible to the anticipated losses to the local communities. Costs for retrofit of existing industries, the possibility of communities being precluded from attracting new onshore industry, and health-related costs of these increased levels of air pollution should be quantified in the final EIS.

4) WETLANDS AND ESTUARIES: Because of their importance as a nursery area and foodsource for commercial fish species, the productivity of key estuaries can be important to the overall productivity of an offshore area to the degree that the economic viability of certain fisheries in an entire region could be affected.

This is most certainly the case with Morro Bay, but the productivity of this important estuary is not estimated in the DEIS. The DEIS does, however, indicate that damage from an oilspill to Morro Bay could have consequences for the estuary there which could be long term. These long-term damages to the estuary can mean reduced year-classes of important commercial fish species for some time after a spill.

The resultant cascade effect of damage to the fishery in this manner should be addressed in the final EIS. In addition, some way of assigning a dollar-value or some equivalent to the productivity of an estuary should be incorporated in the analysis.

Although approximately one-quarter of any produced crude from Sale #73 would be tankered to San Francisco Bay, no mention is made in the DEIS of risks to wetlands and estuaries in the Monterey Bay area, along the Santa Cruz coast, in San Francisco Bay itself, in any of the myriad estuaries surrounding the Golden Gate National Recreation Area in Marin County, or along the Mendocino Coast.

5) TOURISM AND RECREATION: Perhaps the most easily-quantified onshore impact is the hazard posed by OCS activities to the recreation and tourism industries. The value of these activities can be measured in visitor-days and dollars which accrue to the community. In addition, a multiplier factor is utilized (the Sale #73 DEIS assumes this factor to be 2.35) to indicate more accurately the overall impact of these industries on employment and revenues within the region.

The DEIS, however, aside from admitting that very few jobs would actually be created by the OCS activities, does not offer any estimate of the jobs which could be lost if a serious oilspill essentially shut down the tourism industry in

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the sale area overnight. These types of impacts are possible as far north as San Francisco Bay and should be addressed in detail in the final EIS.

To the degree that these types of impacts can be estimated by local governments and plugged into the final EIS, local onshore effects can be better anticipated and their scale more accurately assessed.

6) VESSEL TRAFFIC: Because vessel traffic lanes have not yet been established by the Coast Guard through the tracts comprising the Sale #73 area, conflicts between vessel traffic and drillships, exploratory rigs, and fixed platforms cannot be predicted by the DEIS. These represent, however, some of the greatest potential points of conflict between existing uses of the coastal zone and the projected OCS activities.

In the port access routes which have been established for Morro Bay, Estero Bay, Port San Luis, a great deal of overlapping will occur between existing vessel traffic and tract areas proposed for leasing. This is also true at the northern end of the Santa Barbara Channel, where customary shipping lanes will likely create conflicts with some of the seaward Sale #73 tracts. But out in the major sea lanes, the problems cannot even be quantified due to the fact that the lanes have not yet been adopted.

7) PIPELINE UTILIZATION POLICY: The State of California has a long-established policy that OCS activity will be encouraged in areas in which sufficient reserves are to permit transportation of the produced crude via pipeline are located. The purpose of this policy is to ensure that air quality is protected and that spill risk is minimized as much as possible.

The DEIS makes no mention of how the Lease Sale #73 activities are likely to be brought into conformance with the state policy on pipelines. This makes it even more difficult for onshore communities to visualize the true scale of the impacts anticipated from the sale.

That there will be impacts from the sale is accepted by the DEIS as given, but the degree to which impacts might be mitigated by pipelines should be more thoroughly addressed.

8) COMMERCIAL FISHING IMPACTS: Impacts from OCS activities occurring a great distance offshore or even hundreds of miles to the north or south of a commercial fishing port can have a direct effect on the economic base of that community. It is also true that the adverse biological impacts of drilling discharges or an oilspill can affect an entire year-class of fish which may result in a reduced fishery yield at a later time. The connection between an OCS-induced impact and its resultant impacts on a fishery is not always apparent, but it is always present. The result is that the economic health of a region can be interwoven in an important way with the biological health and productivity of offshore waters a great distance away.

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The more readily observable impacts of OCS activities occur due primarily to two types of conflicts with the fishing industry. These can be identified in general as (I) physical conflicts; and (II) biological impacts.

(I) Physical conflicts:

a. Conflicts with the fishing industry from seismic exploration activities has occurred and continues to occur as a result of OCS activities. The issues include direct interference with fishing activities, loss of fishing time, lost fishing gear, dispersal of fish schools, and navigational hazards. The DEIS does not adequately deal with these problems nor with their economic implications to the commercial fishing industry.

b. The DEIS fails to look at the inadequacy of the fishing vessel and gear damage compensation fund and the fact that it does not offer full compensatory damages to fishermen for losses and has institutional delays which can be lengthy. The DEIS relies on this fund as a catchall answer along the line of: "If we can't mitigate it, we'll pay for it" but the problems with this fund in the real world are not discussed in the DEIS.

c. Port facilities and adjacent available land are already in critically short supply within and adjacent to the proposed sale area. If fishing uses are further displaced by OCS activities the resultant lack of adequate berthing and support facilities would damage the fishing industry and related businesses. The DEIS includes a little discussion of these space-use conflicts nor does it address or quantify the resultant losses to the fishing industry.

d. Direct loss of fishing grounds resulting from exploratory rigs and anchor lines, pipeline and debris creating obstructions on the seafloor, and permanent fixed platforms is a major economic problem to the fishing industry. The DEIS does not look at the loss of fishing grounds to any great extent.

e. The total costs to the fishing industry are not included in the DEIS with sufficient statistical basis. The DEIS should quantify as much as possible the economic costs to the fishing industry of various OCS scenarios. Multipliers are necessary to assess the value of commercial fishing to shoreside processing and distribution and the overall value of this industry to the regional economy.

f. The DEIS does not address the cumulative effects of the multiple sales in the area on the fishing industry.

(II) Biological concerns:

a. The DEIS contains no discussion of methods to mitigate damages of discharges or oilspills to the commercial fishery.

b. The DEIS does not consider some of the smaller commercial fisheries such as shrimp.

c. The impacts of discharged drilling muds on commercial fish species was not discussed in the DEIS.

d. The loss of fish habitat for open-bottom dwelling fish species due to

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platforms and the surrounding introduced reef community.

e. The DEIS does not mention the potential damage to the commercial fishery resource due to damage to estuaries and wetlands.

f. The impacts of oilspills directly on fish was not adequately discussed. This analysis should include (a) direct lethal toxicity, (b) disruption of physiological and behavioral activities, (c) effects to genetic mechanisms (d) effects of direct coating and ingestion of oil, (e) tainting of edible fish and shellfish (f) bioaccumulation of potentially carcinogenic compounds in the food chain (g) change in habitat and overall ecosystem including egg larvae stages of various fish species (h) bioconversion of residual oil products in the marine environment.

g. The impacts to the coast of Mendocino County are not adequately addressed in the DEIS. Detailed analysis of historic and more recent ocean current studies which indicate a northward movement of surface currents during the winter months which could jeopardize the coast of Mendocino County must be included in the Final EIS. This analysis should look at oilspills originating from drilling and production activities in the sale area itself, and also at potential oilspill risks from a tankering scenario from the sale area to San Francisco Bay.

MONTEREY COUNTY

THE BOARD OF SUPERVISORS

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April 19, 1983

Mr. John Lane
Pacific OCS Office
Mineral Management Office
Federal Building, Room 200
1340 West 6th Street
Los Angeles, CA 90017

Dear Mr. Lane:

Enclosed please find Monterey County's comments on the Draft Environmental Impact Statement OCS Sale No. 73. In completing this review, the County is concerned about the reduced review period. Given the importance of the document, a reduction from the normal public review and comment period from 60 to 45 days does not seem justified. To allow for full public participation, and in keeping with the OCS Lands Act Amendments, the County, therefore, requests a local public hearing on the Draft EIS.

In addition, based on a March 24 meeting with Mr. Gordon Duffy, it is the County's understanding that BLM will receive "final" comments on the EIS after April 25 if preceded by "draft" comments submitted prior to that date. It is with this understanding that the following comments are offered.

General Comments

The OEIS does not appear to meet NEPA requirements, presents a rather diffuse image of the proposed lease sale, and tends to obscure impacts on the environment. These characteristics can be attributed to 1) the use of, in some cases, incomplete, outdated, and inappropriate data in describing conditions; 2) apparent inconsistencies in drawing conclusions and assigning probable magnitudes of risk to various aspects of the proposed lease sale; 3) the sparse use of data to describe conditions in specific local areas; and 4) lack of documentation of assumptions and methodologies in the analysis.

Mr. John Lane
Page 2

We are concerned about several structural characteristics of the OEIS. First, we believe the document to have several procedural inadequacies with respect to NEPA -- the reduced time period for scoping and comment, the single public hearing, and most significantly, the lack of a "worst case" analysis. NEPA requires such an analysis when information is incomplete. Given the admitted gaps in environmental and other documentation (p. 3-27, "scientific literature on rocky intertidal in central-northern California is spotty" ... p. 4-109, "chronic or long term impacts of oil...are poorly known." "The impacts discussed below are based on limited data..."), a worst case scenario is in order. Additionally, environmental hazards such as California's known geologic activity and the storms of this winter/spring make a "worst case" analysis all the more imperative. Such analysis might include a tanker/platform collision or a tanker accident in a marine terminal (Port San Luis).

Second, we believe the discussion of alternatives to be a critically important part of the document, and should present realistic options to help guide decision making. We, therefore, request an expanded discussion of Alternative II. All tracts north of Morro Bay, seaward of the litigated tracts (OCS #S3), and all near shore tracts should be deleted from this option. This revised alternative better reflects the stated intention of Alternative II -- MODIFY THE SALE TO PROTECT SENSITIVE BIOLOGICAL AREAS -- based on the high resource values present (p. 3-30, "Monterey Peninsula has 80% of known flora of the western coast of North America," p. 3-31, "Only rich population of intertidal macroalgae EISENIA in central-northern California -- Pt. Lobos Reserve" and the large state of uncertainty regarding near shore currents and oil trajectories.

Third, the coarse nature of the input data and the expression of results from the oil spill model is cause for some alarm. Specific analysis of risks to the County's Big Sur coast, Carmel Bay, and Monterey Bay should be performed.

Fourth, data used to draw conclusions is not used consistently. While terms such as "low", "medium", and "high" impact are normally defined, other terms "significant impact", "slight increase", and "no effect", etc. are not. Multipliers are also not applied consistently. These terms need to be defined, and multipliers applied consistently.

Fifth, the discussion of Alternative IV, the No Sale alternative, is misleading. This is because the text focuses almost solely on possible negative effects to the environment. The implication that the environment is already facing imminent severe degradation is not an accurate representation. The discussion should be rewritten to present a more complete picture. Further, the words "at this time" used at the end of the first and second sentences lend unjustified qualification to the description. The no project alternative is just that -- no project.

Sixth, the section on cumulative impacts is inadequate and needs revision. The revision should include a discussion of the accumulative impacts to the environment based on OCS #73. Existing impacts to the environment, as discussed in the no project alternative, should be analyzed in conjunction with impacts from the previous lease offering (OCS #S3), as well as the associated impacts from OCS #73 -- drill ship, crew ship, and number of wells, etc.

Mr. John Lane
Page 3

Seventh, the County is concerned that the leasing process continues to go forward in spite of the fact that all required environmental documentation is not completed prior to the lease sale date. As a consequence, the Department of Interior is thwarted from making an informed judgment of the potential risks and benefits before oil companies have bid on specific leases and the momentum for offshore drilling continues up the coastline. The recent offshore oil spill in the Persian Gulf has provided further grim evidence of the enormous risks and potentially devastating impacts inherent in offshore oil production. These risks should inspire increased caution before further commitment to such methods of energy development.

Eighth, the OEIS does not, contrary to the OCS Lands Act Amendment, demonstrate an orderly balancing of energy resource development with protection of the human, marine, and coastal environments. After reading the OEIS, the major impression received is that the overall, long term environmental, socioeconomic and recreation impacts over the life of the project are minimal. We challenge this impression! The unwarranted optimism of the OEIS is principally because of two factors: 1) the lack of specific information and the enormous size of the area impacted by OCS #73 tend to mask the devastating impacts an oil spill could have on biological resources and local economics; and 2) the oil spill model, despite containing the warning "analysts are cautioned against basing judgments solely on conditional probabilities" is nevertheless constantly cited throughout the OEIS as the basis for judgment on oil spill impacts and probabilities.

The County of Monterey's Recommendation--Delay the Sale

The County of Monterey exhorts the Department of the Interior to delay Lease Sale #73 in accord with the recent Cranston-Panetta legislation. There are several important reasons for this recommendation. The threat to nationally significant environmental resources, the visitor serving economy of the County, the major fishery area present, as well as the previously cited eight concerns. Interior's head long rush to develop offshore oil without adequate baseline data is especially alarming in light of the present world-wide glut of oil.

Specific Comments

The following attached comments are organized sequentially from the material presented in the OEIS. Excerpts from the OEIS are presented followed by our comments.

Mr. John Lane
Page 4

We offer these comments in a cooperative spirit, and hope that they will assist your staff in refinement of the OEIS.

Sincerely,

Signature of Michal Moore
MICHAL MOORE, Vice-Chairman
Monterey County Board of Supervisors

MM/MR/bbm

Attachments

- cc: Honorable George Oeukmejian
Honorable Henry Mello
Honorable Sam Farr
Honorable Eric Seastrand
Honorable Leon Panetta
Gordon Duffy
Michael Fischer
Larry Odle



Page 1-5  
Graphic No. 1, Leasing History is incorrect. Tracts should be drawn and labeled to accurately represent leasing activity. 20.10

Page 3-8  
Figure 111.A.41 Major Upwelling Areas During Upwelling Season (February - July) should be revised to show the latest information available. Contact the Scripps Institute of Oceanography. 20.11

Page 3-15  
Water quality in various areas of Monterey Bay is degraded due to discharged sewage effluent.  
Water Quality comments on Monterey Bay and Moss Landing Harbor/Elkhorn Slough are potentially misleading. The above comment does not address the overall water quality of the Monterey Bay but focuses on a small area. Also, the term "degraded" is not consistent (nor defined) with the other terms used for water quality. This should be corrected. 20.12

Page 3-21  
Figure 111.A.7.1 Designated Dump Sites off Central California.  
This figure should be redrawn to scale because of the highly sensitive nature of the radioactive dumpsites and the possible environmentally inconsistent uses of a drill site or vessel traffic. As a general guide, all maps should be drawn to the same scale to allow comparison of information. 20.13

Page 4-4  
The (oil spill risk) model is a means of quantifying the potential risks of oil spills resulting from the proposed action...The model assumptions include 1) seasonally averaged oceanic surface currents and average winds can be used to assess probable trajectories...The driving force for moving a spill is surface ocean currents and winds. 20.14

Given the above methodology of the oil spill risk model, it is alarming, then to read on p. 3-8 of the OEIS, "Nearshore current data for most of Central California coastline is lacking." If nearshore data was not available, what information was used to determine trajectories toward Big Sur, Carmel Bay, and Monterey Bay? During winter months, nearshore currents in central California follow a northerly direction. This puts the Big Sur Coast, Carmel Bay, Monterey Bay, and Elkhorn Slough in line from a spill from nearshore tracts. Of immediate concern is the mouth of Salmon Creek (ASBS) near the Santa Maria Basin. However, all areas represent significant biotic communities. Oil spill trajectories need to be established for the Big Sur Coast and Monterey Bay before any oil leasing takes place in the northern Santa Maria Basin. The amount of national interest for Elkhorn Slough and the National Marine Sanctuary for Monterey Bay justify this request.

Page 4-19  
The oil spill model predicts virtually no spills occurring and contacting any of the land segments north of the proposed sale area. 20.15

The results of the model as well as the above conclusionary statement are unfounded. The coarse nature of the oil spill risk model, and the number of tanker trips along the County's coastline to the San Francisco Bay would appear to rule out such an optimistic conclusion. The OEIS states that 25% of all the oil developed will be shipped via tanker to San Francisco, and 50% shipped to Los Angeles. However, if for any reason the Port of Los Angeles would decline their full shipment, a larger percentage could go to San Francisco. Accordingly, impacts along this route would increase. Further, the above statement would appear to be in direct conflict with the text on page 4-209, "oil spills from tanker transportation of foreign and Alaskan crude oil imports and other vessel traffic potentially could also be an important stress." If shipping operations could be an important stress in the No Project Alternative, then the additional shipment of oil envisioned in Lease Sale No. 73 would undoubtedly have increased cumulative impacts. These need to be addressed. Monterey Bay and Elkhorn Slough should receive close scrutiny because of the national interest and the projected long oil retention time (1 year) for Elkhorn Slough.

Page 4-21  
The Proposed Sale No. 73 therefore represents an additional risk of 10 percent for a very large spill in California. This indicates that Proposed Sale No. 73 adds a relatively small additional risk of an oil spill to that already existing due to activities on currently active leases and import tankering of crude oil. 20.16

These conclusionary statements are misleading. The sampling technique used presents a diluted picture of impacts. More appropriately this discussion should focus on the cumulative impacts of Lease Sale #73.

Page 4-61  
Interrelationship of Proposal with Other Projects and Proposals.

This discussion should discuss the relationship between OCS #73 and national energy planning. 20.17

Reference should be made to documents which describe programmatic decisions to proceed with OCS, the place of petroleum in a national energy budget, and the policy assumptions about the role of conservation and other supply alternatives.

Page 4-105  
However, during April-June large dense schools of anchovies, of up to several hundred tons, may be found during daylight at the surface within 20 miles of the coast. A large oil spill (or many small spills) contacting one of these schools could kill enough individuals to cause a small reduction in the population. Since northern anchovies are abundant and reach sexual maturity rapidly, recovery is expected to be rapid, taking 1-2 years. 20.18

Anchovies are one of the key links in the fish food chain. A 1-2 year reduction could have significantly more dire cumulative consequences. These need to be addressed, as well as any concomitant impacts to the fishing industry.

Page 4-164  
Commercial fishermen are not expected to sustain significant economic losses due to oil spills.  
This statement appears to be overly optimistic given the risk from a tanker spill "...5 large and many small oil spills are expected from tanker transportation of foreign and Alaskan crude oil in California and Oregon." p. 4-108, the accumulative risk generated by increased tanker transport from the project, the generalized results of the oil spill model, and the threat to the local fishing industry. 20.19

Salmon fishing has the second highest cash return of all fishing in Monterey County.1/ Impacts to Salmon, especially over the long term, would have significant effects on the overall fishing industry and the County's economy. The OEIS states on page 4-164, "However, although unlikely, if a large spill occurs...a moderate reduction in these salmon populations, lasting 5 years or more could result. Since the competition for limited salmon resources is already very high, this reduction in salmon population could force a few salmon fishermen out of business." As a consequence, cumulative impacts from the development of OCS No. 73 need to be assessed along with the associated economic impacts to the local fishing industry. In addition, the qualifier "a few" needs clarification. 20.20

Page 4-178  
When this value is incorporated into the local economy the total loss to the tourism in the area will be increased by the multiplier (2.46 based on the Granville Corporation, 1982) and could result in a loss of over \$617 million to the regional economy.

Tourism is the County's second leading industry. The dollar loss due to a decrease in tourism needs to be calculated at the local level. Economic impacts in terms of total dollar loss for the Cities of Carmel, Monterey, and Pacific Grove need to be determined. 20.21

Page 4-203  
The status of the Southern sea otter is questionable. Until it is determined whether the population is still increasing or is decreasing, predictions are impossible.

Because of the uncertainty regarding the sea otter's condition, further leasing in the Santa Maria Basin should cease.

The primary reason for the protection of the southern sea otter, *Enhydra lutris nereis*, as a Threatened Species under the Endangered Species Act, is its extreme vulnerability to oil. The Federal Register went so far as to identify the potential and chronic threat of an offshore oil spill to the California population and its habitat as the reason for the listing. 20.22

1/ Monterey County Planning Department, *Physical Features and Natural Resources of Monterey County*, 1980.

"It is not known whether sea otters are capable of detecting and avoiding oil contaminated areas. Although preliminary studies by Williams (1978) done on Alaskan sea otters in captivity demonstrated that otters do not avoid oil contaminated areas and even repeatedly enter such areas."2/

The key factor in the U.S. Army Corps of Engineers denying PG&E a permit for the Moss Landing Terminal Expansion in 1980 was their biological opinion that the existence of the sea otter may be jeopardized by expansion. In part, that opinion stated, "Our biological opinion, therefore is that issuance of the permit authority for the PG&E MLMT expansion may jeopardize the continued existence of the Southern sea otter." Even with the unfounded optimism of the OEIS, the admitted lack of information on otter population dynamics, and oil spill trajectories for the nearshore areas, the OEIS agrees with this conclusion, "...a tanker spill, would likely result in high to very high impacts (a major reduction in the population requiring decades to recover, in some cases recovery might not occur (p. 4-112)" (emphasis added).

Page 4-205  
Realization of the economic and national security benefits expected to result from the proposed Sale No. 73 would be foregone. All regional increases in economic activity expected to occur as a result of the proposal would be eliminated, including expected increases in employment.

This conclusionary statement is based on a questionable assumption. It assumes that the money that must be invested in OCS #73 is not otherwise invested in strategies to bridge the gap between energy demand and available supplies.

It appears that no cost comparisons have been completed that directly evaluate investments in Lease Sale #73 alone (as opposed to the national leasing program) and investment in alternatives and conservation sources.

Clearly, the fate of the commercial success and ultimate social benefit of OCS #73 and other energy sources hinges on key policy investment decisions at both the State and Federal level. 20.22

One straight forward mode of alternative investment is insulation. After comparing the costs of developing new hydrocarbon resources with the costs of retrofit, Canada appropriated \$1.4 billion to subsidize housing insulation.3/ This expenditure, given that Canada's population is a tenth of ours, would be equivalent of \$14 billion in the United States. A similar commitment is lacking here.

California's experience demonstrates that a program combining incentives, investments, and measures to overcome institutional barriers can have a dramatic impact. Stobaugh and Yergin, in *Energy Future*, summarize solar developments in California as follows:

2/ Friends of the Sea Otter, 1980.

3/ Ellis Rubenstein, "Technology and Society," *IEEE Spectrum*, January, 1978.

In 1977 the California legislature passed a 55 percent solar tax credit--the single largest financial incentive in the country to encourage the use of solar energy. Both active and passive systems as well as solar electricity generation systems were included in the initial tax credit. The tax credit was extended in 1978 to wind and process heating systems, and was supplemented by dozens of additional bills dealing with financing, utility involvement, job training, and solar rights. Several municipalities in the state, such as the City of Davis, have also passed ordinances that encourage the use of solar design by setting minimum standards for the thermal performance of buildings. In San Diego County an ordinance has become effective in 1980 that requires all new residential buildings with guaranteed solar access to use solar hot water heating systems.

According to the director of the Solar Cal Office, "One reason why we have been able to accomplish so much in California over the last three years has been a political commitment to renewable energy resources...Political leadership should be a key element of any commercialization strategy." It's the political climate, not the weather, that will govern the future of solar energy.<sup>4/</sup>

Since 1979, one hundred manufacturers and two hundred installers with solar experience have been doing business in the State...By 1985, California plans to have 1.5 million solar installations and 30,000 people employed in the solar industry. If the same degree of market penetration were to occur for the country at large, this would correspond to about 15 million solar heating and cooling installations, and a solar industry employment of over a quarter million people. (emphasis added)

<sup>4/</sup> Stobaugh and Yergin, *Energy Future*, p. 213, 1979.

**AIR POLLUTION CONTROL DISTRICT**  
COUNTY OF SAN LUIS OBISPO  
2156 SIERRA WAY, SUITE B - SAN LUIS OBISPO, CALIFORNIA 93401 - (805) 549-5912



April 22, 1983

Mr. Reid T. Stone  
Minerals Manager  
Pacific OCS Region  
1340 West Sixth Street  
Los Angeles, California 90017

RECEIVED  
APR 25 1983  
LOS ANGELES

Dear Mr. Stone:

Subject: Comments on the Draft EIS for Proposed 1983 Outer Continental Shelf Oil and Gas Lease Sale No. 73 Offshore Central California

The Air Pollution Control District Staff has completed review of the Draft Environmental Impact Statement for OCS Lease Sale No. 73. Our comments pertain only to the air quality portions of the OEIS and to the process used by MMS in the environmental review.

We strongly object to the shortened comment period and the receipt of important technical support documents within 25 days of the comment deadline. The burden placed on our small staff to complete a comprehensive review has been intolerable, with growing frustrations and increased feelings that our work will be given little or no consideration by you, MMS or DOI.

To make the situation even worse the OEIS is poorly prepared with a style and format that makes its review very difficult. I feel that the MMS should be admonished for what appears to be callous disregard for the EIS process, the environmental concerns that DOI is supposed to be responsible for, and the public and their concerns. These and other findings are discussed in more detail in our specific comments attached. Your fullest attention should be devoted to a detailed examination of those comments, and substantive changes prompted by each of those comments should be made in the OEIS.

In order to overcome the inadequacies of the OEIS and properly address air quality impacts in the Final Environmental Impact Statement it is hereby requested that the FEIS for proposed 1983 OCS Oil and Gas Lease Sale No. 73 include at least the following:

1. A clear statement that the USGS Air Quality Regulations will not likely impose any air quality analysis requirements or emission control requirements on typical facilities expected from Lease Sale 73, and presentation of air quality impact analyses which don't assume that there will be such controls. No facilities in the Federal waters of the Santa Barbara Channel have triggered such requirements.

21.1

2. A clear statement as to the likelihood and frequency of violations of the National ozone standard in San Luis Obispo County, and the effect on our attainment status for ozone. 21.2
3. A detailed analysis of the economic and regulatory impacts on industry and local government resulting from becoming attainment for ozone. 21.3
4. A detailed analysis of needs and alternatives for onshore oil and gas treatment with an air quality analysis for the most likely or recommended alternative. 21.4
5. A comprehensive cumulative impact analysis for all pollutants utilizing emissions projected for new and existing onshore sources, Lease Sale No. 53 projected emissions, Lease Sale No. 73 emissions and the most recent information on meteorology and dispersion characteristics over central coastal waters. 21.5
6. The following air quality stipulation to be attached to all leases resulting from Lease Sale No. 73:
  - a. Drilling Ships  
(1) All drilling ships operating in California Coastal Waters shall utilize the control measures set forth by the Drilling Ship Emissions Task Force.  
(2) All operators shall coordinate exploration activities with each other, the Minerals Management Service, the California Coastal Commission and the California Air Resources Board so as to avoid the maximum extent feasible simultaneous operations on adjacent tracts.
  - b. Platforms  
(1) All equipment installed on platforms to be placed on the OCS shall be designed, constructed and operated with the best available air pollution control equipment as determined by the local district and the ARB. 21.6
  - (2) Emission offsets from sources onshore in San Luis Obispo County and Northern Santa Barbara County shall be obtained for all increases in emissions of hydrocarbons, sulfur dioxide and oxides of nitrogen.
  - c. Tankers  
(1) Transport of all oil to shore and out of the Central Coast area shall be accomplished via pipeline. If this is not possible then emissions from all tanker loading, unloading and combustion emissions shall be controlled by the application of best available control technology.  
(2) All tanker emissions shall be included in the environmental assessment conducted for Federal permits, development and production applications.

We have found the information presented in the OEIS to be inadequate for evaluating the air quality impacts expected from OCS Lease Sale No. 73 even though we have put forth considerable effort to concurrently review and use the technical support documents. The OEIS does not sufficiently analyze and address many air quality issues, as indicated by the following summary of our findings of inadequacy.

- a) There is little discussion of and no resolution to the nonattainment status for ozone that will occur as a result of OCS oil and gas operations. This is the most critical possible air quality impact for this area and it is practically overlooked. 21.7
- b) The OEIS does not present mitigation measures necessary to provide reasonable assurance that unacceptable air quality impacts can and will be avoided. 21.8
- c) Cumulative air quality impacts are not given serious consideration. 21.9
- d) There is no analysis of the air quality effects of OCS-related onshore development. The most important omission is that pertaining to onshore oil and gas treatment facilities. 21.10
- e) Several conclusions are made without adequate analysis, presentation of data or calculations. These include the pervasive conclusion that the USGS Air Quality Regulations are a panacea that will take care of all air quality impacts, and that there will be no SO<sub>2</sub> emissions associated with onshore oil and gas treatment. 21.11

We trust that these comments and recommendations will be given careful and sincere consideration by the Minerals Management Service.

Very truly yours,

*Robert W. Carr*  
ROBERT W. CARR, Director

RWC/kw

Attachments

cc: Jim Boyd, Executive Officer, ARB

SPECIFIC COMMENTS ON  
DRAFT ENVIRONMENTAL IMPACT STATEMENT  
PROPOSED 1983 OUTER CONTINENTAL SHELF  
OIL AND GAS LEASE SALE NO. 73 OFFSHORE CENTRAL CALIFORNIA  
SAN LUIS OBISPO COUNTY AIR POLLUTION CONTROL DISTRICT

I. General Comments and Concerns:

A. General validity of impact estimates; resource estimates inadequate-

Statement: "Calculated air quality levels represent a reasonable approximation based on probable exploration and development plans, production schedules, and transportation scenarios." (page 4-84; emphasis added) Throughout the document, potential or likely impacts directly related to the proposed sale have been minimized or ignored. The air quality analysis appears to be done in a manner so as to promote OCS exploration and production rather than examine environmental impacts. The use of a Most Likely Resource Estimate as a basis for air quality analyses avoids the worst case study that should be conducted to present information essential to making a proper decision about the Lease Sales. The only transportation scenario examined involves 100% piping of oil and gas out of the local area, ignoring adverse impacts from likely tankering of petroleum during early development years, before pipelines are determined to be cost effective and become operational. This timing problem is identified, but not considered further, in the DEIS: "Implementation of the activities assumed in the [transportation] scenarios can only be ascertained after leasing occurs and production of resources commences" (page 4-3; bracketed word and emphasis added). By means such as this, the DEIS consistently underestimates air quality impacts.

21.12

B. Effectiveness of and impact mitigation from DOI (USGS) air quality regulations-

Statement: "Prior to any company constructing a source resulting in significant pollutant emissions on the OCS, Minerals Management Service will perform a detailed air quality analysis and will determine anticipated air quality impacts including cumulative effects from interaction with existing OCS pollution sources." Contrary to this misleading claim, USGS Air Quality Regulations exempt offshore sources emitting less than a formula-determined amount (100 ton per year at three miles offshore, for example) from any further air quality impact analysis, and exempt such sources from any emission control requirements whatsoever. Even in the nearest Federal OCS tracts, the very liberal exemption allowed by these regulations means that typical platforms and activities will require neither air quality analysis nor emission controls. In the draft version of Air Quality Impact of the Proposed OCS Lease Sale 73 Offshore Central California, by Form and Substance, Inc. (March, 1983) the study on which the draft EIS air quality conclusions are based, the authors confirm this on page 9 of the Executive Summary: "It is not expected that Lease Sale #73 activities during either the peak development or peak production year will produce emissions that exceed the applicable DOI emission exemption levels."

21.13

Further, cumulative assessment of OCS impacts from multiple sources, rather than being required by the Air Quality Regulations, is left merely to the discretion of the Secretary of the Department of the Interior. Ample evidence of DOI's exercise of this discretionary power is found in the experience of coastal counties bordering the Santa Barbara Channel, where 12 platforms in Federal waters collectively cause a variety of significant onshore air quality

-1-

impacts. As stated by Mr. Richard H. Baldwin, Air Pollution Control Officer of Ventura County in his letter to State Senator Gary Hart, dated March 14, 1983 (copy attached), "The DOI has failed to initiate the cumulative environmental assessment which both counties and the state believe is necessary." Mr. Baldwin's letter describes the great costs and effort incurred by local counties and the state in attempting to perform this necessary study, as a direct consequence of DOI's inaction and neglect in discharging their responsibilities.

C. Shortened comment period-

The newly instituted DOI procedure of "streamlining" the decision-making process has not only substantially curtailed public participation in the leasing decision, but has imposed comment deadlines on local agencies and the public which are nearly impossible to meet. Reducing the comment period from the customary 60 days to 45 days, coupled with late arrival of such critical documents as A Handbook for Estimating the Potential Air Quality Impacts Associated with Oil and Gas Development Offshore California (a 585 page document received March 17, 1983, twenty seven days prior to the single public hearing in Santa Maria); the Draft Environmental Impact Statement - OCS Sale No. 73 (a 531 page document received in late March 1983, approximately three weeks prior to the public hearing in Santa Maria); and Air Quality Impact of the Proposed OCS Lease Sale No. 73 Offshore Central California (received April 1, 1983 a mere twelve days prior to the single public hearing in Santa Maria), has not provided adequate time to review the highly technical project material and prepare properly detailed comments. The short comment period on these documents is particularly unreasonable in that elected decision makers, such as our County Board of Supervisors, must approve comments prepared by technical staff, a process which takes, at minimum, a week.

21.14

Considering the general promotional tone of the DEIS, the shortened comment period, and the proposal to hear oral comments in three separate rooms simultaneously in Santa Maria on April 13, it appears that DOI considers environmental assessment to be merely a troublesome technicality, disregarding the intent of the laws requiring environmental assessment. With production not expected to begin until 1988 it does not seem unreasonable to allow extra time up front for proper consideration of air quality impacts.

D. General comments summary-

Given the loose approach to air quality impact analysis in the DEIS, the lack of mitigation measures, and the inadequacy of the USGS Air Quality Regulations, the most logical conclusion is that unacceptable onshore impacts are very likely to occur. These impacts will be manifested through exceedances of Federal and State Ambient Air Quality Standards and significant deterioration of air quality as defined in the Clean Air Act.

-2-

II. Ozone Impacts from Lease Sale 73:

A. Importance of ozone problem; DEIS minimizes impacts-

Statement: "Photochemical smog is by far the most serious air pollution problem in many urbanized California coastal areas." (page 4-41) We heartily agree with this assessment, and are appalled by the lack of emphasis this DEIS places on ozone impacts from Lease Sale 73. In particular, in all summary statements, the DEIS persistently avoids acknowledging the effect of Lease Sale 73 on ozone in San Luis Obispo County. This occurs despite strong findings in the body of the document that our County can be expected to fail to attain the National ozone standard as a direct result of Lease Sale 73. Typical of this avoidance, in discussing the cumulative ozone impacts of Lease Sales 73 and 53 on page 4-92, the statement is made that "The area primarily effected (sic) would be the western portion of Santa Barbara County." In discussing cumulative impacts again on page 4-217, the authors state: "Potential increase in ozone levels from all OCS activities could aggravate existing problems in attaining the ozone standard in Santa Barbara County", with no mention of effects on San Luis Obispo County at all.

21.15

B. Frequency of ozone impact in San Luis Obispo County-

Statement: "Since future baseline levels already exceed the State AAQS and almost exceed the Federal AAQS, the Proposed Sale No. 73 sources could lead to violations of the Standards. However, it must be noted that the models were run assuming very restrictive meteorological conditions. These conditions are expected to prevail only 2 or 3 days a year." (page 4-88; emphasis added) The structure of this statement lends one to dismiss the importance and likelihood of exceedances of the National ozone standard. The Central Coast experiences precisely these "very restrictive" meteorological conditions, with the lowest and often most persistent inversions found in California. As a result of such conditions, even with our relatively low local population and limited number of ozone precursor sources, we do experience a significant and precarious ozone problem. At Nipomo, the site selected in the DEIS as the key ozone receptor in the single modeling trajectory examined, ozone levels have violated the State 0.10 ppm hourly standard an average of 3.7 times each year since monitoring began in 1978. From one to eight hourly violations have occurred each year. One violation of the National 0.12 ppm hourly average ozone standard has also occurred, when a level of 0.14 ppm was observed in 1978.

21.16

The County is currently classified as attainment for ozone, under provisions of the Clean Air Act, and although we approach the standard, we expect to maintain attainment in the foreseeable future, barring changes due to sources beyond local control, such as Lease Sale 73. To attain the National standard, ozone levels at Nipomo must exceed that standard more than an average of once per year over a three year period. If, as projected in the DEIS, Lease Sale 73 emissions significantly contribute to exceedances of ozone standards "only 2 or 3 days a year" our County will become nonattainment as a direct result. We believe exceedances are virtually inevitable due to Lease Sale 73, given the minimal offshore emission controls required by the DOI (USGS) air quality regulations, discussed under comment I.

-3-

C. Severity of ozone impact confirmed in DEIS-

Statements: "The Nipomo [ozone] trajectory resulted in a maximum 1-hour ozone increase of 4 parts per hundred million (pphm). The maximum baseline concentration [without Lease Sale 73] was 12 pphm. Since the Federal AAQS for ozone is 12 pphm, any increase above the baseline concentration would result in a violation of the Federal standard" (page 4-216; emphasis and words in brackets added). Also, "If the Proposed Sale No. 73 were not to take place, the air quality impacts described in Section IV.E.1.c would not occur. Future pollution levels would not be expected to change significantly. Many coastal areas would continue to experience episodes of ozone concentrations exceeding State or Federal Standards. However, with increasingly stringent pollution control strategies being implemented by the Air Pollution Control Districts, ozone levels should gradually decline in the future" (page 4-202).

The latter two DEIS quotes clearly reaffirm our conviction that in the absence of OCS oil and gas production, San Luis Obispo County will continue to attain the National ozone standard, but as a direct result of Lease Sale 73 our County will violate that standard more than once each year, causing us to become non-attainment for ozone. This air quality impact is higher than the worst category considered in the DEIS ("very high"), defined on page 9-2: "Pollutant concentrations in attainment areas increasing to levels equivalent to the ambient air quality standards" (emphasis added). In our opinion, an additional impact classification should be defined, "unacceptable"; clearly, a change in attainment status directly resulting from a proposed project is unacceptable.

21.17

Despite the seriousness of these findings, the DEIS summary discussions consistently ignore their importance with misleading, bland understatement and blithe promises (Summary page iii): "Moderate air quality impacts were predicted for coastal regions adjacent to the proposed sale area. It is likely therefore, that OCS facilities associated with Proposed Sale No. 73 would be required under Department of Interior air quality regulations to apply emission controls. Application of emission controls would reduce the predicted impacts to low" (emphasis added). This latter claim is not documented anywhere in the DEIS, and was not a subject of study in either of the two related draft air quality studies by Form and Substance. It is precisely the sort of misleading and unsubstantiated claim which time and again discredits the DEIS, turning it from a purportedly objective study into an obvious promotional document.

D. Economic and regulatory effects of ozone nonattainment ignored-

Statement: Issues identified during the DEIS scoping process include "restriction of future industrial growth onshore due to strict pollution controls in areas exceeding air quality standards" (page 1-14). This is a limited restatement of a key scoping issue specifically identified by San Luis Obispo County in our letter to John Lane dated January 24, 1983, in response to the DOI request for scoping comments on this DEIS. Unfortunately, having agreed that the issue was significant, the DEIS authors fail to address it or even mention it again at any point in the document! This is a major deficiency in the DEIS. At the risk of being repetitive, and in the naive hope that someone will give this issue the attention it deserves, we will quote our description from the January 24 letter: "8. Conduct economic analysis of the effects onshore of becoming nonattainment for ozone and SO<sub>2</sub>. This analysis should include cost to local business of retrofitting to achieve necessary standards, cost of EPA

21.18

-4-

imposed sanctions that would occur if we were unable to demonstrate attainment, costs to local government to prepare, administer and enforce nonattainment plans, increased health costs, losses due to crop yield reductions, and losses to the tourist industry."

(In fairness to the authors, the effect of air quality changes on tourism did receive limited attention, consisting, however, primarily of denials of impacts, with the exception of one notable statement on page 4-173: "Air quality changes would have an impact on recreation areas if pollution levels increase along with corresponding aromatic effluents. These aromas, if they occur, would have a discouraging effect on the recreationists' desire to visit an area." "Aromas" and "aromatic effluents" are remarkable euphemisms in this application. They make it sound as if a bakery is going up next door.

The Clean Air Act mandates that areas which fail to attain any National Ambient Air Quality Standard must prepare and implement an attainment plan, with the crucial objective of regaining healthful air quality which meets the standard. Attainment planning, implementation and compliance with resulting emission control requirements have been controversial, complicated and expensive for government and business entities alike throughout the Nation. It is essential that this critical issue be addressed before this DEIS is judged adequate. With the imminent prospect of ozone nonattainment as a direct result of OCS lease sales, ignoring the problem will not make it disappear.

While the above issue is by far the most important, we must point out that of the 10 air quality scoping issues raised in our January 24 letter, only three received any attention at all in the DEIS, reaffirming our concern that little attention will be paid to local problems or concerns by DOI in the future.

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### III. Inert Pollutant Air Quality Impacts:

#### A. Dispersion factors inaccurate-

Statement: "The results [of tracer studies] showed that vertical dispersion tended to be smaller over water than over land, while horizontal dispersion tended to be larger over water than over land" (page 3-23; words in brackets added). This statement gives the misleading impression that overall dispersion is about the same over water as over land, while preliminary indications from specific Santa Maria Basin tracer studies (due to be published early in 1983) are that over-water dispersion is greatly reduced in comparison to over-land dispersion. In the draft edition of A Handbook for Estimating the Potential Air Quality Impacts Associated with Oil and Gas Development Offshore California (Form and Substance, March, 1983), the authors state on pages II-2 and 3: "The mechanical turbulence associated with plume dispersion over uneven terrain is not applicable and the urban dispersion coefficients have been modified. It is believed that pollutant dispersion characteristics over large bodies of water would be different from overland dispersion characteristics, primarily because of the different thermal capacity and smoothness of the water surface." Form and Substance continues to discuss the merits of the dispersion factors they employed in their analysis, on which the DEIS air quality impacts are based, admitting that other dispersion schemes yield different results: "The Dames and Moore algorithm, however, would consistently predict higher concentrations (up to 70 percent higher) than both the PG and AV algorithms" they chose to employ. In its rush to complete the Form and Substance studies and this DEIS, the Minerals Management Service has ignored the opportunity to use specific Santa Maria Basin dispersion factors due to be released soon, leaving the DEIS open to challenge, controversy, and possible further delay.

21.19

#### B. SO<sub>2</sub> impacts underestimated-

Although it was difficult to determine from the DEIS and both related studies by Form and Substance, a series of remarkable and contradictory assumptions were made by Minerals Management Service leading to a gross underestimation of the potential local impact resulting from increased SO<sub>2</sub> emissions from Lease Sale 73 sources. No single clear statement delineates all of these MMS assumptions, which we have detailed below:

Assumption 1: A variety of onshore facilities will be required to process oil and gas from Lease Sale 73. Documentation: "Onshore facilities (i.e., oil and gas treating facilities, crude oil storage tanks, supply and crew boat bases, and temporary support facilities) would be required... The environmental consequences are based on all these assumptions" (page 4-1).

21.20

While we agree that onshore facilities will be required, hence onshore air pollutant emissions will directly result, air quality consequences have not been based on these assumptions, as documented below:

Assumption 2: No increase in oil or gas throughput at onshore facilities will result from Lease Sale 73 production, thus no emission increases are projected. Documentation: "since it is assumed that Lease Sale No. 73 oil will simply displace crude oil that otherwise would be processed at the same facilities, incremental emissions

-6-

have not been estimated" (page V-9, Air Quality Impact of the Proposed OCS Lease Sale No. 73 Offshore California, by Form and Substance, March 1983).

It cannot be assumed that Lease Sale 73 oil and gas will back out other oil and gas. Existing refineries in San Francisco and Los Angeles may not be able to handle this crude due to the high content of trace metals. The cost of modifying those refineries, in urban nonattainment areas, may be too great. Existing refineries on the Central Coast, designed for this heavy, sour, high metal crude, may have to be expanded to handle the Lease Sale 73 and 53 crude oil. Such expansion could result in significantly increased emissions of SO<sub>2</sub>, NO<sub>x</sub>, CO and particulate matter as a direct result of Lease Sale 73 production. These impacts must be addressed in this DEIS.

Assumption 3. Onshore oil and gas treatment facilities exist already, i.e. are not considered to be a result of Lease Sale 73. Documentation: "It is assumed that oil and gas production from platforms located in the northern portion of the proposed sale area would come ashore via subsea pipeline near existing oil and gas treatment facilities at Nipomo Mesa" (page 4-3, DEIS). Also "As was the case for oil processing, it is assumed that no new facilities will be needed to treat the natural gas produced as a result of Lease Sale No. 73 (MMS, 1983b)" (page V-9, Air Quality Impact of the Proposed OCS Lease Sale No. 73 Offshore California, by Form and Substance, March 1983).

New facilities for the treatment of oil and gas would have to be constructed for any OCS crude oil and gas brought ashore here. To our knowledge all such existing facilities are currently operating at maximum capacity, processing oil piped from a number of different onshore fields. Nipomo Mesa facilities currently provide gas treatment only for gas remaining as a byproduct of the preliminary refining performed on that crude. To accommodate field gas from offshore sources extensive modifications and expansion of this refinery would likely be required. There would be potentially significant emissions associated with those facilities which have not been accounted for in the DEIS. The only alternative to onshore treatment would be the use of offshore separation and treatment vessels which are likely to be even more damaging to local air quality and for which an air quality impact assessment has also not been made in the DEIS.

21.21

Assumption 4: No desulfuring of either oil or gas from Lease Sale 73 is projected, hence no SO<sub>2</sub> or H<sub>2</sub>S emissions are estimated onshore, despite statements that oil and gas from Lease Sale 73 is likely to be sour. Documentation:

a. SO<sub>2</sub> emissions from desulfuring equipment are not found in emission inventories from onshore or offshore facilities in either of the related draft air quality studies published by Form and Substance. As an example, in Table II-11 on page II-42 of A Handbook for Estimating the Potential Air Quality Impacts Associated with Oil and Gas Development Offshore California, SO<sub>2</sub> emissions are projected only from compressors, methanol regenerators and heat stabilizers based

21.22

on power consumption; identical minimizing assumptions are made throughout this document and in Air Quality Impact of the Proposed OCS Lease Sale No. 73 Offshore Central California, both of which provided the basis for air quality impact findings in the DEIS.

b. "Offshore crude oil tends to have a higher sulfur content than oil currently being handled by the refineries" (page 4-85). Also, "Proposed Sale No. 73 crude oil is expected to be relatively sour (high sulfur) and heavy (low API)" (page 4-194). These statements and others in the DEIS reaffirm the logical assumption that Lease Sale 73 oil, and therefore gas, will likely be high in sulfur and H<sub>2</sub>S content, similar to the oil and gas produced from local onshore fields.

c. "If the produced gas has a high hydrogen sulfide content ("sour" gas), sulfur removal (by any one of a variety of methods) would be necessary" (page II-12, A Handbook for Estimating the Potential Air Quality Impacts Associated with Oil and Gas Development Offshore California). This statement confirms the logical conclusion that desulfuring must be performed on sour gas prior to shipping or piping it to a user, proposed in this case to be the Southern California Gas Company. The most likely location for this desulfuring to occur is at a central onshore processing plant, such as the one erroneously assumed to exist at Nipomo.

d. "No new refineries are proposed or expected; however, since much of the Proposed Sale No. 73 crude oil is anticipated to be heavy (low API) and high in sulfur content, then expensive modifications (i.e. retrofitting) to the refinery process would be needed" (page 4-4). "Installation of pollution control equipment or modification of... processing facilities may be necessary to prevent an increase in emissions of sulfur compounds" (page 4-43).

e. "Onshore gas processing facilities would be a significant source of air pollutants..." (page 4-216).

Combining all of the information found under assumption 4, we find that despite an expectation of high sulfur oil and gas, which in turn creates a need for onshore desulfuring and results in significant onshore SO<sub>2</sub> (and possibly H<sub>2</sub>S) emissions, no related impacts were studied.

The net result of assumptions 1 through 4 is that impacts from increased emissions of SO<sub>2</sub>, H<sub>2</sub>S, NO<sub>x</sub>, CO, VOC and particulate matter resulting from onshore treatment of Lease Sale 73 oil and gas have been virtually ignored in the DEIS. Many of these impacts may occur near Nipomo, as the likely location of a new major onshore treatment facility. SO<sub>2</sub> impacts from expected sulfur removal at this facility have been totally disregarded, a failure that is particularly serious since Nipomo has experienced some of the highest SO<sub>2</sub> levels in the state in recent years, and since air quality for SO<sub>2</sub> has recently declined at Nipomo while other SO<sub>2</sub> problem areas around the state have shown general improvement.

-8-

-7-

IV. Cumulative Impacts:

A. Statements:

"Inert pollutants - short-term average pollutant concentrations would not change significantly from those attributed to Proposed Sale No. 73 alone."

Ozone: "Impact levels would be about the same as for the Proposed Sale No. 73 alone." (both on page 4-92)

An erroneous conclusion is drawn when it is stated that inert pollutant and ozone combined impacts from Proposed Sale 73 and Lease Sale 53 would be about the same as impacts from Sale 73 alone. Results of impacts from air quality modeling are based ultimately on project generated emissions, the quantity emitted being in large part production rate dependent. Comparing the production rates for Lease Sale 53 with Proposed Lease Sale 73 from 1988 through 2005 shows combined oil production rates 133% greater than production rates for Proposed Sale 73 alone. It is not within the realm of proper scientific logic nor good judgment to conclude that emissions will not increase appreciably by extracting and handling 133% more crude oil.

21.23

B. Statement: "Inert Pollutant. Annual emissions of air pollutants for the entire proposed sale area would reach a maximum in the peak production year, 1993. Air emissions would occur over a 30-year period, but total emissions would generally decline after the year 1993." (page 4-216)

21.24

Again, cumulative impacts are not addressed when it is assumed that the Lease Sale 73 peak production year is 1993. As may be seen from the attached graph (Attachment B) of combined annual production rates for Lease Sale 53 and 73, production rates (and therefore emissions) greater than the Lease Sale 73 peak rate exist for ten years (1988 through 1998) and do not decline below the Sale 73 peak rate until 1998.

ATTACHMENT A  
RESOURCE MANAGEMENT AGENCY

Air Pollution  
Control District

county of ventura

Richard H. Baldwin  
Air Pollution Control Officer

March 14, 1993

Senator Gary Hart  
State Capitol  
Sacramento, CA 95814

ATTENTION: Arthur Weng

Dear Senator Hart:

Following is the OCS modeling effort summary which you requested. For the last several years, the Ventura and Santa Barbara APCD's, with the Air Resources Board, have directed coordinated studies which would ultimately lead to a determination and evaluation of the cumulative air quality impacts on both counties of the pollutant emissions from the equipment and activities which will occur due to offshore petroleum development and production in the Santa Barbara Channel. The southern portions of both counties violate the health-based national ambient air quality standard for ozone. Emissions of the ozone precursors, NOx (oxides of nitrogen) and VOC (volatile organic compounds), from the expected petroleum activities may further exacerbate this air quality problem unless these emissions are sufficiently mitigated.

The Federal Department of Interior (DOI), rather than EPA, was given the responsibility for air quality regulations for petroleum activities in federal waters (i.e. beyond California's 3-mile limit), but these requirements have been judged as inadequate and are the subject of a lawsuit brought by the ARB against the DOI. Under NEPA (the National Environmental Policy Act) DOI is responsible for environmental assessment of the consequences of offshore petroleum leasing and development. The DOI has failed to initiate the cumulative environmental impact assessment which both counties and the state believe is necessary. For these reasons, both APCD's and the ARB embarked on studies which would result in a cumulative air quality assessment of Santa Barbara Channel petroleum development and production.

The ARB supported the Ventura APCD with a \$62,500 contract beginning in 1978 for the development of an emissions inventory and forecasts of onshore petroleum development. Industry was to participate by providing technical information on equipment and forecasts of development schedules. However, there was only nominal cooperation and the APCD was required to produce its report based largely on its own estimates. The district has just completed a comprehensive revision and update of that report, again with only nominal participation from the industry.

The Ventura APCD received nearly \$173,000 from the Coastal Energy Impact Program (CEIP), between 1978 through 1982. This program is managed by the California Coastal Commission which has partially supported the operation of an air quality monitoring station on Anacapa Island. The CEIP has received its funds from the U. S. Department of Commerce for states conducting programs to carry out the national Coastal Zone Management Act. This funding has now been discontinued.

Government Center, Administration Building  
800 South Victoria Avenue, Ventura, CA 93009 (805) 654-2806

The ARB has directed meteorological and pollutant transport studies, which, along with the APCD's emissions studies, generate data which is necessary to conduct a computer air quality impact simulation model of the Santa Barbara Channel. With \$100,000 from the CEIP and \$170,000 from an EPA grant, the ARB contracted in 1980 for these studies. The California Institute of Technology carried out pollutant tracer and dispersion studies and MRI (a private firm) developed and analyzed meteorological data to characterize windflows in the channel.

In 1982, the ARB Research Division was prepared to seek bids on a \$70,000 contract for the calibration and validation of an air quality simulation model for the Santa Barbara Channel impact analysis project. This is a prerequisite to application of the model to this problem. However, because of a state contract freeze in early 1982, objections lodged at a June 1982 ARB Research Screening committee by Chevron USA staff representing the Western Oil and Gas Association (WOGA), and the current contract freeze, ARB has still not released a request for proposals (RFP) on this contract.

Currently, it is estimated that after the air quality simulation model is validated and calibrated, an estimated \$250,000 would be required to support the operation of the model and the evaluation of the information produced during the analyses of the air quality impact of Santa Barbara Channel petroleum development and production. Since 1982, there have been indications from ARB that, due to budget limitations, the final modeling effort might not be fundable. Such a consequence would largely negate the efforts taken to date.

Because of the enormous economic stakes involved with Santa Barbara Channel petroleum leasing, development, and production, the impetus for these actions is accelerating. Unless the cumulative air quality consequences of such actions are evaluated and appropriate and necessary mitigations implemented, already serious onshore air quality problems may be made worse. Consequently, it is imperative the ARB be able to move ahead in a timely manner with adequate direction, funding and resources to undertake the operation and application of the air quality simulation model to this air quality problem.

Sincerely,

*Richard H. Baldwin*  
Richard H. Baldwin  
Air Pollution Control Officer

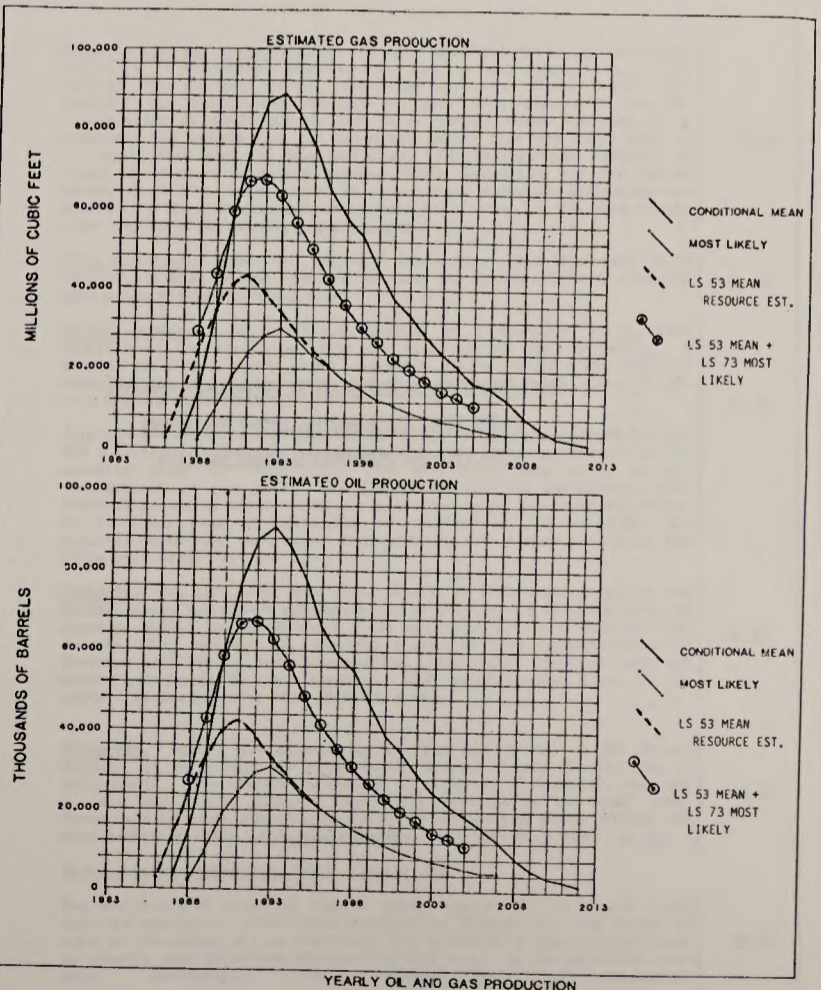
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cc: Dr. John Holmes, ARB Research  
John English, Santa Barbara APCD

RECEIVED  
MAR 28 1993

AIR POLLUTION CONTROL DISTRICT  
COUNTY OF SAN LUIS OBISPO

ATTACHMENT B



BOARD OF SUPERVISORS

COUNTY GOVERNMENT CENTER • SAN LUIS OBISPO, CALIFORNIA 93408 • 805-549-5450



Members of the Board
JERRY DIEFENDERFER
WILLIAM B. COY
KURT P. KUPPER
RUTH E. BRACKETT
JEFF JORGENSEN

April 18, 1983

Mr. John Lane, Chief
Environmental Assessment Division
Minerals Management Service
Pacific OCS Region
1340 West Sixth Street
Los Angeles, California
90017

Dear Mr. Lane:

SUBJECT: LEASE SALE #73 DRAFT ENVIRONMENTAL IMPACT STATEMENT

On April 18, 1983, the San Luis Obispo County Board of Supervisors considered the draft Environmental Impact Statement (DEIS) for proposed offshore oil lease sale #73. The attachments represent the comments, recommendations and concerns of the County Board of Supervisors. These comments were based upon a detailed page-by-page evaluation of the DEIS. Emphasis was placed on the adequacy of the document in addressing specific potential impacts from the sale, cumulative impacts from LS #53, appropriate alternatives, specific measures to mitigate identifiable impacts, and the manner and extent to which previously submitted comments on the scope of the DEIS have been incorporated or addressed.

The results of this evaluation clearly indicate that our comments submitted during the scoping process have not been considered or, in most cases, even acknowledged. These comments were submitted in a good faith effort to identify concerns, alternatives and potential mitigation measures to reduce identifiable impacts for evaluation in the DEIS. Moreover, our review has indicated that the DEIS, in addition to suffering from the apparent lack of consideration of our comments, has significant shortcomings that require correction in the Final EIS.

22.1

The following attachments are submitted to identify shortcomings and highlight suggested alternatives and mitigation measures that are requested for attention in the Final EIS. Attachment 1 includes overall comments on the document. Attachment 2 is a general evaluation of the attention given or not given to our comments. Attachment 3 includes comments on the air quality aspects of the EIS by the San Luis Obispo County Air Pollution Control District. We will also be sending written, specific page-by-page comments prior to April 25th. These comments are intended to provide constructive input to the formulation of a credible

John Lane, Chief
April 18, 1983
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environmental impact statement that adequately addresses local concerns, and possible impacts, alternatives and mitigation measures.

We strongly urge that you give in-depth consideration and specific attention to our comments as you develop the final Environmental Impact Statement.

Sincerely

[Signature]

JERRY DIEFENDERFER, CHAIRMAN
BOARD OF SUPERVISORS

cc: San Luis Obispo County and Cities Area Planning and Coordinating Council
Secretary of Environmental Affairs
California Coastal Commission

JD/RD/msK18b

ATTACHMENT 1

SAN LUIS OBISPO COUNTY BOARD OF SUPERVISORS COMMENTS
ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENTS
FOR PROPOSED OFFSHORE OIL LEASE SALE #73

APRIL, 1983

ATTACHMENT 1

SAN LUIS OBISPO COUNTY AND CITIES AREA PLANNING
AND COORDINATING COUNCIL COMMENTS
ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENTS
FOR PROPOSED OFFSHORE OIL LEASE SALE #73

These comments reflect the concerns and recommendations of the San Luis Obispo region regarding the Draft Environmental Impact Statement (DEIS) for proposed offshore oil lease sale #73. This response was developed after a detailed page-by-page evaluation of the DEIS and comparison of the document with the specific concerns, alternatives and mitigation measures recommended by this county during the scoping process. The intent of these comments is to assist in the preparation of a credible, objective and focused Final Environmental Impact Statement (FEIS) for this lease sale. Such a document would provide the basis upon which informed decisions can be made to achieve the congressionally-mandated balance between the potential for offshore oil and gas development and the potential for harm to the environment and coastal resources.

Our comments are organized in the following manner: Procedural concerns, format and organization, specificity of the study; alternatives, mitigation measures, cumulative assessment and unsubstantiated conclusions. Three attachments are provided: Attachment A includes the comments from the San Luis Obispo Air Pollution Control District. Attachment B is a critique of the attention given to the DEIS to our scoping comments. Attachment C will be mailed by separate cover and includes a page-by-page critique of the DEIS.

1. PROCEDURAL CONCERNS

The San Luis Obispo region continues to be concerned with the inadequate efforts to obtain and meaningfully consider public comments in this lease sale process. No public scoping meetings were granted after repeated requests, contrary to regulations of the National Environmental Policy Act (Sec. 1501.7a1 and Sec. 1506.bcl, 2). Rather than such public meetings, a request for written scoping comments was merely published in the Federal Register. Local governments were not directly contacted to request their input. Moreover, a minimal time frame was provided for submitting comments.

22.2

The DEIS was distributed less than 40 days later, a totally inadequate period to enable: 1) meaningful consideration of the 725 written comments received, 2) revision of the preliminary document to address comments received, and 3) printing and distribution of the document. No local public hearing was granted in this county even though the San Luis Obispo region is the area most directly impacted by the sale, and the area most vocally requesting local public hearings. More importantly, only 45 days is being allowed for submittal of written comments on the DEIS. This is far too short a period for interested parties to review, analyze and prepare comments on a very complex document. Moreover, the present comment period is inconsistent with the Department of Interior's own Department Manual (Part 516, Section 4.24). That time frame should be extended and the comments and testimony received should be extensively and meaningfully considered in the final EIS for this sale.

22.3

II. FORMAT AND ORGANIZATION

The format and language of the DEIS is unnecessarily complicated, making it difficult to read, assess and comment. Of particular concern is the separation of the discussion on the Environmental Impacts of Alternative #1 (most likely scenario) from that of the Environmental Impacts of Total Development (Conditional mean scenario). These two sections should be combined to eliminate the need to shuffle pages back and forth to obtain a full understanding of the range of possible impacts. For instance, to evaluate the environmental impacts on public services, one must first read pages 4-148 to 4-153 and then turn to pages 4-228 through 4-229 to ascertain how public services may be affected with a larger intensity of development. Consolidating these sections would eliminate duplicative material and greatly enhance readability.

22.4

A second major format problem is the generalized discussion of mitigation measures in a subsection of Chapter IV. This format problem contributed to the fact that numerous potential impacts identified throughout the document do not have any apparent mitigation measure to reduce the impacts. A discussion of potential mitigation measures and their effectiveness should follow the discussion of all potential impacts in order to enhance the use of the document and assure mitigation consideration of all impacts. This approach was used in a limited way in the Final EIS for LS 53 and should be used in the Final EIS for this sale.

22.5

A list of tables and figures would also be helpful for quick reference and organization.

22.6

III. SPECIFICITY OF THE STUDY

The DEIS does not provide an inventory nor an evaluation of specific resources and potential impacts within the lease sale area. This deficiency in the focus of the DEIS is found throughout the report, resulting in only a general overview and consequently an inadequate evaluation of potential impacts to the physical, biological and socio-economic environment. The results of this generalized evaluation are either a lack of consideration or a gross underestimate of the environment being evaluated and the potential impacts to that environment. A more specific evaluation of the existing physical, social and economic environment is necessary throughout the DEIS to accurately assess the manner and extent by which the sale may affect the area, and aid in the preparation of appropriate alternatives and mitigation strategies to reduce such effects. Such specificity at this time should minimize future delays and conflicts at the exploration and development phase. Specific examples of the inappropriate use of evaluation are provided in the following sections entitled: Maps and Figures, Base Data Used in Describing the Affected Environment, and Environmental Evaluations (Chapter IV).

22.7

Maps and Figures

The most obvious example of inappropriate specificity is the maps and figures that accompany or are included in the EIS. Graphics 1, 2, 3 and 4, the large printed maps, are approximately 2' x 3' in size (scale 1" = 16 miles), extending from Point Conception to the Oregon border. The actual lease sale area consisting of over 2 million acres is consequently only 4" x 4" on the map; an inappropriate and unusable scale. Three of the four maps do not even identify the proposed sale area. Graphic #1, Lease History, in addition to being incorrect, is so small the tract numbers are not even identified. Graphics 2, 3 and 4 identifying geologic structures, geologic hazards and commercial fishing areas do not identify the proposed lease area. Lacking such specificity, meaningful consideration of the information is not possible.

22.8

Other graphic examples are the "Figures" provided throughout the EIS. These figures generally portray areas extending between San Francisco and the Channel Islands. The resultant two million acre lease sale area is only 2" x 2" in size. Consequently, the data becomes meaningless for environmental assessment evaluation. More detailed maps and figures focusing in on the lease sale area is warranted in the Final EIS.

Base Data Used in Describing the Affected Environment (DEIS, Chapter III)

Much of the base information used for determining potential environmental impacts suffers from the same level of generality. Examples of such lack of specificity are discussed below by topic. A more specific evaluation of the physical, social and economic environment, of or adjacent to the immediate sale area, is pertinent for the Final EIS.

22.9

Coastal Economy and Demographics. Both of these sections are based upon a study area encompassing four (4) counties: Monterey, Santa Cruz, San Luis Obispo and Santa Barbara. Any projection and evaluation of the effects of this lease sale over such a large area (extending well beyond the sale area) obscures and underestimates potential impacts.

22.10

Public Services. A less than 1% projected population increase is predicted to have a corresponding insignificant overall impact on public services. This prediction appears to be accurate from a statistical point of view based upon the study area evaluated; the conclusion, however, is inaccurate in determining the potential impacts to the area affected by the sale. Affected areas will not be the cities of Santa Barbara or Goleta in Santa Barbara County, nor will they include Santa Cruz or Monterey Counties, which are located over 150 miles away. The areas of potential impact will be northern Santa Barbara County and the coastal areas of San Luis Obispo County, including the City of San Luis Obispo. Therefore, the study area used in the DEIS is inappropriate, and all related impacts including population, demographics, public services, tourism and recreation are inaccurate and understated.

22.11

In addition to the use of an improper population base and inappropriate study area, the entire discussion is in generic terms. Specific information as to projected water supplies and sewage capacity in the areas most likely to be affected (Pismo Beach, Grover City, Avila Beach, Morro Bay) is not provided. Similarly, the discussion of transportation service is extremely schematic. No discussion of existing or projected capacity levels is provided for key access roads to such coastal areas as Surf, Guadalupe, Nipomo and Avila Beach.

Commercial Fishing and Sportfishing. The emphasis of this DEIS section is statewide, with numerous examples of fish caught in Eureka and Port Bragg. Specific data identifying high yield fisheries, spawning areas, and primary bottom trawl areas, are simply not provided. The section on sportfishing does not even mention Port San Luis, although four sportfishing boats are currently based at the port. The evaluation of potential impacts based upon this inadequate or inappropriate information is accordingly underestimated and in some cases entirely overlooked.

22.12

Tourism and Recreation. Although tourism and recreation are major contributors to the San Luis Obispo coastal economy and were key concerns identified during the scoping process, the emphasis of this entire DEIS section is the San Francisco Bay area. The only specific data in this section is Table III C.8-1, which identifies the value of tourism in seven coastal counties. No reference to a single city (Morro Bay, Pismo Beach, Avila Beach, Grover City) immediately adjacent to the proposed sale area is even provided.

22.13

The recreational usage of the area is similarly not acknowledged. The Pismo Beach and Grover City coastal area, for example, receives over 4,000,000 annual visitors to the state park area alone. This entire section of the DEIS should be completely revised, identifying usage rates, dollar contributions, visitor days and bed-tax data for the specific lease sale area. The lack of such data obscures the relative importance of these factors to the local economy.

Ports and Harbors. Only two ports exist immediately adjacent to the lease sale area, Port San Luis and Morro Bay; neither is mentioned (p. 3-88), with emphasis being placed on ports in the San Francisco Bay area.

22.14

Geology/Geohazards. Although specific geohazard reports have been completed for the study area, the entire section is written on a statewide basis. The scale is inappropriate. Potential geohazards should be identified on a tract-by-tract basis using the specific data that already exists.

22.15

Oceanic Water Circulation. Most of the discussion centers on San Francisco and Monterey Bays. Estero Bay and San Luis Bay which are both within the lease sale area are not even identified.

22.16

Water Quality. Scale of evaluation: Point Conception to the Oregon border. One table discusses trace metals in San Francisco Bay, some 220 miles north of the lease area.

22.17

Rocky Shores and Sandy Beaches. These intertidal areas are extremely important in biological productivity, habitat and sensitivity to oil spills. The emphasis given: Point Conception to Point Reyes. For example, one calculation provided in this DEIS section is on the distribution of rocky shores and sandy areas. Such information is excellent for determining the potential impact that may occur from an oil spill that contacts the shoreline. The calculation, however, is based on an area extending between Point Conception and the Oregon border (p. 3-27). Calculations at such a gross scale are misleading and useless for an environmental assessment on an area 1/5 the size of the area considered in the calculation.

22.18

Fish Resources. Emphasis: regional evaluation. One DEIS section is devoted entirely to the spawning of King and Pacific Salmon, although none spawn within the study area.

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Marine Mammals. In a similar manner, no information is provided specific to the sale area, with the exception of the sea otters. A generalized map of grey whale migration routes is provided with no specification of how the routes vary in the proposed lease areas off San Luis Bay and Estero Bay.

22.20

Although the University of California, Santa Cruz, has completed for the MMS a 3-year inventory and spatial distribution of marine mammals in the specific study or lease area, the data from this study is not incorporated in the DEIS. The DEIS discussion is regionwide, with emphasis placed on major pinniped rookeries outside the lease sale area. No inventory, map or discussion is provided on the numerous seal haul-out areas and extensive concentrations of pinnipeds within the lease sale area.

Seabirds. The U.C. Santa Cruz study (funded by MMS) also identifies the spatial distribution and concentrations of nesting and foraging areas of seabirds within the study area. Such appropriate data is not included in the DEIS; emphasis is, instead, placed on bird concentrations in Northern California. Sensitive nesting areas within the study area are merely referenced to other studies. High seabird usage areas in the study area are not even identified on a map.

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Estuaries. Again, the orientation is Point Conception to the Oregon border. It is unclear why estuaries in Humboldt County are included in this report. The evaluation should be expanded to identify, map and discuss each of the wetlands immediately adjacent to the study area. These include Morro Bay and the mouths of creeks and rivers within the area including Vile Creek, Pismo Creek, Santa Ynez Rivermouth, et al.

22.22

Environmental Evaluations (DEIS, Chapter IV).

The evaluation of potential impacts (DEIS: Chapter IV) is largely based upon the generalized information provided in Chapter III. The result of such an evaluation is an easement and conclusions that underestimate or clearly omit potential impacts that may occur in the immediate sale area. Accordingly, the resultant lack of meaningful

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assessments of impacts, resulting in an inappropriate consideration of proper mitigation measures. This resulting problem of generality and minimal considerations is perplexing since local governments in the immediate area submitted specific scoping comments requesting emphasis in these areas. To correct this significant deficiency requires a complete refocusing of the EIS to the lease sale site rather than the present emphasis on the greater Central and Northern California areas.

#### IV. ALTERNATIVES

The DEIS includes only a cursory consideration of possible alternatives to the proposed action. Only a generalized discussion of the delay alternative is provided and then without mention of the numerous data deficiencies that exist and are referenced throughout the document. The no-sale alternative is primarily evaluated from a supply perspective, with no consideration of a comprehensive energy evaluation.

##### Alternatives Suggested During Scoping

The DEIS indicates a "preliminary list of alternatives were selected from LS #73 Scoping Comments and from consideration of Sale #53 Alternative Options" (p.1-17). In the first case, it is apparent the MMS did not consider the scoping comments from the San Luis Obispo region as the following three additional alternatives were not even acknowledged (see Attachment 2):

1. Nearshore San Luis Bay, Pismo Beach and Santa Maria Rivermouth tract deletion alternative.
2. A northern tier tract deletion alternative (all areas north of Pismo Beach).
3. Limited or serial leasing which releases blocks of tracts at different time intervals for exploration drilling to reduce peak lease sale exploration and development activity.

The distressing fact of this omission is that these alternatives were suggested or formally endorsed by those entities immediately adjacent to the sale areas: The San Luis Obispo County Planning Department, the San Luis Obispo County and Cities Area Planning and Coordinating Council, (representing the county and the seven cities) and the cities of Grover City, Pismo Beach and San Luis Obispo, and the area League of Women Voters of San Luis Obispo. The need for serious consideration of these alternatives is further substantiated by prior state and federal agencies' recommendations on LS #53. Specifically, these include:

- a. Deletion of 7 tracts in close proximity to Lion Rock, a major seabird rookery and marine mammal haul-out areas (California Resources Agency).

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- b. Deletion of 33 tracts in the north Santa Maria Basin to reduce the threat to the California Sea Otter (California Department of Fish & Game).
- c. Deletion of 27 northern tracts to protect the California Sea Otter and other valuable or sensitive coastal resources (California Coastal Commission).
- d. Provide a 10 nautical mile buffer from shore to protect known pinneped haul-out areas (National Oceanic and Atmospheric Administration and National Marine Fisheries Services). The basis for the buffer zone is the "... demonstrated low efficiency of at-sea cleanup particularly in the adverse sea states and weather conditions north of Point Conception."
- e. Delete the northern 27 tracts and provide a 6 mile buffer from shore along the remaining basin to provide protection for the Sea Otter and other nearshore marine invertebrates (National Fish and Wildlife Service).

The importance of consideration of these recommended alternatives can also be readily inferred and substantiated by the resulting litigation of the Northern Santa Maria basin tracts and the recent legislative actions to place these same areas in a lease moratorium to the year 2000.

Rather than a comprehensive evaluation of such alternatives the DEIS considers only one other alternative to the proposed sale: modification of the sale area to protect environmentally sensitive areas by deleting 2 1/2 tracts offshore of Morro Bay, within a lease sale area encompassing 360 offshore tracts.

##### Recommendations on Alternatives

Serious consideration and evaluation of the aforementioned suggested alternatives must be included in the final EIS. To be meaningful, such an evaluation must quantify the anticipated reduction in oil resources against the potential impacts that may occur in the areas affected.

#### V. MITIGATION MEASURES

Mitigation Measures suggested in the DEIS address only a portion of the potential impacts identified in the DEIS, and in many cases are inadequate in reducing the impact to an acceptable level.

Chapter IV, Section B of the DEIS identifies mitigating measures that are a part of the proposed action. This section partially addresses some of the suggestions made during the scoping process which include a brief evaluation of the effectiveness of each mitigation measure. The corresponding section on potential mitigating measures contains only standard lease sale stipulations used throughout the Pacific OCS. The

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specific mitigation measures suggested from our region during the scoping process are not even acknowledged. Moreover, the standard stipulations fail to reduce or even acknowledge many of the impacts actually identified in the document. No efforts are made to mitigate or address any losses beyond the standard mitigation. The following discussion covers the status of previously suggested mitigation measures, includes a specific section identifying unmitigated or partially mitigated impacts from the DEIS and finally suggests consideration of certain additional mitigation measures in the Final EIS.

##### Previously Suggested Mitigation Measures

As a good faith effort to minimize anticipated impacts resulting from this sale, local governments in our region suggested during the scoping process that certain mitigation measures be evaluated in the DEIS (see Attachment 2). Contrary to statements in the DEIS (p. 1-14) these recommendations were not even acknowledged. A brief evaluation of the manner and extent by which these comments were included or addressed in the DEIS is provided in Attachment 2. Suggestions included:

1. Evaluation of the effectiveness and need for modifications of existing rules and regulations. (A general discussion of effectiveness is included in the DEIS).
2. Evaluation of lease sale stipulations adopted by the State of California on the state tideland sale between Point Conception and Point Arguello.
3. Detailed measures to mitigate the following impacts were recommended. In some cases several potential mitigation measures were suggested.
  - . oil spills
  - . impacts to commercial fishing
  - . cumulative impacts
  - . vessel traffic conflicts
  - . potential threats to marine mammal and marine resources
  - . impacts to air quality

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##### Unmitigated or Partially Mitigated Impacts

The DEIS itself identifies a number of potential impacts that are either unmitigated or only partially mitigated. A precise comparison of this concern is difficult as the DEIS does not identify potential mitigation measures following the discussion of each identified potential impact. Such a comparison is provided below by topic, using both the most likely and high scenario levels of development. The results of this evaluation clearly indicate that many potential impacts are not being addressed or mitigated.

**Oil Spills.** Many of the potential impacts described in the following sections are dependent upon whether a possible oil spill comes in contact to the shore or certain coastal habitats. Overall, the DEIS indicates a rather low probability of such an occurrence. The

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probabilities of such an occurrence change dramatically if a spill occurs close to shore as shown by the following:

Analysis of winds and currents by the oil spill model indicated that if a spill occurs along the sea otter range (Pismo Beach north) within 10 miles of the coastline, there is an average probability of greater than 40% that it could contact the otter range within 10 days. Should a spill occur during the Fall, the probability of a spill contacting the sea otter range is as high as 89% in 10 days (p.4-112).

As such, the probabilities of such an occurrence from a spill within 10 miles of shore will, accordingly, add a higher risk to potential impacts identified. This provides substantive support for including an alternative to delete tracts within 10 miles of shore.

In comparison to the above probability of a spill from a nearshore area contacting shore, the following identifies the probabilities of an onshore hit from spills located farther from shore and the mitigation measures identified in the DEIS.

- . Probability of an oil spill contacting the Port San Luis area, one of the only areas anticipated to have an onshore contact, is 7% for the most likely scenario and 14% for the high scenario. Mitigation: Minimal. Deployment of oil spill cleanup and recovery equipment (p. 4-20). No buffer.
- . Probability of an oil spill contacting the sea otter range is 24%. Mitigation: Minimal. Deployment of oil spill equipment (p. 4-20). No buffer.

##### Air Quality

- . Moderate air quality impacts predicted for Santa Barbara County. No reference to impacts in San Luis Obispo County (p. 4-92). Mitigation: federal air quality regulations would likely require emission controls. The state Air Resources Board (ARB) and local APCD's are presently in litigation with the Department of the Interior claiming the regulations are inadequate to protect onshore air quality.

##### Public Services and Facilities

- . Expected development from LS #73 would result in a high to very high impact to the water system, requiring modification or expansion of the delivery system or implementation or conservation measures (p.4-151; p. 4-228).
- . Impacts to water supplies (high scenario, p. 4-229) may result in significant water quality deterioration from continued overdrafting. Mitigation: None identified.
- . Transportation systems impacts would be low to very low with limited localized areas to traffic facilities and traffic patterns

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under the most likely scenario (p. 4-151). Under the high scenario, transportation systems will suffer high impacts from increased traffic on roadways, rail lines and airlines. The road to Port San Luis, which is presently nearing capacity (level of service D), would suffer significant increases in traffic, resulting in long-term congestion which would not be amenable to alleviation because of limited room for road expansion (p. 4-228). Mitigation: None identified.

Coastal Land Use

- High scenario may create a demand for a new supply base to service the Santa Maria basin (in addition to a new base assumed to be constructed at Gavioita), p. 4-230. Mitigation: Local governmental permit review.
- While the most likely scenario may result in low impacts to land use, the high scenario encompassing 30 platforms "would significantly stress existing facilities" (p. 4-225), and "... will result in a high impact to land use, i.e. very incompatible uses, conflicting uses, conversion of land from rural to developed and conflicts with existing land use plans and policies" (p. 4-230). Mitigation: None identified.

Ports and Harbors

- High impacts will occur at Port San Luis primarily due to competition for vessel berth space and support facilities (p. 4-190). Mitigation: Local permit review.

Recreation/Tourism

- Closure of the beaches in the event of an oil spill would have a major effect on the region. For example, if an oil spill contacts the Port San Luis area, the impact to recreation from a 30-day closure would mean a reduction of approximately 350,000 recreationalists, with a corresponding economic loss of over \$3 million locally, and a \$7.3 million loss to the regional economy (pp. 4-173 to 4-174). Mitigation: None identified.
- Complete development (high scenario is expected to have a moderate economic loss (5%+) to recreation over the sale area with very high impacts (25%+ economic losses) for any areas that are actually contacted by an oil spill (p. 4-233). Mitigation: None identified.
- Tourism, being dependent upon the scenic quality of an area, is susceptible to impact from offshore oil development resulting from oil spills, offshore structures, onshore facilities, pipelines, noise and air quality (p. 4-176).
- For an area contacted by an oil spill, the impact to tourism could be very high, causing severe economic damage to the local

communities (pp. 4-176 to 4-179). Mitigation: None identified. Oil spill contingency fund would partially pay for cleanup costs.

- Complete development (high scenario) is anticipated to have a moderate impact (no % economic loss given) to tourism with very high impacts to any areas that are actually contacted by an oil spill. Mitigation: None identified.

Commercial Fishing

- Impacts to the commercial fishing industry as a whole are projected to be a 10% or less (most likely scenario, p. 4-162) to 20% (high scenario) economic loss. Bottom trawl fishermen are expected to sustain moderate economic losses (10-20%) for at least 3 years (p. 4-162). Mitigation: None identified.
- For the high scenario, moderate (10-20%) economic loss is expected to the fishing industry during peak years of activity due to navigation hazards or gear loss. Some financial loss to secondary employment is expected (p. 4-231). Mitigation: Limited to gear loss, fishermen's contingency fund.

Sportfishing

- If an oil spill occurs and strikes the coast, locally a very high impact (30%+) economic loss could result to the industry. If a spill occurred during peak fishing season and closed down sportfishing for 30 days, the economic loss to the industry would be \$9 million, and to the regional economy the economic loss would be \$2.2 million (p. 4-169). Mitigation: None identified.

Marine Traffic

- "Vessel presence could result in navigational hazards to other vessels under certain adverse conditions ... including periods of high sea state and periods of reduced visibility (fog, rain, etc.)". Mitigation: Minimal. Notice to mariners, lights, etc. (p. 4-28).
- The estimated number of vessel accidents during exploration, development and production activities should be small if current U.S. Coast Guard policy is followed which prevents activities in vessel traffic lanes. Otherwise, high economic losses can be expected (pp. 4-193 to 4-194). Mitigation: None presently. No lanes exist in lease sale area. Nor are there lease sale stipulations to assure adoption of such lanes prior to development.
- Complete development (high scenario) will result in moderate impacts (frequent vessel conflicts) to marine traffic. Rerouting of shipping traffic will be necessary. Mitigation: Adoption of U.S. Coast Guard vessel traffic separation schemes (though no lease sale stipulations are suggested to assure adoption prior to development).

Ocean Dumping

- Very high impacts must be assumed from any bottom disturbing activity in the 1,125 square nautical mile radioactive waste and military dumping area (p. 4-83, offshore Pt. Arguello). Mitigation: Bottom survey will reduce impact to very low if required. No requirement specified.

Estuaries

- Impacts are not expected; however, if a large spill entered an estuary, impacts could be high to very high (pp. 4-135 to 4-137). Mitigation: Deployment of oil spill cleanup and recovery equipment, use of dispersants. Buffer zone considered adjacent to Morro Bay.

Rocky Intertidal Areas

- The impacts to identified sensitive rocky intertidal areas (which include Shell Beach area, Port San Luis to Rattlesnake Canyon, and Cayucos to San Simeon Beach) are expected to be moderate to high in the event of contact from a large oil spill (pp. 4-95 to 4-98). Mitigation: Minimal. Deployment of oil spill cleanup and recovery equipment and possibly use of dispersants. No buffer proposed, except for Alternative #2, in the vicinity of Morro Bay.

Sandy Beaches

- If oil from a spill is retained on a sandy intertidal beach for long periods, community members (clams, etc.) may suffer a high ecological loss. Total destruction of local communities (clams, etc.) could result from cleanup operations after a spill (p. 4-95). Mitigation: Minimal. Onshore cleanup. No buffer zone.

Marine Mammals

- Seismic and geophysical pre-exploration surveys could damage the hearing of migratory whales (p. 4-115). Mitigation: None.

Threatened and Endangered Species

- The following impacts would result from a large oil spill coming into contact with the habitat of certain threatened species: least terns, moderate; California Brown pelicans, high; Southern Sea Otter, moderate to high; Peregrine Falcon, low for the California population; and clapper rails, high (pp. 4-128 to 4-131). Mitigation: Minimal. Deployment of oil spill cleanup equipment if possible. No buffer zone proposed.

Water Quality

- All trace metals (from formation water disposal) except zinc and lead would be below the maximum concentrations that present minimal risk of deleterious effects to marine life within 500 meters from the discharge point. Amount: 60,000 to 100,000 bbl. per day (pp. 4-72 to 4-78). Mitigation: None.

- A moderate impact to water quality is expected from an oil spill. The impact could apply to the entire sale area if the spill occurs in the northern portions and is moved south through the area by winds and currents based upon historical wind and current data (p. 4-78). Mitigation: Minimal. Deployment of oil spill cleanup/recovery equipment. No buffer zone.
- Oil and gas activities in the southern portion of the Santa Maria basin may result in the discharges from platforms combining with agricultural runoff from dairy land and could produce a cumulative impact in the Morro Bay area (p. 4-80). Mitigation: None.

- The level of impact to water quality for the most likely and high scenarios will vary from moderate to high within 300 meters of discharge and from low to moderate within 1000 meters of discharge.

Recommended Mitigation Measures

As should be apparent from the prior section, specific mitigation measures to minimize identified impacts are generally not proposed or required. Moreover, previously submitted mitigation measures suggested during the scoping process (see Attachment A) have not even been acknowledged. Imposition of such measures would go a long way towards balancing oil production with the protection of coastal resources and addressing many concerns raised by local government. The following mitigation measures are offered for evaluation as to their effectiveness and appropriateness in mitigating identified impacts:

- Expansion of Alternative #2, to modify the lease sale areas to protect sensitive and important coastal areas by deleting tracts shoreward of LS #53. This would include those unleased tracts offshore Morro Bay and offshore San Luis Bay (Port San Luis, Shell Beach, and the Santa Maria River). 22.27
- Require a Lease Sale Stipulation to assure the achievement of all available emission reductions using Best Available Control Technology (BACT) and the recommendations of the Drill Ship Emission Study Task Force. 22.28
- Impose a geohazards lease sale stipulation requiring all lessees to demonstrate the safety of their operations on tracts where geologic hazards exist or where unpredictably high pressurized shallow gas zones can be penetrated during drilling operations. 22.29
- Require mandatory site-specific biological surveys prior to: a) any drilling activity, and b) the construction or placement of any structure for exploration or development. Such surveys would help to assure that areas of highly productive marine life will be identified and protected prior to the commencement of operations. Areas of special biological significance should include:
  - Critical habitat for rare or endangered species;
  - Areas containing very unusual, rare or uncommon ecosystems or ecotones;
  - Areas of abundant numbers or high diversity of species;
 22.30

- Area containing species of limited regional distribution.
5. Require as a condition of approval of all exploration plans that all exploration drill rigs be equipped with a 24-hour automatic radar alarm system to minimize the potential for marine vessel/drill rig collisions during exploration drilling operations. 22.31
  6. Include a lease sale stipulation requiring the U.S. Coast Guard to adopt the Vessel Traffic Separation Scheme throughout the basin prior to approval of development plans, to reduce the potential for vessel/rig collisions. 22.32
  7. Establish a fund in a similar manner as that established for the Fishermen's Contingency Fund or Oil Spill Contingency Fund to be used for the following purposes:
    - a) Financing the construction and operation of a Marine Mammal and Seabird distress and rehabilitation clinic on the central coast. 22.33
    - b) Financing programs administered and approved by the National Marine Fisheries Service and administered by the appropriate state agency to enhance commercial fishing in the sale area.
    - c) Financing public service facility improvements (water, sewage, highway) that are necessary largely as a result of offshore oil development.
  8. Include a lease sale stipulation requiring bottom surveys for all tracts overlying radioactive and military dump sites to assure bottom-disturbing activity will not occur in a manner that will jeopardize the integrity of the dumped materials. 22.34
  9. Include a Notice to Lessee that restricts aircraft from flying less than 1,200 feet above ground level near all seabird nesting and pinned haul out areas along the Central California coastline. 22.35
  10. Evaluate the following methods to minimize impacts to water quality resulting from the discharge of formation waters, drilling muds and drilling cuttings into the marine environment:
    - a) ReInjection of formation water;
    - b) Transportation of drill cuttings and muds to an authorized land dump site or authorized ocean disposal site;
    - c) Shunting the wastes by submerged discharge outfalls near the seafloor to reduce plume size and impacts on the water column;
    - d) Establishment of qualitative and quantitative discharge limits. 22.36
  11. Consider methods to reduce peak and cumulative activity levels.

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- e) Serial leasing and development stipulations that will reduce and extend peak year activity levels.
- b) Limiting the number of drill rigs that can operate at a given time.
- c) Elimination of industry practice of "dedicated" crew and supply boats thereby allowing the pooling of available support craft. 22.37
- d) Investigate the use of small fuel tanker ships to provide fuel to drillships and platforms in the planning area, reducing the need for daily fuel shipments by supply boat.
12. Evaluate methods to preserve the integrity of the State Tidelands Petroleum Sanctuary. 22.38
13. Require operating regulations to minimize impacts to commercial fishing operations such as:
  - a) Seafloor bottom dragging to pick up debris in the vicinity of drilling operations. 22.39
  - b) Directional drilling to eliminate drilling through the middle or major bottom trawl runs, major shrimp areas and other limited biologically sensitive areas.
14. Include a seasonal drilling and geophysical survey requirement allowing geophysical surveys and exploration drilling only between May 1 to January 1 for all tracts shoreward of the outer boundaries of the primary grey whale migration route to minimize potential effects to grey whales during the height of their migrations and to the California Sea Otter during pupping season. 22.40
15. Require a centralized major onshore oil spill cleanup base be constructed and operational in an appropriate area adjacent to the Santa Maria basin. Such facility should include equipment meeting the specifications of the State Oil Spill Study being conducted by the California Coastal Commission. 22.41
16. Include a requirement that all lessees be required to install equipment for monitoring air and water quality and oceanographic currents and meteorology on all permanent offshore production platforms. 22.42

#### VI. CUMULATIVE ASSESSMENT

The cumulative assessment used in the DEIS is seriously deficient in terms of both the projects considered and the manner in which the assessment was conducted. 22.43

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First and foremost, the DEIS does not include a comprehensive evaluation of lease sale #53, despite the fact that the proposed lease sale surrounds the lease sale #53 area. Rather, the DEIS includes several sentences on the status of development and a paragraph on the status of leasing. More importantly, it devotes only one sentence on the expected level of development anticipated from the sale. In addition to the obvious minimal consideration of the previous sale, the DEIS projects a level of development that is less than that originally proposed in the draft EIS for LS #53. This is an obvious reduction in the projected level of impacts, as the Final EIS for this sale actually doubled the resource potential and hence the level of activity. More importantly, there has been a flurry of exploration activity in the basin resulting in three announced oil discoveries. All available industry and Department of Interior public announcements have repeatedly indicated that the Santa Maria basin is one of the most promising offshore areas in the lower 48 states. Oil industry officials have placed the estimates of resources at between 1 and 2 billion barrels of oil. The level of development in the DEIS is based upon a resource potential of less than 450 million barrels of oil. At the very least, the estimated level of development should be doubled, if not more realistically tripled, rather than reduced.

The result of this dramatic underestimate in the level of activity and resource potential is a corresponding reduction in a thorough understanding of the implications of the sale as it affects air quality, oil spills, socio-economics, commercial fishing and so on.

This major deficiency is further compounded by the fact that the cumulative assessment used was merely combined with other related projects. For instance, the cumulative assessment consists of all development from LS #53, the expansion of Vandenberg Air Force Base, the construction of the Pt. Conception LNG Terminal and other marine-related projects. An evaluation of the expansion of Vandenberg Air Force base, or Point Conception LNG Terminal may very well be appropriate, but the focus of the DEIS should be on the level of activity and potential extent of impact from Lease Sale #53. 22.44

As a result, the cumulative effects are never fully evaluated, and only a brief statement is offered. No description is given, for example, of the total number and timing of drill rigs and platforms or revised estimates for the number of oil spills resulting from the prior lease sale. Such information is pertinent in estimating service/crew base requirements, air quality effects, oil spills and the cumulative offshore-related effects of other impact-producing agents.

#### VII. CONCLUSIONS ARE UNSUBSTANTIATED AND BASED UPON INADEQUATE DATA OR UNREALISTIC ASSUMPTIONS

Throughout the DEIS, many statements are made or conclusions are reached that are not fully documented or are based either upon inadequate analysis or unrealistic assumptions.

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#### Transportation Scenarios

The DEIS, for example, states that oil and gas production from the sale area would be transported to shore by a subsea pipeline and would then be transported to Gaviota and either shipped for refining to Los Angeles by pipeline (50%) or to San Francisco (25%) and the Gulf of Mexico (25%) by tankers. First, no evaluation is provided as to the interface of these pipelines with those expected from Lease Sale #53. It is extremely unrealistic that a single subsea pipeline would connect the 40 tracts located in the central portion of LS 53 area, let alone the additional tracts from LS #73. More importantly, the DEIS assumes the Los Angeles onshore pipeline will be constructed and further assumes Los Angeles will refine the oil. Both assumptions have to be closely examined based upon recent actions taken by the South Coast Air Pollution Control District, which recently adopted regulations that may prevent expansion of refinery throughput and required retrofits. The implications of transport by tanker include corresponding increases in the risk of oil spills and extent of air pollutant emissions. Such an alternative scenario must be evaluated in the DEIS. 22.45

#### Vessel Traffic Conflicts

The DEIS also downplays the possible risk of vessel traffic conflicts and collision, claiming risks will be minimal "...if current U.S. Coast Guard policy is followed which prevents activities in vessel traffic lanes" (p.4-193). The underlying assumption for this claim is the existence of U.S. Coast Guard Vessel Traffic Separation Scheme. No such schemes (traffic lanes) are in existence and there is some doubt they will be adopted, even in the future. 22.46

#### Oil Spill Risk and Containment/Recovery

**Oil Spill Risk Analysis.** Another major shortcoming is the failure to fully discuss the limitations of the oil spill risk analysis and its undue reliance on the predictive nature of the model in reaching conclusions about oil spill impacts. First the number of spills are underestimated as the evaluation does not include the revised resource estimates resulting from LS 53, nor does the DEIS include estimates on the number of small spills anticipated. Second, the evaluation does not acknowledge that nearshore ocean current is lacking (p. 3-8) and that wind data is minimal. Third, the procedure used in the oil spill analysis is unclear and undocumented. The results indicate a rather small probability that any spill would reach the shoreline. However, P.4-112 provides evidence to the contrary. If a spill occurred within 10 miles of the coast it would have a 40% - 89% probability of contacting the sea otter range. Since the sea otter range is within only several hundred yards of shore, and extends over most of the planning area, the probabilities of a "shore hit" are very high indeed. The evaluation of impacts in the DEIS ignores this probability. 22.47

**Oil Spill Cleanup and Recovery Technology.** Undue reliance is also placed on oil spill cleanup and recovery technology indicating equipment is effective in surface wind velocities of up to 25 mph or wave heights of up to 6-8' (p. 4-134). Subsequent evaluation then indicates that oil 22.48

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spill containment equipment is effective 60-90% of the time based upon typical sea conditions (p. 4-135). This conclusion is contrary to most data available on the effectiveness of oil spill cleanup on the open sea and should be reevaluated, or a more thorough explanation be provided, in the Final EIS.

Discussions with Clean Seas Coordinator, Jay Welch (8/19/80), indicate the marginal effectiveness of containment and recovery on the open sea that are typical along our coast. More importantly, he identified a deep concern over his willingness to risk the lives of his workers and equipment in sea conditions over four feet in height. Furthermore, the California Coastal Commission and Department of Commerce in comments on the EIS for Lease Sale 53, and in the review of exploratory drilling plans for the Santa Maria Basin and other documents, place a definite limitation on the capabilities of oil spill containment equipment to operate in prevailing sea conditions off the Central California coast. The California State Lands Commission concludes that the state-of-the-art oil spill cleanup and recovery equipment works well in calm weather and sea states. Equipment efficiency starts to deteriorate as seas reach 2 feet and winds increase, becoming totally ineffective in seas of 6 feet and winds of 20 knots (pp. 58-71 Staff report on Current Status of Proposed Point Conception/Point Arguello Oil and Gas Leasing Program, 12/15/82). The document further points out that heavy fog or darkness virtually eliminates the use of any equipment because the oil cannot be seen on the water. Such inconsistencies and unclear statements in the OEIS should therefore be clarified further in the Final EIS.

Air Pollution Control

Additionally, the estimates of air pollution emissions in the DEIS assume air pollution control measures will be in place despite documented deficiencies in the USGS OCS air quality regulations and EPA rules that may preclude their required use. For example, the Analysis (p. 4-44) assumes vapor recovery equipment on tanker loading operations, yet a recent EPA rule exempts tanker emissions from air quality impact analysis for new or expanded marine terminals. No mention is made of the conclusions reached in the Supplement to the Air Quality Analysis for Lease Sale 53 (POCS 53-5) that the USGS regulations would only serve to reduce VOC emissions on the order of 10 percent (p. X-14).

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Base Evaluation

Finally, the manner of evaluation has tended to minimize effective evaluation of possible impacts. The lease sale area as viewed in the OEIS appears to be considered as a block with similar characteristics and hence impacts. Yet, the lease sale area is limited in scope and can be divided into several distinct kinds of tracts depending on whether the tracts are nearshore of the Lease Sale 53 area or whether they are deepwater tracts further offshore. Development of these distinct areas could have differing impacts and different implications in terms of onshore facilities and should require separate discussion and analysis. For example, drilling and production in the deepwater, isolated tracts may necessitate processing and tankering the oil from an offshore storage and treatment facility, while production nearshore would likely

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result in subsea pipelines to onshore processing facilities. Oil spills from nearshore tracts may have a greater probability of affecting the coast than those that may occur further offshore. Drilling and production in deepwater tracts may not be technologically or economically feasible. The FEIS should include separate discussions and analyses of these different kinds of tracts within the project area.

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ATTACHMENT # 2

COMMENTS ON THE SCOPE OF THE LS #73 ENVIRONMENTAL IMPACT STATEMENT

AND WHETHER COMMENTS WERE ADDRESSED IN THE DRAFT EIS

Submitted by the San Luis Obispo County and Cities Area Planning and Coordinating Council

The following are comments submitted on issues, concerns, alternatives and mitigation measures that are suggested for consideration in the Environmental Impact Statement. These comments were primarily developed by the San Luis Obispo County Planning Department, but were revised to incorporate additional concerns raised at a special hearing of the San Luis Obispo County and Cities Area Planning and Coordinating Council on January 27, 1983. The comments are organized as follows: Overall recommendations on the approach of work, level of detail, and alternatives and mitigation measures for consideration. This is followed by more detailed information by topic on issues alternatives and mitigation measures. Finally, specific concerns recommended in an attached letter by the City of Pismo Beach has also been unanimously supported by the Area Council.

OVERALL COMMENTS

\* Site - Specific/Subregional Analysis. We firmly believe the environmental assessment must analyze specific impacts. How will the lease sale affect Pismo Beach, what is the probability of an oil spill impacting the threatened sea otter, what are the present capabilities of oil spill clean-up equipment in rough seas and lacking effective equipment what other specific mitigation measures are proposed? Such specific evaluations provide a more accurate assessment as to how this sale will impact our local area, possible alternatives to reduce these impacts and appropriate mitigation strategies. Such specification at this time should minimize future conflicts and delays at the exploration and development phase as expressed in LS 53. NO

Mitigation Measures. Consolidate the discussion of potential adverse impacts with an assessment of possible alternative mitigation strategies. NO

\* Standard Mitigation Measures. Include an assessment of the adequacy and effectiveness of standard lease sale stipulations and OCS operating orders evaluating these "Standard" mitigations on the basis of experience already found from LS #53 and comparing these strategies with those included by the State of California in its proposed State Tidelands sale. NO EVALUATION OF CALIF. TIDELANDS STRATEGIES

PARTIAL DISCUSSION OF EFFECTIVENESS. Information deficiencies. Clearly specify where information is lacking and should be obtained prior to leasing, exploration and development to minimize subsequent delays and conflicts. INADEQUATE, NO COMPREHENSIVE LISTING NOR DISCUSSION OF IMPLICATIONS OF SUCH INFO DEFICIENCIES THROUGH DATA EXISTS IN BIOLOGICAL CHARACTERIZATION REPORT, VOL. #5.

NOTE: MAJOR CONCERNS & RECOMMENDATIONS ARE NOTED WITH AN ASTERISK (\*) OR CIRCLED.

\* Prior Comments on "Base Studies". Reconsider the comments made by responding agencies on the shortcomings, appropriateness and applicability of the three major base evaluations used during LS #53 - specifically the oil spill risk analysis, socio-economic analysis and air quality analysis. NO

\* Alternatives. Consider an evaluation of the following alternatives in the EIS:

1. A nearshore Morro Bay tract deletion alternative YES
2. A nearshore at San Luis Obispo Bay, Pismo Beach, Santa Maria River tract deletion alternative NO
3. A northern tier deletion alternative (litigation area) NO
4. Limited or serial leasing to moderate peak exploration/development activities and provide a more coordinated approach for development NO
5. An environmentally preferred alternative PARTIAL (#1 ABOVE)

LS 53 Impacts

The Minerals Management Service should summarize impacts and problems that have already occurred with LS#53 involving oil spills, clean-up problems, fishing conflicts etal and identify measures to correct these problems. NO

TOPIC COMMENTS

A. LAND USE

1. Identify existing facilities that service the industry the present level of use of these facilities and their potential to accommodate increased usage including:
 

a. Major supply base operations	<u>PARTIAL</u>
b. Crewboat service bases	<u>PARTIAL</u>
c. Helicopter service	<u>NO</u>
d. Marine terminal transport and storage facilities	<u>NO</u>
2. Identify other potential areas that may provide these support functions as well as other onshore support activities such as partial processing facilities; and assess potential issues, conflicts, required improvements and general mitigation measures. PARTIAL: BAY SAN LUIS - INADEQUATE EVALUATION
3. Identify and assess the benefits and environmental/economic costs to service various subareas of the planning area from alternative shore support facilities. PARTIAL IDENTIFICATION ONLY

B. SOCIO-ECONOMIC

1. Determine the socio-economic implications of violating state and national air quality standards as a result of increased emissions from offshore oil operations. This evaluation should assess or encompass: NO
  - a. The likelihood of violations
  - b. A detailed economic evaluation of the resultant onshore air pollution control requirements
  - c. The resultant effect of withholding federal funds to the county (highway, sewer, drainage and water project funds)
  - d. The possibility of a federally-imposed growth moratorium.
2. Estimate the direct and indirect population increase to San Luis Obispo and Northern Santa Barbara counties during the exploration and development phases of development according to various levels of anticipated development. NO EVALUATION; FOUR COUNTIES
3. Determine the ability of these communities to accommodate, house and service this population increase. NO EVALUATION; 4 COUNTIES
4. Determine the economic implications of a large oil spill on the local economies of various affected coastal communities. PARTIAL: EMPHASIS ON RECREATION/TOURISM LOSSES
5. Reduction of property values as a result of oil odors, added tar on the beaches, lower air quality and visual blight of our current pristine ocean views. NO
6. Impact of direct and induced population increases including its impact on communities with limited water supplies. PARTIAL, THOUGH INADEQUATE. EMPHASIS: FOUR COUNTIES

C. OIL SPILLS

1. Identify the number of projected spills including revised estimates from LS #53 and RS #2. NO EST. OF # OF SMALL SPILLS, NO REVISED ESTIMATES
2. Prepare trajectories of potential spills and approximate response times by subregions within the study area including consideration of recently completed nearshore circulation studies. PARTIAL - NO RESPONSE TIMES; NO CONSIDERATION OF NEARSHORE CURRENTS
3. Identify important nearshore areas that may be damaged by a spill and the type of potential impact in the following areas: estuaries, rocky intertidal zones, scenic areas and major high-use recreational areas. GENERAL IMPACT DISCUSSION; EMPHASIS CHANNEL ISLANDS TO SAN FRANCISCO
  - a. Identify potential impacts. GENERAL DISCUSSION
  - b. Estimate mitigation strategies including:
    - deletion of tracts in proximity to biologically sensitive areas; NORNO BAY ONLY
    - identification of priority areas for protection (priority resources); and NO

- assessment of nearshore protection techniques for priority resources. LIMITED: OIL SPILL DISPLACEMENTS
- 4. Assess and determine adequate buffer zones to protect significant nearshore biological resources accounting for the wave, wind and current conditions that are typical in the study area. NO
- 5. Assess the adequacy, effectiveness and capability of state-of-the-art oil spill cleanup technology in sea conditions that are typical in the study area and assess other plausible mitigation strategies. MINIMAL: NO IDENTIFICATION OF STANDARD SEA CONDITIONS
- 6. Incorporate the findings of the California Coastal Commission's recent studies on Oil Spill Cleanup technology, capabilities and oil spill cooperatives. NO ACKNOWLEDGMENT
- 7. Assess the adequacy of "Clean Seas" oil spill cleanup cooperative and its equipment; and the need to bring additional equipment into the area and the type and best location for this equipment. NO
- 8. Compare the effectiveness of federal regulations to state regulations pertaining to Critical Operations and Curtailment Plans. The purpose of these plans are to provide additional precautionary measures to minimize the likelihood of an oil spill during certain types of critical drilling operations that occur when weather and sea conditions make oil spill containment, and recovery equipment, ineffective and hamper transportation. NO
- 9. Assess the adequacy of present and continued funding for oil spill response drills for members of the National and Regional Response teams and the State Interagency Oil Spill Committee. NO
- 10. Evaluate the potential for spills during the testing phase of exploratory drilling, which require barges or other vessels to be brought adjacent to the drill vessel to test, temporarily store and transport recovered crude oil from exploratory drilling and testing activities. NO
- 11. Potential liability to local coastal communities from an oil spill including direct costs (cleanup) and such indirect costs as lost revenue. NOTHING ON LIABILITY
- 12. Evaluate alternatives to monitor the possibility of oil spills such as reactivating the prior U.S. Coast Guard daily airplane monitor flights over drilling areas. NO

D. TRANSPORTATION SCENARIOS

1. Identify the existing oil transportation network on the Central Coast and assess consolidation possibilities resulting from additional OCS derived petroleum exports. NO
2. Examine anticipated production from the offshore; capabilities and capacities of the refineries in the State; capabilities and

- capacities of existing marine and pipeline transportation networks; and project transportation needs for the future. MINOR DISCUSSION
3. Assess available refinery processing capabilities considering:
    - a. anticipated produced oil and market demand; NO
    - b. projected refinery retrofits; INADEQUATE EVALUATION
    - c. the likelihood of retrofit refinery modifications that will have to comply with the stringent air quality regulations recently adopted by the South Coast Air Quality; and NO
    - d. necessary refining/transportation alternatives. NO
  4. Assess probable means, alternatives and impacts associated with the transportation of oil from deep water or far-shore tracts. NO

E. OCS ORDERS, LEASE SALE STIPULATIONS

1. Assess the adequacy and effectiveness of existing "standard" lease sale stipulations, OCS Orders and "Notice to Lessees" as means to mitigate potential adverse effects. This includes:
  - a. purpose of the regulation; PARTIAL
  - b. effectiveness of regulation in meeting its purpose; and PARTIAL
  - c. modifications that would enhance its overall effectiveness. NO
2. Evaluate the use, effectiveness and implementation of the special operating requirements proposed in the State Tidelands offshore sale between Point Conception and Point Arguello. These include:
  - a. subsea completions; NO
  - b. pipeline feasibility; PARTIAL
  - c. potential geologic hazards; PARTIAL - OPERATING ORDERS
  - d. mandatory biological and marine mammal surveys; NO
  - e. labor requirement (U.S. Citizenry); NO
  - f. drill mud and cutting prohibition; NO
  - g. oil spill response capability; NO
  - h. ocean floor obstruction mapping requirement; NO
  - i. critical operations and curtailment plans (SLC regulations); NO
  - and
  - j. all season ocean current and meteorological studies (funding) NO

F. COMMERCIAL FISHING

1. Identify the higher yield commercial fish areas and the extent of fishing effort by tract within the planning area. NO
2. Identify and assess the potential adverse impacts and conflicts with the commercial fishing industry including the recent conflicts that have occurred and delayed exploration plans in LS #53. Potential conflicts include:

- a. jettisoned debris; MINOR DISCUSSION
- b. seismic/exploration ships; MINOR DISCUSSION
- c. drilling muds; MINOR DISCUSSION
- d. disturbed bottom sediment in bottom trawl areas from pipelaying operations and drilling vessel anchorage; PARTIAL
- e. navigation obstructions - i.e. platforms, vessels, new moorages; and MINOR DISCUSSION
- f. competition for existing harbor wharfage and berthage space and coasts. MINOR DISCUSSION
3. Identify and assess the adequacy and applicability of the following alternative mitigation strategies.
  - a. Fishermen's Contingency Fund; YES
  - b. seafloor bottom dragging to pick up debris in the vicinity of drilling operations; NO
  - c. notification procedures/communications with fishing associations and fishermen; PARTIAL
  - d. designation of prioritized use for harbor facilities and wharfage; and NO
  - e. directional drilling to eliminate drilling through the middle of major bottom trawl runs, major shrimping areas and other limited or biologically sensitive areas. NO
4. Assess the potential impacts of drill muds and cuttings in the benthic biota in the immediate vicinity of drill sites (DFG continues to raise concerns in exploration plans over potential impacts). YES

G. CUMULATIVE IMPACTS

1. Identify the existing levels of drilling and support activities and assess the cumulative impacts of increased industrial activity in the planning area to include - revised protected levels of activity NO for LS #53 (accounting for the recent oil finds in the basin), reoffering Sele #2 (RS #2) and LS #73, addressing:
  - a. commercial fishing operations; MINOR DISCUSSION - ALL
  - b. vessel support traffic; INADEQUATE WITHOUT
  - c. air pollutant emissions; RECONSIDERATION OF LS53
  - d. drill mud discharges; TRACTS & QUANTIFIABLE
  - e. risk of oil spills; and ASSESSMENT
  - f. onshore support activities.
2. Project various scenarios of activity based upon different resource estimates for the above categories. NO
3. Assess mitigation strategies to reduce cumulative effects including:
  - a. limiting the number of exploration drill rigs that can operate any given time; NO

- b. restricting the number of wells that can be drilled at any given time; NO
  - c. assessing management approaches towards reducing overall traffic and development including: NO
    - standardized long-term drilling crew shifts; NO
    - elimination of "dedicated" crew and supply boats allowing pooling of available support craft; and NO
  - d. investigate the use of small fuel tanker ships to provide fuel to drillships and platforms in the planning area, reducing the need for daily fuel shipments by supply boat. NO
3. Potential for earthquake or ocean floor setting due to removal of oil and gas from geologic strata in an area of known faulting and seismic activity. YES

H. GEOLOGIC HAZARDS

- 1. Define the type and extent of geologic hazards in the planning area and assess the potential increased risk of development in hazardous areas as well as mitigation strategies that are available. YES - INCLUDES TYPE & EXTENT - NO INCREASED RISK
- 2. Geologic hazards that should be evaluated include:
  - a. seismicity and faulting; DISCUSSED IN GENERAL TERMS - NO SPECIFICITY TO SALE AREA.
  - b. slumps and subsidence landsliding; and
  - c. shallow gas deposits.

I. VESSEL TRAFFIC SAFETY

- 1. Assess the ability of the U.S. Coast Guard to designate Vessel Traffic Separation schemes in light of recent budget reductions. NO
- 2. Identify the present extent and major routing of vessel traffic through the study area. NO
- 3. Determine the risks of ramming or collision and the subsequent risk of oil spills and hazards to coastwide vessel traffic. PARTIAL
- 4. Evaluate the effectiveness and appropriateness of the following alternatives and mitigation measures:
  - a. adoption of U.S. Coast Guard Vessel traffic separation lanes; YES
  - b. requiring 24 hour radar alarm devices on all exploration and production rigs; NO
  - c. requiring all OCS derived oil to be transported to refining centers by onshore pipelines rather than marina terminal and oil tanker operations; PARTIAL
  - d. considering the feasibility and procedures for terminating present marina tankers oil export facilities in Estero Bay and

- Port San Luis and transporting such crude to refining centers with the OCS derived crude by onshore pipelines; and NO
- e. requiring all oil tankers serving the planning area to be "dedicated" vessels with state-of-the-art technology. NO

J. MARINE MAMMALS

- 1. Assess the ability of the U.S. Fish and Wildlife Service to implement the approved Southern Sea Otter Recovery Plan in light of recent budget reductions. NO
- 2. Determine the projected level of oil-related activities that may jeopardize the restoration of the Southern Sea Otter to a non-threatened status. NO
- 3. Consider available alternatives to minimize the existing threat from oil-related activities that may be developed as a result of offshore oil development including:
  - a. the designation and implementation of tanker traffic schemes prior to exploration and development; YES
  - b. reduction of present tanker traffic by considering other transportation and/or fueling alternatives at Moss Landing, Estero Bay and Port San Luis; and NO
  - c. other actions that may be possible to minimize the risk of tanker accidents and other possible sources of spills. NO
- 4. Consider alternatives to reduce the increased threat of oil spills from reaching the sea otters range including:
  - a. the evaluation, selection and establishment of appropriate and effective buffer zones between drilling areas and the present sea otter range considering the sea, wind, and wave conditions that are typical in the area and the effectiveness of oil spill containment and recovery equipment in these conditions; and MINOR, THOUGH INADEQUATE; ALTERNATIVE #2 - M. BAY TRACT
  - b. develop and implement a sea otter oil spill response plan DESIGN prior to exploration drilling within a specified distance to the sea otter range. NO
- 5. Potential impacts and possible mitigation measures to the annual gray whale migration indicating consideration of seasonal drilling in certain areas. NO

K. MARINE RESOURCES

- 1. Document studies completed to date on ocean discharge and formation waters, drill muds and cuttings and identify unresolved issues, additional information needs and unresolved or conflicting issues, findings and recommendations including:

- a. effects of ocean discharge on marine organisms; YES
  - b. toxicity of drill muds; PARTIAL
  - c. acute effects; PARTIAL
  - d. long-term and sublethal effects on organisms due to continued exposure to low concentrations of muds; PARTIAL
  - a. reductions in reproductive roles due to interference with fertilization; and NO
  - f. concentration of heavy metals up the food chain. NO
2. Evaluate the need for an independent study of the effects of drill mud/cutting discharge on the marine environment. NO
3. Evaluate an alternative to the basin-wide National Pollution Discharge Permit providing a more thorough review of discharge permit requirements in designated areas of high biological sensitivity, important breeding areas and high yield commercial fishing grounds and imposing the general permit in all other areas. NO
4. Evaluate biologically important and/or sensitive areas through the following:
  - a. identify areas; PARTIAL: GENERALIZED IDENTIFICATION
  - b. assess importance and value; LIMITED TO MORRO BAY
  - c. determine potential impacts; and LIMITED TO MORRO BAY
  - d. evaluate possible mitigation measures. " " " "
5. Depletion of the nationally famous Pismo Clam resulting from chronic and acute oil spills. PARTIAL

L. AIR QUALITY

- 1. Estimate oil and gas reserves for the entire area included in both Lesse Sale 53 and Lesse Sale 73, including and excluding the areas where tracts are currently in litigation, and based on newest information available from current prospecting and exploration operations. NO
- 2. Worst case air quality analysis should be based on emissions calculated using the high resource estimate, not the mean estimate emissions as used for the LS #53 EIS. UNKNOWN, NO REFERENCE IN DEIS MUST REVIEW DETAILED AIR QUALITY REPORT (UNAVAILABLE)
- 3. Include a comprehensive emissions inventory for both the LS #53 and LS #73 area and use as the basis for air quality impact modeling. UNKNOWN, NOT REFERENCED IN DEIS
- 4. Conduct additional tracer studies off Morro Bay and Pismo Beach at a range of 10 to 20 miles off shore to determine the true dispersion characteristics of pollutants emitted from that distance. Use the results of these studies and those already completed near shore off Pismo Beach to validate the model to be used. NO
- 5. Conduct complete air quality impact analysis including photochemi-

- cal and conservative pollutant modeling. Such analysis, to be meaningful, must not only indicate "worst case" impacts but must also reveal the potential for moderate pollutant days to become nonattainment days as a result of OCS emissions. Worst case ozone day modeling should be conducted for at least a 24-hour period. UNKNOWN - NOT REFERENCED
- 6. All air quality impacts considered in the document should reflect the LS #73 impacts and the cumulative impacts of LS #73 and LS #53. NO CONSIDERATION OF REVISED LS53 ESTIMATES
- 7. Determine contributions of SO<sub>2</sub> and NO<sub>x</sub> from all LS #53 and LS #73 offshore devices and facilities, to the formation of acid fog and acid rain, and estimate the resultant impact on health, crops and property in affected onshore areas. NO
- 8. Conduct an economic analysis of the effects onshore of becoming nonattainment for ozone and SO<sub>2</sub>. This analysis should include cost to local business of retrofitting to achieve necessary standards, cost of EPA imposed sanctions that would occur if we were unable to demonstrate attainment, costs to local government to prepare, administer and enforce nonattainment plans, increased health costs, losses due to crop yield reductions, and losses to the tourist industry. NO
- 9. Effective air quality mitigating measures should be proposed to assure that all available reductions in emissions are achieved. These should include California BACT requirements and the recommendations of the Drift Ship Emission Study Task Force. NO
- 10. The general approach and format used in the EIS and POCIS Reference Paper no. 53-5 should be retained to the LS #73 documents. UNKNOWN DETAILED AIR QUALITY REPORT HAS NOT BEEN DISTRIBUTED
- 11. Complete and assess data on meteorology and pollutant transfer in the planning area. NO
- 12. Include specific trajectory analysis of photochemical pollutants (NO<sub>x</sub>, RHC, O<sub>3</sub>) from offshore areas likely to have recoverable oil and gas resources to the locations shown below. Such analysis should include the cumulative impacts resulting from new offshore LS 53 and LS 73 emissions and existing onshore emissions. UNKNOWN DETAILED AIR QUALITY REPORT HAS NOT BEEN DISTRIBUTED
  - a. Offshore Morro Bay through Morro Bay to Atascadero.
  - b. Offshore Morro Bay through Morro Bay to San Luis Obispo.
  - c. Offshore Point San Luis to Pismo Beach
  - d. Offshore Grover City to Nipomo.

SAN LUIS OBISPO COUNTY AIR POLLUTION CONTROL DISTRICT  
 COMMENTS ON SCOPING FOR THE ENVIRONMENTAL IMPACT STATEMENT  
 FOR OCS OIL AND GAS LEASE SALE # 73

1. Estimate oil and gas reserves for the entire area included in both Lease Sale 53 and Lease Sale 73, including and excluding the area where tracts are currently in litigation, and based on newest information available from current prospecting and exploration operations. NO
2. Worst case air quality analysis should be based on emissions calculated using the high resource estimate, not the mean estimate emissions as used for the LS #53 EIS. NO
3. Include a comprehensive emissions inventory for both the LS #53 and LS #73 areas and use as the basis for air quality impact modeling. NO
4. Conduct additional tracer studies off Morro Bay and Pismo Beach at a range of 10 to 20 miles off shore to determine the true dispersion characteristics of pollutants emitted from that distance. Use the results of these studies and those already completed near shore off Pismo Beach to validate the model to be used. NO
5. Conduct complete air quality impact analyses including photochemical and nonreactive pollutant modeling. Such analyses, to be meaningful, must not only indicate "worst case" impacts but must also reveal the potential for moderate pollutant days to become nonattainment days as a result of OCS emissions. Worst case ozone day modeling should be conducted for at least a 24-hour period. PARTIAL
6. All air quality impacts considered in the document should reflect the LS #73 impacts and the cumulative impacts of LS #73 and LS #53. NO
7. Determine contributions of SO<sub>x</sub> and NO<sub>x</sub> from all LS #53 and LS #73 offshore devices and facilities, to the formation of acid fog and acid rain, and estimate the resultant impact on health, crops and property in affected onshore areas. NO
8. Conduct economic analyses of the effects onshore of becoming nonattainment for ozone and SO<sub>2</sub>. This analyses should include cost to local business of retrofitting to achieve necessary standards, cost of EPA imposed sanctions that would occur if we were unable to demonstrate attainment, costs to local government to prepare, administer and enforce nonattainment plans, increased health costs, losses due to crop yield reductions, and losses to the tourist industry. NO
9. Effective air quality mitigation measures should be proposed to assure that all available reductions in emissions are achieved. These should include California BACT requirements and the recommendations of the Drill Ship Emission Study Task Force. POSSIBLE MITIGATION MEASURES DISCUSSED, NONE PROPOSED
10. The general approach and format used in the EIS and POCS Reference Paper No. 53-5 should be retained in the LS #73 documents. NO

11. Complete and assess data on meteorology and pollutant transfer in the planning area. NO
12. Include specific trajectory analysis of photochemical pollutants (NO<sub>2</sub>, RHC, O<sub>3</sub>) from offshore areas likely to have recoverable oil and gas resources to the locations shown below. Such analyses should include the cumulative impacts resulting from new offshore LS 53 and LS 73 emissions and existing onshore emissions. NO
  - a. Offshore Morro Bay through Morro Bay to Atascadero
  - b. Offshore Morro Bay through Morro Bay to San Luis Obispo
  - c. Offshore Port San Luis to Pismo Beach
  - d. Offshore Grover City to Nipomo

ATTACHMENT #3  
 AIR QUALITY

A. Statement of Findings and Concerns

1. The shortened comment period did not allow sufficient time for comprehensive review of the EIS. One air quality support document was not received until April 1.
2. The DEIS indicates that there will be 2 or 3 violations of the Federal ozone standard per year. This will result in nonattainment designation. However, mitigation measures or air quality stipulations are not suggested that would mitigate this critical impact, nor is there an economic assessment of its effects on local business, industry and government.
3. Cumulative air quality impacts are not given serious consideration. The DEIS even states that air quality impacts will be about the same from Lease Sale 53 and 73 combined as from Lease Sale 73 alone. Our preliminary analysis shows this assumption to be completely erroneous.
4. There is no analysis of the air quality impacts from OCS-related onshore facilities that are shown in the DEIS to be needed. Such facilities include oil treatment and gas treatment and desulfurization plants.
5. The assumption is made, and carried through in all of the air quality sections, that the USGS Air Quality Regulations assure impacts will not be significant. It is our position that the Regulations are totally inadequate and unreliable. There is an ongoing lawsuit challenging their adequacy.

B. Suggested Amendments for the Final EIS

1. Include a clear statement that the USGS Air Quality Regulations will not likely impose any air quality analysis requirements or emission control requirements, and presentation of air quality impact analyses which don't assume that there will be such controls. (No facilities in the Federal waters of the Santa Barbara Channel have triggered such requirements.)
2. Include a clear statement as to the likelihood and frequency of violations of the National ozone standard in San Luis Obispo County.
3. Include a detailed analysis of the economic and regulatory impacts on industry and local government resulting from becoming nonattainment for ozone.
4. Include a detailed analysis of needs and alternatives for onshore oil and gas treatment and desulfurization with an air quality analysis for the most likely or recommended alternative.
5. A comprehensive cumulative impact analysis for all pollutants utilizing emissions projected for new and existing onshore sources, Lease Sale No. 53 projected emissions, Lease Sale No. 73 emissions and the most recent information on meteorology and dispersion characteristics over central coastal waters.

6. The following air quality stipulation to be attached to all leases resulting from Lease Sale No. 73:

a. Drill Ships

- (1) All drill ships operating in California Coastal Waters shall utilize the control measures set forth by the Drill Ship Emissions Task Force.
- (2) All operators shall coordinate exploration activities with each other, the Minerals Management Service, the California Coastal Commission and the California Air Resources Board so as to avoid the maximum extent feasible simultaneous operations on adjacent tracts.

b. Platforms

- (1) All equipment installed on platforms to be placed on the OCS shall be designed, constructed and operated with the best available air pollution control equipment as determined by the local district and the ARB.
- (2) Emission offsets from sources onshore in San Luis Obispo County and Northern Santa Barbara County shall be obtained for all increases in emissions of hydrocarbons, sulfur dioxide and oxides of nitrogen.

c. Tankers

- (1) Transport of all oil to shore end of the Central Coast area shall be accomplished via pipeline. If this is not possible then emissions from all tanker loading, unloading and combustion emissions shall be controlled by the application of best available control technology.
- (2) All tanker emissions shall be included in the environmental assessment conducted for Federal permits, development and production applications.

7. Provide an analysis of the role of NO<sub>x</sub> in the formation and deposition of acid fog and acid rain, and the likely biological and physical impacts.

A. 6. (addendum to previous page)

There is no analysis of the biological and physical impacts expected to result from the formation and deposition of acid rain and fog.

SPECIFIC COMMENTS ON  
DRAFT ENVIRONMENTAL IMPACT STATEMENT  
PROPOSED 1983 OUTER CONTINENTAL SHELF  
OIL AND GAS LEASE SALE NO. 73 OFFSHORE CENTRAL CALIFORNIA  
SAN LUIS OBISPO COUNTY AIR POLLUTION CONTROL DISTRICT

I. General Comments and Concerns:

A. General validity of impact estimates; resource estimates inadequate-

Statement: "Calculated air quality levels represent a reasonable approximation based on probable exploration and development plans, production schedules, and transportation scenarios." (page 4-84; emphasis added) Throughout the document, potential or likely impacts directly related to the proposed sales have been minimized or ignored. The air quality analysis appears to be done in a manner so as to promote OCS exploration and production rather than examine environmental impacts. The use of a Most Likely Resource Estimate as a basis for air quality analyses avoids the worst case study that should be conducted to present information essential to making a proper decision about the Lease Sale. The only transportation scenario examined involves 100% piping of oil and gas out of the local area, ignoring adverse impacts from likely tankering of petroleum during early development years, before pipelines are determined to be cost effective and become operational. This timing problem is identified, but not considered further, in the DEIS: "Implementation of the activities assumed in the [transportation] scenarios can only be executed after leasing occurs and production of resources commences" (page 4-3; bracketed word and emphasis added). By means such as this, the DEIS consistently underestimates air quality impacts.

B. Effectiveness of end impact mitigation from DOI (USGS) air quality regulations-

Statement: "Prior to any company constructing a source resulting in significant pollutant emissions on the OCS, Minerals Management Service will perform a detailed air quality analysis and will determine anticipated air quality impacts including cumulative effects from interaction with existing OCS pollution sources." Contrary to this misleading claim, USGS Air Quality Regulations exempt offshore sources emitting less than a formula-determined amount (100 ton per year at three miles offshore, for example) from any further air quality impact analysis, and exempt such sources from any emission control requirements whatsoever. Even in the nearest Federal OCS tracts, the very liberal exemption allowed by these regulations means that typical platforms and activities will require neither air quality analysis nor emission controls. In the draft version of Air Quality Impact of the Proposed OCS Lease Sale 73 Offshore Central California, by Form and Substance, Inc. (March, 1983) the study on which the draft EIS air quality conclusions are based, the authors confirm this on page 9 of the Executive Summary: "It is not expected that Lease Sale #73 activities during either the peak development or peak production year will produce emissions that exceed the applicable DOI emission exemption levels."

Further, cumulative assessment of OCS impacts from multiple sources, rather than being required by the Air Quality Regulations, is left merely to the discretion of the Secretary of the Department of the Interior. Ample evidence of DOI's exercise of this discretionary power is found in the experience of coastal counties bordering the Santa Barbara Channel, where 12 platforms in Federal waters collectively cause a variety of significant onshore air quality

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impacts. As stated by Mr. Richard N. Baldwin, Air Pollution Control Officer of Ventura County in his letter to State Senator Gary Nart, dated March 14, 1983 (copy attached), "The DOI has failed to initiate the cumulative environmental assessment which both counties and the state believe is necessary." Mr. Baldwin's letter describes the great costs and effort incurred by local counties and the state in attempting to perform this necessary study, as a direct consequence of DOI's inaction and neglect in discharging their responsibilities.

C. Shortened comment period-

The newly instituted DOI procedure of "streamlining" the decision-making process has not only substantially curtailed public participation in the leasing decision, but has imposed comment deadlines on local agencies and the public which are nearly impossible to meet. Reducing the comment period from the customary 60 days to 45 days, coupled with late arrival of such critical documents as a Handbook for Estimating the Potential Air Quality Impacts Associated with Oil and Gas Development Offshore California (a 585 page document received March 17, 1983, twenty seven days prior to the single public hearing in Santa Maria); the Draft Environmental Impact Statement - OCS Sale No. 73 (a 531 page document received in late March 1983, approximately three weeks prior to the public hearing in Santa Maria); and Air Quality Impact of the Proposed OCS Lease Sale No. 73 Offshore Central California (received April 1, 1983 a mere twelve days prior to the single public hearing in Santa Maria), has not provided adequate time to review the highly technical project material and prepare properly detailed comments. The short comment period on these documents is particularly unreasonable in that elected decision makers, such as our County Board of Supervisors, must approve comments prepared by technical staff, a process which takes, at minimum, a week.

Considering the general promotional tone of the DEIS, the shortened comment period, and the proposal to hear oral comments in three separate rooms simultaneously in Santa Maria on April 13, it appears that DOI considers environmental assessment to be merely a troublesome technicality, disregarding the intent of the laws requiring environmental assessment. With production not expected to begin until 1988 it does not seem unreasonable to allow extra time up front for proper consideration of air quality impacts.

D. General comments summary-

Given the loose approach to air quality impact analysis in the DEIS, the lack of mitigation measures, and the inadequacy of the USGS Air Quality Regulations, the most logical conclusion is that unacceptable onshore impacts are very likely to occur. These impacts will be manifested through exceedances of Federal and State Ambient Air Quality Standards and significant deterioration of air quality as defined in the Clean Air Act.

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II. Ozone Impacts from Lease Sale 73:

A. Importance of ozone problem; DEIS minimizes impacts-

Statement: "Photochemical smog is by far the most serious air pollution problem in many urbanized California coastal areas." (page 4-41) We heartily agree with this assessment, and are appalled by the lack of emphasis this DEIS places on ozone impacts from Lease Sale 73. In particular, in all summary statements, the DEIS persistently avoids acknowledging the effect of Lease Sale 73 on ozone in San Luis Obispo County. This occurs despite strong findings in the body of the document that our County can be expected to fail to attain the National ozone standard as a direct result of Lease Sale 73. Typical of this evidence, in discussing the cumulative ozone impacts of Lease Sale 73 and 53 on page 4-92, the statement is made that "The area primarily affected (sic) would be the western portion of Santa Barbara County." In discussing cumulative impacts again on page 4-217, the authors state: "Potential increase in ozone levels from all OCS activities could aggravate existing problems in attaining the ozone standard in Santa Barbara County", with no mention of effects on San Luis Obispo County et al.

B. Frequency of ozone impact in San Luis Obispo County-

Statement: "Since future baseline levels already exceed the State AAQS and almost exceed the Federal AAQS, the Proposed Sale No. 73 sources could lead to violations of the Standards. However, it must be noted that the models were run assuming very restrictive meteorological conditions. These conditions are expected to prevail only 2 or 3 days a year." (page 4-88; emphasis added) The structure of this statement leads one to dismiss the importance and likelihood of exceedances of the National ozone standard. The Central Coast experiences precisely these "very restrictive" meteorological conditions, with the lowest and often most persistent inversions found in California. As a result of such conditions, even with our relatively low local population and limited number of ozone precursor sources, we do experience a significant and precarious ozone problem. At Nipomo, the site selected in the DEIS as the key ozone receptor in the single modeling trajectory examined, ozone levels have violated the State 0.10 ppm hourly standard an average of 3.7 times each year since monitoring began in 1978. From one to eight hourly violations have occurred each year. One violation of the National 0.12 ppm hourly average ozone standard has also occurred, when a level of 0.14 ppm was observed in 1978.

The County is currently classified as attainment for ozone, under provisions of the Clean Air Act, and although we approach the standard, we expect to maintain attainment in the foreseeable future, barring changes due to sources beyond local control, such as Lease Sale 73. To attain the National standard, ozone levels at Nipomo must exceed that standard more than an average of once per year over a three year period. If, as projected in the DEIS, Lease Sale 73 emissions significantly contribute to exceedances of ozone standards "only 2 or 3 days a year" our County will become nonattainment as a direct result. We believe exceedances are virtually inevitable due to Lease Sale 73, given the minimal offshore emission controls required by the DOI (USGS) air quality regulations, discussed under comment I.

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C. Severity of ozone impact confirmed in DEIS-

Statement: "The Nipomo [ozone] trajectory resulted in a maximum 1-hour ozone increase of 4 parts per hundred million (pphm). The maximum baseline concentration [without Lease Sale 73] was 12 pphm. Since the Federal AAQS for ozone is 12 pphm, any increase above the baseline concentration would result in a violation of the Federal standard" (page 4-216; emphasis and words in brackets added). Also, "If the Proposed Sale No. 73 were not to take place, the air quality impacts described in Section IV.E.1.c would not occur. Future pollution levels would not be expected to change significantly. Many coastal areas would continue to experience episodes of ozone concentrations exceeding State or Federal Standards. However, with increasingly stringent pollution control strategies being implemented by the Air Pollution Control Districts, ozone levels should gradually decline in the future" (page 4-202).

The latter two DEIS quotes clearly reaffirm our conviction that in the absence of OCS oil and gas production, San Luis Obispo County will continue to attain the National ozone standard, but as a direct result of Lease Sale 73 our County will violate that standard more than once each year, causing us to become nonattainment for ozone. This air quality impact is higher than the worst category considered in the DEIS ("very high"), defined on page 9-2: "Pollutant concentrations in attainment areas increasing to levels equivalent to the ambient air quality standards" (emphasis added). In our opinion, an additional impact classification should be defined, "unacceptable"; clearly, a change in attainment status directly resulting from a proposed project is unacceptable.

Despite the seriousness of these findings, the DEIS summary discussions consistently ignores their importance with misleading, bland understatement and blithe promises (Summary page iii): "Moderate air quality impacts were predicted for coastal regions adjacent to the proposed sales area. It is likely therefore, that OCS facilities associated with Proposed Sale No. 73 would be required under Department of Interior air quality regulations to apply emission controls. Application of emission controls would reduce the predicted impacts to low" (emphasis added). This latter claim is not documented anywhere in the DEIS, and was not a subject of study in either of the two related draft air quality studies by Form and Substance. It is precisely the sort of misleading and unsubstantiated claim which time and again discredits the DEIS, turning it from a purportedly objective study into an obvious promotional document.

D. Economic and regulatory effects of ozone nonattainment ignored-

Statement: Issues identified during the DEIS scoping process include "restriction of future industrial growth onshore due to strict pollution controls in areas exceeding air quality standards" (page 1-14). This is a limited restatement of a key scoping issue specifically identified by San Luis Obispo County in our letter to John Lene dated January 24, 1983, in response to the DOI request for scoping comments on this DEIS. Unfortunately, having agreed that the issue was significant, the DEIS authors fail to address it or even mention it again at any point in the document! This is a major deficiency in the DEIS. At the risk of being repetitive, and in the naive hope that someone will give this issue the attention it deserves, we will quote our description from the January 24 letter: "8. Conduct economic analysis of the affect on onshore of becoming nonattainment for ozone and SO<sub>2</sub>. This analysis should include cost to local business of retrofitting to achieve necessary standards, cost of EPA

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imposed sanctions that would occur if we were unable to demonstrate attainment, costs to local government to prepare, administer and enforce nonattainment plans, increased health costs, losses due to crop yield reductions, and losses to the tourist industry."

(In fairness to the authors, the effect of air quality changes on tourism did receive limited attention, consisting, however, primarily of denials of impacts, with the exception of one notable statement on page 4-173: "Air quality changes would have an impact on recreation areas if pollution levels increase along with corresponding aromatic effluents. These aromas, if they occur, would have a discouraging effect on the recreationists' desire to visit an area." "Aromas" and "aromatic effluents" are remarkable euphemisms in this application. They make it sound as if a bakery is going up next door.

The Clean Air Act mandates that areas which fail to attain any National Ambient Air Quality Standard must prepare and implement an attainment plan, with the crucial objective of regaining healthful air quality which meets the standard. Attainment planning, implementation and compliance with resulting emission control requirements have been controversial, complicated and expensive for government and business entities alike throughout the Nation. It is essential that this critical issue be addressed before this DEIS is judged adequate. With the imminent prospect of ozone nonattainment as a direct result of OCS lease sales, ignoring the problem will not make it disappear.

While the above issue is by far the most important, we must point out that of the 10 air quality scoping issues raised in our January 24 letter, only three received any attention at all in the DEIS, reaffirming our concern that little attention will be paid to local problems or concerns by DOI in the future.

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are not been estimated" (page V-9, Air Quality Impact of the Proposed OCS Lease Sale No. 73 Offshore California, by Form and Substance, March 1983).

It cannot be assumed that Lease Sale 73 oil and gas will back out other oil and gas. Existing refineries in San Francisco and Los Angeles may not be able to handle this crude due to the high content of trace metals. The cost of modifying these refineries, in urban nonattainment areas, may be too great. Existing refineries on the Central Coast, designed for this heavy, sour, high metal crude, may have to be expanded to handle the Lease Sale 73 and 53 crude oil. Such expansion could result in significantly increased emissions of SO<sub>2</sub>, NO<sub>x</sub>, CO and particulate matter as a direct result of Lease Sale 73 production. These impacts must be addressed in this DEIS.

Assumption 3. Onshore oil and gas treatment facilities exist already, i.e. are not considered to be a result of Lease Sale 73. Documentation: "It is assumed that oil and gas production from platforms located in the northern portion of the proposed sale area would come ashore via subsea pipeline near existing oil and gas treatment facilities at Nipomo Mesa" (page 4-3, DEIS). Also "As was the case for oil processing, it is assumed that no new facilities will be needed to treat the natural gas produced as a result of Lease Sale No. 73 (MMS, 1983b)" (page V-9, Air Quality Impact of the Proposed OCS Lease Sale No. 73 Offshore California, by Form and Substance, March 1983).

New facilities for the treatment of oil and gas would have to be constructed for any OCS crude oil and gas brought ashore here. To our knowledge all such existing facilities are currently operating at maximum capacity, processing oil piped from a number of different onshore fields. Nipomo Mesa facilities currently provide gas treatment only for gas remaining as a byproduct of the preliminary refining performed on that crude. To accommodate field gas from offshore sources extensive modifications and expansion of this refinery would likely be required. There would be potentially significant emissions associated with those facilities which have not been accounted for in the DEIS. The only alternative to onshore treatment would be the use of offshore separation and treatment vessels which are likely to be even more damaging to local air quality, and for which an air quality impact assessment has also not been made in the DEIS.

Assumption 4: No desulfuring of either oil or gas from Lease Sale 73 is projected, hence no SO<sub>2</sub> or N<sub>2</sub>S emissions are estimated onshore, despite statements that oil and gas from Lease Sale 73 is likely to be sour. Documentation:

- a. SO<sub>2</sub> emissions from desulfuring equipment are not found in emission inventories from onshore or offshore facilities in either of the related draft air quality studies published by Form and Substance. As an example, in Table II-11 on page II-42 of A Handbook for Estimating the Potential Air Quality Impacts Associated with Oil and Gas Development Offshore California, SO<sub>2</sub> emissions are projected only from compressors, methanol regenerators and heat stabilizers based

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### III. Inert Pollutant Air Quality Impacts:

#### A. Dispersion factors inaccurate-

Statement: "The results [of tracer studies] showed that vertical dispersion tended to be smaller over water than over land, while horizontal dispersion tended to be larger over water than over land" (page 3-23; words in brackets added). This statement gives the misleading impression that overall dispersion is about the same over water as over land, while preliminary indications from specific Santa Maria Basin tracer studies (due to be published early in 1983) are that over-water dispersion is greatly reduced in comparison to over-land dispersion. In the draft edition of A Handbook for Estimating the Potential Air Quality Impacts Associated with Oil and Gas Development Offshore California (Form and Substance, March, 1983), the authors state on pages II-2 and 3: "The mechanical turbulence associated with plume dispersion over uneven terrain is not applicable and the urban dispersion coefficients have been modified. It is believed that pollutant dispersion characteristics over large bodies of water would be different from overland dispersion characteristics, primarily because of the different thermal capacity and smoothness of the water surface." Form and Substance continues to discuss the merits of the dispersion factors they employed in their analysis, on which the DEIS air quality impacts are based, admitting that other dispersion schemes yield different results: "The Dames and Moore algorithm, however, would consistently predict higher concentrations (up to 70 percent higher) than both the PG and AV algorithms" they chose to employ. In its rush to complete the Form and Substance studies and this DEIS, the Minerals Management Service has ignored the opportunity to use specific Santa Maria Basin dispersion factors due to be released soon, leaving the DEIS open to challenge, controversy, and possible further delay.

#### B. SO<sub>2</sub> impacts undersaturated-

Although it was difficult to determine from the DEIS and both related studies by Form and Substance, a series of remarkable and contradictory assumptions were made by Minerals Management Service leading to a gross underestimation of the potential local impact resulting from increased SO<sub>2</sub> emissions from Lease Sale 73 sources. No single clear statement delineates all of these MMS assumptions, which we have detailed below:

Assumption 1: A variety of onshore facilities will be required to process oil and gas from Lease Sale 73. Documentation: "Onshore facilities (i.e., oil and gas treating facilities, crude oil storage tanks, supply and crew boat bases, and temporary support facilities) would be required... The environmental consequences are based on all these assumptions" (page 4-1).

While we agree that onshore facilities will be required, hence onshore air pollutant emissions will directly result, air quality consequences have not been based on these assumptions, as documented below:

Assumption 2: No increase in oil or gas throughput at onshore facilities will result from Lease Sale 73 production, thus no emission increases are projected. Documentation: "since it is assumed that Lease Sale No. 73 oil will simply displace crude oil that otherwise would be processed at the same facilities, incremental emissions

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on power consumption; identical minimizing assumptions are made throughout this document and in Air Quality Impact of the Proposed OCS Lease Sale No. 73 Offshore Central California, both of which provided the basis for air quality impact findings in the DEIS.

- b. "Offshore crude oil tends to have a higher sulfur content than oil currently being handled by the refineries" (page 4-85). Also, "Proposed Lease Sale No. 73 crude oil is expected to be relatively sour (high sulfur) and heavy (low API)" (page 4-194). These statements and others in the DEIS reaffirm the logical assumption that Lease Sale 73 oil, end therefore gas, will likely be high in sulfur and N<sub>2</sub>S content, similar to the oil and gas produced from local onshore fields.
- c. "If the produced gas has a high hydrogen sulfide content ("sour" gas), sulfur removal (by any one of a variety of methods) would be necessary" (page II-12, A Handbook for Estimating the Potential Air Quality Impacts Associated with Oil and Gas Development Offshore California). This statement confirms the logical conclusion that desulfuring must be performed on sour gas prior to shipping or piping it to a user, proposed in this case to be the Southern California Gas Company. The most likely location for this desulfuring to occur is at a central onshore processing plant, such as the one erroneously assumed to exist at Nipomo.
- d. "No new refineries are proposed or expected, however, since much of the Proposed Sale No. 73 crude oil is anticipated to be heavy (low API) and high in sulfur content, then expensive modifications (i.e. retrofitting) to the refinery process would be needed" (page 4-4). "Installation of pollution control equipment or modification of... processing facilities may be necessary to prevent an increase in emissions of sulfur compounds" (page 4-43).
- e. "Onshore gas processing facilities would be a significant source of air pollutants..." (page 4-216).

Combining all of the information found under assumption 4, we find that despite an expectation of high sulfur oil and gas, which in turn creates a need for onshore desulfuring and results in significant onshore SO<sub>2</sub> (and possibly N<sub>2</sub>S) emissions, no related impacts were studied.

The net result of assumptions 1 through 4 is that impacts from increased emissions of SO<sub>2</sub>, N<sub>2</sub>S, NO<sub>x</sub>, CO, VOC and particulate matter resulting from onshore treatment of Lease Sale 73 oil and gas have been virtually ignored in the DEIS. Many of these impacts may occur near Nipomo, as the likely location of a new major onshore treatment facility. SO<sub>2</sub> impacts from expected sulfur removal at this facility have been totally disregarded, a failure that is particularly serious since Nipomo has experienced some of the highest SO<sub>2</sub> levels in the state in recent years, and since air quality for SO<sub>2</sub> has recently declined at Nipomo while other SO<sub>2</sub> problem areas around the state have shown general improvement.

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IV. Cumulative Impacts:

A. Statements:

"Inert pollutants - short-term average pollutant concentrations would not change significantly from those attributed to Proposed Sale No. 73 alone."

Ozone: "Impact levels would be about the same as for the Proposed Sale No. 73 alone." (both on page 4-92)

An erroneous conclusion is drawn when it is stated that inert pollutant and ozone combined impacts from Proposed Sale 73 and Lease Sale 53 would be about the same as impacts from Sale 73 alone. Results of impacts from air quality modeling are based ultimately on project generated emissions, the quantity emitted being in large part production rate dependent. Comparing the production rates for Lease Sale 53 with Proposed Lease Sale 73 from 1988 through 2005 shows combined oil production rates 133% greater than production rates for Proposed Sale 73 alone. It is not within the realm of proper scientific logic nor good judgment to conclude that emissions will not increase appreciably by extracting and handling 133% more crude oil.

8. Statement: "Inert Pollutant. Annual emissions of air pollutants for the entire proposed sale area would reach a maximum in the peak production year, 1993. Air emissions would occur over a 30-year period, but total emissions would generally decline after the year 1993." (page 4-216)

Again, cumulative impacts are not addressed when it is assumed that the Lease Sale 73 peak production year is 1993. As may be seen from the attached graph (Attachment 8) of combined annual production rates for Lease Sale 53 and 73, production rates (and therefore emissions) greater than the Lease Sale 73 peak year rate exist for ten years (1988 through 1998) and do not decline below the Sale 73 peak rate until 1998.

Due to space limitations and the bulk of the materials submitted to the MMS regarding the Draft EIS for proposed Lease Sale No. 73, all written comments have not been included in this volume. The following documents have been reviewed by the EIS staff and responses to specific comments have been prepared as indicated.

Attachment I - County of Ventura - Air Pollution Control District

Department of Environmental Services



Agricultural Commissioner/Sealer, Weights & Measures • Building Inspection  
Cooperative Extension • Environmental Management • Fire Protection  
Housing & Community Development • Housing Authority • Parks & Recreation  
• Planning • Redevelopment •

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DIRECTOR

COUNTY OF SAN MATEO

COUNTY GOVERNMENT CENTER • REDWOOD CITY • CALIFORNIA 94063 (415) 363-4000, Ext. 1388

April 20, 1983

Mr. Reid Stone  
Minerals Manager  
Minerals Management Service  
Pacific DCS Region  
1340 West 6th Street  
Los Angeles, CA 90017

Dear Mr. Stone:

Subject: Draft Environmental Impact Report,  
Proposed 1983 OCS Oil and Gas Lease Sale  
Offshore Central California

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for Lease Sale #73. On April 12, 1983, the San Mateo County Board of Supervisors adopted Resolution No. 44386 Resolution in Response to Call for Comments on the Draft Environmental Impact Statement for Proposed OCS Lease Sale #73. In their resolution, the Board of Supervisors found the DEIS inadequate for failure to adequately consider certain impact categories because it does not consider all appropriate alternatives and due to reduced opportunities in the Lease Sale #73 planning process for public participation. The Board also directed staff to transmit the resolution along with specific comments to the Pacific DCS Region, Minerals Management Service. Staff also made a presentation at your hearing in Santa Maria on April 13, 1983. The resolution and the following comments are intended to assist you in the preparation of the Final EIS.

GENERAL COMMENTS

Procedural Inadequacies

There are several procedural inadequacies relative to NEPA and CEQ Guidelines that, in our opinion, have occurred throughout the pre-lease planning process for Lease Sale #73. The result is an inadequate EIS which purports to provide a basis for decisions in the Outer Continental Shelf and which was prepared with reduced opportunities for public participation.

23.1

Mid-way in the Lease Sale #73 planning process, the Department of the Interior changed from tract specific to area wide planning and instituted streamlining. Furthermore, the Department has reduced opportunities for public involvement by: 1) abandoning scoping meetings (required as outlined in the FEIS supplement on the Proposed OCS Oil and Gas Leasing Program, page 18), 2) limiting the comment period to 45 days rather than 60 days as is normally required by the Department's own regulations for environmental review and 3) holding only one public hearing in a community in the southern end of the lease area thereby providing inadequate opportunity for all affected communities to participate. Besides, having three simultaneous hearings is not providing an apprehensive citizenry with a full opportunity for an appropriate exchange of ideas and concerns.

Description of the Affected Environment

The DEIS is inconsistent in its description of the area affected by proposed Lease Sale #73. In Section III, Affected Environment, the text in some resource categories limits the discussion to the area of the Santa Maria Basin containing the 360 tracts proposed for leasing. The discussion focuses on San Luis Obispo and Santa Barbara Counties. In other resource categories, the discussion includes Monterey and Santa Cruz Counties. In light of the transportation scenario involving tankering 25% of the oil to San Francisco Bay and statements in the text that indicate the area contacted by a large tanker spill is Tomales Bay to Princeton, the text should discuss the affected environment as far north as Marin County.

23.2

Project Alternatives

While it is understood that the proposed action is based on resource estimates calculated and based on analysis of a number of factors, and may be the most reasonable guess as to the quantity of oil to be produced, the analysis of the proposed action does not represent the total development alternative and may therefore understate impacts. For example, on Page 4-218 of the DEIS, a ten to 30 day hit probability of over 25% is predicted to occur on the Point Reyes Headlands, James Fitzgerald Marine Reserve, Ano Nuevo Island, and Point Arguello/Point Conception area. Impacts are described for each resource category as defined in Chapter IX. However, detail is lacking. Because the Total Development Alternative is a possibility, a greater level of detail is necessary to more accurately pinpoint and describe impacts.

23.3

In some respects, it can be assumed that total development represents a worst case analysis. However, the DEIS fails to consider impacts of incidents which would be worst case under any development scenario such as tanker-tanker collision, tanker-platform collision, or uncontrolled blowout. The FEIS must include a worst-case analysis and, lacking such an analysis, would provide an incomplete and inaccurate EIS.

23.4

Two other alternatives should also be included in the FEIS. First, tracts shoreward of Lease Sale #73 should be eliminated. These tracts were eliminated from consideration during the tract selection stage of Lease Sale #53 for reasons of environmental or economic sensitivity. This alternative would provide a protective buffer between the leased area and onshore concerns such as protection of air quality and tourism and recreation industries. Second, an alternative which would eliminate tracts north of the line between Row N808 and N809 on UTMGS maps should be included.

23.5

Cumulative Impact Analysis

The EIS is deficient in its consideration of cumulative impacts. The EIS should contain the following elements: 1) a list of projects producing related or cumulative impacts, 2) a summary of the expected impacts to be produced from those projects and 3) a reasonable analysis of the combined or cumulative impacts of all the projects. The other projects considered should include Lease Sale #68, #53, next years Sale #80 and the State Tidelands Sale from Pt. Conception to Pt. Arguello. The impacts should include areas of air quality, water quality, losses to commercial fisheries, increased spill risk, and conflicts in vessel traffic lanes.

23.6

Lack of Consideration of New and Rare Species

Biological site surveys preceding exploratory drilling in Sale #53 revealed several new, previously unidentified species in the Santa Maria Basin. Because these species are also likely to occur in the Lease Sale #73 area, discussion of the species should be included in the FEIS.

23.7

Direct Affects to San Mateo County

As you know, the DEIS indicates that 25% of the crude oil will be transported by tanker to refineries in the San Francisco Bay Shoreline. Impacts are likely to occur all along the transportation route. In San Mateo County, these impacts are both environmental and economic, particularly in the likely event of an oil spill in the near shore shipping lanes (six miles from shore adjacent to James Fitzgerald Marine Reserve).

A. Local Economies

1. Tourism and Recreation

The final EIS should address the economic impacts of tourism for areas north of the Sale Area to San Francisco Bay. San Mateo County ranks third in the State behind Los Angeles and San Francisco in tourism. This amounts to \$1.8 billion annually. The percentage of this figure directly attributable to the Coastside is unknown, but potentially it is significant due to the number of State and County beaches and parks, and the number of visitors attracted annually. Visitors to the Coastside are attracted by the natural environment. As a result, State Parks and Beaches and County Parks draw 3 million visitors a year. Park and beach attendance accounts for 90% of the visitor days along the Coast. Because of the Coast's close proximity to large population centers, use will continue to rise and visitor days are expected to reach five million by 1990. It is obvious that worst case scenarios despoiling our coastal attractiveness would have serious economic impacts on commercial visitor serving facilities.

23.8

2. Commercial Fishing

The degree to which commercial fishing operations are impacted due to vessel traffic conflict, oil spill and ingestion of contaminated species, should be discussed in the EIS, particularly in light of the

23.9

fact that the area expected to be contacted by a large spill near the San Francisco Bay extends south to Princeton, the Half Moon Bay Harbor (page 4-166). Commercial fishing in San Mateo County is important to the local fisherman as well as those that follow the seasonal migration of the fishery, particularly salmon. According to figures provided by the San Mateo County Harbor District, the commercial fishing catch exceeded \$3 million in 1978. This figure could be expected to be greater in view of the increased berthing facilities at the harbor since 1980.

B. Environmental Impacts

1. Air Quality

Hydrocarbon emissions originating from activities on the DCS can be a contributor to onshore air quality problems. The economic and environmental costs to onshore communities should be addressed in the EIS for areas adjacent to the leasing area as well as counties north to San Francisco Bay which will be impacted by the transportation scenario.

23.10

The air quality of the San Mateo County Coastside is relatively clean due to the lack of industrial activity and the prevailing shoreward winds. This is not true for the Bay Area air basin. In light of the Department of the Interior's Air Quality Regulations for the DCS which allows relative increase of pollutant discharges for activities further from shore, in conjunction with the prevailing winds, we have questions regarding the reliability of these standards in the long run.

2. Biological Communities

The San Mateo County Coast is rich with rocky shores, beaches and marshes which provide habitat for many species of animals and plants. The DEIS identifies a number of important areas along our coast. The James Fitzgerald Marine Reserve and Ano Nuevo Point and Island are identified as areas of Special Biological Significance. The estuaries at San Gregorio, Pescadero and Gazos Creek are identified. Half Moon Bay Harbor is noted for its clams, and the Fitzgerald Marine Reserve and Ano Nuevo Island are identified as rocky and flat intertidal areas, respectively.

23.11

Ano Nuevo is also the northern most habitat of the Elephant Seal which breeds and pups there in January when storm, wind and wave conditions are most hazardous to vessel traffic. Pescadero Marsh, the largest marsh between San Francisco Bay and the Elkhorn Slough is an important biological habitat containing a number of proposed or listed rare species. The Fitzgerald Marine Reserve is one of the richest marine resources in the State.

Our Coastal area contains many warm and cold water species and provides an important food source for commercial fin and shell fish species. Impacts to these areas both in loss of species and economic impact to recreation and the fishing industry should be considered

particularly in light of the proposed transportation scenario; the predictions for oil spill hits on shoreline segments 17, 18, and 19 for the proposed action and 25% hit probability to Ano Nuevo Island and the Fitzgerald Marine Reserve under the total development alternative are of great concern to us. We take seriously our concern regarding our flora and fauna as you can determine by reviewing our Habitat Conservation Plan for San Bruno Mountain, agreed upon by the U.S. Fish and Wildlife Service.

SPECIFIC COMMENTS

Page No.

1-9 It is stated that the Secretary shall not approve an activity. . . unless the state concurs or can be presumed to concur with the consistency certification accompanying such plan.

23.12

This indicates that the DEIS should include a discussion of the project's consistency with the state's policy regarding OCS activities. The DEIS, however, makes no mention of how Lease Sale #73 activities are to be brought into conformance with the state policy on pipelines.

4-19 The text states that . . . "a spill is always theoretically possible wherever offshore oil activity is present." Through the impact discussions, the impact of oil spill is reduced by unsubstantiated qualifiers such as, "in the unlikely event that a spill should occur" or "however the spill will not reach shore". Such statements are inappropriate.

23.13

4-98 & 4-139 The Fitzgerald Marine Reserve has been identified in the DEIS as an area of special Biological Significance. It is not enough to merely say that impacts from an oil spill can be expected to be moderate. What species will be impacted and what are the effects to commercial fishing and tourism?

23.14

4-137 San Gregorio Creek, Pescadero Creek and Gazos Creek are identified on Page 3-54 as estuaries of Ecological Concern. The three 1D and 3D day hit probabilities are 11, 2D and 23%. On Page 4-137, there is no discussion of the expected impacts to these areas.

23.15

4-17D In discussing impacts to sport-fishing, the DEIS assumes that an oil spill will occur in the Santa Cruz Basin. This is appropriate, but rare. As already mentioned, the text usually prefaces its consideration of the impacts of oil spill with words such as "in the unlikely event".

23.16

4-173 & 4-174 There is an inconsistency concerning the expected impacts of hydrocarbon odors on recreational enjoyment (see Air Quality on each page).

23.17

4-178 Tourism in San Mateo County should be included in the discussion concerning central California.

23.18

4-19D The discussion of Marine Traffic should indicate how the 39 round trips from Gaviota to San Francisco affects the near shore shipping lanes off the San Mateo County coast.

23.19

4-192 There is no basis for conclusions regarding vessel traffic lane conflict.

23.20

In addition to the General and Specific Comments, I would like to say in conclusion that while the DEIS is inadequate for the reasons discussed, it certainly could not be used as the basis for environmental assessment of an expanded sale area at some future date.

Sincerely,

*Paul M. Koenig*  
Paul M. Koenig  
Director

Enclosure: Resolution No. 44386

PMK:DSN:bc - B1E00864

RESOLUTION NO. 44386

BOARD OF SUPERVISORS, COUNTY OF SAN MATEO, STATE OF CALIFORNIA

RESOLUTION IN RESPONSE TO CALL FOR COMMENTS ON THE DRAFT ENVIRONMENTAL STATEMENT FOR PROPOSED OCS LEASE SALE #73

WHEREAS, the Pacific OCS Office, Minerals Management Service, of the U.S. Department of the Interior has issued a Draft Environmental Impact Statement for their proposed October 1983 central California lease offering known as Lease Sale #73; and

WHEREAS, the Minerals Management Service on March 9, 1983 on pages 9951-9953 of Vol. 48, No. 47 of the Federal Register has requested comments on the central California OCS leasing proposal from individuals, representatives of organizations, and public officials; and

WHEREAS, written comments on the Draft Environmental Impact Statement will be accepted by the Minerals Management Service until April 26, 1983; and

WHEREAS, the County of San Mateo has reviewed the Draft Environmental Impact Statement for the October 1983 OCS Lease offering known as Lease Sale #73 and found it inadequate, for reasons herein described; and

WHEREAS, the Draft Environmental Impact Statement does not adequately disclose the anticipated impacts from the proposed action on existing conditions and uses of the offshore and onshore affected areas or adjacent areas; and

WHEREAS, the Draft Environmental Impact Statement does not adequately quantify impacts and direct effects of the proposed action on the Coastal Zone

of the State of California, nor does it indicate the degree of conformance of the proposed action with the laws, goals and policies of the State of California including the California Coastal Act, California's federally-approved Coastal Zone Management Plan, County Local Coastal Plans (LCP's), California's pipeline policy, or California's air quality standards; and

WHEREAS, the Draft Environmental Impact Statement does not present an adequate range of alternatives to the proposal, a sufficiently high-resolution look at the impacted area and its existing resources and uses, includes no "worst-case" analysis of impacts, and includes no analysis of impacts on rare and unique species, nor does it adequately identify or analyze cumulative impacts which are likely to result from leasing and development on tracts within this sale combined with prior and planned lease sales and development; and

WHEREAS, the Draft Environmental Impact Statement does not consider an alternative which addresses the long-held position of the State of California and affected local governments to the effect that leasing is inappropriate in areas north of the line between Row N808 and N809 of the Universal Transverse Mercator Grid System (approximately the Santa Maria River); and

WHEREAS, the Minerals Management Service, in spite of requests from numerous affected local agencies, has denied the opportunity for "scoping meetings" as provided for in the relevant CEQ Guidelines in order to identify issues to be utilized in determining the scope of the Draft Environmental Impact Statement; and

WHEREAS, the Minerals Management Service has refused to hold adequate and accessible public hearings on the Draft Environmental Impact Statement in affected coastal communities which would be impacted by the proposal; and

WHEREAS, the Minerals Management Service has foreshortened the comment period from 60 days as provided by Department of Interior regulations to 45 days in spite of numerous requests for a normal comment period; and

WHEREAS, required NEPA procedures, CEQ guidelines, and Department of Interior regulations have not been adhered to in the preparation of the Draft Environmental Impact Statement or throughout the pre-lease planning process for this sale and the above-mentioned procedural deficiencies have precluded interested members of the public from adequate opportunity for participation in the environmental review process; and

WHEREAS, above and beyond the inadequacies of the Draft Environmental Impact Statement with respect to the present limited sale area encompassed by Lease Sale #73, the present Draft Environmental Impact Statement would be wholly inadequate and inappropriate as a basis for future decisions outside of the 360-tract October 1983 sale area and unsuitable for use as a basis for an area-wide central and northern California OCS Planning Area EIS; and

WHEREAS, key environmental studies now funded and underway by the Minerals Management Service are necessary to informed decisions about the proposed action but will not be completed until after the proposed date of sale, and therefore the sale date should be delayed.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors, County of San Mateo, does hereby adopt this resolution finding the Draft EIS for the October 1983 OCS lease offering to be inadequate and not in compliance with relevant federal and state laws; and

BE IT FURTHER RESOLVED, that this resolution and the attached technical comments should be forwarded to the Regional Manager, Pacific OCS Region, Minerals Management Service, 1340 W. Sixth Street, Los Angeles, CA 90017, prior to April 26, 1983.

OSN:bc:df:B2E00829  
4/7/83

Regularly passed and adopted this 12th day of APRIL, 1983.

AYES and in favor of said resolution:

- Supervisors: K. JACQUELINE SPEIER
JOHN M. WARD
ANNA G. ESHOO
ARLEN GREGORIO
WILLIAM J. SCHMACHER

NOES and against said resolution:

Supervisors: NONE

Absent Supervisors: NONE

ARLEN GREGORIO
Chairman, Board of Supervisors
County of San Mateo
State of California

ATTEST:

MINERVA L. TAKIS
Clerk of said Board of Supervisors
(SEAL)



COUNTY OF SANTA BARBARA  
ADMINISTRATION BUILDING  
105 East Anapamu Street  
Santa Barbara, California 93101

April 25, 1983

Reid Stone  
Manager, Pacific OCS Office  
Minerals Management Service  
Federal Building, Room 200  
1340 West Sixth Street  
Los Angeles, CA 90017

Re: Comments on the Draft EIS for OCS Sale No. 73

Dear Mr. Stone:

I would like to reiterate and expand upon Santa Barbara County's testimony presented at the April 13th hearing before the MMS in Santa Maria. In addition, I direct your attention to the attached detailed comments on the Draft EIS.

First, let me repeat that the OCS Lands Act directs that decisions regarding leasing be based in part on equitable sharing among regions of risks and benefits associated with leasing, relative supply and demand for oil and gas, and relative environmental sensitivity among regions. As you know, Santa Barbara County will enjoy the benefits and be subject to the risks of several previous lease sales which include portions of our coast. There has not been an equitable sharing of environmental risks associated with leasing among regions along the west coast, and we have already been affected by development associated with existing leases.

A quick analysis of the supply and demand figures among regions shows that PAD V, which includes our County, is currently oversupplied by 300,000 - 500,000 bpd. This will increase to over 700,000 bpd by 1990 as crude from tracts leased off Santa Barbara is produced. On the other hand, PADS I - IV are currently undersupplied by about 3 million barrels per day and are predicted to be short by about 5 million bpd in 1990. Although we recognize that oil has been discovered in significant quantities in the PAD V region, we nonetheless feel the OCS Lands Act directs you to promote exploration in areas other than off the West Coast in an effort to balance supplies with demand.

Mr. Reid Stone  
April 25, 1983  
Page 3

experienced a demand of about 143,000 AFY and supplies of 119,000 AFY. This left us with a deficit of 24,000 AFY, which was supplied by overdrafting groundwater basins. This deficit and accompanying overdraft will increase as populations increase, and by 1992, the disparity between supply and demand is expected to be 55,000 AFY.

Lease Sale 73 will result in additional people, platforms, exploratory vessels, and onshore facilities, all of which require freshwater. Since the sale begins at Pt. Conception, the bulk of the demand for water will be in the North County. Your document indicates that 5832 people will move to Santa Barbara County as a cumulative result of Federal OCS development. At an average use rate of .25 AF/capita/year, this will result in a 1460 AF/year demand for water. In addition, the platforms, pipelines, transportation facilities, and oil and gas processing from OCS development, would add several million gallons/day demand on our already overdrawn groundwater basins (see Exxon Las Flores Canyon application, and Draft EIS for Lease sale 73).

Housing

In addition to shortages of freshwater, the north area of Santa Barbara County is also expected to experience a demand for housing which exceeds supply. Regional growth forecasts for Santa Barbara County project an increase of 20,000 households and 34,000 people for the North County without impacts from OCS development (assuming availability of water). If demand from increases in population associated with OCS development and other probable expansion (such as that associated with Vandenberg Air Force Base and the Pt. Conception LNG plant) is added to the existing North County housing scenario, a deficit will very likely occur by as soon as 1985. Housing production has been curtailed in the period from 1980 to 1982 due to higher interest rates, suggesting that housing supply may be even more limited as a result.

As you can see, housing in the area of impact for lease sale 73 will already be limited by the time production from this sale comes on line. The addition of workers and their families from this lease sale, and from OCS activity cumulatively, will add to an already extremely stressed housing market in 1985 and beyond.

Air Quality

The impacts of OCS activity will also be very significant with regard to air quality. Santa Barbara County is currently non-attainment for ozone, Carbon Monoxide, CO, and in some areas, total suspended particulates. Lease Sale 73 will exacerbate this by adding hundreds to thousands of tons/year of NOx, CO and particulates

In addition, air quality offsets may also be difficult if not impossible to obtain by the time tracts from this sale begin producing. Offsets for NOx and HC, the precursors to ozone, are primarily available by retrofitting internal combustion engines or modifying gas or oil-fired boilers and steam generators. Although the North County does have some offsets available now,

Mr. Reid Stone  
April 25, 1983  
Page 2

The relative environmental sensitivity of the Santa Barbara coastline, a factor the OCS Lands Act requires that you to evaluate in your lease decision, is very high. As stated in our testimony and your EIS, the biological sensitivity is particularly high because resources such as the Channel Islands, and the Oregonian-California transition zone contain unique and fragile ecosystems. In addition, our local coastal plan designates much of the shoreline which would be affected by oil spills or air pollution, as environmentally sensitive habitat. Areas considered sensitive include riparian habitat, rocky intertidal areas, dunes, and wetlands.

Because we feel any further leasing at this time will be in direct conflict with the policies of the OCS Lands Act, we ask the Department of Interior to adopt the "no sale" alternative.

With regard to the EIS, many of our comments request you either to analyze further the cumulative impacts of federal leasing program off Santa Barbara, or to propose and analyze mitigation measures. We are interested in an accurate assessment of the impacts this program has had and will have in Santa Barbara. In particular, I would like to detail the situation we now face and problems we will need to resolve as a result of cumulative impacts of leasing.

Availability of Onshore Sites for Support Facilities

The County presently has very few coastal sites which are zoned or would be appropriate for onshore facilities needed to support production in federal (and State) waters (e.g., oil and gas treatment facilities, tankage, supply bases, etc.). Some areas which are presently zoned to allow these facilities are slated to be phased out because they are in an urban or environmentally sensitive area, or because they are too small to allow consolidation of facilities. Even the few sites which are potentially appropriate for onshore facilities are relatively small and cannot accommodate massive quantities of crude. We are presently trying to plan for supply and crew bases, onshore oil and gas processing, storage, and transportation facilities to handle an expected peak of 400,000 bpd, and are finding it difficult to locate suitable sites. Most of the coastline which would be affected by proposed development is designated agriculture and open space. We feel it would be extremely difficult to accommodate onshore facilities to support the higher estimated peak production Lease Sale 73 would create.

Freshwater Needs

Presently, the majority of freshwater needs of North County residents are met by using groundwater. Only about 3% comes from surface supplies. The use of groundwater as the primary source of freshwater is expected to continue for several years, and the following figures show what Santa Barbara County can expect without Lease Sale 73. As of 1975, the North area of the County

24.1a

24.1b

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Mr. Reid Stone  
April 25, 1983  
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one or two of the onshore facilities needed to support present predicted levels of production will use them. In addition, the Santa Barbara County APCD anticipates a rule requiring retrofitting of internal combustion engines will be adopted in the near future. Thus, NOx and HC from these engines would no longer be available as offsets after the new rule takes place, thus decreasing even further those offsets available for OCS activities.

The EIS incorrectly indicates that the impacts of Lease Sale 73 will not change if the delay sale alternative is adopted. In fact, fewer and smaller onshore facilities will be required if Lease Sale 73 crude production peaks after production from earlier leases begins to decline. Some of the resources I have just described such as land availability, housing supply and air quality offsets, will also be less affected if peak production from Lease Sale 73 is not added to existing predicted peaks. Because of these inaccuracies in your analysis of delaying the sale, this alternative should be further analyzed. In addition, the decrease in impacts with increasing length of delay should be assessed.

We have responsibly dealt with several federal off-shore leases in the past, and are planning for 400,000 bpd from these leases to be processed, stored and transported from our shores. But, we feel we can tolerate no further leasing off Santa Barbara, as resources already stretched will not withstand further impacts. We ask, then, that you adopt the "no sale" alternative for Lease Sale 73.

Thank you for the opportunity to comment. Our specific comments on the EIS follow.

Sincerely,

*Robert Kallman*  
Robert Kallman  
Chairman

1866R

24.1e

24.1c

24.1d

3

Page Number	Comments	
1-17	Although an alternative establishing a six mile buffer zone may not significantly change air quality impacts for LS 73, it would appear to provide some protection for on-shore coastal resources in the case of a platform related oil spill. Did your analysis of oil spill probability show any decreases when the tracts landward of six miles were removed from consideration? Please respond particularly with respect to the changed probability of contacting any of the Channel Islands. In addition, how would impacts on visual, recreational and tourism resources be changed in Santa Barbara County if a six mile buffer zone is adopted?	24.2
2-4	Please describe the assumptions and methods used to estimate that five platforms will be installed as a result of this lease sale.	24.3
2-5	At peak production (1993), do these yearly figures translate from 84,000 bpd (ML) to 248,000 bpd (CM scenario)?	24.4
2-6	We disagree with several aspects of transportation Scenario I. (Please see questions regarding pages 4-3, 4-4, and 4-194). Please describe the reasoning behind using this assumption, as the County presently has two competing applications (and possibly a third) for expanded marine terminal facilities. Also, please briefly describe the contact MMS or Yamasaki has had with Santa Barbara County energy staff on the transportation issue.	24.4

2-8	Please explain the kind of evidence the Regional Supervisor will require to reasonably believe the Biological or Cultural stipulation should be invoked. Since part of the stipulation is a site specific survey, what information will the supervisor have when a decision to ask for a survey is made?	24.5
	Also, please give guidance on what MMS feels constitutes "every reasonable effort to preserve and protect biological resources from damage..." The County would support language similar to that in the cultural resource stipulation which specifies that "no action which may result in an adverse impact" shall be taken when a biological population requires protection.	24.5
2-14	The stipulation regarding transportation of crude (v) will very likely conflict with County policy. Since transportation by pipeline is favored by present County policy, we would support a change to v (b) which does not allow approval of any development plan unless facilities for pipelining to shore are included.	24.6
2-16	In the summary of impacts section, the EIS mentions that the impacts of LS 73 will be moderate or high on many of the County's resources (such as air quality, public services and biological). Yet the document does not propose or analyze mitigation for these impacts. Please explain.	24.7
3-12	Table III.A.4-2 contains data over 30 years old. Is more recent data available?	24.8

3-19	We would like to state our objection to any general permit to be issued for dredge spoil disposal. Although ocean disposal of dredge spoils in specific sites may be environmentally preferable to onshore disposal, dumping them in an area of low sensitivity already degraded by previous impacts appears much more sensible than the general permit approach.	24.9
3-23	Were any platforms assumed to be located in those few tracts near the 3 mile limit off Santa Barbara County?	24.10
3-59	Because 90% of the estuary habitats listed occur in Elkhorn Slough and Morro Bay, we support protection of these areas.	24.11
3-61	What methods and assumptions were used to determine that the areas listed under "ASBS most likely affected by Sale No. 73 in Southern California" are most likely to be affected?	24.12
3-73	Why are numbers for areas very far north of the lease sale area included, but figures for Santa Barbara County excluded?	24.13
3-92	We note in support of the no sale alternative that military activity from Pt. Conception to Pt. Sal conflicts with the development and production of Sale 73 tracts in this area.	24.14

4-3	We object to your assumption that oil and gas processing, storage and transportation facilities are in place. First, the need for such facilities are a direct result of the cumulative impact of OCS development off Santa Barbara County. Second, assuming they are in place avoids analysis of on-shore facility impacts. Third, because the facilities are a result of the federal leasing program, mitigation for the impacts should be suggested, analyzed and then required as part of the lease sale.	24.15
4-3	We are unaware of MMS's decision-making authority on the possible site for the Santa Barbara terminal. Please explain. In addition, Santa Barbara County is in the process of analyzing the need for a marine terminal, the most environmentally preferable and economically feasible site for its location if it is to be built, and policies governing its use. We presently have competing applications for two (and possibly a third) marine terminals, as well as a comprehensive crude oil pipeline out of Santa Barbara County. Please explain your assumption that on-shore facilities would be built and at Gaviota.	24.16
4-4	County staff has worked extensively with the PTC and various public agencies to determine the feasibility of refining Santa Barbara OCS crude in Los Angeles, and the Bay Area. Preliminary results indicate a total of roughly 100,000 bpd can be refined in California if spread out at over 20 refineries without retrofits. Therefore, the quoted figure of 2.5 million barrels of capacity is extremely misleading. The expensive retrofitting you mention is essentially the same as building new capacity to take this crude, and may be institutionally infeasible (i.e., permits may not be available). Refinery capacity in	24.17

California should instead be viewed as a limiting factor controlling to some extent the level of production from the OCS off the California coast. Industry and agency projections show about 400,000 bpd of crude are expected to be produced during the peak years off Santa Barbara's coast. The 85,000 to 240,000 barrels per year estimated producing in 1993 from this lease sale will add significantly to all limiting factors such as refinery capacity.

4-4 We take exception to the assumption that any of this crude will be tankered to a California location. The County policy favors pipelining of crude and thus, tankering is not allowed where pipelining is feasible. Initial studies indicate pipelining both north to the Bay area and south to Los Angeles from the Bakersfield area along existing rights of way is feasible and therefore preferred by the County. 24.18

4-5 Does the oil spill model assume the same volume of oil is spilled from each launch area, i.e., are the 2000 spills of equal size at each launch area and along the transportation route? Please justify the assumptions that the same number of oil spills will occur along the transportation route as from any one launching area (if this assumption is made). Also, how was the determination of launch area made? Are all equally likely to contain a platform and/or associated pipeline? Please detail any differences in probabilities between launch areas. Also, please present a map of current directions during the various times of the year which MMS incorporated into the model. 24.19

4-21 What is the expected cumulative impact of small oil spills? How much oil is expected to be spilled, both by small spills and spills greater than 1,000 bbls?

4-29 Please provide references to support the statement that platforms "could serve as an aid to navigation." 24.20

4-30 Please include the expected air quality impacts of vessel traffic. 24.21

4-31 Please mention possible impacts of air guns on grey whales. 24.22

4-39 What is the actual (as opposed to relative) impact of toxic drilling muds on marine biota? What are the specific results of studies mentioned regarding sublethal and long term impacts? 24.23

4-40 Studies mentioned indicate fewer histopathological anomalies in fish near platforms. Does evidence exist to show these individuals may be the only ones who can withstand impacts of formation water? Also, is the correlation you mention so strong that it is not subject to the same questions you quote for a positive correlation between formation water and red snapper gill abnormalities? 24.24

4-42 Explain why oil processing facilities were not included as onshore emission sources. Was all oil processing assumed to occur offshore for the air quality modeling? 24.25

4-44 Provide the technical basis for the assumptions, i.e., emission rates, type of prime mover and total hp per platform, tanker fuel characteristics, etc. 24.26

4-44 What is the maximum number of tankers in service (at port and in transit) at one time both as a result of this lease sale and cumulatively? 24.27

4-53 The summary of oil spill clean-up capability is not specific to the lease sale area. For example, what percentage of small and large oil spills of Santa Barbara OCS crude can be contained in view of average weather conditions throughout the year? Since Hondo crude is very viscous, are you assuming absorbents will be needed to clean any spill? What will impacts of the absorbent be? If chemical dispersants are necessary, what impacts will result from the toxic effects? 24.28

4-55 The MOU with the U.S. Coast Guard looks like it may have been cancelled in October. Is this true? If so, what impact will this have on oil spill clean-up capability? 24.29

4-73 What levels of metals and other toxins are present from dumping formation water at the platform? Please provide a graph of decreasing toxicity with increasing distance from the platform. 24.30

4-76 What size is the spill greater than 1000 bbls expected to be?

4-80 Please explain the comment that "the cumulative impact from existing and proposed OCS activities should not violate EPA regulations...in the general California OCS Region." What constitutes the general California OCS Region? Will impacts on water quality locally exceed standards? 24.31

4-83 Although the tracts coincident with the 1125 acre, low-level radioactive waste and military dumping area may provide a dredge spoil disposal site, any exploratory work or development in these tracts should be avoided. We therefore request tracts 46-51, 67-72, 87-93, 107-114, 128-135, 148-156, 168-176, 188-196, and 213-215 be deleted from sale. 24.32

4-84 Where is the single point for mobile emissions located? How many tankers and support vessels were included in this point source? What are the estimated emissions per vessel? 24.33 2

4-86 Footnote 2 states that production phase concentrations could be lower than those of the development phase. If this is questionable, why weren't these concentrations estimated - especially since it is shown that development phase concentrations are basically higher than exploratory emissions? 24.34

4-88 Include in the EIS a map showing the trajectories with the location, description, and number of OCS facilities falling under each trajectory. 24.35

4-89 Please clarify the statement that "OCS emissions would be less than 0.1 percent of existing concentrations." 24.36

4-91 Please analyze the impact of O<sub>3</sub> emission controls. Will they be applied only on tracts leased in this sale? Please show the trajectory starting off Point Conception, passing through the Santa Maria Channel and ending in Goleta. 24.37

4-92 OCS activity will result in 5 ppm or 50% of the ozone emissions allowable by the State of California, or 40% of those allowed by the federal government. What mitigation do you propose? 24.38

4-92 In the conclusion, it is stated that OOI regulations may require emission controls. Consequently, the predicted air quality impacts will go from moderate to low. Does this mean that the modeling was conducted with only uncontrolled emission sources? Vapor balance lines are assumed for tanker loading and unloading on page 4-44. Water injection is mentioned under the production phase description on page 4-42. If emission controls were included in the modeling scenario, what sources have control devices, what are they, and what were the assumed percent reductions? 24.39

Third paragraph. Clarification is needed for the statement, "Impact levels would be about the same as for the Proposed Sale No. 73 alone".

4-95 Please expand on the statement "these activities could result in the total destruction of local communities." What is the probability that an oil spill will contact the sandy beach intertidal community in Santa Barbara? Are shorebirds considered part of this community? 24.40

4-96 How can the impact of a large oil spill on an area responsive for repopulation of all rocky intertidal areas along the coast offered for sale be considered moderate? 24.41

4-99 Please provide a reference for the statement that changes in the nature of the soft bottom under a platform are caused by organisms falling off. It seems that disposal of drilling muds and cuttings would have a much greater role in changing a soft bottom marine community. 24.42

4-103 Please justify the implication that moderate or high impacts will not occur from platforms from all existing and future leases. 24.43

4-111 You state that a large tanker spill could result in greater than 30% mortality. How much greater? 24.44

4-115 Because several pinnipeds are easily spooked by loud noise, we ask that you consider a stipulation requiring routing of helicopters and crew boats around rookeries, as well as designing platforms to reduce noise if they are located within audible range of a rookery. 24.45

4-124 Please detail which species of shorebirds will suffer high impacts from cumulative or Lease Sale 73 oil spills. 24.46

4-128 You state that "...colonies of least terns in the southern Santa Maria basin are relatively small. Therefore, recovery time for the species should not be more than a few years." However, a small colony which suffered some mortality from an oil spill may have a much harder time replacing those lost. Please explain the basis or cite a reference for your statement. 24.47

4-131 Please explain how you calculated the percent mortality for several species from a large oil spill. 24.48

4-151 Again, we object to your assumptions that onshore processing facilities, a marine terminal and a supply base exist. In fact, these facilities are an impact of the cumulative OCS leasing program. 24.49

4-167 Please explain the statement "...this additional loss is not expected to substantially harm the commercial fishing industry" when you have just declared the impact to be significant. Also, what mitigation measures do you propose for losses to the Santa Barbara County commercial fishing industry? 24.50

4-176 You state that impacts from this and other leases on recreation will be low. However, two marine terminals and associated industrial support facilities are proposed to be located adjacent to existing State parks in Santa Barbara County. Approving either may have a significant impact on recreation and tourism. 24.51

4-201 The delay sale alternative would change some of the impacts of Lease Sale 73. If the sale is held now, additional crude would be produced at peak levels very close to the time existing leases will be producing peak amounts. The effect will be additive. However, if the sale is delayed several years, peak production will come on line after 1992, and will only extend the 400,000 bpd now expected for a longer period of time. The County will then be responsible for providing on-shore support and transportation facilities for the 400,000 bpd scenario and not the 400,000 plus Lease Sale 73 production scenario. 24.52

4-216 The document states that if two platforms are installed on adjacent tracts within the same year, the OOI Significant Level for NO<sub>x</sub> could be exceeded. For Table IV.A.8-1 (on page 4-44), where are the platforms located and what is the installation schedule? 24.53

4-217 Please include the cumulative impact of all air pollutants, including ozone. 24.54

4-238 Please present your calculations which lead to the estimated peak oil flow of 61,986 bbl/day. Our estimates are very different, particularly for the conditional mean scenario. 24.55

1782R

SANTA BARBARA COUNTY  
AIR POLLUTION CONTROL DISTRICT

COMMENTS ON THE OCS LEASE SALE #73 OEIS AND AIR QUALITY IMPACTS (1)

Section	No.	Comments
II.A.1.B.	1.	The most likely resource estimate is 30 percent of the conditional mean resource estimate. Provide more information on how this percentage was determined.
II.A.1.C.	2.	The Gaviota terminal site, as well as pipelines linking onshore treatment facilities to the terminal site, are assumed constructed. These assumptions should be justified and/or impacts from construction of these facilities addressed.
III.A.8.	3.	What temperature extremes exist in the area?
	4.	What period of data does the information used in the meteorological baseline represent?
	5.	Provide information on peak winds.
	6.	Provide a frequency distribution of wind speed and direction (such as wind roses).
	7.	How often can frontal activity and prefrontal winds be expected in this area?
	8.	How many days of precipitation per year does this area average?
III.A.9.	9.	Present offshore air quality is not addressed - does any offshore air quality data for this region exist?
	10.	CARB air quality data presented for 1981 only - previous years' monitoring data and any subsequent trends are not covered here.
IV.A.8.C.	11.	Present information on emissions which could result from worst case production scenarios, i.e. intermittent sources such as emergency flaring and venting, for short and long term episodes.
	12.	Provide information on short term emission rates and stack parameters for the tanker boilers and generators used for transport.

(1) Comments 1-36 are from the OEIS; 37-53 are from the Draft Report of Air Quality Impact of the Proposed OCS Lease Sale #73 Offshore Central California.

Section	No.	Comments
IV.A.8.C.	13.	What range of sulfur contents does oil from this area have?
	14.	Provide more evidence to support the statement: "It is anticipated that no increase in refinery capacity would be needed in California as a result of proposed Lease Sale #73".
	15.	Address in more detail the construction and production activities associated with gas processing facilities and pipelines.
IV.A.10.C.	16.	What magnitude wind and wave activity can be expected, and how frequent are these adverse conditions?
IV.E.1.C.	17.	Provide information on statement that "it is possible to achieve an accuracy within a factor of 2" when the RAPT model is used.
	18.	For modeling of inert pollutants, onshore receptors should have terrain heights assigned to them - this would exclude use of the PT-series models.
	19.	Wherever concentrations were not calculated, as they were expected to be less than those for another phase of the project, provide support to these assumptions.
	20.	Since stack heights of greater than 30 meters are not applicable to stability parameter adjustments per Aerovironment (1981), provide stack heights of assumed sources.
	21.	A map showing locations of maximum modeled onshore concentrations should be included.
	22.	Short-term concentrations from tankering activities at Gaviota were not addressed. Provide information on worst case short-term (1, 3, 24 hour) situations which could occur using short-term emission rates.
	23.	Will more than one tanker ever be at the Gaviota terminal site at the same time - that is, queuing of tankers?
	24.	When modeling short-term tanker emissions (boilers and generators), address terrain and/or fumigation when calculating onshore concentrations. Also consider overwater dispersion where applicable.
	25.	Provide total concentrations resulting from maximum calculated onshore concentrations with observed concentrations (baseline data) from 1979 and 1980 CARB monitoring data.
	26.	Annual average concentrations of NO <sub>2</sub> from tankering activities at

-2-

Section	No.	Comments
IV.E.1.C.	26.	Gaviota exceed the 001 significance level. Justify statement that these concentrations would not contribute significantly to existing levels.
	27.	Explain how the present and future ozone baseline concentration of 4 pphm for Goleta was obtained. Earlier in the report (III.A.9) it is stated that ozone concentrations of 18 pphm were recorded at Goleta during 1981.
	28.	Verify the statement that emission controls to prevent adverse ozone impacts would effectively prevent significant ozone concentrations.
	29.	Provide more information on the visibility modeling procedures. Was the decision not to use PLUEVUE based on short or long-term emission rates?
	30.	Provide justification to statement that "inert pollutants for the coastal areas adjacent to the Santa Barbara Channel would be smaller than those calculated for the Santa Maria Basin and would be well below 001 significant levels.
	31.	Present information on ozone concentrations in the Goleta area during meteorological conditions favorable to transport of pollutants from the Santa Maria Basin.
	32.	Provide information on what type of meteorological conditions are present when moderate ozone impacts were predicted for the coastal regions of Santa Barbara County nonattainment area.
	33.	For annual average concentrations calculated for cumulative impacts, show where the maximum concentrations occurred and the terrain present at these locations.
	34.	Provide further information on assumed sources which contributed to cumulative effects, i.e. emission rates and stack parameters.
	35.	It is not clear if different emission rates were used for different averaging periods when modeling the sources.
	36.	More detail should be given to cumulative ozone impacts on the nonattainment areas of Santa Barbara County, particularly the inclusion of contributions from potential sources in the Santa Ynez Unit and other locations between Goleta and the Santa Maria Basin.
Intro.	37.	Provide background as to how the peak year production rate was arrived at (84,300 BOD).

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Section	No.	Comments
Intro.	38.	Peak development year emissions (NO <sub>x</sub> for example) do not match those stated on Table 2 (page 8). Verify which emission rate stated is correct and which emission rate was used for modeling annual average concentrations.
	39.	Provide information on how long the tankers will be moored at the proposed Gaviota terminal site while loading, including any queuing and hook-up time.
	40.	If a single platform in the Santa Barbara Channel could cause increases of up to two pphm over baseline ozone conditions in Goleta, explain why this magnitude of increase was not seen for trajectories ending in coastal regions of the Santa Maria Basin from Lease Sale #73 and #53 sources.
	41.	The development scenario provided by MHS assumes installation of Platform A and B does not occur at the same time. The potential air quality impacts of two adjacent platforms being under construction simultaneously should be dealt with.
	42.	Cumulative impacts should further address potential sources within State waters.
IV.A.2.	43.	Worst case modeling situations did not include impingement on terrain or fumigation.
IV.A.2.a.	44.	Provide analysis justifying assumption that maximum OCS related onshore concentrations will occur under meteorological conditions similar to the conditions that exist on days where high ozone levels are recorded onshore.
	45.	What were the initial pollutant concentrations suggested by CARB for use with RAPT?
	46.	Provide further detail as to how wind speed, stability and inversion heights were arrived at for hourly periods of the trajectories used in RAPT.
IV.A.2.b.	47.	Joint conditions of low wind speed and onshore flow conducive to ozone production listed on the last paragraph of page IV-3 is for San Francisco Bay Area - present similar information for the Santa Maria Basin. This would provide a better picture as to the number of simultaneous occurrences of conditions that could lead to high ozone concentrations as a result of Lease Sale #73 emissions.
V.B.1.d.i.	48.	If power during the production phase is generated onshore and supplied by submarine electric cable, where will the onshore power be generated?

-4-



Section	No.	Comments
V.B.1.d.1.	49.	Were worst case short-term emission rates for offshore power generation comprised of the additional SO <sub>x</sub> emissions resulting from combustion of high H <sub>2</sub> S tail gas in the sulfur recovery unit?
V.C.5.a.iii	50.	Present natural gas venting and flaring losses based on offshore California production figures.
	51.	Present H <sub>2</sub> S contents of the raw gas in terms of what is currently being dealt with in similar areas offshore California.
V.C.5.b.ii	52.	When tankers are loading at the Gaviota terminal site, what is the percentage of sulfur fuel they will be burning?
V.C.B.	53.	How are onshore emissions from Lease Sale #73 dealt with in terms of modeling? For instance, how do onshore emissions affect the locations where the maximum concentrations from offshore sources occurred?

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24c



Santa Barbara County

RESOURCE MANAGEMENT DEPARTMENT

DIANNE GUZMAN, AICP  
Director

Deputy Directors  
Comprehensive Planning - Kirvill Skimmerland, AICP  
Environmental Review - Albert McCurdy  
Current Planning - Jeff Harris

April 22, 1983

Reid Stone  
Manager, Pacific OCS Office  
Minerals Management Service  
Federal Building, Room 200  
1340 West Sixth Street  
Los Angeles, CA 90017

APR 21 1983  
RECEIVED  
LOS ANGELES

RE: Comments on the Draft EIS for OCS Sale No. 73

Dear Mr. Stone:

Attached are the specific comments regarding the Draft Environmental Impact Statement for lease sale 73 prepared by Santa Barbara County.

The comments have been approved, in part, by the Santa Barbara County Board of Supervisors. Approval of the entire package is expected at the April 25th hearing of the Board.

We are sending these comments in anticipation of approval by the Board, to ensure their place in the legal record on this lease sale. We will send the final set, with an accompanying cover letter, on Monday, the 25th of April, and ask that you accept them as the final and official comments of the County of Santa Barbara.

Sincerely,

*Dianne Guzman*  
Dianne Guzman  
Director

123 East Anapamu Street, Santa Barbara, CA 93101 (805) 963-7135

25

BOARD OF SUPERVISORS  
(408) 425-2201



COUNTY OF SANTA CRUZ

701 OCEAN STREET SANTA CRUZ, CALIFORNIA 95060-4069

GOVERNMENTAL CENTER

DAN FORBUS (FIRST DISTRICT) ROBLEY LEVY (SECOND DISTRICT) GARY A. PATTON (THIRD DISTRICT) E. WAYNE MOORE, JR. (FOURTH DISTRICT) JOE CUCCHIARA (FIFTH DISTRICT)

April 11, 1983

Mr. John Lane  
Mineral Management Service  
Pacific Outer Continental Shelf  
1340 West Sixth Street  
Los Angeles, CA 90017

RE: COMMENT ON DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR PROPOSED OUTER CONTINENTAL SHELF OIL AND GAS LEASE SALE NO. 73

Dear Mr. Lane:

Santa Cruz County Board of Supervisors has taken every opportunity to participate as a reviewing agency for the Department of Interior's proposals for leasing of offshore tracts for oil and gas development in Northern and Central California. The "accelerated" and "streamlined" procedures currently used by your agency have reduced the opportunity for participation by local governments, and we would like to reiterate our opposition to these procedural changes. The acceleration of offshore development activity, and the concomitant attenuation of the environmental assessment associated with the development proposals, heightens the risk to the Northern and Central California coastline, a priceless, national resource.

The confusion surrounding the release of the most recent proposal for offshore leasing exemplifies the fallacy of "streamlined" procedures. The Draft Environmental Impact Statement for Proposed Outer Continental Shelf Lease Sale No. 73 (OEIS) contains as a central element the "Oil Spill Risk Analysis for the Central and Northern California (Proposed Sale #73) Outer Continental Shelf Lease Area" (Report OSTA-73). Because of the reduced comment period, and the fact that this document was not available from your office, we were unable to obtain a copy for review. We assume that the study included some of the results compiled in: "Draft Final Report, Phase I, for the Oil Spill Vulnerability (Risk) assessment of Marine and Coastal Habitats in Central and Northern California." The review period for that document permitted our staff three days for data assessment. We submitted comments on this document (refer to 1/21/82 correspondence) and received no reply, nor was a final report submitted to our agency.

We requested that a scoping meeting for the Lease Sale No. 73 OEIS be held in Santa Cruz County. Instead, the Minerals Management Service chose to hold a "mail-in scoping" with a three week comment period. Santa Cruz County participated in the "mail-in-scoping" and submitted a substantial amount of information, as did 723 other federal, state, and local agencies, and interested groups and individuals. We find it difficult to believe that this information was reviewed, synthesized and used as the basis for a 383 page document which was released only 10 weeks later! Many of the problems

Mr. John Lane  
April 11, 1983  
Page 2

associated with the DEIS, and addressed in the attachments to this letter, could have been avoided through a more thorough and legitimate scoping process.

In addition to the procedural problems which have thwarted a successful environmental assessment process, the OEIS is substantively inadequate. It was extremely difficult to review this document as it pertains to our area because of the inconsistent and undefined use of terms to describe the "Areas Outside of the Proposed Sale Area." We assume that this refers to the area within the "Northern and Central California Planning Area," and outside of the Proposed Lease Sale No. 73 Sale Area, which would include the tracts offshore of Santa Cruz County. The impacts on the "Areas Outside of the Proposed Sale Area" are alternately ascribed to an undefined "Central California", to "Central California" defined as Santa Barbara, San Luis Obispo, Monterey and Santa Cruz Counties, or to all of Central and Northern California. Use of consistent and defined terminology would have permitted more specific and pertinent comments.

It is also unclear how this document will be used with respect to future leasing actions. Your office has in the past referred to "area-wide" environmental documents covering entire planning areas. Some of the environmental information contained in the DEIS address the entire Northern and Central California Planning Area; and in other subject areas only the proposed lease sale area is characterized. We find this ambivalence suspect. Our review of this document assumes that this environmental assessment is to be used only for the proposed lease sale area. The document is entirely insufficient to address leasing activity in the "Areas Outside of the Proposed Sale Area." In fact, as detailed in the attachments, the OEIS will need major modifications in order to adequately assess the potential direct and indirect effects of the current leasing proposal.

Attached to this letter is a resolution communicating our belief that the OEIS is inadequate, and that it is not in compliance with relevant federal and state laws. The attached technical comments are separated into three sections: OEIS Consistency with the Coastal Zone Management Act; OEIS Consistency with National Environmental Policy Act Requirements; and Comments on Predicted Environmental Consequences.

Based on our assessment of the DEIS for Proposed Lease Sale No. 73, we request that the "Delay the Sale" alternative be adopted, and that the Northern and Central California coastline be precluded from any leasing activity until the year 2000 as proposed in HR 2059 (Santa Cruz County Board of Supervisors' resolution in support of that legislation is attached).

Our major concerns are as follows:

-As outlined in this letter, the accelerated leasing schedule and streamlined leasing procedures have worked against a comprehensive environmental assessment, and result in a lack of opportunity for public involvement.

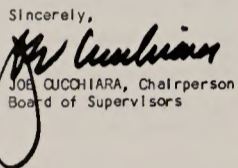
Mr. John Lane  
April 11, 1983  
Page 3

25.8 -Inclusion of information pertaining to planning area tracts north of Morro Bay, and use of a transportation scenario which includes tanker oil to the San Francisco Bay area violates the provisions of the AuCoin Amendment. Clearly, Minerals Management Service funds were expanded during fiscal year 1983 pursuing leasing activity north of Morro Bay, despite the Congressional budgetary ban.

25.9 -The OEIS uses the Oil Spill Trajectory Model as its primary analytical tool. The model predicts that no oil spills will occur outside the Proposed Lease Sale Area as a result of the leasing activity, and we assume the decision to lease will be based on these predictions. The predictions are based on resource estimate which, according to US Geological Survey, represent a high degree of uncertainty. The uncertainty is compounded when the estimates are used to make further predictions, especially when the model requires data that is not always available for a frontier area like northern and central California. We assert that using the probability of estimated impacts from estimated spills resulting from estimated oil resources is not a legitimate assessment of the risk to our area as a result of the proposed leasing action. Decision makers should consider the potentially devastating impacts of an oil spill on our local fishing and tourism industries.

25.10 -Finally, the data errors and gaps identified in the attached technical comments point to a basic problem with the accelerated exploitation of our fragile coastal area. The data required to adequately assess the risk to biological resources in our pristine area is not yet available. Any consideration of expanding leasing activities in the Northern and Central California Planning Area should be postponed until sufficient environmental data becomes available.

We submit the attached resolution and technical comments in response to the call for comments on the OEIS for proposed OCS Lease Sale No. 73. Thank you for your consideration of our concerns. We look forward to an improved Final Environmental Impact Statement.

Sincerely,  
  
JOE CUCCHIARA, Chairperson  
Board of Supervisors

JC/MAJ/11  
Attachments

BEFORE THE BOARD OF SUPERVISORS  
OF THE COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA

RESOLUTION NO. 140-83

On the motion of Supervisor Patton  
duly seconded by Supervisor Moore  
the following Resolution is adopted:

RESOLUTION IN RESPONSE TO CALL FOR COMMENTS ON THE DRAFT  
ENVIRONMENTAL STATEMENT FOR PROPOSED OCS LEASE SALE #73

WHEREAS, the Pacific OCS Office, Minerals Management Service, of the U.S. Department of the Interior has issued a Draft Environmental Impact Statement for their proposed October 1983 central California lease offering known as Lease Sale #73; and

WHEREAS, the Minerals Management Service on March 9, 1983 on pages 9951-9992 of Vol. 48, No. 47 of the Federal Register has requested comments on the central California OCS leasing proposal from individuals, representatives of organizations, and public officials; and

WHEREAS, written comments on the draft Environmental Impact Statement will be accepted by the Minerals Management Service until April 25, 1983; and

WHEREAS, the County of Santa Cruz has reviewed the Draft Environmental Impact Statement for the October 1983 OCS Lease offering known as Lease Sale #73 and found it inadequate for reasons herein described; and

WHEREAS, the Draft Environmental Impact Statement does not adequately disclose the anticipated impacts from the proposed action on existing conditions and uses of the offshore and onshore affected areas or adjacent areas; and

WHEREAS, the Draft Environmental Impact Statement does not adequately quantify impacts and direct effects of the proposed action on the Coastal Zone of the State of California, nor does it indicate the degree of conformance of the proposed action with the laws, goals and policies of the State of California including the California Coastal Act, California's federally-approved Coastal Zone Management Plan, county Local Coastal Plans (LCPs), California's pipeline policy, or California's air quality standards; and

WHEREAS, the Draft Environmental Impact Statement does not present an adequate range of alternatives to the proposal nor does it include a sufficiently high-resolution look at the impacted area and its existing resources and uses, incorporates no "worst-case" analysis of impacts, includes no analysis of impacts on rare and unique species, nor does it adequately identify or analyze cumulative impacts which are likely to result from leasing and development on tracts within this sale combined with prior and planned lease sales and development; and

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WHEREAS, the Draft Environmental Impact Statement does not consider an alternative which addresses the long-held position of the State of California and affected local governments to the effect that leasing is inappropriate in areas to the north of the line between Row N808 and Row N809 of the Universal Transverse Mercator Grid System (approximately the Santa Maria River); and

WHEREAS, the Minerals Management Service, in spite of requests from numerous affected local agencies, has denied the opportunity for "scoping meetings" as provided for in the relevant California Environmental Quality Guidelines in order to identify issues to be utilized in determining the scope of the Draft Environmental Impact Statement; and

WHEREAS, the Minerals Management Service has refused to hold adequate and accessible public hearings on the Draft Environmental Impact Statement in affected coastal communities which would be impacted by the proposal; and

WHEREAS, the Minerals Management Service has shortened the comment period from 60 days as provided by Department of Interior regulations to 45 days, in spite of numerous requests for the full 60-day comment period; and

WHEREAS, required National Environmental Policy Act procedures, California Environmental Quality Act guidelines, and Department of Interior regulations have not been adhered to in the preparation of the Draft Environmental Impact Statement or throughout the pre-lease planning process for this sale and the above-mentioned procedural deficiencies have precluded interested members of the public from adequate opportunity for participation in the environmental review process; and

WHEREAS, above and beyond the inadequacies of the Draft Environmental Impact Statement with respect to the present limited sale area encompassed by Lease Sale #73, the present Draft Environmental Impact Statement would be wholly inadequate and inappropriate as a basis for future decisions outside of the 300-tract October 1983 sale area and unsuitable for use as the basis for an area-wide central and northern California OCS Planning Area EIS; and

WHEREAS, key environmental studies now funded and underway by the Minerals Management Service are necessary to make informed decisions about the proposed action but will not be completed until after October 1983 proposed date of sale, and the sale date should be delayed.

NOW, THEREFORE BE IT RESOLVED AND ORDERED that the Board of Supervisors, County Santa Cruz does hereby adopt this resolution, and by reference the attached technical comments, finding the Draft Environmental Impact Statement for the October 1983 OCS lease offering to be inadequate and not in compliance with relevant federal and state laws; and

BE IT FURTHER RESOLVED AND ORDERED that this resolution and the attached technical comments should be forwarded to the Regional Manager, Pacific OCS Region, Minerals Management Service, 1340 W. Sixth Street, Los Angeles, CA 90017 to arrive prior to April 26, 1983.

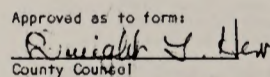
PASSED AND ADOPTED by the Board of Supervisors of the County of Santa Cruz, State of California, this 19th day of April, 1983, by the following vote:

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AYES: SUPERVISORS FORBUS, PATTON, MOORE, LEVY, CUCCHIARA  
NOES: SUPERVISORS NONE  
ABSENT: SUPERVISORS NONE

JOE CUCCHIARA  
Chairperson of the Board of Supervisors

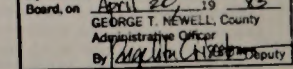
ATTEST: HELEN J. BRIGHTWELL  
Clerk of said Board

Approved as to form:  
  
County Counsel

DISTRIBUTION: Representative Clausen  
Representative Panetta  
Senator Cranston  
Senator Hayakawa  
California Congressional Delegation  
President Reagan  
Secretary of Interior Watt  
Richard Charter  
Mary Ann Johnson  
Pacific Outer Continental Shelf  
County Counsel

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STATE OF CALIFORNIA } SS  
COUNTY OF SANTA CRUZ }  
I, GEORGE T. NEWELL, County Administrative Officer and ex-officio Clerk of the Board of Supervisors of the County of Santa Cruz, State of California do hereby certify that the foregoing is a true and correct copy of a resolution passed and adopted by and entered in the minutes of the said board, in witness whereof I have hereunto set my hand and affixed the seal of the said Board, on April 20, 1983.  
By:  Deputy

TECHNICAL COMMENTS

Proposed OCS Lease Sale No. 73  
Draft Environmental Statement

Santa Cruz County  
April 19, 1983

The technical comments on the Draft Environmental Impact Statement (DEIS) for Proposed Lease Sale No. 73 are separated into three sections: DEIS Consistency with the Coastal Zone Management Act; DEIS Consistency with National Environmental Policy Act Requirements; and Comments on Predicted Environmental Consequences.

Section I: DEIS CONSISTENCY WITH THE COASTAL ZONE MANAGEMENT ACT

Santa Cruz County's Local Coastal Program Land Use Plan is a part of the federally approved Coastal Zone Management Plan (CZMP) for California. The comments included in Section III: Comments on Predicted Environmental Consequences, identify many conflicts between data developed for our LCP, and data included in the DEIS. In addition, three issues are particularly relevant to the lack of consistency between the proposed leasing action and the mandates of the Coastal Zone Management Act.

First, onshore impacts are inadequately considered in the DEIS. Although Santa Cruz County will not experience the siting of onshore facilities and harbor expansion as a result of the proposed leasing activity, the tankering of 25% of the oil produced to the San Francisco Bay area results in the possibility of oil spill impacts along the entire coastline. Lack of infrastructure in the rural areas of the County will handicap oil spill containment and cleanup efforts. A recent report prepared by the International Tanker Owners Pollution Federation for the European Economic Community states that if a large volume of crude is released into the sea relatively close to shore it's highly unlikely that even the best organized cleanup flotilla can prevent some, if not most of the oil from reaching the shoreline. The ramifications of a tanker spill resulting in oil reaching our coastline have not been adequately assessed in the DEIS.

Mitigation measures, in the event of an oil spill, are not included. Shoreline impacts should be anticipated along the entire transportation route, and addressed in the OEIS.

Second, LCP policies require stringent protection of coastal wetlands and estuaries (refer to LCP excerpt attached). Not only are these areas complex and rich biological resources, their integral role as nursery areas and food sources for commercial fish species make their protection essential to the viability of our local fishing industry.

Because of the threat of spills posed by the projected tankering of oil to the San Francisco Bay area, the value and sensitivity of estuarine resources in the Santa Cruz area should be assessed, and the expected damage from oil exposure should be described in the DEIS. As noted in Section III of these comments, the data on existing estuaries and wetlands should be more comprehensive. The coastal resources identified and protected by our

federally approved Coastal Zone Management Plan should certainly be recognized and recommended for protection by any federal environmental assessment.

Third, the OEIS does not address how the Lease Sale #73 activities are likely to be brought into conformance with the State of California's pipeline utilization policy. The State has a long-established policy that OCS activity will be encouraged in areas where sufficient reserves exist to economically justify transportation of crude via pipeline. The objective of this policy is to protect air quality and to minimize oil spill risks.

Although the lack of consideration of California's pipeline utilization policy in the DEIS does not directly affect Santa Cruz County with respect to this leasing proposal, the Mineral Management Service's disregard for State policies protecting onshore areas sets a dangerous precedent. The Final EIS should address the degree to which impacts of the proposed leasing activities could be mitigated by use of pipelines.

The fact that the OEIS in many cases has not addressed the consistency of the proposed leasing action with California's Coastal Zone Management Plan, as evidenced by the points made above as well as other conflicts with LCP data and policies included in Section III, is particularly audacious in light of recent litigation. It was determined in the US District Court, and reaffirmed in the US Court of Appeals, in an action in which Santa Cruz County appears as a plaintiff-in-intervention, that the Secretary of Interior did violate Section 307(c)(1) of the Coastal Zone Management Act (CZMA) by selling leases offshore without a determination of consistency with California's Coastal Zone Management Plan. It is extremely distressing to the County that despite the investment of County resources in demonstrating that the Secretary's disregard of consistency requirements is illegal, the Secretary proceeds in blatant violation of Section 307(c)(1) of the CZMA.

The Final EIS should address the consistency of the proposed leasing action with CZMA.

Section II: DEIS CONSISTENCY WITH NATIONAL ENVIRONMENTAL POLICY ACT REQUIREMENTS

Procedural Inadequacies

The cover letter to these technical comments covers some of the procedural problems Santa Cruz County has come up against in participating in the environmental assessment process. While it will be difficult to rectify the lack of adherence in the past to National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) guidelines, these procedural inadequacies have contributed to the problems encountered in the DEIS. Following is a summary of procedural efficiencies.

- a) Interior shifted from tract specific planning to area-wide planning mid-way through the process for Lease Sale No. 73.
- b) Similarly, Interior instituted "streamlining" of procedures mid-way through the planning process for Lease Sale No. 73.

c) After switching to "streamlined" processes (as outlined in the Supplement to the Final EIS on the Proposed Accelerated Oil and Gas Leasing Program), Interior violated their own "streamlined" procedures by abandoning the required "scoping" meetings prior to preparation of the DEIS for Lease Sale No. 73.

d) The comment period on the DEIS was curtailed from the established 60 days to only 45 days in violation of Interior's own regulations on environmental review.

e) The single public hearing in Santa Maria is not adequate to provide the necessary opportunity for public and local government comment on the DEIS.

Lack of Worst Case Analysis

Where actual environmental impacts cannot be adequately quantified, legal precedents have been established for the need to include an analysis of a "worst case" scenario in the EIS.

The Sale #73 DEIS includes no such scenario. For Sale #73 such a worst case analysis would probably be a collision of two loaded tankers, a tanker-platform collision, or the collision of a tanker with an offshore storage and processing vessel. Another worst-case scenario could involve an uncontrolled blowout of a well during weather conditions which preclude the use of oil spill containment technologies.

It is important that the final EIS address this worst-case analysis as it applies to Sale #73, and include this data in the Final EIS.

Lack of Cumulative Impact Considerations

The DEIS does not adequately consider the cumulative impacts of leasing actions which may affect our area. Cumulative impacts from any of the tanker traffic offshore of the County, as well as impacts from next year's proposed Lease Sale No. 80, should be considered in the OEIS. The cumulative impact assessment should include analysis of water quality, air quality, lost fishing space, conflicts with fishing activity, increased spill risk, and vessel traffic lanes.

Lack of Specificity to Sale Site

The present Sale #73 OEIS is a document which is certainly not area-wide, but likewise does not focus on the remaining sale area with the necessary degree of resolution. With a 360 tract sale area the environmental assessment should be of sufficient resolution to permit the best possible design of mitigation measures for the predicted impacts.

The final EIS should be reformulated to be more site-specific to the sale area and thereby provide answers to some of the questions glossed over in the DEIS. Identification of appropriate mitigation measures and stipulations is necessary.

Inadequate Alternatives

The DEIS presents only minimal alternatives to the proposal.

An additional alternative should be included in the final EIS which would also delete all of the tracts shoreward of Sale #53 off of Pismo Beach, Grover City, Arroyo Grande, and the beaches of northern Santa Barbara County. A buffer zone in this area has long been recommended and was first left there by Secretary Andrus and later by Secretary Watt under Sale #53. Support for this nearshore deletion option would help carry on pre-existing precedents for the utilization of buffer zones to protect air quality and the tourism and recreation industries.

An additional alternative should be considered which offers no tracts located to the north of the line between Row N8DB and N809 on the UTHGS maps (approximately the Santa Maria River).

Lack of Consideration of New and Rare Species

Several new and previously unidentified species have been found in association with the biological site surveys for which have preceded exploratory drilling operations in the Sale #53 tracts of the Santa Maria Basin.

These unusual organisms are likely to also be present on some of the tract areas being considered for offering under Lease Sale #73 and have received no coverage in the DEIS.

SECTION III: COMMENTS ON PREDICTED ENVIRONMENTAL CONSEQUENCES

The "Environmental Consequences" section of the DEIS covers projected impacts on the physical, biological and socioeconomic environment both within and outside of the proposed lease sale area. As discussed in the cover letter, there are several structural problems with the environmental assessment. The impact analysis is seriously flawed by an overdependence on the use of predictive models, particularly the oil spill trajectory model. The severity of impacts on any given shoreline segment is based on the likelihood that an oil spill will contact the shore. Because the characteristics of the offshore environment used in the model are complex, and constantly changing, and because accurate data is not available for all model inputs, we challenge the validity of basing the entire analysis on this predictive tool. The unknowns, for example the actual level of resources which will be extracted, contribute to the fallibility of the model. A large find in the sale area will dramatically increase the likelihood of spills. The statement on p. 4-5 of the DEIS, pointing out that an unknown additional number of oil spills, not accounted for by the model, are expected to occur from other general vessel traffic, clearly demonstrates how use of the model underestimates the impacts of the proposed leasing action.

We assume that the data inputs for the model were based on the "Ecological Characterization of the Central and Northern California Coastal Region" released by Interior in 1981. The information on physical oceanography included in that document pertaining to our area was inadequate and inaccurate. "Nearshore Current Patterns Along the Central California Coast" (Griggs, 1974) is an analysis that was done specifically for this type of investigation, and it is not even referenced. The study includes detailed

current pattern maps. This more specific and accurate data should be incorporated into the oil spill predictions. The description of predominant surface currents in this document is also inaccurate (page 1211). Monterey Bay currents actually flow strongly to the north during winter months and strongly to the south in spring months.

In addition to the inaccuracies in background data pertaining to model inputs, newly developed data shows increased potential for spill impacts in Santa Cruz County. The recent modeling of seasonal surface water velocity fields shows that during the winter months the Davidson current produces a northward flow nearshore.<sup>2</sup> Modeling of trajectories offshore of Northern and California indicates that during the winter season nearshore, surface currents exert a greater influence than wind on spill trajectories.<sup>3</sup> The inaccuracies included in existing, published interior background reports, and the recently released data confirming that oil spills during winter months could be moved northward up the coast on the rapidly flowing Davidson current, increases our trepidation over the oil spill impact predictions included in the OEIS. We request, as we have requested with previous proposed leasing actions, that the decision whether or not to lease be based on the risked resources. The coastal areas along the proposed tankering route between the proposed lease sale area and the San Francisco refineries, will be subject to increased risk of oil spill contact. The OEIS is improved from preceding EISs in that some of the potential impacts from spills are described. We object, however, to these impacts being disregarded based on the oil spill trajectory model projections.

Are other oil spill model results considered in the OEIS? The National Weather Service has recently begun to model oil spill trajectories in order to be prepared to make 24 and 48 hour projections of spill movements in the event of a spill. Staff responsible for the projections believe that ocean current data sufficient for trajectory modeling is unavailable for the Santa Cruz Basin outside the San Francisco Bay.<sup>4</sup> The Office of Marine Pollution Assessment in Seattle, a National Oceanic and Atmospheric Administration Agency, has also done considerable work in modeling spill paths, and should have been consulted. Finally, perhaps the best predictions can be based on actual experiences. In 1970, U.S. Fish and Wildlife researchers monitored the movement of a large quantity of lumber spilled offshore of Central California. According to their report, "...the lumber spread through most of the range of the threatened California sea otter population within four weeks. The movement rates of the lumber were similar to those of oil slicks observed elsewhere." The lumber from that spill entered the Monterey Bay, contrary to the model predictions that spills from the lease sale area will have no effect on our coastline. The report concludes: "These observations indicate that a major oil spill could expose significant numbers of California sea otters to oil contamination."<sup>5</sup>

The predictions for impact severity throughout the "Environmental Consequences" section of the OEIS are underestimated as a result of reliance on the oil spill trajectory model, rendering the document inadequate and incomplete.

Following are specific comments by subject area, reflecting the organization of the "Environmental Consequences" section of the OEIS.

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#### AIR QUALITY (p. 4-91)

The OEIS states that the magnitude of air quality impacts outside the proposed sale area "cannot be determined presently". The proposed transportation scenario, however, projects processing of 25% of the oil produced in San Francisco refineries. A recent Stanford Research Institute study on air transport substantiated the theory that air pollutants travel along the coast from the San Francisco Bay into the Monterey Bay area.<sup>6</sup> Santa Cruz County already exceeds EPA standards for ozone concentrations, and refining an additional 21,075 barrels of oil/day in the San Francisco Bay area will further degrade our local air quality. These impacts can be quantified, and should at the very least be addressed in the OEIS. The economic impacts of reducing air pollution to counteract the degradation which will result from the proposed leasing action should also be assessed.

#### MARINE MAMMALS (p. 4-117)

The OEIS states that, should an "unexpected" spill occur in the Santa Cruz Basin, significant impacts would likely occur due to direct contact, toxicity and possible noise and disruption.<sup>7</sup> Again, we compliment MMS on their more realistic assessment of the likely impacts of an oil spill. However, because of the problems associated with the oil spill predictions discussed above, the effects on marine mammals in the event of a spill should not be discounted. Some of the assumptions in this section are questionable. How was it determined that elephant seals are not particularly sensitive to oiling (p.4-112)? and that impacts from a spill would be low? It's difficult to believe that a tanker collision causing an oil spill to contact Ano Nuevo would not severely affect the elephant seal population. (Refer to rare and endangered species discussion below for sea otter comments).

#### SEA BIRDS (p. 3-47)

Why are shorebirds excluded from the OEIS? Oil spill contact will certainly affect species dependent on shoreline habitat. The OEIS should be expanded to address impacts on these species. Table III.B.7-2 (p.3-54) lists estuaries of ecological concern in central California. Many of the estuarine areas of Santa Cruz County are not included on this chart. Although our County's coastal wetland areas are individually small, they are vitally important to 150 species of water-associated birds (as well as other animal species) providing resting, foraging, and sometimes breeding areas for thousands of resident and migratory birds in the Pacific Flyway. Attached is a list of the sensitive habitat areas protected through the Santa Cruz County Local Coastal Program, which should be included in the OEIS.

Anadromous streams are also listed incompletely on this table. The following streams should be added: Waddell Creek, San Vicente Creek, Liddell Creek, Laguna Creek, Majors Creek, and Baldwin Creek.

#### RARE AND ENDANGERED SPECIES (p. 3-50)

Table III.B.6-1 includes federally listed endangered or threatened species most likely to be affected by the proposed sale. This list should be expanded

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to address the possible impacts to rare and endangered species recognized in adopted Local Coastal Programs. Attached are the lists of protected species for Santa Cruz County.

The OEIS admits the extreme hazards the proposed leasing action poses for the California sea otter, a federally protected species. Again, the potential devastation to this species is written off as "unlikely" to happen. This treatment makes a mockery of Interior's program for the protection of species threatened by extinction.

The OEIS should include accurate information about the status of the sea otter population. Since the sea otter was first classified as a threatened species in 1977, its chances for survival have decreased. After a number of years of steady increases, the population now appears to be at about 1500 individuals, a fraction of its former abundance. Recent evidence suggests a decline in numbers. At the same time, recolonization by the otter of its former range seems to have ceased. Finally, in recent years sea otter mortality has increased sharply. From 1975-79, an average of 72 otter carcasses per year were recovered. In 1980, 143 carcasses were discovered, and in 1981, 153.

Federal listing of rare and endangered species is based strictly on biological data; economic and political factors are not considered. The implication of the assessment in the OEIS is that the protection associated with a species being listed is contingent on a lack of conflict with revenue-generating activities such as the development of offshore resources. The indifference exhibited toward the possible extinction of a species exposes the bias against resource protection prevalent throughout the document.

#### PROPOSED MONTEREY BAY MARINE SANCTUARY (p. 3-63)

The OEIS described the Monterey Bay as an active candidate for marine sanctuary status, however the document includes no analysis of the potential impacts on the proposed marine sanctuary status. The Final EIS should analyze and quantify the potential impacts of the proposed Monterey Bay Marine Sanctuary.

#### COMMERCIAL FISHERIES

The commercial fishing industry is an important component of our local economy. The analysis of impacts on this industry from the proposed leasing action is inadequate, and the resource data is misrepresented.

First, the entire section should be expanded. A complex industry existing along 1000 miles of coastline cannot be described and analyzed in five narrative pages. Second, there are several methodological problems with the analysis. The OEIS states that northern and central California fish landings represent only 25% of the total California catch. This attempt to minimize the threatened resource is actually a misrepresentation of the fisheries which may be affected by the leasing activity. Sixty percent of the California catch is tuna which, although it is fished throughout the Pacific Ocean, registers as landing in Los Angeles where the large tuna boats are hosted. Of the remaining overall landings, 62.5% are caught in northern and central California.

7

The use of number of pounds of fish caught as the primary measure of fishery resources also contributes to a misrepresentation of the actual impacts which might result from leasing activities. Because of the characteristics of various fish species, and the gear type differences, the level of participation in each fishery varies greatly. The number of participants affected would be a more valid way of measuring impacts than the pounds of fish caught. The onshore industry is not taken into account by the OEIS. This should be corrected and the multipliers used should again be specific to the individual fishery. The authenticity of correlating fish landings with offshore tracts is questionable. Fishermen view catch locations as proprietary information, and it is very unlikely that the information presented in the visual accompanying the OEIS is accurate, with the exception of data from trawlers where logbook reporting procedures may result in some legitimate catch locations.

Third, there are data errors and gaps throughout this section. An albacore fishery is shown near the harbor in Monterey Bay although this is an oceanic species usually found 100 miles offshore. The sablefish fishery depicted actually ended in 1978-9. Several fisheries with landings over 10,000 pounds have not been included, and these fisheries are coincidentally high participation fisheries: examples include the white croaker and halibut fisheries in the Monterey Bay, and the large abalone fishery off of Half Moon Bay. Another fishery which, although it does not meet the 10,000 pound criterion, should be included because of its high participation rates, is the hook and line rockfish fishery. Fifteen to twenty percent of the revenue derived from commercial fishing in the Monterey Bay is derived from the salmon fishery extending from Ano Nuevo to the Farallon Islands. This is not represented on the visual. The representation of fisheries on the visual should be by gear type rather than fish species. This kind of information would be more useful in identifying potential conflicts with oil and gas extraction activities.

Finally, there are several problems with the impact analysis in addition to the disregard for oil spill impacts discussed previously. In several places throughout the document (p. 4-24, 4-103) the contention is made that because fish populations oscillate naturally it is impossible to determine the impacts from oil leasing activities. This reasoning - i.e. if effects cannot be detected than they do not exist - is bogus. Studies should be designed that include control experiments or use other methods to discern masking effects.

The OEIS asserts that a loss of one month of fishing is not significant. Because of the seasonal nature of fisheries, this is untrue for most species. For example, a spill during May or June would be devastating to the salmon fishery which, together with squid, represents about 38% of the landings in the Monterey Bay. Salmon is a high participation fishery, and many fishermen would probably be put out of business.<sup>7</sup>

The commercial fisheries analysis in the OEIS needs major revisions in order to adequately address the potential impacts on this important industry.

8

<sup>1</sup>Griggs, Gary. "Nearshore Current Patterns Along the Central California Coast," *Estuarine and Coastal Marine Science*, (74)2, 395-405.

<sup>2</sup>Samuels, W.G. "The Relative Contributions of Local Wind Drift and Geostrophic Surface Currents to the Movement of Potential Dispersals on the U.S. Pacific Outer Continental Shelf," presentation at the American Geophysical Union Conference, December 1982, San Francisco.

<sup>3</sup>Ibid.

<sup>4</sup>Conversation With Walt Strach, National Weather Service, April, 1983

<sup>5</sup>*Science*, Vol. 215, 3/19/82, "Lumber Spill in Central California Waters: Implications for Oil Spills and Sea Otters," U.S. Fish and Wildlife Service, San Simon, California.

<sup>6</sup>"Ozone Transport in the N.C. Coast Air Basin," Walter F. Oabberdt, Stanford Research Institute, February 1983, Prepared for Air Resources Board contract #A9143-31.

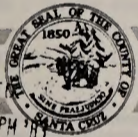
<sup>7</sup>Conversation with Edward Melvin, Santa Cruz County Agricultural Extension, April 7, 1983.

Due to space limitations and the bulk of the materials submitted to the MMS regarding the Draft EIS for proposed Lease Sale No. 73, all written comments have not been included in this volume. The following documents have been reviewed by the EIS staff and responses to specific comments have been prepared as indicated.

Attachment I - Local Coastal Program Land Use Plan 1982 Excerpt.

FISH & GAME COMMISSION

RECEIVED



COUNTY OF SANTA CRUZ

701 OCEAN STREET SANTA CRUZ, CALIFORNIA 95060

April 18, 1983

GOVERNMENTAL CENTER  
PACIFIC CENTER  
(408) 425-2866 ANGELES, CALIFORNIA

Manager, Pacific OCS Office  
Minerals Management Service  
Federal Building, Room 200  
134D West Sixth Street  
Los Angeles, CA 90017

RE: OCS SALE NO. 73

Dear Sirs:

The Santa Cruz County Fish and Game Advisory Commission has reviewed your Draft Environmental Impact Statement for OCS Sale No. 73.

We are concerned because the DEIS does not consider or document all of the biological resources of this area, nor does it completely address the impacts of financial responsibility for damage to our biological resources. The DEIS adequately addresses the impacts to our rare/endangered species but responsibility for capture, cleaning and recovery are not mentioned.

Our biological resources are too valuable to be subjected to the eventuality of an oil spill. Our local economy depends to a great extent upon sport and commercial fishing and tourism. For these activities we need clean water, clean beaches and habitat for marine fish and wildlife species.

We opposed OCS Gas and Lease Sale No. 53, as did our County Board of Supervisors. Therefore, we recommend Alternative IV - no sale.

Sincerely,

*Richard Beller*

RICHARD BELLER, Chairperson  
Fish and Game Advisory Commission

RB/1f

26.1

COUNTY OF SONOMA  
BOARD OF SUPERVISORS  
575 ADMINISTRATION DR., RM. 100A  
SANTA ROSA, CALIFORNIA 95401  
(707) 527-2241

ERNEST L. CARPENTER  
SUPERVISOR FIFTH DISTRICT



RECEIVED  
APR 21 10 57 AM '83  
MRS. J. CARPENTER  
1000 WASHINGTON ST. JAMAICA  
CA 94026

Honorable James G. Watt, Secretary  
United States Department of the Interior  
18th and C Streets, N.W.  
Washington, D. C. 20240

April 19, 1983

SUBJECT: DEIS: PROPOSED OCS LEASE SALE #73

Dear Sir:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS) for the Proposed Outer Continental Shelf Oil and Gas Lease Sale #73, Central California. Since coastal waters off of Sonoma County are apparently not being considered for drilling operations in this particular DEIS, our primary concerns are related to the environmental review process and overall quality of analyses undertaken by DOE/MMS for this project and presumably all future proposed offshore lease sales. We are also concerned that approval of further lease sales in the proposed sale area represents an attempt by DOI to incrementally develop offshore oil operations along the entire west coast, including Sonoma County.

The Department of the Interior has been neglectful in not providing Sonoma County and other coastal jurisdictions the opportunity for direct consultation prior to scoping of the DEIS. As a result, local concerns with regard to offshore oil and gas production could not be clearly expressed. Should lease sales be proposed for development off the Sonoma County Coast, we respectfully request that we be permitted to participate in scoping meetings with your office prior to preparation of any Draft Environmental Impact Statement.

We offer the following comments on the DEIS:

1. The Scope of the DEIS is not clear. While it purports to analyze adverse effects of oil and gas production specifically from Point Conception north to Morro Bay, in many ways it appears to analyze the effects of offshore drilling throughout the entire call area boundary. For instance, Graphics #1-4 and Chapters III and IV include data and information covering the entire call area. The failure of the DEIS to properly identify the scope of the specific project being proposed is confusing to reviewers of the document. The DEIS must clearly state the

27.1

proposed project and be consistent throughout. Proper scoping would also enable a more detailed analysis of the specific area between Morro Bay and As it is, the DEIS does not provide a sufficiently detailed assessment of impacts of oil and gas development for any portion whatsoever of the Central and Northern California Planning Area.

- 2. Potential adverse effects are quantified in general terms (low, moderate, high) which do not provide a clear picture of the environmental consequences of offshore drilling operations. The DEIS proposes, in such cases where little data are available to accurately assess the impacts, to conduct ongoing post-lease sale environmental studies. However, this approach does not allow a sufficiently detailed and fair evaluation of the project before industry finances are irrevocably committed to drilling. For example, Page 2-16 of the DEIS contains the following statement related to oil spill potential:

"The actual environmental risk may prove significantly higher or lower due to the extremely difficult nature of predicting oil spills and their movements. . . ."

Oil spill risk analyses, spill containment plans, geohazards studies, biological surveys, air and water quality and other environmental base studies should be completed prior to preparation of a Final EIS and any decision on a lease sale. From these data, a more realistic and environmentally sound set of alternatives could be developed and circulated for review.

- 3. The DEIS does not adequately address the cumulative effects of offshore drilling in the Morro Bay-Point Conception sale area. While the DEIS describes the effects of individual drilling operations, it does not consider the cumulative effects of all potential drilling operations in the sale area, particularly in the areas of air quality, water quality, biological resources, visual resources and coastal land use. Nor does the DEIS consider the effects of this sale cumulatively with effects of possible later sales within the call area boundary. An analysis of the "full project" is necessary when later related proposals are contemplated. Since it is evident that the Department of the Interior intends to pursue additional lease sales to the north, the DEIS should discuss cumulative effects of this particular project in that light.

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- 4. The resource estimates used are admittedly "subjective" and should be clarified in the DEIS. What specific geologic data and criteria are used to identify potential resource areas? The public should be informed about the actual areas which contain probable oil reserves so that potential environmental impacts can be accurately assessed and compared. A conservative approach to an analysis of offshore drilling potential would be based upon a low estimate of the resource and a "worst case" analysis of impacts. For this reason, the "Conditional Mean Resource Estimate" should be used for purposes of analyzing the adverse effects of the lease sale even if the estimate exaggerates the availability of the resource.

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- 5. The DEIS contains two sets of mitigation measures; "Potential Mitigating Measures" (Chapter IIA) and "Mitigating Measures that are Part of the Proposed Action" (Chapter IV B). The latter includes OCS operating Orders, Oil Spill Containment and Cleanup, Exploration and Development Plans and N.T.L.s. These are procedural mechanisms which do not describe any mitigation measures which could or would be applied to any drilling operation. As noted previously, plans, surveys, and studies necessary to identify and quantify specific impacts should be carried out prior to completion of the DEIS. In this way, DOI/MMS could develop a set of operational standards to be implemented as a condition of lease sale approval. The DEIS should also document previous use of the above procedures in offshore operations and explain how they specifically mitigated potential adverse effects.

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"Potential mitigating measures" are similarly insufficient to reduce or eliminate adverse impacts of offshore drilling. Most importantly, the Department of the Interior specifically states in the DEIS that no commitment has been made to invoke any of the seven proposed "stipulations". It is therefore impossible to determine the extent to which impacts on biological and cultural resources will take place, the extent to which commercial fishing operations will be impacted, or the location where oil will be transported by pipeline instead of tanker. We also note the following deficiencies in the proposed stipulations:

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- a. The judgment as to whether or not drilling operations may affect biological or cultural resources and the responsibility for precribing surveys or other post lease sale data collection efforts is proposed to be the responsibility of the Regional Supervisor Offshore

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Field Operations Division (RSOFOD). What qualifications does the RSOFOD possess for such an important task? What assurance is there that use of the stipulations would result in actual mitigation of any environmental effects? Specific criteria should be developed prior to any lease sale. The responsibility for invoking a stipulation and requiring adequate mitigation should lie with an objective, scientific body or agency independent of the Department of the Interior.

- b. The Biological Stipulation, as written on Page 2-8, contains no provision which would require any action on the part of a lessee once a site specific survey had been completed, even if the survey resulted in the discovery of a significant habitat or species. The requirement that the lessee "make every reasonable effort" to mitigate potential affects is too broad and does not provide adequate assurance that biological resources will be protected and preserved.

- c. The criteria for requiring pipeline transport of crude oil are similarly vague and arbitrary. Specific criteria should be developed based upon environmental analyses of each sale area. Specific areas where pipelines will be used should be identified prior to the Final EIS and Lease Sale.

- 6. The consideration of project alternatives is inadequate. The identification of alternatives should await completion of all pertinent environmental studies. In that way, alternatives could be developed which preclude offshore drilling in areas where any other important coastal resources exist. Since Alternatives I and II are so similar and III and IV essentially mean no sale, no meaningful alternatives are available for review and comment. The analysis of Alternative IV (no sale) appears to be a rationalization for project approval rather than a fair comparison of impacts. Indeed, if the impacts from future coastal activities and uses will be as severe as the DEIS indicates then OCS development will be cumulatively more significant.

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- 7. Page 2-26 of the DEIS provides an assessment of the capability of alternative energy sources to supply an equivalent amount of energy if OCS Lease Sale #73 is removed from further consideration. However, the DEIS fails to consider the alternative of energy conservation. As a result, a distorted picture is presented which does not place the need for offshore oil and gas in the proper perspective. Reduction of energy demand is a viable project alternative which should be considered (see attached Sonoma County Board of Supervisors Resolution #69588).

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- 8. The DEIS contains an inadequate visual impact analysis. A visual representation of drilling facilities should be provided in context which allows comparison between coastal areas and tourism and recreational uses with and without drilling rigs, pipelines, and onshore support facilities.

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- 9. Most importantly, the DEIS contains no assessment of the relationship of the proposal to the California Coastal Act or coastal plans of affected local jurisdictions. Nor does the DEIS demonstrate how the requirements of the OCS Lands Act will be met by the Secretary of the Department of the Interior regarding the consistency of offshore drilling with such coastal plans and Act. The attached Board of Supervisors Resolution #71518 states Sonoma County's support of its coastal plan policies and adherence to the requirements of the OCS Lands Act.

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It should be further noted that Sonoma County is presently bearing its fair share of the nations energy burden with the Geysers geothermal steamfield. In our review of the DEIS and in all of our deliberations regarding offshore drilling operations, we have striven to avoid parochialism and selfish disregard for national needs. We view the potential benefits to be derived from offshore oil and gas resources as limited in comparison to the greater value derived in preserving existing coastal resources and coastal dependent industry, recreation and tourism.

Sincerely,

*Ernie Carpenter*

Ernie Carpenter  
Fifth District Supervisor  
Chairman of the Board of Supervisors

EC/GC/mm

Attachs.

cc: John Lane  
Richard Charter  
Senator Alan Cranston  
Senator Pete Wilson  
Congressman Doug Bosco  
Congresswoman Boxer

5

Resolution No. 19490  
 County Administration Building 27a  
 Santa Rosa, California  
 Date: April 12, 1983  
 File No. \_\_\_\_\_

THE WITHIN INSTRUMENT IS A  
 CORRECT COPY OF THE ORIGINAL  
 ON FILE IN THIS OFFICE.

ATTEST: APR 13 1983  
 EEEVE T. LEWIS  
 County Clerk & ex-officio Clerk of the  
 Board of Supervisors of the State of Cal-  
 ifornia, in & for the County of Sonoma  
 By \_\_\_\_\_ Deputy

RESOLUTION OF THE BOARD OF SUPERVISORS, COUNTY  
 OF SONOMA, STATE OF CALIFORNIA, DIRECTING THE  
 CHAIRMAN OF THE BOARD TO TRANSMIT SONOMA COUNTY'S  
 COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT  
 FOR THE PROPOSED OUTER CONTINENTAL SHELF LEASE SALE  
 #73, CENTRAL CALIFORNIA, TO THE U. S. DEPARTMENT OF  
 THE INTERIOR

WHEREAS, the U. S. Department of the Interior (DOI) has requested that  
 Sonoma County and other interested parties comment on the Draft Environmental  
 Impact Statement for the proposed Outer Continental Shelf (OCS) Lease Sale #73,  
 Central California, and

WHEREAS, the Planning Department staff has reviewed the Draft Environmental  
 Impact Statement and prepared general written comments thereon, and

WHEREAS, the proposed sale, while limited to that portion of the coast  
 between Morro Bay and Point Conception, sets a precedent for potential later  
 sales off of the Northern California coast, and

WHEREAS, the Board of Supervisors has previously expressed its opposition  
 to off-shore drilling and the Department of the Interior's Five-Year OCS Oil  
 and Gas Leasing Program (Board of Supervisors Resolution #71518), including the  
 above Lease Sale, and

WHEREAS, the Board of Supervisors has reviewed and considered the comments  
 prepared by the Planning Department staff and concurs with said comments,

NOW THEREFORE BE IT RESOLVED that the Sonoma County Board of Supervisors  
 hereby directs the Chairman of the Board to transmit Sonoma County's comments,  
 as attached, on the Draft Environmental Impact Statement for the proposed OCS  
 Lease Sale #73, Central California, to the U. S. Department of the Interior.

THE FOREGOING RESOLUTION was introduced by Supervisor

SUPERVISORS:  
 Adams: Aye Putnam: Aye Rudee: Aye Esposti: Aye Carpenter: Aye  
 Ayes: 5 Noes: 0 Absent: 0 Abstain: 0

SO ORDERED

Sonoma County Administration  
 Building, Santa Rosa, California  
 Date June 9, 1981

*[Signature]*

RESOLUTION OF THE SONOMA COUNTY BOARD OF SUPERVISORS  
 SUPPORTING ENERGY CONSERVATION ALTERNATIVES TO OCS  
 LEASE SALE NO. 53

27 B

WHEREAS, the Secretary of the Interior has indicated that he may  
 lease tracts in the Bodega and Point Arena Basins for oil and gas exploration  
 and development due to an overriding national interest to be "energy independent,"  
 and

WHEREAS, the Bureau of Land Management estimates that the recoverable  
 oil is nine million barrels in the Bodega Basin and twenty-four million  
 barrels in the Point Arena Basins, to be extracted over the twenty year term  
 of the proposed lease, and

WHEREAS, the County of Sonoma has, on several occasions, informed the  
 Department of the Interior of its belief that the proposed lease sale represents  
 a clear and present danger to the economy, environment and recreational  
 resources of our community, and

WHEREAS, fishing and tourism bring the County of Sonoma nearly \$200  
 million annually, and provides the prime economic base of the local coastal  
 economy, and

WHEREAS, the potential economic losses to fishing, coastal dependent  
 agricultural and tourism represented by the dangers inherent in oil and  
 gas exploration and development in the Bodega and Point Arena Basins make any  
 such proposed lease sale unwise and harmful, and

WHEREAS, the San Andreas fault runs along the Sonoma shoreline, as  
 close as three miles from possible leasing areas, thus creating an unacceptable  
 potential for environmental damage, and

WHEREAS, the County of Sonoma already contributes to the United States  
 energy supply with the world's largest producing geothermal field, the Geysers,  
 with a current capacity to produce 908 megawatts of electricity and an estimated  
 potential capacity to produce 2,600 megawatts, and

WHEREAS, to wit, the Counties of San Mateo, Santa Cruz, Marin, and  
 Humboldt have adopted resolutions supporting energy conservation alternatives  
 to OCS Lease Sale No. 53, and

WHEREAS, the County of Sonoma is willing to take necessary action  
 sufficient to make a lease sale in the Bodega and a portion of the Point  
 Arena Basins unnecessary due to "conservation energy production" resulting  
 from energy efficiency policies producing an amount of energy equivalent  
 to the "net amount" of energy produced from the Bodega and a portion of  
 the Point Arena Basins in OCS Lease Sale No. 53, and

WHEREAS, significant energy can be produced through sound local policies  
 related to insulation and weatherization of existing residential and commercial  
 structures; conservation and energy efficiency within industrial, commercial  
 and local government facilities through proper design and maintenance of  
 heating, ventilating, and air conditioning and production systems; energy  
 efficient vehicle fleets; improved standards for energy efficiency in new  
 construction and the use of passive and active solar design techniques, and

WHEREAS, residents, business and industry within Sonoma County used  
 43.5 Trillion British Thermal Units of energy in 1979, and said BTU's equal  
 6.95 million barrels of oil, and

WHEREAS, the County of Sonoma is currently developing a County-wide  
 Energy Program, and said Energy Program could be developed so as to provide  
 local programs of "conservation energy production" that will result in energy  
 savings comparable to the "net energy" expected to be extracted from the  
 Bodega and a portion of the Point Arena Basins in OCS Lease Sale No. 53, and

WHEREAS, the Board of Supervisors supports the proposal to establish  
 a national reserve on certain lands of the Outer Continental Shelf included  
 in the proposed lease sales No. 53 and No. 73 for a national security emergency,  
 and

WHEREAS, "conservation energy" is less harmful to coastal dependent  
 agriculture, fishing, tourism, recreation and environmental resources, and

WHEREAS, the County of Sonoma is willing to establish policies which  
 translate our opposition to Lease Sale No. 53 into actions which provide

an alternative to said lease sale, thus making it unnecessary.

NOW, THEREFORE, BE IT RESOLVED by the Sonoma County Board of  
 Supervisors as follows:

1. The County of Sonoma again urges the Secretary of the Interior to  
 delete the lease sale of the Bodega and a portion of the Point Arena  
 Basins, and directs the Chairperson of the Board of Supervisors to  
 convey this Resolution to the Secretary of the Interior, the President  
 of the United States, and other officials and interested persons as  
 she may deem appropriate.
2. The County of Sonoma hereby supports the efforts of both parties  
 of Congress and others to have the oil and gas deposits in the  
 northern four basins of Lease Sale No. 53 designated as a national  
 reserve.
3. In order to balance the local and national interests by a common  
 measure, the County of Sonoma is willing to provide the Secretary  
 of the Interior with a detailed program showing how the County of  
 Sonoma can achieve its fair share of energy savings, equivalent to a  
 proportionate amount of net energy estimated to be produced through  
 development of oil and gas reserves in the Bodega and a portion of  
 the Point Arena Basins.
4. The amended Final Environmental Impact Statement of the Department  
 of Interior for the Proposed 1981 OCS Oil and Gas Lease Sale No. 53  
 shall serve as the document of record and reference in determining  
 the amount of oil which can reasonably be expected to be available  
 within the Bodega and Point Arena Basins and in determining the  
 fair share of energy which Sonoma County will commit to saving  
 through the aforementioned program.

Supervisors  
 Adams \_\_\_\_\_ Rudee \_\_\_\_\_ Esposti \_\_\_\_\_ Carpenter \_\_\_\_\_ Putnam \_\_\_\_\_  
 Ayes: 5 Noes: \_\_\_\_\_ Absent: \_\_\_\_\_ Abstain: \_\_\_\_\_

THE WITHIN INSTRUMENT IS A  
 CORRECT COPY OF THE ORIGINAL  
 ON FILE IN THIS OFFICE.

ATTEST: APR 13 1982

EVEE T. LEWIS  
 County Clerk & ex-officio Clerk of the  
 Board of Supervisors of the State of California  
 For the County of Sonoma

RESOLUTION OF THE BOARD OF SUPERVISORS, COUNTY OF  
 SONOMA, STATE OF CALIFORNIA, REQUESTING THAT THE  
 OUTER CONTINENTAL SHELF (OCS) LAND ACT AMENDMENTS  
 BE ADHERED TO AND OPPOSING THE 1982 TENTATIVE PRO-  
 PPOSED FIVE-YEAR OCS OIL AND GAS LEASING PROGRAM

WHEREAS, local governments have been instrumental in the formulation of  
 the processes set down in the Outer Continental Shelf Land Act Amendments,  
 1978, standardizing criteria to be considered by the Department of the  
 Interior in developing a five-year leasing schedule for OCS Lease activity, and

WHEREAS, the Sonoma County Planning Department and Board of Supervisors  
 have repeatedly stressed the importance of taking into consideration the en-  
 vironmental impacts of such OCS lease sales off our Northern California Coast,  
 and

WHEREAS, the Tentative Proposed Five-year OCS Oil and Gas Leasing Program  
 considers an accelerated pace of leasing and a streamlining of the pre-lease  
 planning process: 1) offering sales as early as 1983 and preventing local  
 jurisdictions from timely pre-lease planning for mitigation of impacts; 2) elimin-  
 ating steps and thus significantly reducing the importance of local input; 3) not  
 concurrently speeding up the Bureau of Land Management (BLM) Environmental studies,  
 essential in local evaluation efforts; and 4) postponing geohazards studies,  
 crucial to the Central and Northern California areas, until after the tracts are  
 leased, and

WHEREAS, Sonoma County's Local Coastal Plan opposes Outer Continental Shelf  
 development, and

WHEREAS, Sonoma County has reviewed the Final Supplement to the Final  
 Environmental Statement for the 1982 Tentative Proposed Five-year OCS Oil and  
 Gas Leasing Program and finds it inadequate, and

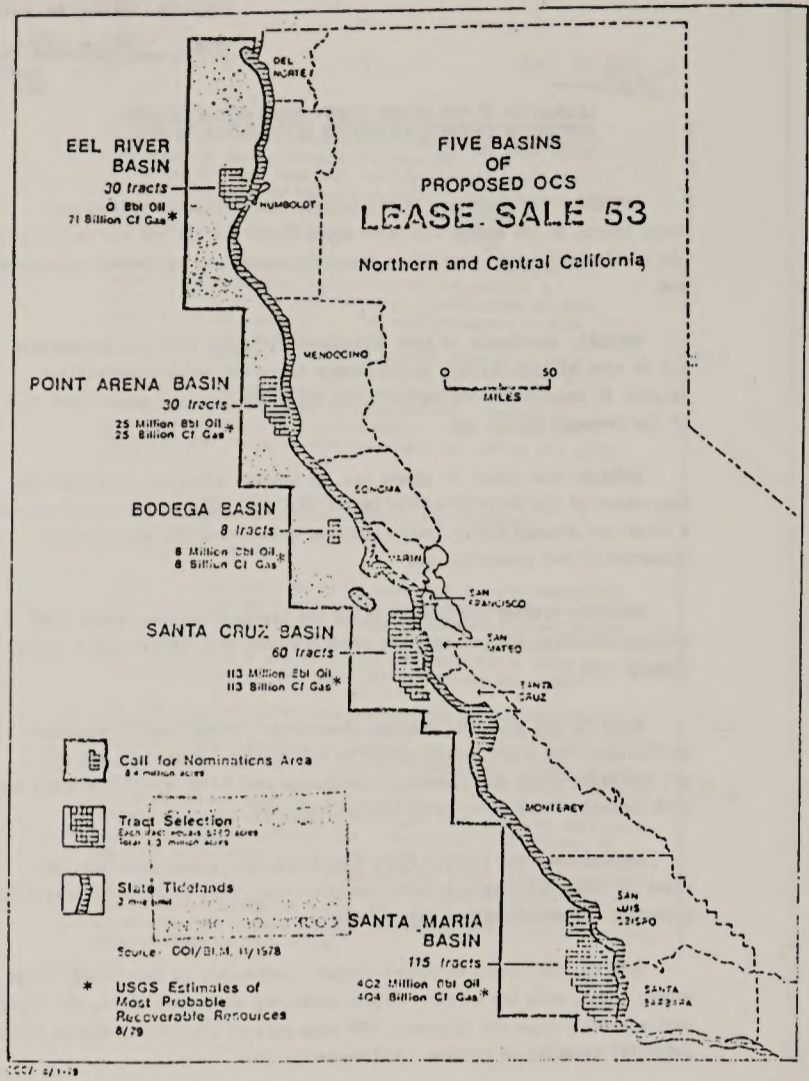
WHEREAS, written comments on the proposed program will be accepted until  
 April 19, 1982, now

THEREFORE BE IT RESOLVED that the Sonoma County Board of Supervisors requests  
 that the 1978 Outer Continental Shelf (OCS) Land Act Amendments be adhered to,  
 and opposes the 1982 Tentative Proposed Five-year OCS Oil and Gas Leasing Program.

SUPERVISORS

Adams: Aye Putnam: Aye Rudee: Aye Carpenter: Aye Esposti: Aye  
 AYES: 5 NOES: 0 ABSTAIN: 0 ABSENT: 0

SO ORDERED



(DRAFT)  
 TECHNICAL  
 COMMENTS  
 ON  
 THE DEPARTMENT OF INTERIOR  
 TENTATIVE PROPOSED FIVE-YEAR  
 OCS LEASING PROGRAM

COUNTY OF SONOMA

Due to space limitations and the bulk of the materials submitted to the  
 MMS regarding the Draft EIS for proposed Lease Sale No. 73, all written  
 comments have not been included in this volume. The following docu-  
 ments have been reviewed by the EIS staff and responses to specific  
 comments have been prepared as indicated.

Attachment I - The County of Sonoma



RECEIVED

Victor R. Husbands  
Agency Director

APR 27 1 54 PM '83

MINERALS MANAGEMENT SERVICE  
PACIFIC OUTER CONTINENTAL  
SHELF OFFICE  
LOS ANGELES, CALIFORNIA

April 26, 1983

Regional Manager  
Pacific OCS Office  
-MMS, Room 200  
1340 West Sixth Street  
Los Angeles, California 90017

Subject: Comment on OCS Lease Sale 73

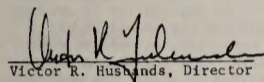
While Ventura County is not directly affected by the environmental effects resulting from OCS Lease Sale #73, it is felt the sale has certain implications for future lease sales planned for Southern California, the most imminent being LS #80. Therefore, we would like to take this opportunity to comment on the "procedural" aspects of the proposed Lease Sale #73.

Ventura County is very concerned that the Department of the Interior, Minerals Management Service, has not provided adequate opportunities for public and local government participation in the lease sale process. This situation was first illustrated by the reluctance of MMS to hold scoping meetings on the Draft Environmental Statement, severely curtailing public input. Following release of the DEIS, only one public hearing was scheduled and at an out-of-the-way location, again limiting participation by concerned citizens. Additionally, California coastal counties, faced with increasingly limited budgets, are being completely overrun with proposals related to offshore oil development. Unable to thoroughly review and comment on these proposals, their active participation in both the pre-lease sale and post-lease sale process is effectively precluded. Ventura County raised similar concerns regarding Secretary of Interior Watt's accelerated 5-Year OCS Leasing Program, included in which is proposed Sale 73. Therefore, Ventura County does not support proposed Lease Sale 73, due to the failure of the Department of the Interior to adequately provide for local government and citizen participation.

28.1

Should you have any questions regarding these comments, please feel free to contact me at (805) 654-2661.

Sincerely,

  
Victor R. Husbands, Director

VRH:lca

cc: Members, Board of Supervisors  
Richard Wittenberg, Chief Administrative Officer

800 South Victoria Avenue, Ventura, CA 93009

ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS

MAIL ADDRESS: P.O. BOX 190, MONTEREY, CALIFORNIA 93942 • TELEPHONE (408) 624-2117  
OFFICE: 1345 HOLMAN HIGHWAY, SUITE 227

APR 25 11 07 AM '83

MINERALS MANAGEMENT SERVICE  
PACIFIC OUTER CONTINENTAL  
SHELF OFFICE  
LOS ANGELES, CALIFORNIA

April 13, 1983

Mr. John Lane  
Minerals Management Service  
Pacific Outer Continental Shelf  
1340 West Sixth Street  
Los Angeles, CA 90017

Dear Mr. Lane:

Subject: Comments on Draft Environmental Impact Statement  
for Proposed Outer Continental Shelf Oil and Gas  
Lease Sale No. 73 - Central California

The Association of Monterey Bay Area Governments continues to be vitally concerned with leasing of offshore tracts for oil and gas development as most recently proposed under OCS Sale Number 73. In keeping with our history of participation in leasing efforts offshore central and northern California, we offer the following comments regarding the draft Environmental Impact Statement for Proposed OCS Sale No. 73. We hope that our comments will receive serious consideration in development of the final environmental document, as called for in the OCS Lands Act, as amended. Our concerns center on possible repercussions on the environment and economy of the Monterey Bay region from the proposed action and any future leasing of tracts to which this EIS may be applied. You will note that our comments are organized under several subject areas, and that more specific page-by-page comments accompany this letter as a separate attachment.

In general, we are impressed and pleased with the improvements in this EIS as compared to that for Sale No. 53. It was gratifying to note the inclusion of many of our suggestions and recommendations for improving the environmental analysis in the current document. With respect to documentation, referencing of general background data, definition of terms and assumptions, internal consistency and relevance of information to oil and gas development, the EIS for Lease Sale 73 is far superior to that which preceded it. However, as described below, there remain pervasive shortcomings in the EIS for proposed Sale No. 73 which severely limit its accuracy, completeness and overall adequacy.

The environmental assessment process - We have several concerns relating to environmental analysis procedures. The first three problems identified have reduced public input to a greater extent than already in effect due to recent "streamlining". Both of the two remaining opportunities for participation (scoping and comment on the EIS) have, therefore, been further curtailed.

- o We remain dissatisfied with the "scoping" process for identifying issues to be included for environmental review. Despite repeated requests for scoping meetings, you chose to defy your own policies,

29.1

Mr. John Lane  
April 13, 1983  
Page 2

and received input regarding the scope of the EIS by mail alone.

- o An insufficient number of public hearings has been scheduled, which essentially deprives many concerned citizens of the opportunity to express their views on the EIS. Hearings should have been arranged in each geographic area where interest is high including, at the very least, Monterey and San Francisco.

29.2

- o The period for written comment on the EIS should be extended from 45 to 60 days, in accordance with past practice and to facilitate maximum public involvement.

29.3

- o Lastly, we question the inclusion of data and impact analyses for that portion of the Sale area north of Morro Bay, given the prohibition on expenditure of funds during Fiscal Year 1983. The "Affected Environment" and "Environmental Consequences" sections of the EIS contain numerous items pertaining to the entire central and northern California area, extending to the Oregon border. We are concerned that this EIS may be used to justify sales in this larger area following the end of this Fiscal Year's funding restriction. This is clearly in violation of the Au Coin provision.

39.4

Basic document structure - Several failings are pervasive throughout the EIS, adversely affecting its overall adequacy.

- o The areal scope of the environmental analysis is constantly (and seemingly randomly) changed throughout the EIS. At least four geographical units are widely used; Santa Maria Basin (proposed Sale area), central California (no definition), central California (defined as Santa Barbara, San Luis Obispo, Monterey and Santa Cruz Counties), and all central and northern California. The analysis shifts from one to another, making it impossible to determine the intended "study area". The result of this inconsistency is an environmental assessment which is too general (covering too large an area) to adequately evaluate impacts on the proposed Sale area (Santa Maria Basin), yet insufficiently broad or complete to serve as an areawide EIS for central and northern California. The final EIS should address this major problem by identifying clearly the scope of the document (either Santa Maria Basin, central California, or central and northern California, but not all three), and maintaining a consistent level of analysis throughout. The intended use of the EIS should also be clarified, whether it is to pertain only to those Santa Maria Basin tracts proposed for lease in October of 1983, or to be used in future central and northern California lease sales (an areawide EIS, as introduced under "streamlining") as well. Given the dictate of the Au Coin provision and gross inadequacies of the EIS as an areawide document, we strongly oppose the second possibility. Instead, it should be revised to include more basin-specific information, and include outside areas only as related to possible impacts from the proposed lease of Santa Maria Basin tracts (see our scoping comments of January 27, 1983 for proposal-related information needs relevant to the Monterey Bay region).

29.5

Mr. John Lane  
April 13, 1983  
Page 3

- o Related to the confusion regarding study area, data is often inappropriate, overly general, inconsistent and incomplete. There are too many examples to list, so those items included in the accompanying analysis should be viewed as representative rather than comprehensive.

29.6

- o Probably the single most serious failing of the document is the complete reliance on model outputs to identify environmental impacts. The air quality, economic and oil spill trajectory models all rely upon assumptions "which are, of course, not exacting or precise because of ... unknowns" (p. 4-14 of the EIS, pertaining to the Oil Spill Risk Analysis Model). There are many more uncertainties and assumptions in the data input to the models than facts which obviously produce output data in which little reliance can reasonably be placed. The accuracy of the environmental analysis is seriously in question. Illogically, the entire Environmental Consequences section of the EIS is based on model outputs. Despite a lengthy discussion of the uncertainties and assumptions of the Oil Spill Risk Analysis model, including a statement that "(t)he actual environmental risk may prove significantly higher or lower as discussed in this report", all ensuing analysis relies unfairly upon the model prediction of one large oil spill occurring in, and virtually no spills outside, the Sale Area as a result of the proposed action. Using this information to dismiss possible environmental impacts from oil spills is totally unacceptable. The complexity of the inter-relationships between the various physical factors affecting oil spill trajectories is glossed over in the analysis, when in reality there are (as the report clearly states) many unknowns, and oil spill movement is by nature a very dynamic process anyway. All of the inputs (time of year, weather, ocean currents) change continually. And, even within the limits of what is known, potential impacts on the Monterey Bay have been severely underestimated in the EIS due to omission of recent ocean current data showing that nearshore current movement during winter months along the central California coast is northward. A large spill in the Sale area during winter months could very well reach the Monterey Bay, with all the concomitant serious impacts which we describe under Specific Monterey Bay Area Concerns.

29.7

- o Assumptions other than those inherent in the before-mentioned models appear to be unjustified and/or incorrect in other portions of the document. A very basic problem with the EIS that so many assumptions are necessary in order to address impacts on those resources with potential vulnerability to oil and gas development. Most of these assumptions are not, and presumably cannot be, technically justified, and all conveniently support the conclusion that few impacts will likely occur. The attached detailed comments include some of the more questionable assumptions.

29.8

- o Although far from being adequately detailed or comprehensive, the resource data included under Affected Environment is not fully used in identifying environmental impacts (under Environmental Consequences).

29.9

At the very least, there should be clear linkages between these two sections, and only background data relevant to the proposal and sensitive resources should be included.

- o The linkage between data, impact analyses and conclusions is often weak, or even contradictory. Clearly, the summation of even just those potential adverse environmental impacts identified within the EIS (incomplete, at best) is a serious cumulative effect. Ample examples of this point are included in the attachment. 29.10
- o Throughout the document, there is inadequate emphasis on "likely or potential" impacts ("as might occur as a result of an unpredicted event such as an oil spill") versus "expected" impacts ("those specifically predicted due to the Proposal") (p. 4-125, EIS). Since the determining factors for "expected" are those very models discussed above as being of questionable value at best, the virtual dismissal of all but "expected" impacts is entirely illegitimate, yet is the norm throughout the report. Given the model uncertainties and assumptions which the authors themselves readily admit to, the focus of the EIS should certainly be on "likely or potential" impacts. A much more realistic view of the project's possible impact would result. 29.11
- o Alternatives to the proposed action are given only token consideration at best, and are overly limited in their scope and number. Of the three alternatives that are included (Modify Sale to Protect Sensitive Biological Areas, Delay the Sale and No Sale), the most lengthy analysis is a total of four pages for the first alternative, and less than two pages for each of the others. This is a blatantly token analysis. At the very least, an alternative to delete all tracts seaward of the tracts offered under Sale No. 53 and the tracts off Morro Bay should be included. These tracts were intentionally omitted from Sale 53 by then-Secretary of Interior Andrus in order to create a buffer between oil and gas activity and sensitive shore areas. Unless you have some basis for assuming that this buffer zone is no longer necessary, then this alternative must certainly be given serious analysis and consideration. 29.12
- o Minimal attention or significance is directed towards cumulative effects without the proposal or any further OCS hydrocarbon activities. Although not readily identified because it is scattered throughout the EIS, it is stated clearly that the environment is to suffer severe impacts "over the next 25 years" even without the proposal. The authors show callous indifference towards aggravating and intensifying these impacts. For example, it is stated that some endangered species face extinction within 25 years even without the Sale (p. 131) just as high economic losses to the commercial fishing industry are expected (p. 167). 29.13
- o There is no true analysis of cumulative impacts on the environment from the proposed sale. All likely or potential impacts (instead of just those impacts based on model results) should be analyzed in one section 29.14

of the very complex chemistry of reactive pollutants in the atmosphere" (p. 4-84). While no impacts outside the Sale area from oil and gas development are predicted (again, the uncertainties inherent in the model must be considered), we are very concerned with the increased pollution from San Francisco Bay area refineries due to processing of an estimated 25% of the oil to be produced. The Monterey Bay area already receives substantial transport of air pollutants from the San Francisco/San Jose area, contributing largely to our non-attainment status with respect to ozone. And it is especially worrisome that the oil to be produced is of a much higher sulfur content than oil presently being refined, causing increased emissions of sulfur dioxide and total sulfates (p. 4-91). The high likelihood of increased air pollution in the Monterey Bay area must be addressed in the final EIS, including economic impacts of reducing air pollution in the region to counteract increased transport of pollutants.

**Biological Environment** - As discussed above, we disagree that no impacts on the biological environment of the Monterey Bay are "expected", as we contest the extremely low oil spill estimates for our region. Our comments regarding impacts on the environment are based on a more reasonable "likely" assumption that large and small spills will reach the Monterey Bay, and that a worst case analysis would be particularly devastating. 29.20

**Intertidal Benthos** - We disagree that impacts from a large oil spill on the Sensitive Rocky Intertidal Areas identified in Table III.B.1-1 are expected to be moderate and object to high ecological losses being dismissed on the basis of oil spill model predicting only one spill (p. 4-95). Much of the Monterey Bay region coastline is comprised of rocky intertidal areas which provide valuable habitat for a wide variety of biota. The noted "possible sensitivity" of Monterey Bay sandy beach intertidal areas would likely lead to more than "moderate" impacts (p. 4-97). 29.21

**Fish Resources** - It is noted that impacts on fish populations will be difficult to detect, and that reduction in population size of one species could affect other species in the food web (which can't be assessed due to the complexity of the marine food web) (p. 4-103). There are obviously many more unknowns associated with predicting possible impacts on fisheries than there are knowns, and concluding that the proposal will cause insignificant additional stress on fish populations (p. 4-109) is completely unsupported. In actuality, the very large stresses already affecting fish populations will almost certainly be further aggravated by this proposal. We assert that this is not an acceptable environmental or economic cost. We also disagree that those central California species most vulnerable to oil spills (salmon, Pacific herring, northern anchovies and squid) will not be affected in the Monterey Bay area due to the low probability of an oil spill. 29.22

**Marine Mammals** - We are very concerned with the apparent willingness to sacrifice endangered species in exchange for a few days of oil. The extreme vulnerability of sea otters to oiling is already well-documented in the EIS, with the conclusion that in some cases (a very large spill) recovery of the sea otter population might not occur (p. 4-112). It is 29.23

of the EIS for all resource categories (instead of spread out throughout the document) to facilitate review and to portray more accurately the real cumulative nature of the many likely impacts.

- o In addition to a cumulative impact, a "worst case analysis" should be included to better acquaint the reader with both extremes of possible impacts (from virtually no effects to the maximum worst impacts). The EIS, as now structured, devotes an inordinate amount of emphasis to what could be called the "best case analysis". 29.15

**Specific Monterey Bay Area Concerns** - In addition to the foregoing overall EIS comments, we have three major concerns specifically relating to potential impacts on the Monterey Bay region: oil spills from development activities in the Sale area, oil spills from tankering of oil north to San Francisco, and degradation of air quality. We are, of course, concerned about repercussions on sensitive resources in our area. In general, information pertaining to the Monterey Bay region is insufficient and inadequate due primarily to the Oil Spill Trajectory Model output that virtually no oil spills will reach this area. As discussed above, we find this conclusion to be unfounded (among other things, not including recent data on current movements). Those specific resources of concern to us and our general comments relating to the treatment of each in the EIS follow. A more detailed analysis is contained in the attached page-specific comments.

- o In the event that this EIS is to be used for future lease sales in central and northern California (which we would wholly oppose), it should be clear that there is neither the harbor capacity nor onshore facilities or land available to support offshore development in the Monterey Bay region. 29.16

- o On the assumption that at least one large oil spill and many smaller spills would contact the Monterey Bay and its shoreline, the impacts on our physical, biological and socioeconomic environments would be devastating. The EIS itself contains an approximate measure of the seriousness of what is termed to be the "highly unlikely" event of an oil spill outside the Sale area. 29.17

**Water Quality** - Severe water quality degradation of enclosed bays and estuaries would occur during incoming tides (p. 4-76). (Elkhorn Slough would be especially vulnerable.) The extent of degradation is unknown, but would depend on variable currents, winds and the amount of oil spilled (p. 4-79). Monterey Bay would be especially vulnerable during winter when nearshore currents move northward. The EIS should include Monterey Bay as a likely target for oil spilled at either the development site or from tankers. Given winter current patterns, it appears likely that a large spill in the Santa Maria Basin could contact land in the Monterey Bay area. 29.18

**Air Quality** - Again, computer-simulated models were used to estimate effects of Proposed Sale No. 73 activities on air quality. The model accuracy is described as being "difficult to evaluate due to the complexity of the many variables involved", and "limited by imperfect knowledge 29.19

Inconceivable that the proposed Sale should be considered at all, given the readily admitted hazards posed to this federally-protected species. Nor is it legitimate to dismiss possible impacts on the sea otter during the winter (when they move north), since oil spilled in the Sale area would most likely also move north. Exemplifying the lack of thoroughness and accuracy which pervades the document is the inclusion of outdated information on the sea otter population. It is stated that the population may have reached a plateau, at about 1,800 animals (p. 3-44), when in fact the most recent Department of Fish and Game census totalled a significantly reduced 1,200 animals. If data on the most sensitive species at stake is incorrect, then what other errors and oversights are likely? 29.24

Other species are treated similarly. And, where information on toxic effects of oil and sensitivity of particular species is not known, the conclusion is that expected impacts are insignificant as no spills are projected to occur. This logic is dangerously faulty. We are similarly concerned with impacts on seabirds, especially given their known sensitivity. High seabird densities in the Monterey Bay pose special vulnerable problems to impacts from oil spills. Information on seabird populations specific to the Monterey Bay area should be added to the analysis. 29.25

As an example of the indifference towards impacts on sensitive species, it is stated that the death of a single right whale would "represent only 10 percent of the year's estimated production of right whales" (p. 4-128). The inference that such an impact is an acceptable cost is incomprehensible.

**Estuaries and Wetlands** - The EIS quite accurately describes the ecological importance of central California estuaries, and notes that "repopulation or restoration, once a wetland is destroyed, is slow or impossible" (p. 4-132). The Pajaro River and Elkhorn Slough are identified as being vulnerable to oil spills, yet again it is concluded that no significant impacts are expected as no spills are predicted north of the Sale area. Based on northward current movement and the increased tankering between Santa Maria Basin and San Francisco, we challenge this conclusion. The same concerns apply to areas of special concern, of which there are many in the Monterey Bay area. 29.26

**Proposed Monterey Bay Marine Sanctuary** - The unique environmental attributes of the Monterey Bay are recognized by its consideration for Marine Sanctuary designation. Dismissing possible impacts because precise boundaries have yet to be defined is absurd. An analysis of impacts on the proposed sanctuary should be included in the final EIS. 29.27

**Tourism and Recreation** - The discussion of negative impacts on the economy and recreational opportunities in the event of a large, or several small, oil spills is quite good. Impacts on both would be far-reaching, with substantial multiplier effects. Monterey Bay communities are especially dependent on coastal-dependent tourism and recreation for which high quality environmental values are essential. But, there appears to be 29.27

Mr. John Lane  
April 13, 1983  
Page 8

little concern for economic impacts, despite the recognition of their likely magnitude.

**Marine Traffic** - The predicted 39 round trips per year between the Sale area and San Francisco by 27,000 DWT tankers (p. 4-189) would obviously compound the possibility of accidents and oil spills. The absence of established tanker traffic routes and characteristically low summer visibility are obvious hazards, neither of which is discussed in the EIS. No impacts are projected for the Monterey Bay region, which we totally disagree with.

29.28

**AMBAG Recommendations** - From the perspective that (1) all evidence points to the likelihood that both large and small oil spills are likely, and even expected to impact the Monterey Bay area as a result of the proposal, and (2) cumulative repercussions of the 8 oil spills and other adverse impacts expected to occur over the next 25 years (sewage, population growth, overfishing to name a few) are already expected to cause serious environmental impacts, we assert that the proposal is an unwarranted and unjustifiable contribution to serious environmental and economic damage of central California coastal resources. The benefits of the proposal fall far short of meeting or exceeding the costs. The risks inherent in the proposal are totally unacceptable given the magnitude of current and future stresses on the ecosystem of the central California offshore area, including Monterey Bay.

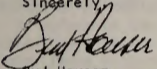
29.29

We strongly urge adoption of the Delay the Sale alternative, to remain in effect until 2000 (as outlined in the proposed offshore drilling moratorium bill recently introduced in Congress). And, in light of the Department of Interior's single-minded pursuit of offshore development at apparently any cost, we request that a fifth alternative be added to the analysis - deletion of all tracts seaward of the Sale 53 tracts and those in close proximity to the sea otter range. While impacts on the Monterey Bay would still be expected, their frequency and magnitude would be somewhat reduced.

29.30

We sincerely hope that the preceding comments, corrections and recommendations will be given your careful consideration, and look forward to reviewing a more accurate and complete final Environmental Impact Statement.

Sincerely,



Bud Houser  
President  
AMBAG

BH:d1  
att.

cc: The Honorable George Deukmejian, Governor of California  
All Federal and State Legislators  
Monterey Bay Jurisdictions  
California Coastal Commission  
Office of Planning and Research (Rosella Shapiro)  
Monterey Bay Unified Air Pollution Control District (Doug Quetin)  
Regional Water Quality Control Board

SPECIFIC COMMENTS ON DRAFT EIS  
FOR PROPOSED OCS OIL & GAS LEASE SALE NO. 73

Attachment to letter from  
Association of Monterey Bay Area Governments,  
April 13, 1983

The following page-specific comments are focused on items of primary concern to the Monterey Bay area, and are intended to be indicative of the overall document inadequacy, rather than fully comprehensive. To facilitate use, comments are grouped under major critique categories.

1. Unwarranted, unfounded and/or unsubstantiated assumptions (leading to erroneous impact analyses)

Page  
No.

- 3-32 "The presence of endemic species (regarding subtidal benthos) is not well known, but it is assumed to be less than in Southern California". Why is this assumption made? Please document reason(s). 29a.1
- 3-46 "...the population of southern sea otters on the Central California coast appears to be stable, or changing in size at a rate too slow to detect..." This statement is based on 6-year old data and is false. See comment 11 3-44 for documentation. 29a.2
- 3-63 "The Central California economy is also enhanced by the petroleum industry in both extraction and refining." There is no definition of the area termed "Central California". The coastal Monterey Bay area's economy is not enhanced by the petroleum industry. 29a.3
- 4-4, 4-5, 4-14 & 4-15 The many assumptions, unknowns and omissions comprising Oil Spill Risk Analysis Model input result in a product (predicted trajectories) which is subject to complete uncertainty. Among the most questionable assumptions are the use of one "most likely transportation scenario", wind data based on only four stations for the entire west coast, dismissal of small, chronic spills, and moderate weather conditions. The most crippling omissions with respect to potential impacts on the Monterey Bay is the absence of recent nearshore current data indicating northward movement during winter months. 29a.4
- 4-22 After stating that recent lab and field study results have indicated enhanced growth of phytoplankton when exposed to low concentrations of petroleum, this conclusion is qualified and contradictory evidence is presented. Obviously, no such conclusion can be reached. The data should be presented, without judgement. 29a.5
- 4-111 At least one of the four assumptions made to evaluate impacts of oil spills on sea otters is questionable; mortality due to contact is more likely to approach 100% than 75%. 29a.6

Page  
No.

- 4-112 On what basis is it concluded that "the remainder of the California pinnipeds are not thought to be particularly sensitive to oiling"? Lack of information should not be equated with lack of impact. 29a.7
- 4-171 "If only tar balls were present, most general beach use would still be possible." This statement unfairly minimizes the economic and aesthetic damage that would result from pollution of now-pristine Monterey Bay beaches by tar balls. 29a.8
- 4-193 We disagree that "low impacts to marine traffic in the Central California and Santa Barbara Channel area would occur as a result of additional vessel traffic and offshore structures..." 29a.9
- 11. Inappropriate data (irrelevant to subject, inconsistent, outdated or ignored in impact analysis)
- 3-26 thru 3-63 The entire Biological Environment section is predominantly very general and attempts to encompass the entire Central and Northern California coastline. The resulting analysis is neither sufficiently detailed for use in identifying sensitive resources in any particular area, nor adequately broad to encompass the true diversity and complexity of the coastal northern and central California biological environment. 29a.10
- 3-41 "The Santa Cruz study was not designed to study sea otter distributions. Aerial surveys of this sort are probably not the best means for censusing sea otters. However, these data are the only ones available at this time." It is entirely false that this is the only data available. The authors were provided with ample local information during the environmental analysis for Lease Sale 53, and a new census has been conducted since that time. (See comment below.) 29a.11
- 3-44 "The present population size (of sea otters), while not known with certainty, probably numbers about 1,800 animals (1977)." Use of 6-year old census data for an endangered species whose southern population is still unstable is improper. The most current census (1982) conducted by the California Department of Fish & Game totalled less than 1,200 animals. What are the implications for the remainder of the report and its overall adequacy if the data for the single most vulnerable species to spilled oil is outdated and inaccurate? 29a.12
- 3-46 & 3-85 Exemplifying the complete lack of consistency with respect to the area covered in the EIS, on page 3-46, the study area of "Central California" is defined as Monterey, San Luis Obispo, Santa Barbara and Santa Cruz Counties. And, on page 3-85, the "Central California Coast" includes Marin, San Francisco, San Mateo, Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties. Compounding the problem, major portions of the analysis are devoted to just the Santa Maria Basin, and the entire central and northern California coast, respectively. The result of such confusion is a document which fails to consider impacts adequately in any one of these four study areas. 29a.13

Page  
No.

- 111. Cumulative impacts and/or worst case analysis (data from the EIS which demonstrates the severity of likely impacts)
- 3-22 "The prevailing winds, combined with the diurnal sea breeze, would cause pollutants from offshore sources to be transported onshore", and "temperature inversions exist along the California coast persistently in the summer..." The repercussions on onshore air quality are obvious.
- 3-33 "... (A) mass mortality of kelp or other brown algae species in a defined area may result in very slow recovery because of the limited dispersal mechanism resources."
- 4-22 & 4-23 Toxicity data presented for crustacean, echinoderm and fish larvae and adults overwhelmingly point to lethal and sublethal responses to small quantities of crude oil. It is also stated that "It cannot be claimed that our knowledge is complete at this time". (Obviously, impacts could be even worse than already appears to be the case.)
- 4-76 "The most severe water quality degradation would occur during incoming tides in relatively calm waters of enclosed bays and estuaries. Severe impacts would be felt in these areas..." 29a.14
- 4-95 "High ecological losses to rocky intertidal areas cannot be positively ruled out..." "These activities (oil spill clean-up on sandy beach intertidal assemblages) could result in the total destruction of local communities."
- 4-97 "If a large oil spill were to occur and contact sensitive intertidal areas in the Santa Cruz Basin, impacts would be moderate to high."
- 4-111 & 4-112 With respect to sea otters, it is stated that "...a large tanker spill could result in greater than 30% mortality", and "in some cases recovery (of the population) might not occur."
- 4-113 "... (S) stress (from chronic exposure to oil) can lead to higher mortality and decreased reproduction."
- 4-115 There is an "overall high potential of impact due to spill-related noise and disruption on rookeries on Ano Nuevo."
- 4-117 Even without the proposal "eight oil spills are expected as a result of existing leases, foreign and Alaskan tankering".
- 4-118 "The colonial nature of some species of seabirds will also make the populations more likely to suffer high impacts."
- 4-122 "Estuarine habitats... could potentially be severely impacted." "An oil spill that entered an estuary might destroy nest sites and seeding areas for 2 to 10 years." Our concerns center on Elkhorn Slough.

Page No.

- 4-132 "Repopulation or restoration, once a wetland is destroyed, is slow or impossible." "The lack of substantial estuarine wetland habitat to the south of San Francisco Bay is a cause for concern because there are so few areas to act as a source of brood stock or buffer against significant impacts to the adjacent ocean areas." 29a.18
- 4-134 "...estuary openings of greater than 100 meters are extremely difficult to protect once oil approaches the mouth." The Pajaro River is one of those estuaries listed. 29a.19
- 4-167 "The cumulative effect of all these stresses, particularly non-OCS-related stresses, is expected to cause high economic losses to the commercial fishing industry. The proposal is expected to add a significant (small) amount to these losses." Once again, it is demonstrated that impacts are expected to be considerable even without the proposal. How can it be justified to worsen the situation further? 29a.20
- 4-170 With respect to sport fishing, "...any spill that does occur (in the Santa Cruz Basin) would have a high impact on the local affected area economies." 29a.21
- 4-175 "Closure of the beaches would have a major effect on the local region due to the number of recreationists...who utilize the coastal recreational facilities in the area." "Relocation of these recreationists to other beaches in the region would not be possible in all cases..." 29a.22
- 4-177 We agree that "...the small community whose economic base is heavily dependent on beach-oriented tourism could be more severely impacted than the larger communities." This certainly would be the case for the Cities of Carmel, Monterey, Pacific Grove, Capitola, Santa Cruz and communities in the unincorporated areas of Monterey and Santa Cruz Counties. 29a.23
- 4-178 "If an oil spill occurs and contacts the coastline (of Central California) for 30 days during peak tourist season, it could cause a reduction in tourism large enough to cause a loss in tourist revenue of over \$205 million." 29a.24
- IV. Unwarranted dismissal of impacts and lack of consideration of significant data
- 3-3 to 3-6 Significant geologic hazards are described ("shallow gas and gas-charged sediment, shallow slope failures, potential fault rupture of the sea floor, relatively strong seismic shaking and steep slopes"), yet apparently never enter into the evaluation of oil spill potential as the predicted number of spills is very low. Conclusions contradict data within the report itself. 29a.15
- 4-15 With respect to the Oil Spill Risk Analysis Model, "The actual environmental risks may prove significantly higher or lower than discussed in this report. This statement is more realistic than the report's overall conclusions of "Insignificant impacts". Once said, this statement appears to be completely forgotten. 29a.16
- 4-50 "The Central California coastal waters experience a high frequency of restricted visibilities...". While true, the logical connection between poor visibilities and tanker collisions or other accidents causing spilled oil is never made. 29a.17

Page No.

- 4-61 "The Monterey Bay area is proposed (as a National Marine Sanctuary) but the exact boundaries have not been determined." The absence of exact boundaries is not an acceptable rationale for dismissing potential impacts from the proposal. 29a.18
- 4-125 "Impacts to a species from an oil spill would be the same whether a spill occurred in nearby waters or occurred at some distance and traveled to an area utilized by the species." We agree with this statement completely with respect to likely impacts on the Monterey Bay from oil spills in the Sale area or from tankering to San Francisco. 29a.19
- 4-132 Potential impacts on estuaries are described as being high, yet virtually dismissed due to low oil spill prediction. 29a.20
- 4-135 "South of San Francisco, oil containment equipment will be effective 64 to 78% of the time during the winter, and 72 to 90% of the time during the summer." The obvious oil spill clean up limitations are given insufficient attention throughout the report. 29a.21
- 4-201 Insufficient importance is placed on the evaluation that with the Delay the Sale alternative "Improvements may occur in technologies for oil spill prevention and recovery, deep water drilling and production techniques, or for exploration and production in hostile environments which may lessen the risk of some adverse impacts." Coupled with the significant impacts and many unknowns associated with the proposal, it is only logical that this alternative be selected. 29a.22
- 4-201 thru 4-212 Even without the Sale (the No Sale alternative), projected environmental and economic impacts over the next 25 years are very high. How can further stress on the fragile Central California coast possibly be justified? 29a.23
- 4-212 thru 4-242 The considerable damage estimated to occur under the Environmental Impacts of Total Development better approximates the impacts realistically expected from the proposal. 29a.24
- V. Major omissions of data (as noted in the OEIS)
- 3-3 "Nearshore current data for most of the Central California coastline is lacking" (yet possible impacts from oil spills outside the Sale area are freely predicted as negligent). 29a.25
- 3-29 & 3-32 Information in the EIS on sandy beaches is almost non-existent, hindering an legitimate analysis of potential environmental impacts. 29a.26
- 3-32 "The subtidal benthic communities and assemblages of Central California are not well known, although the Monterey Bay region may represent an exception to this rule." Again, the admitted lack of data constrains valid impact analysis, and if the Monterey Bay region is "an exception" then why is that information not included in the EIS? 29a.27

Page No.

- 4-14 "These assumptions (of the Oil Spill Model) are, of course, not exacting or precise because of the following unknowns: volume of oil spilled and spill location, oil type, duration of spill and weather conditions..." Other unknowns which are replaced with assumptions are oceanic surface currents and winds, resource estimates and transportation scenarios. Since the resulting model output is the sole determining factor of whether impacts are or are not predicted, these unknowns and omissions totally negate the credibility of the EIS. 29a.28
- 4-25 "The amount of research on the effects of oil on marine mammals remains sparse." The obvious implication is that additional research should be carried out in order to assess these effects before leasing occurs. 29a.29
- 4-102 "Since the composition of the community and ecological relationships of its members are unknown (subtidal communities), the likelihood of such a high impact (from an oil spill) is unknown." 29a.30
- 4-113 "Evidence of toxic effects of oil on marine mammals is very sparse." Then more data should be gathered in order to conduct an adequate environmental analysis. 29a.31

A RESOLUTION

OF THE ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS  
 IN RESPONSE TO CALL FOR COMMENTS  
 ON THE DRAFT ENVIRONMENTAL STATEMENT  
 FOR PROPOSED OCS LEASE SALE 73

WHEREAS, the Pacific OCS Office, Minerals Management Service, of the U.S. Department of the Interior has issued a Draft Environmental Impact Statement for their proposed October 1983 central California lease offering known as Lease Sale 73; and

WHEREAS, the Minerals Management Service on March 9, 1983 on pages 5951-9953 of Vol. 48, No. 47 of the Federal Register has requested comments on the central California OCS leasing proposal from individuals, representatives of organizations, and public officials; and

WHEREAS, written comments on the draft EIS will be accepted by the Minerals Management Service until April 26, 1983; and

WHEREAS, the Association of Monterey Bay Area Governments has reviewed the draft Environmental Impact Statement for the October 1983 OCS Lease offering known as Lease Sale 73 and found it inadequate for reasons herein described; and

WHEREAS, the draft Environmental Impact Statement does not adequately disclose the anticipated impacts from the proposed action on existing conditions and uses offshore and onshore the Monterey Bay area; and

WHEREAS, the draft Environmental Impact Statement relies on data from models which suffer from inaccuracies, poor assumptions and major omissions as the entire basis for identifying potential impacts, resulting in an underestimated impact analysis; and

WHEREAS, contrary to the conclusion of the draft Environmental Impact Statement, likely impacts on the Monterey Bay from the proposed action include oil spills (transported by northward flowing currents from the proposed sale area and/or from tanker spills) and worsened air quality from transfer of high sulfur content pollutants from San Francisco area refineries; and

WHEREAS, severe environmental and economic damage from expected impacts would specifically damage Monterey Bay area water quality, intertidal benthos in sensitive rocky intertidal areas and sandy beaches, fisheries (particularly salmon, Pacific herring, northern anchovies and squid), marine mammals (most particularly the sea otter), estuaries and wetlands (including Elkhorn Slough, Pajaro River mouth, and Carmel lagoon), the proposed Monterey Bay Marine Sanctuary and tourism and recreation; and

WHEREAS, the draft Environmental Impact Statement does not present an adequate range of alternatives to the proposal nor does it include a sufficiently high-resolution look at the impacted area and its existing resources and uses,

incorporates no "worst-case" analysis of impacts, nor does it adequately identify or analyze cumulative impacts which are likely to result from leasing and development on tracts within this sale combined with prior and planned lease sales and development; and

WHEREAS, the draft Environmental Impact Statement does not consider an alternative which addresses the long-held position of the State of California and affected local governments to the effect that leasing is inappropriate in areas to the north of the line between Row N808 and Row N809 of the Universal Transverse Mercator Grid System (approximately the Santa Maria River); and

WHEREAS, the Minerals Management Service, in spite of requests from numerous affected local agencies, has denied the opportunity for "scoping meetings" as provided for in the relevant CEQ Guidelines in order to identify issues to be utilized in determining the scope of the draft EIS; and

WHEREAS, the Minerals Management Service has refused to hold adequate accessible public hearings on the draft EIS in affected coastal communities which would be impacted by the proposal; and

WHEREAS, the Minerals Management Service has shortened the comment period from 60 days as provided by Department of Interior regulations to 45 days, in spite of numerous requests for the full 60-day comment period; and

WHEREAS, required NEPA procedures, CEQ Guidelines, and Department of Interior regulations have not been adhered to in the preparation of the draft EIS or throughout the pre-lease planning process for this sale and the abovementioned procedural deficiencies have precluded interested members of the public from adequate opportunity for participation in the environmental review process; and

WHEREAS, above and beyond the inadequacies of the draft EIS with respect to the present limited sale area encompassed by Lease Sale 73, the present draft Environmental Impact Statement would be wholly inadequate and inappropriate as a basis for future decisions outside of the 360-tract October 1983 sale area and unsuitable for use as the basis for an area-wide central and northern California OCS Planning Area EIS; and

WHEREAS, key environmental studies now funded and underway by the Minerals Management Service are necessary to informed decisions about the proposed action but will not be completed until after October 1983 proposed date of sale.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Association of Monterey Bay Area Governments does hereby adopt this resolution, and by reference the attached technical comments, finding the draft Environmental Impact Statement for the October 1983 OCS lease offering to be inadequate and not in compliance with relevant federal and state laws, and in light of the unacceptable risks inherent in the proposal, recommends selection of the Delay the Sale alternative to remain in effect until 2000;

BE IT FURTHER RESOLVED, that this resolution and the attached technical comments should be forwarded to the Regional Manager, Pacific DCS Region, Minerals Management Service, 1340 W. Sixth Street, Los Angeles, CA 90017.

PASSED AND ADOPTED by the Board of Directors of the Association of Monterey Bay Area Governments, State of California, this 13th day of April, 1983.

*Wilber E. Smith*  
Wilber E. Smith  
Secretary

*Bud Houser*  
Bud Houser  
President

**ambag** 29c  
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS

MAIL ADDRESS: P.O. BOX 190, MONTEREY, CALIFORNIA 93942 • TELEPHONE (408) 824-2117  
OFFICE LOCATION: 23845 HOLMAN HIGHWAY, SUITE 227

April 14, 1983

Mr. John Lane  
Minerals Management Service  
1340 West Sixth Street  
Los Angeles, CA 90017

Re: MCH #038319 - D.E.I.S., D.C.S. Oil & Gas Lease Sale No. 73

Dear Mr. Lane:

The AMBAG Regional Clearinghouse has circulated a summary notice of your draft environmental document to interested parties for their review and comment.

The AMBAG Board of Directors had no specific comments on the Draft.

Thank you for cooperating with us in the review process.

Sincerely,

*Warren Freeman*

Warren Freeman  
Manager  
Regional Clearinghouse

WF:d1  
encl.

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MAY 3 11 36 AM '83  
MINERALS MANAGEMENT SERVICE  
PACIFIC OCEAN DEVELOPMENT  
LOS ANGELES, CALIFORNIA

29d

STATE OF CALIFORNIA — *George Deukmejian* Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD —  
CENTRAL COAST REGION

1102 A LAUREL LANE  
SAN LUIS OBISPO, CALIFORNIA 93401  
(805) 549-3147

APR 4 1983



March 30, 1983

Association of Monterey Bay  
Area Governments  
P. O. Box 190  
Monterey, CA 93940

Gentlemen:

SUBJECT: PROJECT NOTIFICATIONS

Listed below are comments on Projects Nos. D38314, D38317, D38319, and D38321 of your recently submitted project notifications:

D38314, D38317, D38321 - Comments attached.

D38319 - We have not received the DEIS on this project. Upon review we will submit a copy of any comments we have.

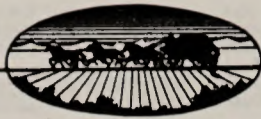
Very truly yours,

*Kenneth R. Jones*  
KENNETH R. JONES  
Executive Officer

EJG:bf

Enclosures

City of  
Arroyo Grande



Phone 805-499-1303  
214 East Branch Street  
P. O. Box 550  
Arroyo Grande, CA 93420

Office of the Mayor

April 15, 1983

Pacific OCS Office in Minerals Management Service  
Federal Building, Room 200  
1340 West Sixth Street  
Los Angeles, CA 90017

Ladies and Gentlemen:

Attached is a resolution unanimously adopted by the City Council of the City of Arroyo Grande, California.

I wish that this resolution be entered into the record of hearing in the matter of OCS Sale No. 73.

Sincerely,

*B'Ann Smith*

B'Ann Smith  
Mayor

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MINERALS MANAGEMENT SERVICE  
PACIFIC OCS OFFICE  
LOS ANGELES, CALIFORNIA

RESOLUTION NO. 1693

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ARROYO GRANDE COMMENTING UPON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT, OCS SALE NO. 73, PREPARED BY THE MINERALS MANAGEMENT SERVICE, PACIFIC OCS REGION

WHEREAS, the Department of Interior has released a Draft Environmental Impact Statement for Lease Sale No. 73, (DEIS) and has invited comment, and;

WHEREAS, such comment shall be heard in Santa Maria, California, on April 13, 1983.

NOW, THEREFORE, the City Council of the City of Arroyo Grande does hereby publically comment and prepare this resolution for presentation at said public hearing at Santa Maria on April 13, 1983:

1. The DEIS fails to analyze specific impacts such as the effect upon the Pismo Beach.
2. The DEIS fails to consider deleting nearshore tracts at San Luis Obispo Bay, Pismo Beach or the Santa Maria River.
3. The DEIS fails to estimate the direct and indirect population increase to San Luis Obispo and Northern Santa Barbara counties during the exploration and development phases.
4. The DEIS fails to determine the ability of these communities to accommodate, house and service the population increase.
5. The DEIS does not address the consequences to the residents and business community of Arroyo Grande in the event acceptable air quality standards are exceeded as a result of offshore oil drilling.

On motion of Council Member Hillis, seconded by Council Member Vandevor, and on the following roll call vote, to wit:

AYES: Council Members Vandevor, Hillis, and Gallagher  
NOES: None  
ABSENT: Council Member Hogan, Mayor Smith

the foregoing Resolution was passed and adopted this 12th day of April, 1983.

*Woodrow Proyer*  
MAYOR PRO TEM

ATTEST: *Cindy Christian*  
DEPUTY CITY CLERK

I, Cindy Christian, Deputy City Clerk of the City of Arroyo Grande, County of San Luis Obispo, State of California, do hereby certify that the foregoing Resolution No. 1693 is a true, full and correct copy of said Resolution passed and adopted by the City Council of the City of Arroyo Grande at a regular meeting of said Council held on the 12th day of April, 1983.

WITNESS my hand and the Seal of the City of Arroyo Grande affixed this 15th day of April, 1983.

(SEAL)

*Cindy Christian*  
DEPUTY CITY CLERK  
CITY OF ARROYO GRANDE

ADMINISTRATION BUILDING  
POST OFFICE BOX 747  
ATASCADERO, CALIFORNIA 93423  
PHONE: (805) 499-8000

CITY COUNCIL  
CITY CLERK  
CITY TREASURER  
CITY MANAGER  
FINANCE DEPARTMENT  
PERSONNEL DEPARTMENT  
PLANNING DEPARTMENT  
PUBLIC WORKS DEPARTMENT  
RECREATION DEPARTMENT



CITY ATTORNEY  
POST OFFICE BOX 749  
ATASCADERO, CALIFORNIA 93423  
PHONE: (805) 499-3878

POLICE DEPARTMENT  
POST OFFICE BOX 747  
ATASCADERO, CALIFORNIA 93423  
PHONE: (805) 499-9900

FIRE DEPARTMENT  
6005 LEWIS AVENUE  
ATASCADERO, CALIFORNIA 93422  
PHONE: (805) 499-3141

April 11, 1983

John Lane  
Pacific OCS Office  
Minerals Management Service  
Federal Building, Room 200  
1340 West 6th Street  
Los Angeles, California 90017

Dear Mr. Lane:

Please be advised that the Atascadero City Council, at their regular meeting of March 28, 1983, supported Resolution No. 35-83 by the City of Morro Bay which requested extension of the comment period for Lease Sale 73. Attached is a minute order of this action.

We appreciate your efforts in assuring the widest possible public consideration of this matter.

Thank you for your help.

Sincerely,

*Murray L. Warden*  
MURRAY L. WARDEN  
City Manager

MLW:ad  
enc.  
cc: City of Morro Bay

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MINERALS MANAGEMENT SERVICE  
PACIFIC OCS OFFICE  
LOS ANGELES, CALIFORNIA

CITY COUNCIL OF THE CITY OF ATASCADERO  
REGULAR MEETING HELD ON MARCH 28, 1983

Re: Consideration of City of Morro Bay resolution requesting extended comment period for Lease Sale 73

MOTION: Councilman Mackey moved to endorse Resolution No. 35-83 of the City of Morro Bay. The motion was seconded by Councilman Wilkins and carried with Councilman Molina voting no.

CERTIFICATION

I, Patsy A. Hester, Deputy City Clerk of the City of Atascadero, California, hereby certify that the foregoing is a true and correct motion duly made and passed by the Atascadero City Council at a regular meeting thereof held on March 28, 1983.

*Patsy A. Hester*  
PATSY A. HESTER, Deputy City Clerk  
City of Atascadero, California

copy on CD  
april 21/83

RESOLUTION NO. 35-83

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MORRO BAY REQUESTING EXTENDED COMMENT PERIOD FOR LEASE SALE 73

THE CITY COUNCIL  
City of Morro Bay, California

RECEIVED  
MAR 18 1983

WHEREAS, the issue of Outer Continental Shelf oil development is very important to the citizens of San Luis Obispo County; and

WHEREAS, a large part of our economy is based on tourism, which could be seriously affected by significantly deteriorated air quality and oil spills; and

WHEREAS, the San Luis Obispo County fishing fleet has many concerns; and

WHEREAS, there are a multitude of issues which need full public participation and an adequate timeframe in which to prepare public comments; and

WHEREAS, full public participation is a very important factor in our decision making process,

NOW, THEREFORE, BE IT RESOLVED that the Morro Bay City Council does hereby request that the comment period for Lease Sale 73 be increased from the minimum allowed 45 days as now planned to 60 days, and that the public hearing be held in a coastal community in San Luis Obispo County and be extended into the evening allowing greater public participation.

BE IT FURTHER RESOLVED that the Clerk of the City of Morro Bay send a copy of this resolution to Congressman Bill Thomas, Congressman Leon Panetta and John Lane, Mineral Management Agency.

PASSED AND ADOPTED by the City Council of the City of Morro Bay, at a regular meeting held thereof on the 14th day of March, 1983, by the following roll call vote:

AYES: Anderson, Lemons, Risley, Zeuschner, Shelton

NOES: None

ABSENT: None

ATTEST:

*Peggy Buchanan*  
PEGGY BUCHANAN, DEPUTY CITY CLERK

CERTIFICATION OF CITY CLERK  
EUGENE R. SHELTON, CITY CLERK  
I hereby certify that the foregoing is a true and correct copy of the resolution of the City Council of the City of Morro Bay, California, as the same appears in the minutes of the City Council meeting held on the 14th day of March, 1983.  
DATED: *Mar 18 1983*  
*Peggy Buchanan*  
CITY CLERK

Due to the extreme sensitivity of the marine environment on the Central California Coast, the obvious potential for the creation of serious air pollution problems in the Lompoc Valley, and the questionable need for the immediate development of the oil reserves in Lease #73, I respectfully submit that the sale of this lease be deferred until such time that we absolutely need this oil.

Sincerely,

*John Bullock*

John Bullock



John Bullock  
City Councilman  
100 Civic Center Plaza  
Lompoc, CA 93436  
(805) 736-1261

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MINERAL MANAGEMENT SERVICE  
FEDERAL BUILDING, ROOM 200  
1340 WEST SIXTH STREET  
LOS ANGELES, CALIFORNIA

Ms. Bea Gordo, Manager  
Pacific OCS Office  
MMS Room 200  
1340 West Sixth Street  
Los Angeles, California

Dear Ms. Gordo,

I will be unable to testify in person at the Public Hearing regarding Lease Sale #73 on April 13 in Santa Maria. Please accept the following written comments and concerns.

As a resident of the City of Lompoc, I will be directly affected by oil development in Lease #73. The coastal waters between Point Conception and Point Sal are among the most treacherous on the Pacific Coast. This stretch of coastline is known as the "Graveyard of the Pacific" and is feared by all who navigate it. If one looks at a map of the California Coast, the reason for this treachery becomes obvious; the coastline south of Pt. Conception falls away to the east, leaving the Point and the coastline immediately to the north to bear the brunt of all wind and weather prevailing from the northwest. In my opinion, we can expect conditions and problems comparable to those experienced by oil operations in the North Atlantic, and I don't relish the thought of our local beaches coated with oil as they were in Santa Barbara in 1969.

The Lompoc Valley experiences one of the lowest climatic inversion layers in the continental United States. The prevailing northwesterly winds would carry offshore drilling hydrocarbons into the Valley thereby creating a great potential for smog. At a time when the City of Lompoc is attempting to attract new industry, the degradation of our air quality by offshore oil operations could make it difficult for us to accommodate such industry and remain in compliance with federal air quality standards.

In light of the fact that we are experiencing an oil glut on the West Coast, I question the urgency of this lease sale. I have been informed that due to the inability of West Coast refineries to handle Alaskan crude oil, a revision of the original "domestic use only" agreement is being considered to allow the excess to be shipped directly to Japan. It therefore seems foolish to open this area and add to the glut.

32.1

32.2

32.3



City of Palo Alto  
250 Hamilton Avenue  
PALO ALTO, CALIFORNIA 94301

MEMBER  
CITY COUNCIL

April 20, 1983

Minerals Management Service  
Federal Building, Room 200  
1340 West Sixth Street  
Los Angeles, CA 90017

Dear Minerals Management Service:

I do not believe that the environmental impacts of oil spills can ever be fully mitigated. The California coast is a crucial wildlife habitat for breeding, feeding, and migration of birds and marine mammals as well as fish and invertebrates (the latter being a human food supply). Even the best mitigation of setting aside equal areas of coastal land and water for wildlife sanctuaries is meaningless if a slick of oil can destroy it. Despite the greatest of care, we are hearing of oil spills routinely in the news. I do not want that "routine" to become a way of "life" (death) in California.

Please do not approve Lease Sale #73 for offshore drilling.

Sincerely,

*Emily M. Renzel*

Emily M. Renzel  
1056 Forrest Avenue  
Palo Alto, CA 94301

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FEDERAL BUILDING, ROOM 200  
1340 WEST SIXTH STREET  
LOS ANGELES, CALIFORNIA

33.1

CITY OF PISMO BEACH, CALIFORNIA



CITY HALL  
1000 BELLO ST. - P.O. BOX 3  
PISMO BEACH, CALIFORNIA, 93449  
TELEPHONE 805/773/4657

April 13, 1983

John Lane  
Mineral Management Service  
1340 West Sixth Street  
Los Angeles, CA 90017

RE: Comments on E.I.S. for proposed O.C.S. Lease Sale No. 73

Dear Mr. Lane:

We, the City of Pismo Beach, have expressed a number of concerns about the inadequacy of the Draft Environmental Impact Statement for the proposed 1983 Outer Continental Shelf Oil and Gas Lease Sale No. 73. I have attached a copy of the letter from our Mayor, Bill Richardson, dated January 25, 1983, advising the Minerals Management Service of the obvious potential impacts of development in the northern tracts of the Santa Maria Basin. I would hope that the City was not deliberately ignored but that it was only an oversight that all of our concerns were not addressed. It is critical that you understand that the City of Pismo Beach is very serious about their objections to development in the tracts north of the Santa Maria River. And for good reason.

Off-shore oil and gas development could, and in fact probably would, have serious irreversible negative impacts on our air quality; our wildlife resources of the Pismo Clam, the sea otter, Peregrine Falcon and the grey whales; our fishing industry; our important tourist industry; property values; and geologic safety of the community. There are many other potential impacts, some of which the County of San Luis Obispo Area Council of Governments have described to you in their letters and resolutions. 34.1

Of prime concern to the City of Pismo Beach is the failure of the Environmental Impact Statement to recommend the viable alternative of limiting the Lease Sale to the tracts south of the Santa Maria River and deleting all near shore tracts south of that line. A map describing the proposed alternative is attached to this letter. Most potential impacts of this project could be measurably reduced if this alternative were adopted as a mitigation measure. All areas north of that line should be kept as a National Oil Reserve and retained for use by future generations. It would be very short-sighted of the Federal Government to not retain energy resources for potential needs after the year 2000. 34.2

-Continued-

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LOS ANGELES, CALIFORNIA

John Lane  
April 13, 1983  
Page 2

I respectfully request that the E.I.S. adequately cover the specific impacts enumerated by the City of Pismo Beach and the San Luis Obispo Area Council. I also request that the Mineral Management Service recommend adoption of the alternative limiting development to south of the Santa Maria River and eliminating all near shore tracts as described on the attached map.

Thank you.

Sincerely,

*Donald J. Funk*  
Donald J. Funk  
Community Development Director

QJF/tn

cc: City Council  
City Administrator  
Governor George Deukmejian  
Congressman Leon Panetta  
County of San Luis Obispo Board of Supervisors  
City Council, City of Morro Bay  
City Council, City of Arroyo Grande  
City Council, City of Grover City

Attachments: As Noted

CITY OF PISMO BEACH, CALIFORNIA



CITY HALL  
1000 BELLO ST. - P.O. BOX 3  
PISMO BEACH, CALIFORNIA, 93449  
TELEPHONE 805/773/4657

August 10, 1982

Honorable Jim Santini, Chairman  
Mines and Mining Subcommittee  
U.S. House of Representatives  
Room 1626, Washington, D.C. 20515

RE: Support for HR 6365

Dear Sir:

The City Council of the City of Pismo Beach unanimously voted to vigorously support HR 6365, the bill which would prevent the Secretary of the Interior from issuing oil and gas leases between Pismo Beach and the Oregon border until the year 2000. The City is concerned that this legislation be granted prompt hearings. The Council has also supported the State of California's efforts to restrict off-shore drilling in the areas described as Lease Sales #53 and #73, north of the Santa Barbara-San Luis Obispo County line.

The City has found the manner and procedures of Mr. James Watt to be completely unsympathetic to the needs and desires of the City of Pismo Beach. Our concerns for the many impacts of off-shore oil drilling and its associated oil platforms, drilling equipment, debris, oil support bases and the inevitable oil spills have been completely ignored by the Department of the Interior. They fail to acknowledge the severe impacts on the City's pristine beaches, unimpeded ocean vistas, the nationally famous Pismo Clams, sea otters, the many shore birds, including the brown pelican and peregrine falcon, the migrating gray whales, our local fishing industries and clean air.

Attached are various Council resolutions stating their concern for O.C.S. development. Resolution #1657 addresses the Council's support for HR 6365. We hope that you will assist Mr. Panetta in securing passage of this needed bill.

Thank you for your consideration of this matter.

Sincerely,

*Donald J. Funk*  
Donald J. Funk  
Community Development Director

DJF/tn

cc: Mayor and City Council  
City Administrator  
City Clerk

Congressman Panetta  
Office of Planning and Research  
Ron DiCarli, County of San Luis Obispo

FILE: O.C.S.  
34b

CITY OF PISMO BEACH, CALIFORNIA



CITY HALL  
1000 BELLO ST. - P.O. BOX 3  
PISMO BEACH, CALIFORNIA, 93449  
TELEPHONE 805/773/4657

January 25, 1983

Mr. John Lane, Chief  
Environmental Assessment Division  
Mineral Management Service  
Pacific O.C.S. Region  
1340 West Sixth Street  
Los Angeles, CA 90017

RE: Scoping of the E.I.S. for Lease Sale #73

Dear Mr. Lane:

As you are probably aware, the City of Pismo Beach has officially opposed the oil development of the Outer Continental Shelf north of the San Luis Obispo County line. We have constantly requested that the Department of the Interior set aside the northern tracts in the Santa Maria Basin as an oil reserve. Despite the fact that our pleas for establishing an oil reserve as well as requests for additional environmental review of the impacts of Lease Sale #53 were all ignored, we continue to request that special review and consideration be made of the tracts located west of San Luis Obispo County, and more particularly, west of Pismo Beach.

We request that the E.I.S. for Lease Sale #73 include detailed review of the impacts on Pismo Beach and our surrounding environment. Off-shore oil development could have very special and specific effects on Pismo Beach:

1. Degredation of air quality;
2. Depletion of our nationally famous Pismo Clam (by oil spills and leaks)
3. Depletion of the sea otter;
4. Depletion of our nearby fisheries;
5. Ruination of our scenic ocean vistas;
6. Impacts on whale migrations;
7. Negative impacts on localized tourist industry due to oil odors, added tar on beaches, lower air quality and creation of a blight on our current pristine ocean views;
8. Reduction of property values as a result of the items listed under #7 above;
9. Other potential impacts on our fragile marine environment;
10. Negative impacts of increased on-shore support facilities;
11. Impacts of increases in population due to employees and support personnel and families, including impact on added population on an already short water supply;

-Continued-



John Lane  
January 25, 1983  
Page 2

12. Potential for earthquake or ocean floor settling due to removal of oil and gas from geologic strata in an area of known fracture and major faults; and
13. Potentially large liability to the City of Pismo Beach due to any of the above negative impacts.

We respectfully request that the E.I.S. adequately cover the specific impacts on Pismo Beach for the above described concerns. The E.I.S. should be "scoped" to study our area. It should not gloss over the impacts on our City as the E.I.S. for Lease Sale #53 did. That E.I.S. was and still is inadequate as far as the City of Pismo Beach is concerned due to its extreme generalities.

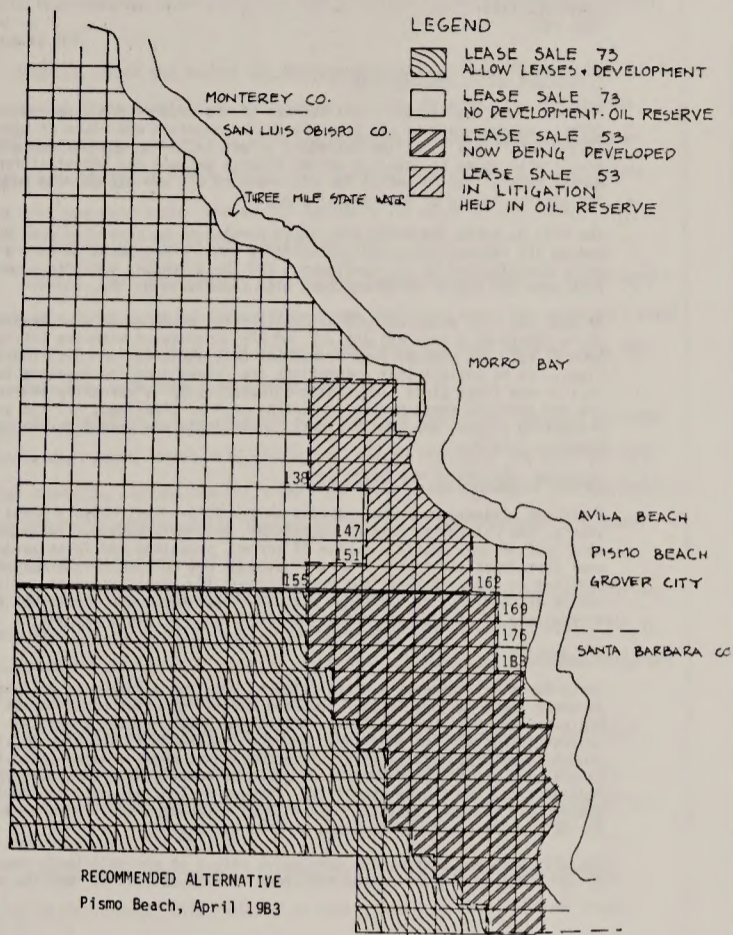
Thank you for your consideration of this matter.

Sincerely,  
*Bill Richardson*

Bill Richardson  
Mayor  
City of Pismo Beach

BR/djf/tn

- cc: Secretary James Watt  
Governor George Deukmejian  
Mayor, City of Grover City  
Mayor, City of Arroyo Grande  
Mayor, City of Atascadero  
Mayor, City of Paso Robles  
Mayor, City of Morro Bay  
Mayor, City of San Luis Obispo  
County of San Luis Obispo Board of Supervisors  
City Council, City of Pismo Beach



RECOMMENDED ALTERNATIVE  
Pismo Beach, April 1983

WESTERN UNION SERVICE CENTER  
11000 WASHINGTON, VA 22185



4-3037425014 002 01/21/83 123 141102 234 0443  
1 3037734537 494 FOUR PISMO BEACH CA 91-14 1243P EST

*Case File:  
OCS oil*

CITY OF PISMO BEACH  
1000 BELLON ST  
PISMO BEACH CA 93449

*Don*

THIS MAILGRAM IS A CONFIDENTIAL COPY OF THE FOLLOWING MESSAGE:

3037734537 494 FOUR PISMO BEACH CA 91-14 1243P EST  
ZIP  
SENATOR ALAN CRANSTON  
SENATE OFFICE 3LJ3  
WASHINGTON DC 20510

THE CITY OF PISMO BEACH STRONGLY PROTESTS THE "FAST TRACK" PROCEDURES BEING UTILIZED BY US MINERALS MANAGEMENT SERVICE TO PROCESS ENVIRONMENTAL IMPACT STATEMENT FOR LEASE SALE #73 AND THEIR DECISION TO RECEIVE SCOPING COMMENTS BY MAIL RATHER THAN THROUGH TRADITIONAL PRACTICE OF LOCAL PUBLIC MEETINGS. PLEASE INVESTIGATE AND REQUIRE PUBLIC PARTICIPATION AND CONSULTATION WITH LOCAL GOVERNMENTS.  
BILL RICHARDSON, MAYOR  
CITY OF PISMO BEACH

1243 EST

494

CITY OF PISMO BEACH  
RECEIVED  
JAN 17 1983  
CITY CLERK

TO REPLY BY MAILGRAM MESSAGE, SEE REVERSE SIDE FOR WESTERN UNION'S TOLL-FREE PHONE NUMBERS.

35

CITY OF SANTA BARBARA

RECEIVED



SHEILA LODGE  
Mayor

CITY HALL  
DE LA GUERRA PLAZA  
P.O. DRAWER P-P  
SANTA BARBARA, CALIFORNIA 93102  
TELEPHONE (805) 963-0611 EXT. 201

April 20, 1983

Reid Stone  
Manager, Pacific OCS Office  
Minerals Management Service  
Federal Building, Room 200  
134D West Sixth Street  
Los Angeles, CA. 90017

Dear Mr. Stone:

RE: COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR OCS LEASE SALE NO. 73

The Draft EIS has been reviewed by staff, the Environmental Resources Management Committee, and individual members of the City Council. Two Council members presented verbal testimony at the April 13th hearing in Santa Maria. The following represents an expansion of that testimony and specific comments regarding the Draft EIS and the public review process.

ACCELERATED LEASING PROGRAM

In April of 1981 the City Council expressed concerns to Secretary Watt on the Accelerated Leasing Program. The City's concern for continued inadequately prepared EIS's and less public review have been realized in Lease Sale No. 73. The lack of scoping sessions, the shortened review period, the one public hearing and the errors and omissions in the EIS itself indicate that the so-called "streamlined" process is a disservice to the public and can lead to ill-informed decision making. When reviewed in light of the number of leasing programs scheduled through this decade, one can only anticipate a hurried and inadequate review process.

35.1

PUBLIC HEARINGS

The City is dismayed at the scheduling of only one public hearing, and that the hearing was not held in a community directly affected by the lease sale. The fact that Minerals Management Service had to have three sets of hearing officers in three different rooms virtually all day long clearly indicates a high demand for public and agency input. In addition, those in attendance did not have the benefit of hearing all those who testified. The City Council would request that an additional hearing be held and that the review period for the DEIS be extended an additional 30 days.

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. . . continued

APPLICABLE GOALS AND POLICIES

The OCS Lands Act states: "All regions of the country are expected to contribute energy supplies and to share in the benefits and risks of hydrocarbon development"; and "That the Secretary select leases to the maximum extent practicable so as to obtain a proper balance between the potential for environmental damage, the potential for discovery of oil and gas and the potential for adverse impact on the coastal zone."

The City is quite concerned that these provisions be carefully considered during all leasing activities, especially considering Santa Barbara's historic contribution to oil development and the attendant sacrifices made. This does not appear to be the case with Lease Sale No. 73.

Because the DEIS makes certain assumptions for on-shore support facilities, there should be a thorough analysis of the consistency with the California Coastal Act, the Coastal Zone Management Act, and affected Local Coastal Plans. It is curious that assumptions are indeed made for on-shore facilities in the first place since Santa Barbara County is currently reviewing two and possibly three marine terminals, various pipelines, oil and gas processing plants, and supply bases. No decision has been made on any of these facilities.

TECHNICAL ASPECTS OF THE DRAFT EIS

Staff has reviewed numerous comments on the DEIS - most notably Santa Barbara County, the California Coastal Commission, and Marin County. Those comments spell out in some detail a number of errors, omissions and false assumptions used throughout the report. We will attempt not to restate the many issues outlined in those comments but would support the proper response and resolution of conflicts in the Final EIS. Outlined below are the issues that we feel are of particular importance to the City of Santa Barbara.

AIR QUALITY

Santa Barbara is already a non-attainment area for a number of pollutants. On-shore areas will be further impacted due to increased emissions of HC, NO2 and other pollutants. The fact that the Environmental Protection Agency mandates Clean Air Act compliance and the Department of Interior is vigorously promoting programs that will preclude compliance shows a major inconsistency within the Federal bureaucracy. Because OCS activities are outside local jurisdiction, the future sacrifices, changes in land use decisions and the specter of land use sanctions places local government in a "no win" position. The DEIS should devote some space to this discussion.

The DEIS does not address the cumulative effect of air pollutants caused by other OCS activities, State tidelands leasing activities, and the major

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on-shore industrial support that would be needed. The DEIS should evaluate these cumulative effects, clearly identify those that are significantly adverse, and propose feasible mitigation measures.

COMMERCIAL FISHING

Santa Barbara is the home port for a sizable fishing industry which depends upon a productive Santa Barbara Channel for its livelihood. The fishing industry must compete with offshore structures, increased vessel traffic, on-shore support facilities and deal with habitat and species destruction caused by oil spills, dumping of dredging and drilling muds, and seismic testing. In light of all this, the EIS states that the expected significant loss to the industry is caused by non-DCS activities (p. 4-167). Then the report states ". . . this additional loss is not expected to substantially harm the commercial fishing industry." The conclusion is just not supported by the evidence that the report offers. There is also no indication as to what types of mitigations would be available for the fishing industry.

TOURISM AND RECREATION

The Santa Barbara City and County coastline is a resource enjoyed not only by local residents but by thousands of visitors from other parts of the country and around the world. The visual blight created by offshore and on-shore facilities, the preemption of accessible coastal areas and the reputation of Santa Barbara as an "oil town" has the potential for major adverse effects on the recreation and tourist industry, and yet the DEIS states that this impact will be minimal. The EIS should quantify the loss of visitor days, dollars and local jobs related to both ongoing DCS activities and loss expected by the imminent major oil spill that is so often referred to. What types of mitigation measures are offered?

OIL SPILLS

Increased vessel traffic and additional navigational conflicts, coupled with the adverse meteorological and oceanographic conditions in the Santa Barbara Channel, set the stage for a major oil spill. The DEIS states with some candor that indeed at least one major oil spill and several small oil spills will occur. We believe that the DEIS understates the impact on the intertidal areas, marine birds and mammals and fish. There is little discussion of the adequacy of local cleanup operations, response time and long-term effects of the oil spill. The impact on commercial fishing, tourism and marine habitat should be fully discussed.

ON-SHORE FACILITIES

As stated before, the DEIS assumes a number of on-shore facilities to support the OCS program, none of which have been approved. Does the MMS see themselves as having a role in the placement and nature of these facilities? It is unclear if the impacts from the facilities are considered in the baseline

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data or if their impacts are analyzed in the DEIS. Are these facilities expected to produce local or imported jobs? Are certain limitations expected on the number and extent of such facilities?

CONCLUSION

While this DEIS represents somewhat of an improvement over past EIS's, we still believe there is a general understatement of impacts, a misunderstanding of local conditions and often incomplete and simplistic analysis. The City proposes that the Delay of Sale Alternative be adopted. The MMS should further investigate the reality and adequacy of on-shore facilities and California refining capacity, and it should offer a strong program of environmental resource protection.

The lack of adequate documentation with no guarantee of environmental protection is further evidence that the accelerated leasing program is inappropriate.

Charles Hitch, retired president of the entire University of California system, an economist whose specialty is energy and environment, has stated that oil development in the Channel should be delayed. Neither the need for oil nor the economics warrant its production from the Santa Barbara County Channel area at this time.

We are hopeful that the MMS will strongly consider these and the many other comments on the DEIS and provide adequate and documented responses. We thank you for the opportunity to comment and look forward to improvements in the Final EIS.

Sincerely,

Sheila Lodge  
Mayor

SL/pj

Attachment: RESOLUTION NO. 83-073, "A Resolution of the Council of the City of Santa Barbara In Response To Call For Comments On The Draft Environmental Statement For Proposed OCS Lease Sale No. 73."

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RESOLUTION NO. 83-073

A RESOLUTION OF THE COUNCIL OF THE CITY OF SANTA BARBARA IN RESPONSE TO CALL FOR COMMENTS ON THE DRAFT ENVIRONMENTAL STATEMENT FOR PROPOSED OCS LEASE SALE NO. 73

- 1
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- 5 WHEREAS, the Pacific OCS Office, Minerals Management Service, of the U.S.
- 6 Department of the Interior has issued a Draft Environmental Impact Statement for
- 7 their proposed October 1983 central California lease offering known as Lease
- 8 Sale No. 73; and
- 9 WHEREAS, the Minerals Management Service on March 9, 1983 on pages 99S1-
- 10 99S3 of Vol. 48, No. 47 of the Federal Register has requested comments on the
- 11 central California OCS leasing proposal from individuals, representatives of
- 12 organizations, and public officials; and
- 13 WHEREAS, written comments on the draft EIS will be accepted by the Minerals
- 14 Management Service until April 26, 1983; and
- 15 WHEREAS, the City of Santa Barbara has reviewed the draft Environmental
- 16 Impact Statement for the October 1983 OCS Lease offering known as Lease Sale
- 17 No. 73 and found it inadequate for reasons herein described; and
- 18 WHEREAS, the draft Environmental Impact Statement does not adequately
- 19 disclose the anticipated impacts from the proposed action on existing conditions
- 20 and uses of the offshore and on-shore affected areas or adjacent areas; and
- 21 WHEREAS, the draft Environmental Impact Statement does not adequately
- 22 quantify impacts and direct effects of the proposed action on the Coastal Zone
- 23 of the State of California, nor does it indicate the degree of conformance of
- 24 the proposed action with the laws, goals and policies of the State of California
- 25 including the California Coastal Act, California's federally-approved Coastal
- 26 Zone Management Plan, county Local Coastal Plans (LCPs), California's pipeline
- 27 policy, or California's air quality standards; and
- 28

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1  
2 WHEREAS, the draft Environmental Impact Statement does not present an  
3 adequate range of alternatives to the proposal nor does it include a sufficiently  
4 high-resolution look at the impacted area and its existing resources and uses,  
5 incorporates no "worst-case" analysis of impacts, includes no analysis of im-  
6 pacts on rare and unique species, nor does it adequately identify or analyze  
7 cumulative impacts which are likely to result from leasing and development on  
8 tracts within this sale combined with prior and planned lease sales and develop-  
9 ment; and

10 WHEREAS, the draft Environmental Impact Statement does not consider an  
11 alternative which addresses the long-held position of the State of California  
12 and affected local governments to the effect that leasing is inappropriate in  
13 areas to the north of the line between Row N808 and Row N809 of the Universal  
14 Transverse Mercator Grid System (approximately the Santa Maria River); and

15 WHEREAS, the Minerals Management Service, in spite of requests from num-  
16 erous affected local agencies, has denied the opportunity for "scoping meetings"  
17 as provided for in the relevant CEQ Guidelines in order to identify issues to  
18 be utilized in determining the scope of the draft EIS; and

19 WHEREAS, the Minerals Management Service has refused to hold adequate and  
20 accessible public hearings on the draft EIS in affected coastal communities  
21 which would be impacted by the proposal; and

22 WHEREAS, the Minerals Management Service has shortened the comment period  
23 from 60 days, as provided by Department of Interior regulations, to 45 days, in  
24 spite of numerous requests for the full 60-day comment period; and

25 WHEREAS, required NEPA procedures, CEQ guidelines, and Department of In-  
26 terior regulations have not been adhered to in the preparation of the draft  
27 EIS or throughout the pre-lease planning process for this sale and the above-  
28 mentioned procedural deficiencies have precluded interested members of the

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1  
2 public from adequate opportunity for participation in the environmental review  
3 process; and

4 WHEREAS, above and beyond the inadequacies of the draft EIS with respect to  
5 the present limited sale area encompassed by Lease Sale No. 73, the present  
6 draft Environmental Impact Statement would be wholly inadequate and inappro-  
7 priate as a basis for future decisions outside of the 360-tract October 1983  
8 sale area and unsuitable for use as the basis for an area-wide central and  
9 northern California OCS Planning Area EIS; and

10 WHEREAS, key environmental studies, now funded and underway by the Minerals  
11 Management Service, are necessary to informed decisions about the proposed action  
12 but will not be completed until after October 1983 proposed date of sale and,  
13 therefore, the sale date should be delayed.

14 NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Santa  
15 Barbara does hereby adopt this resolution, and by reference the attached tech-  
16 nical comments, finding the draft Environmental Impact Statement for the October  
17 1983 OCS lease offering to be inadequate and not in compliance with relevant  
18 federal and state laws; and

19 BE IT FURTHER RESOLVED that the City Council of the City of Santa Barbara  
20 finds that the delay of sale alternative be selected until an adequate EIS is  
21 developed and only at that time can a discussion concerning the appropriateness  
22 of this lease sale be reasonably considered; and

23 BE IT FURTHER RESOLVED that this resolution and the attached technical  
24 comments should be forwarded to the Regional Manager, Pacific OCS Region,  
25 Minerals Management Service, 1340 W. Sixth Street, Los Angeles, CA. 90017 to  
26 arrive prior to April 26, 1983;

27 PASSED AND ADOPTED by the City Council of the City of Santa Barbara,  
28 State of California, this 19th day of April, 1983, by the following vote:

7

OFFICE OF THE MAYOR  
SAN FRANCISCO

DIANNE FEINSTEIN

### Proclamation

WHEREAS: The Pacific Outer Continental Shelf Office, Minerals Management Service of the U.S. Department of the Interior, has issued a Draft Environmental Impact Statement(EIS) for its proposed October 1983 central California lease offering, known as Lease Sale #73; and

WHEREAS: Expert examination of this EIS indicates that it does not adequately quantify the direct effects of the proposed action on our coast, thereby ignoring many of the expressed concerns raised by both the state of California and by local governments in the areas of Lease Sale #73; and

WHEREAS: The decisions involved in Lease Sale #73 are too vital to the future well-being of the California coast to be processed with undue haste or inadequate opportunity for all concerns to be publically discussed; now

THEREFORE, BE IT RESOLVED THAT I, Dianne Feinstein, Mayor of the City and County of San Francisco, do hereby urge that the Minerals Management Service reconsider its position and submit the attached technical comments for consideration.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the City and County of San Francisco to be affixed this twenty-second day of April, nineteen hundred and eighty-three.  
*Dianne Feinstein*  
Dianne Feinstein  
Mayor



I, RICHARD D. THOMAS, City Clerk in and for the City of Santa Barbara, California, do hereby certify that the foregoing Resolution No. 83-073 was adopted by the City Council at the meeting held April 19, 1983, 9:00 A.M., by the following vote on roll call:

AYES: COUNCILMEMBERS:  
H. CONKLIN T. ROGERS  
G. DEWITT S. SMITH  
J. GRAFFY MAYOR S. LOOGE  
L. REYNOLDS

NAYS: COUNCILMEMBERS:  
NONE

ABSENT: COUNCILMEMBERS:  
NONE

IN WITNESS WHEREOF, I have hereto set my hand and affixed the official seal of the City of Santa Barbara this 19th day of April, 1983.

(SEAL)

*Barbara Ramick*  
Deputy City Clerk

I HEREBY APPROVE this Resolution this 19th day of April, 1983.

*Shirley Bales*  
Mayor



# CITY OF SAN LUIS OBISPO

OFFICE OF THE MAYOR - 990 PALM STREET  
Post Office Box 321 - San Luis Obispo, CA 93403

April 22, 1983

RECEIVED  
APR 25 8 15 AM '83  
MINERALS MANAGEMENT SERVICE  
PACIFIC OCS REGION  
SHELTER OFFICE  
LOS ANGELES, CALIFORNIA

Mr. John Lane  
Minerals Management Service  
Pacific OCS Region  
1340 W. Sixth Street  
Los Angeles, California 90017

Subject: Response to Draft Environmental  
Statement for OCS Lease Sale No. 73

Dear Mr. Lane:

The City of San Luis Obispo is very concerned about the aspects of offshore oil development which may impact our community. While the city is one mile from the coast, we share many of the same concerns as the coastal communities. OCS Lease Sale No. 73 represents a potential threat to the economic and environmental well being of the entire central coast.

Once again, we voice our objection to the procedures being followed with OCS Lease Sale No. 73 and the preparation of the EIS. We feel that our previous comments towards the scope of the EIS were largely ignored. The time for response was shortened and the date and location of the public hearing discouraged adequate public input.

We have reviewed the Draft EIS and have serious reservations towards its adequacy. Its scope, accuracy and overall content are questionable.

We would also express our concurrence with the comments submitted by the San Luis Obispo County Planning Department and Area Council of Governments regarding the Draft EIS. The comments by Mr. Robert Carr, San Luis Obispo County Air Pollution Control District, best describe the City's concerns towards air quality. We have previously submitted to you (January 28 and March 14) comments regarding OCS Development.

The following are more detailed comments concerning the Draft EIS:

### Time for Response; Scope of the EIS

The 45-day review and comment period is not sufficient time for interested persons and agencies to adequately review such a lengthy technical document. The customary time limit allowed in previous lease sale EIS reviews was 60 days. The city is also concerned that only one hearing was scheduled on the document and that it was not held in an affected coastal community. We feel that, either intentionally or by circumstance, a significant number of citizens have been excluded from the review process. While the "streamlining" process may cover all steps legally mandated for Lease Sale No. 73, it does not allow sufficient time for public review and comment.

37.1

Mr. John Lane  
April 22, 1983  
Page 2

We take particular exception to with the scope of the Draft EIS. Many of the comments submitted by the San Luis Obispo Area Council of Governments were not studied in the document.

### Specificity of the Study

We understand that OCS Lease Sale No. 73 originally included approximately one million acres stretching from Point Conception north to the Oregon border. In passing the Interior Appropriations Bill FY1983, Congress removed the funding for leasing of coastal areas north of Morro Bay. The Draft EIS has failed to focus on that portion of the proposed sale which remains under active consideration. We take exception to the validity of the analysis and to the discussion of mitigation measures because the report fails to focus upon the characteristics which are unique to that portion of the Santa Maria Basin currently being considered for lease. This area has specific meteorological traits which include unique wind and wave conditions and rugged coastline. These factors, when combined with possible failure of equipment, create the distinct possibility of oil spills and leakage. In such conditions, cleanup would be virtually impossible and prohibitively expensive.

37.2

A major deficiency of the Draft EIS is that it does not provide an adequate inventory or evaluation of specific resources within the lease sale area. This deficiency is found throughout the report and resulted in an inadequate evaluation of potential impacts to the physical, biological and socio-economic environment.

37.3

We feel that significant impacts on our city have been overlooked, obscured or underestimated in the analysis by:

- Using a study area of four counties (Monterey, Santa Clara, San Luis Obispo and Santa Barbara) in the Coastal Economy and Demographics sections of the EIS. The study area is too large and obscures local impacts. 37.4
- The Public Services section underestimates the impacts upon the coastal communities and the City of San Luis Obispo. Including cities more than 150 miles away from the boundaries of Lease Sale No. 73 is inappropriate in this analysis. 37.5
- The Tourism and Recreation sections suffer from the same lack of specificity. Tourism is a major contributor to the San Luis Obispo economy. No reference is made to affected cities using data reflecting local characteristics. 37.6

### Air Quality

The maintenance of our air quality is a major concern of the City. San Luis Obispo is highly dependent upon the tourist and retirement sectors for our economic well being. The visibility of these sectors directly relates to the quality of our air, water, beaches and other natural amenities. The Draft EIS has not made a complete

37.7

Mr. John Lane  
April 22, 1983  
Page 3

assessment of potential impacts that Lease Sale No. 73 could have on our air quality. Local air quality officials and experts have disagreed with much of the data and conclusions in the Draft EIS. We cannot overstate the concern that the City of San Luis Obispo has towards an adequate and complete analysis of air quality impacts.

The report states that "moderate" air quality impacts were predicted for coastal regions adjacent to the proposed sale areas, and the application of emission controls would reduce the predicted impacts to "low." San Luis Obispo County was the only area in the South Central Coast Air Basin that exceeded federal standards for ozone concentrations. Air emissions would occur over a 30-year period.

The excellent air quality of this area contributes to the overall quality of life. It also provides a necessary element for a viable tourist industry. The EIS fails to recognize that both the City and County of San Luis Obispo encourage the development of non-polluting industry. The possibility that onshore communities could possibly be reclassified into a status of non-attainment with federally mandated ambient air quality standards because of OCS development needs further study. We do not feel that the EIS adequately addresses the secondary air-quality-related impacts upon coastal communities or offers viable alternatives that the decision makers can review.

In addition, the EIS must address the following within the scope of the report:

- Base the worst case air quality analysis on emissions using the high resource estimate, not the mean estimate; 37.8
- Conduct an economic analysis of the effects of the onshore becoming a non-attainment area for ozone and SO2. This analysis should include cost to local businesses of retrofitting to achieve necessary standards; losses to the tourist industry; cost of EPA-imposed sanctions that would occur if we were unable to demonstrate attainment; and costs of local government to prepare, administer and enforce non-attainment plans. 37.9
- Assure that the data used in air quality analysis considers all local meteorological conditions including the very low inversion layer usually affecting the City of San Luis Obispo. 37.10
- Include air quality analysis from OCS-related onshore facilities needed for oil treatment and desulfurization plants. 37.11
- Evaluate the effectiveness of USCS Air Quality Regulations and compare them to state and local standards. 37.12
- Include impacts from tankering of petroleum during early development years, before the more effective pipelines become operational. 37.13

Mr. John Lane  
April 22, 1983  
Page 4

The Draft EIS states "Photo chemical smog is by far the most serious air pollution problem in many urbanized California coastal areas" (page 4-41). The document does not acknowledge the effects of Lease Sale No. 73 on ozone in San Luis Obispo County. This is contrary to findings in the document that our county can be expected to fail to attain the national ozone standard as a result of Lease Sale No. 73.

37.14

The report noted that "moderate" air quality impacts were predicted for coastal regions adjacent to the sale area. The application of emission controls would reduce the impacts to "low." The USCS standards are extremely permissive when compared to state and local standards. A major failure of the document is explaining how the emissions would be reduced.

37.15

The Draft EIS fails to assess the impacts of a major new onshore treatment facility necessary to process oil further before piping it to refineries in other parts of the state.

37.16

The Draft EIS fails to assess the long-term effects of air pollution on overall health of City and County residents.

37.17

### Geologic Hazards

The EIS stated that "Geologic Hazards in parts of central northern California shelf basins have been previously described" and refers to other studies. The document states, "Although these hazards studies were of limited areas, they help to describe the kind of hazards that may occur elsewhere on the shelf." We are concerned that assumptions were made on this area based upon data from an area far removed from our coastline.

37.18

The Santa Maria Basin is adjacent to one or more seismically active faults. The EIS states, "Instability of the sea floor whether from seismic activity or sedimentary process is recognized as the principal hazard to platforms and pipelines in the marine environment." We are concerned that the EIS does not adequately evaluate the effects on OCS development from earthquakes. A review of the Geologic Hazards and Geologic Hazards Maps included in the EIS shows lease tract parcels located directly on top of the Hoegri Fault zone and the Santa Lucia Bank Fault zone. The report goes on to note that the major seismically active faults that bound the basins have either produced large earthquakes or are capable of producing earthquakes larger than magnitude 7.0.

37.19

The potential for a large oil spill occurring at the same time as an earthquake deserves further analysis. We feel that this section should be expanded to take into account seismic damage to all phases of OCS exploration, development, transportation of oil and other alternatives and mitigation measures. This should also include the effectiveness of clean-up operations if land-based facilities are damaged during the same earthquake. While offshore oil development technology was developed and tested in other parts of this county and the world, we are not

37.20

Mr. John Lene  
April 22, 1983  
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convinced that there is enough information to verify that a developed offshore oil field can withstand the possible seismic focus that may occur during a major earthquake.

Impacts Upon Local Economy, Housing and Services

**Oil Spills** - The EIS describes the economic impact of a major oil spill occurring during the peak tourist season and the resulting loss in revenue to local tourist-based economies. The report and background models predict that three large oil spills and five large tanker spills will likely occur, one of which spills could contact the coastline. The EIS estimated that if a spill contacted the Port San Luis area, the impact to recreation and tourist business revenues could constitute the removal of about 7.3 million dollars from the local economy. This amount appears to be significant and we do not agree with the conclusion that the OCS Lease Sale and development would have low to very low impact upon recreation and tourism in the area. The fishermen's contingency fund was created to pay back fishermen for losses to equipment from OCS development. This "payback" concept should be expanded if OCS development occurs to include losses to local economies from oil spills, namely, the local tourist industry. Viable mitigation measures need to be discussed in the final statement.

37.21

**Housing and Services** - A concern to our city is any unplanned additional population growth that may occur from OCS development. We do not agree with the conclusions in the Draft EIS that population growth will be negligible. The additional demands for housing, public services and transportation facilities need further review on in the document.

37.22

**Tourism** - The City of San Luis Obispo benefits from a viable tourist industry which is related to coastal tourist areas. Any negative effects on coastal communities will definitely have significant economic effects on San Luis Obispo. These effects have not been adequately addressed in the Draft EIS. Because the document was written for a much larger area, it is not specific enough in providing a meaningful assessment of impacts upon our city.

37.23

Alternatives to the Proposed Project

We do not believe that the EIS presents enough workable alternatives to the project. The EIS will be used by policy makers in deciding which tracts should be offered for sale, not all of these tracts represent equal significance in terms of potential for oil discovery or the risk of development.

Our primary objection is the overemphasis and analysis of Alternative One (the proposed project). We feel the negative impacts of leasing 295 new tracts to be underestimated. Likewise, we do not agree that the mitigation measures proposed for Alternative One are adequate to protect the environment. Alternative One received

37.24

Mr. John Lene  
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several hundred pages of discussion and analysis. Alternatives Two, Three and Four combined received less than ten pages of discussion within the 388-page document.

Opinion differs in the evaluation of the significance that offshore oil development has on the marine environment. Placing a price tag on the possible effects on the threatened sea otter is difficult. Depending upon whether you feel that such impacts are minor or major, the EIS fails to mention that minor impacts can also be mitigated if properly identified and mitigation measures thoughtfully formulated.

Alternative Two (modify the sale to protect sensitive biological areas) needs to be expanded. Eliminating only three tracts (out of 295 proposed) does not go far enough in protecting the environment. Tracts located within the designated sea otter preserve, along seismically active fault zones, within the viewsheds of coastal communities could also be considered for deletion.

37.25

Alternative Three (delete the sale) also needs to be expanded. Certainly development of offshore oil within a sensitive marine environment could benefit from the advancement of deep water technology. This would allow more time to observe the effects of Lease Sale No. 73 before committing to this much larger version of OCS development.

37.26

Finally, we feel that Alternative Four (no sale) deserves more discussion and analysis. The development of OCS oil reserves is risky at best when examining the impacts upon local communities and disruption of the marine environment.

37.27

The alternatives section needs to be greatly expanded in the Draft EIS to respond to the variety of impacts likely to occur with the project.

37.28

In summary, we recommend that the Draft EIS for Lease Sale No. 73 not be certified complete unless a fair and detailed consideration is made to the above comments.

Thank you for the opportunity to respond.

Sincerely,

*Melanie C. Billig*

Melanie C. Billig  
Mayor

MCB:bee

38

BOARD OF COMMISSIONERS

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PORT OF ENTRY — U.S. CUSTOMS

WILLIAM R. KING, Harbor Master

RAYMONO E. JONES, Treasurer  
Arroyo Grande

K. ROBIN BAGGETT, Attorney  
San Luis Obispo

April 13, 1983

United States Department of the Interior  
Minerals Management Service  
Pacific Outer Continental Shelf  
1340 West Sixth Street  
Los Angeles, California 90017

RE: OCS Lease Sale 73 Draft Environmental Impact Statement

The Port San Luis Harbor District wishes to provide the following comments for your review and incorporation into the Environmental Impact Statement for Lease Sale 73:

1. San Luis Bay should be considered a sensitive biological, ecological and recreational area; 38.1
2. The 10-mile buffer zone developed from the track selection process used in Lease Sale 53 along San Luis Bay should also be included in Lease Sale 73 because:
  - a. There is a large tourist industry along that coast which will be visually impacted. 38.2
  - b. This tourist industry is largely dependent upon its exceptional beaches and a buffer will minimize the chances of spills reaching shore, as well as providing a longer response time for containment and clean-up.
  - c. If drilling is allowed within the 10-mile area, its air-pollution, coupled with the remainder of Lease Sale 73 and Lease Sale 53, will result in major degradation of coastal onshore air quality, damaging tourism and agriculture; 38.2
3. A crew base at Port San Luis is by no means a "sure thing". A permanent crew base somewhere along the Central Coast requires a regional alternative siting study. Port San Luis may or may not permit itself to be the chosen site. Any crew base must conform with the District's unfinished Master Plan. 38.3
4. The Draft Environmental Impact Study fails to discuss and identify demographic pressures and impacts resulting from locating major onshore facilities (supply bases, refineries, marine terminals, etc.) in the region. Demographic changes are erroneously predicted to be under 1 per cent, because the OEIS wrongly includes the non-affected populations of Santa Cruz, Monterey, and southern Santa Barbara Counties, when determining present population. The OEIS should recognize that major demographic impacts will occur adjacent to any major onshore facilities and mitigation measures should be suggested. 38.4
5. Lack of existing onshore facilities and transportation systems will be a major obstacle in developing Lease Sale 73 because:

Minerals Management Service

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- a. A detailed focus of the impacts on the areas most affected by Lease Sale 73 is not provided. Assessments are overly broad statewide; specific San Luis Bay conditions are not adequately or correctly addressed. 38.5
- b. The San Luis Bay area (and Santa Maria Basin in general) is largely dependant on its limited coastal resources. Water, sewer and other resources available are limited in San Luis Bay.
- c. Refining, pipeline and marine terminal assumptions are minimally or incorrectly addressed.
6. Lease Sale 73 should be delayed for at least 10 years because:
  - a. Current world oil glut and national "lease glut" will not earn the public a fair return on its resources. 38.6
  - b. Onshore facilities need more time to develop.
  - c. Oil-containment technology for local conditions needs to be improved.
  - d. Air-pollution control technologies need time to be improved.
  - e. The sea otter is still on the endangered species list.
7. The Draft Environmental Impact Statement predicts significant adverse effects to the commercial fishing industry in the area, but provides no suggested mitigation measures. Mitigation measures should be required at all phases of OCS research and development. These might include: require grants (\$100,000 per leased tract at both exploration and development phases plus \$25,000 annually during production) by lessees to non-profit or public entities for fishery enhancement, marketing research and development, etc. 38.7

Respectfully submitted,

*Stewart O. Jenkins*

PORT SAN LUIS HARBOR DISTRICT

RECEIVED  
13 22 1983  
FEDERAL BUREAU OF INVESTIGATION  
U.S. DEPARTMENT OF JUSTICE  
SAN FRANCISCO OFFICE



## PROPOSED COMMENTS ON E.I.S. OF LEASE SALE #73

Page 2-4 Estimate of number of platforms and length of production, development and timetables.

The number of platforms projected (5) seems to be underestimated, judging from the number of oil companies separately approaching the Port San Luis Harbor District requesting use of Port San Luis as either a crew or supply base. The figure of 30 platforms set out under "CM" on Table II.A.1.c.1., of the E.I.S. seems more realistic.

2-16 Physical Environmental Impacts: Air quality

The E.I.S. underestimates the impact of operational atmospheric emission to coastal communities and agricultural areas. The Santa Maria Valley and associated areas including, Avila, Pismo Beach, Grover City, Arroyo Grande, and the Nipomo Mesa have the lowest recurrent inversion layers in the State of California. These areas are directly downwind of much of the proposed lease area.

2-17 Socioeconomic Environment

Demography: Present language underestimates the demographic impact of the development of oil resources in the proposed lease area if there is a supply base facility constructed on the coastal region adjacent to the proposed lease area.

Construction and operation of a supply base will likely cause population increase of approximately 25,000 persons. The Santa Maria Basin is ringed by low population areas: San Luis Obispo, approximately 35,000; Southern San Luis Obispo County, approximately 35,000; Santa Maria, approximately 50,000; and Lompoc, approximately 28,500. Because these population centers are located at some distance from each other, it is likely that those centers closest to any developed supply base would absorb the bulk of any population influx. One would not expect an even distribution.

PORT OF ENTRY — U. S. CUSTOMS

Comments on Lease Sale #73  
Page 2  
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Page The D.E.I.S. improperly factors in demographic changes by adding in the present population of Santa Cruz, Monterey, and Southern Santa Barbara County, not directly affected thereby. Because oil company proposals are currently being advanced by industry to develop a supply base at Port San Luis, and since additional leasing will increase the pressure of such construction, this E.I.S. should contain a study of the potential demographic impact of such a support facility on the region.

2-18 Comments regarding demographic changes apply also to the statements on: Public Services and Facilities  
Coastal Land Use

2-18 Commercial Fisheries:

A 10% economic loss to an entire industry is not low impact. The mitigation measures proposed by this E.I.S. for this loss consist entirely of educating oil company personnel concerning the value of the fisheries and some methods for avoiding damage to the fisheries.

The individuals and firms seeking oil are under the constraints imposed by the need to operate at a profit, and as large a profit as possible. Requiring these individuals and firms to know the value of fisheries that an economically advantageous method of exploration or production will destroy will not successfully induce those individuals and firms to use a less destructive method if it costs more.

The Port San Luis Harbor District suggests that an additional mitigation measure be required to offset the damage to the industry. There are feasible methods of restocking some of the fisheries damaged.

Each lessee, prior to exploration, should be required to grant \$100,000 to one or more political subdivision, non-profit associations, or non-profit corporations along the coast of the Santa Maria Basin for purposes of propagation and release of commercially fished species. A similar grant should be required prior to construction of any production platform and similar grants of \$25,000 a year by the owner of each platform after production commences until the platform is removed. While these may not provide the fishing industry with exact replacement of the exact species population reduced by operations, it could provide the fishermen with opportunities to shift their operations to the fisheries enhanced by such a program.

Comments on Lease Sale #73  
Page 3  
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The fishing industry in the Santa Maria Basin presently produces approximately 10 million dollars annually. The draft of the Port San Luis Harbor District's Master Plan set aside space for a 200% growth in the industry over the next 10-15 year period. A 10% loss to the fishing industry not only suggests one million dollars annually lost to the local economy, but also suggests a dropping off of the natural growth of the fishing industry.

Assuming 30 platforms, contributing \$25,000 each, annually to offset this damage to the fisheries, a total of \$750,000 would be available to mitigate fishery damage.

Page 2-18 Port and Harbors

The present statement provides that the Port San Luis Harbor District will suffer "high impacts". It fails to provide for mitigation of this high impact, and does not designate whether the high impact comes from crew facilities or supply facilities. Moreover, it fails to recognize that the County of San Luis Obispo and the Port San Luis Harbor District are studying alternative sites for serving off shore oil and may not allow oil company use.

Port San Luis is primarily a commercial fishing center. It also serves as a recreational small craft harbor.

Minimum mitigation measures should include:

1. Requiring lessees to fund construction of a breakwater extension for purposes of increasing the size of the protected anchorage.
2. Requiring lessees to consolidate all oil related facilities in one location which will not interfere with the present recreational and commercial fishing uses.
3. Requiring lessees to fund construction of all new facilities required to be built for their use.



TO: Major Projects Committee

FROM: J. K. Eldar

RE: Draft Environmental Impact Statement, Lease Sale #73

DATE: April 6, 1983

The D.E.I.S. for Lease Sale #73 has provided an informational base which one can build from. However, the base data derived from the lease study area as compared to the actual size of the Lease Sale #73 is erroneous, especially the expected impacts. Therefore mitigation of sensitive areas is required.

## I. BIOLOGICAL

## A. Estuarine

In the D.E.I.S. for Lease Sale #73, it is stated in "Alternative II", there is a provision for a 10 mile buffer zone off of Morro Bay due to the biological sensitivity of the estuary. It could be considered that San Luis Obispo Bay is also a biological, ecological, and recreational sensitive area.

"Should an oil spill occur and contact an estuary, high impacts could occur. The lack of substantial estuarine wetland habitat to the South of San Francisco, is cause for concern because there are so few areas to act as a source of brood stock or buffer against significant impacts to the adjacent ocean areas. The ocean areas are partly dependent upon estuaries for biological and nutrient resource sources." (page 4-132)

"Estuaries within the proposed sale area having openings of 100 meters or greater, are Morro Bay and San Luis Obispo Creek." (4-135)

"It is assumed that estuary openings of greater than 100 meters are extremely difficult to protect once oil approaches the mouth." (page 4-134; see tables on pages 3-53, 3-57)

Three major habitats of important estuaries are within the Lease Sale #73 area. They are Morro Bay, San Luis Obispo Creek, and Santa Maria Creek. Only Morro Bay and San Luis Obispo Creek have 100 meters or greater width of entrance. San Luis Obispo Creek has 2.4 hectares of salt marsh and 9 hectares of open water channels. (page 3-57)

Important anadromous fish such as salmon and steel-head trout use the estuarine environment of San Luis Obispo Creek. (page 3-35)

B. Fauna

"Five species of seals and sealions use the resources of the Central California Coast." (page 3-41) Also, the California Brown Pelican, Southern Sea Otter, Least Tern, Whales, Sea Turtles, and the American Peregrine Falcon, are known to inhabit San Luis Obispo Bay. (page 4-128) All of these species are on the Federal Endangered Species Lists. (page 4-127) In particular, known brood-in sites of the American Peregrine Falcon are within San Luis Obispo Bay. (Port San Luis). The Santa Cruz Predatory Bird Research Group states that an oil spill spreading to Port San Luis could greatly endanger the resident Falcon Pair, with possible mortality occurring.

38b.2

"Oil spills could cause moderate to high impacts to fish, marine mammals, and sea birds in the proposed sale area. The occurrence of one oil spill would be likely during the lifetime of the proposed project. This could result in localized severe mortalities, and functional impairment, to some species, thereby altering the community structure for an unknown period of time. A large oil spill could cause moderate (2-7 percent mortality) impacts to the Least Tern population, and high (7-15 percent mortality) impacts to the Brown Pelican population." (page 4-243)

"Oil spill model (OSRAM) indicates that if a spill occurs along the sea otter range within 10 miles of the coastline, there is an average probability of greater than 40 percent that it would contact the otter range within 10 days. Should a spill occur during the Fall, the probability of a spill contacting the otter range is as high as 89 percent in 10 days. (LaBelle et al. 1983). (page 4-112)

II. RECREATION - TOURISM

Eleven point six million recreationists used the coastal areas within Lease Sale #73 in 1980. The value of the coastal recreation in the proposed Lease Sale area is in excess of \$99 million. The output multiplier (2.35 - Granville Corp. 1981) will add over \$233 million to the economy of the local region. (page 4-173) If a spill occurred, during the peak use season, in the Port San Luis area and closed down the recreational areas on the coast for 30 days, it would mean a reduction of approximately 350,000 recreationists with a corresponding loss of over \$3 million in recreational value. This would remove about \$7.3 million from local economy. (A Citizen Guide to No. 73 VIII).

38b.3

"A large oil spill could cause a moderate impact to the commercial fishing industry (a 10-20 percent economic loss) if the spill contacts the salmon population at the mouths of rivers or affects a fishing port. Sportfishing may be adversely affected as a result of oil spills that could close parts or sections of the coastline to fishing activities. An oil spill contacting the coastline would also have an unavoidable impact on recreation as beach and boating activities would be temporarily disrupted." (page 4-244)

III. OIL CONTAINMENT

Deploying the proposed oil containment boom across the entrance to Port San Luis (tip of the Federal Breakwater to Fossil Point) would require over 1 1/2 miles of "boom".

38b.4

Oil Spill Clean Up Equipment Inventory contains numerous lengths of containment booms, but none long

enough to closed the entire area. In the Appendix IX, under Clean Seas Equipment, (page 9-16) the oil containment booms (seven types are listed) only three are located locally, within Lease Sale #73. Using the Beaufort Scales of: (1) wind force and (2) state of sea, a comparison of the three booms was made. Vikoma Sea Pack was able to operate in six foot seas and moderate winds. The Expandi Boom (12" X 17") can operate in 3-5 foot seas. The heavy duty Expandi Boom (43") can work in 5 foot seas and a fresh breeze (17-21 mph). The Coast Pilot (#7) states "Northwest gales are frequent and occur at all seasons". (Beaufort Scale: Gale equals 34-40 mph). No containment boom listed can operate in winds over 28.8 mph. (1 kt. = 1.152 mph) (page 9-17)

IV. ON SHORE FACILITIES

Throughout the entire D.E.I.S., Port San Luis is referred to as a crew base. "Crew boats will be used to transport personnel to and from well sites or platforms from Port San Luis". "The expected impacts follow: Port San Luis: high impact, (i.e., additional docks, berths and facilities would be required)..." (page 4-237) "High impacts to Port San Luis are expected primarily due to competition for vessel berth space and support facilities." (page 4-238) "A crew boat base is anticipated to be constructed at Avila Bay (Port San Luis)." (page 4-239) "Unavoidable high impacts would occur to the port of Port San Luis due to the need for additional docks, berths, and related facilities." (page 4-424)

38b.5

"Land use within the coastal zone is directed and controlled by California Coastal Commission (CCC) approved Local Coastal Programs (LCP) or Port Master Plans prepared by or for coastal cities and counties and harbors." (page 3-70) "Many land areas are protected to various degrees by federal, state, or local government ownership." (page 3-70) "San Luis Obispo County (SLO) have both recognized the need to plan for potential OCS oil development and possible onshore related impacts. The Petroleum Transportation Committee, a joint industry and government study group headed by Santa Barbara County with SLO as a member, is studying and prepari-

ing recommendations for development needs in the Santa Barbara Channel and in the frontier areas of Northern Santa Barbara and San Luis Obispo Counties." (page 3-71) The County of San Luis Obispo, recognizing potential needs of the oil industry, has established a Crew Base Task Force. Members of the Task Force includes representatives of oil companies, citizen interest groups, fishing industry, and government representatives. "Scope of work" for the Task Force includes a preliminary evaluation of crew base needs, alternative sites and formulation of scope of work for detailed site selection.

The following quotes are from California Coastal Commission Letter by Jim Reyerson, District Director (see attached) dated September 23, 1981.

"Local Coastal Plan must address the requirements of Section 30260. Section 30260 encourages coastal dependent industrial facilities to locate or expand within existing sites. Where such facilities cannot be accommodated within existing sites or consistent with other policies in Chapter 3 of the Act, they may nonetheless be permitted if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; (3) adverse environmental effects are mitigated to the maximum extent feasible. . . . " "If existing sites would prove to be infeasible or more environmentally damaging, then new sites such as Port San Luis also could be considered."

"Planning for Port San Luis has considered use of the port as a crew boat base, but any development must also improve the recreational and existing commercial facilities and minimize conflicts with other uses." (deCarli, 1982)

"Growth can also be controlled and/or directed by land use policies developed in county and city general plans, and local coastal programs required by the Coastal Zone Management Act of 1972." (page 3-71)

"The above discussions of the county plans and zoning reflects current policies. All policies, plans, and zoning are subject to change and amendment. Early coordination with local government is necessary for any proposal if modification to existing land use zoning is needed to accommodate the proposed use." (page 3-71)

V. CONCLUSION

A. Biological Stipulation

"This stipulation provides protection for all biological resources." (page 2-7)

"If the Regional Supervisor Offshore Field Operations Division (RSOFOD) has reason to believe that biological populations or habitats exist. . . (San Luis Obispo Bay?) . . . and require protection, he shall give the lessee notice that the lessor is invoking the provision of this stipulation. (page 2-8)

38b.6

B. Alternative II - Modify the Sale to Protect Sensitive Biological Areas

"Alternative II would modify the sale area by eliminating 3 tracts and those portions of 4 tracts which coincide with a 10 mile zone centered on Morro Bay. (see figure II.A.2-1) This area represents approximately 23,000 acres. The total proposed sale area would be reduced by less than one percent by this alternative. . . . "For the purpose of environmental analysis, we have assumed that deletion of these tracts would not significantly change the development and transportation scenarios; and the expected number of spills from the proposal." (page 2-19) . . . eliminating tracts through selection of this Alternative (II) would reduce the potential for impacts in this area by ensuring time for cleanup, containment and weathering of an OCS platform oil spill as well as essentially reducing the potential impacts to visual resources due to platform placement." (page 2-21)

38b.7

A similar 10 mile zone centered on San Luis Obispo Bay would reduce the projected impacts of an oil spill to insignificant, to the following resources:

estuaries and wetland, endangered species, commercial and sportfishing industries and recreational - tourism. With a 10 mile zone at Port San Luis, a greater chance of containment, of spills would be allowed.

"Eliminating tracts through selection of this alternative would reduce the potential for impacts to this area by: (1) ensuring there is sufficient time for cleanup, containment and weathering should an OCS platform spill occur, and, 2) ensuring visual impacts would not exceed a low level due to platform placement." (page 4-199)

C. On Shore Facilities

"Development of a crew base at Port San Luis would require a development plan which must include a detailed examination of alternate sites from Port San Luis south to the Santa Barbara Channel, a phasing plan for development, oil spill contingency plans, a fire protection plan and an identification of necessary buildings and facilities of potential siting locations. This last item is to conform with County policy to site all but the most necessary industrial facilities away from the coastline." (page 4-158)

38b.8

"In addition, any harbor improvements would have to be done so as to minimize conflicts with recreational and commercial fishing uses. Study of the feasibility of improving the present level of facilities and moorage for recreational and commercial boats is required. No service (crew) base would be permitted north of Point San Luis unless alternate sites are more environmentally damaging or environmental impacts are mitigated to the maximum extent feasible." (page 4-158)

"Compliance with established county policies would minimize the land use impacts of establishing a crew base at Port San Luis." (page 4-158)

Staff recommends that the District work together with the County and other interested parties to decide:

A. If alternate sites are more environmentally damaging, or would adversely affect the public welfare and any adverse environmental effects be mitigated on the chosen site.

38b.9

B. Any development of the site (within the District) will improve the recreational and existing commercial facilities and minimize conflicts with other existing uses.

38b.10

C. Any development be controlled and directed by land use policies developed in the County of San Luis Obispo and Local Coastal Plan.

38b.11

The District should request from the Department of Interior that a 10 mile buffer zone be placed around Port San Luis, in order to protect the biological, ecological, and recreational area from potential oil spills.

38b.12

Attachment  
JKE/ahb

State of California, Edmund G. Brown Jr., Governor

California Coastal Commission  
631 Howard Street, 4th floor  
San Francisco, California 94105  
(415) 543-8555

September 23, 1981

Honorable Steve MacElvaine  
Chairman, Board of Supervisors  
San Luis Obispo County  
San Luis Obispo, CA 93401

RECEIVED

SEP 25 1981

Dear Mr. MacElvaine:

S.L.O. COUNTY  
PLANNING DEPT.

We understand that the oil and gas industry under the lead of Chevron USA is proceeding with plans to site a service base facility at Port San Luis. We also understand that representatives from the engineering firm of Reeding and Bates already have presented a project concept plan for such facility on behalf of Chevron and the Western Oil and Gas Association to the San Luis County Board of Supervisors. Incorporated in the proposal is a request to change the County's draft LCP to allow such use at Port San Luis, eliminating the requirement for an LCP amendment for a service base facility. These proposals significantly alter the LCP and we believe it necessary to supplement the formal comment letter previously distributed. We also are advising industry of these concerns.

Siting of onshore support facilities for OCS oil and gas exploration and development in the western Santa Barbara Channel and the southern Santa Marie Basin is a regional issue, one which must be addressed comprehensively. The proximity of the western Santa Barbara Channel to the southern Santa Marie Basin, the fact that OCS oil and gas activity in the western Channel and the Santa Marie Basin is just beginning, and the lack of any existing onshore facilities and limited available sites in northern Santa Barbara County and southern San Luis Obispo County to service them require that they be considered as one planning area. Before the Commission can approve a specific proposed site, estimates of the maximum OCS development and the extent and scale of onshore service base and crew boat support facilities must be known. Alternative sites for such facilities also must be evaluated. These conclusions are based on Sections 30260 and 30262 of the Coastal Act; Section 30260 is discussed in more detail below.

Our previous comments on the draft LCP did not include a discussion of the service base policies because a service base was not an allowable use and could only be approved subject to an LCP amendment. However, if these policies are changed to allow a service base facility at Port San Luis at this time, the LCP must address the requirements of Section 30260. Singling out one site before a thorough evaluation of alternatives takes place is not consistent with the Coastal Act. Section 30260 encourages coastal dependent industrial facilities to locate or expand within existing sites. Where such facilities cannot be accommodated within existing sites or consistent with other policies in Chapter 3 of the Act, they may nonetheless be permitted if (1) alternative locations are infeasible or more environmentally damaging;





Honorable Steve MacElvaine  
September 23, 1981  
Page Two

(2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible. In order to make the findings required under Section 30260, the LCP would have to contain an analysis of existing industrial or energy facility sites in the region, such as the Union Marineterminal facility at Avila or the Getty Oil facility at Gaviotas. If existing sites would prove to be infeasible or more environmentally damaging, then new sites such as Port San Luis also could be considered.

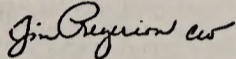
Our further concern is that the estimates for the size of the proposed service base facility are low. OCS exploration and development will undoubtedly take place concurrently. All available information indicates that the level of service base activity rises dramatically during the development phase, leading us to believe that the need for onshore service base and crew boat capacity will increase from the level used to justify the proposal presented to your Board. The LCP amendment process allows local government to consider this issue when adequate information on alternatives is available.

We also would note that portions of the project are located beyond the mean high tide line, where the Coastal Commission retains primary permit jurisdiction based on Chapter 3 policies. Therefore, we have requested Chevron, in conjunction with the other leaseholders in the western Channel and Santa Maria Basin, to provide us with the following information:

1. an estimate of the peak offshore exploration and development activity for tracts lease (a) to date, (b) including reasonable estimates for OCS Lease Sales #73 and #83, and (c) state lease sales;
2. the extent and scale of onshore service base and crew boat facilities to support peak offshore activities (service base facilities should be listed separately from crew boat facilities); and
3. an analysis of alternative sites where such facilities could be located, including existing sites.

If you wish to discuss this matter, please feel free to call me.

Sincerely,



JIM REYERSON  
District Director  
South Central Coast District

cc: Supervisor Jerry Diefenderfer  
Supervisor Jeff Jorgensen  
Supervisor Kurt Kupper  
Supervisor Howard Mankins  
Pat Beck, County Planning Department

cc: Paul Ciandina, South Central  
X. Miller

Michael Brock  
- 4/21

CALIFORNIA COASTAL ACT OF 1972  
PRC SECTIONS 30260 & 30262.

Section 30260.

Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

Section 30262.

Oil and gas development shall be permitted in accordance with Section 30260, if the following conditions are met:

(a) The development is performed safely and consistent with the geologic conditions of the well site.

(b) New or expanded facilities related to such development are consolidated, to the maximum extent feasible and legally permissible, unless consolidation will have adverse environmental consequences and will not significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir economically and with minimal environmental impacts.

(c) Environmentally safe and feasible subsea completions are used when drilling platforms or islands would substantially degrade coastal visual qualities unless use of such structures will result in substantially less environmental risks.

(d) Platforms or islands will not be sited where a substantial hazard to vessel traffic might result from the facility or related operations, determined in consultation with the United States Coast Guard and the Army Corps of Engineers.

(e) Such development will not cause or contribute to subsidence hazards unless it is determined that adequate measures will be undertaken to prevent damage from such subsidence.

(f) With respect to new facilities, all oilfield brines are reinjected into oil-producing zones unless the Division of Oil and Gas of the Department of Conservation determines to do so would adversely affect production of the reservoirs and unless injection into other subsurface zones will reduce environmental risks. Exceptions to reinjections will be granted consistent with the Ocean Waters Discharge Plan of the State Water Resources Control Board and where adequate provision is made for the elimination of petroleum odors and water quality problems.

Where appropriate, monitoring programs to record land surface and near-shore ocean floor movements shall be initiated in locations of new large-scale fluid extraction on land or near shore before operations begin and shall continue until surface conditions have stabilized. Costs of monitoring and mitigation programs shall be borne by liquid and gas extraction operators.

39



MONTEREY BAY UNIFIED  
AIR POLLUTION CONTROL DISTRICT

1164 MONROE STREET, SUITE #10 • SALINAS, CALIFORNIA 93906 • (408) 443-1135

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MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT  
LOS ANGELES, CALIFORNIA

CERTIFIED MAIL  
PI1 0392992

April 22, 1983

Mr. John Lane  
Minerals Management Service  
Pacific Outer Continental Shelf  
1340 West Sixth Street  
Los Angeles, CA 90017

Subject: Comments on Draft Environmental Impact Statement  
for Proposed Outer Continental Shelf Oil and Gas  
Lease Sale No. 73.

Dear Mr. Lane:

The Monterey Bay Unified Air Pollution Control District Board has considered the draft Environmental Impact Statement for Proposed Outer Continental Shelf (OCS) Oil and Gas Lease Sale No. 73. After reviewing the March 1983 proposal, the MBUAPCD Board passed the enclosed Resolution 83-25 on April 20, 1983 by unanimous vote.

The District staff reviewed the report on a technical basis and offer the following additional comments. Overall, the report is deficient in that worst case is not used to determine environmental impacts. The report uses "conditional mean resource estimate" as a high estimate. This method may be the worst case scenario in terms of production but does not address worst case for each environmental concern. This is a basic flaw that continues through modeling and other predictive exercises and tends to nullify conclusions of the latter.

The Air Quality Section of the draft EIS as well as the "Air Quality Impact of Proposed OCS Lease Sale No. 73 Offshore Central California", Form and Substance, Inc., March 1983, have omitted consideration of the transport effects of tankering emissions (combustion and evaporative) and crude oil processing emissions. In the final EIS a worst case emissions impact analysis of these emissions should be provided. To facilitate that analysis, please find enclosed four (4) copies of "Ozone Transport in the North Central Coast Air Basin", SRI International, February 1983. This report describes two corridors by which air pollutants impact the NCCAB from the north: along the coast from the San Francisco Bay Area to the Monterey Bay and through the Santa Clara Valley impacting Hollister. Also of interest and pertinent to OCS activity was the high ozone concentrations found up to 30 miles offshore from the Monterey Bay area.

- 1 of 2 -

BEFORE THE AIR POLLUTION CONTROL BOARD  
OF THE MONTEREY BAY UNIFIED  
AIR POLLUTION CONTROL DISTRICT

RESOLUTION NO. 83-25

Whereas, the Pacific OCS Office, Minerals Management Service, of the U. S. Department of the Interior has issued a Draft Environmental Impact Statement for their proposed October 1983 central California lease offering known as Lease Sale #73; and

WHEREAS, the Minerals Management Service on March 9, 1983 on pages 9951-9953 of Vol. 48, No. 47 of the Federal Register has requested comments on the central California OCS leasing proposal from individuals, representatives of organizations, and public officials; and

WHEREAS, written comments on the draft EIS will be accepted by the Minerals Management Service until April 26, 1983, and

WHEREAS, the Monterey Bay Unified Air Pollution Control District has reviewed the draft Environmental Impact Statement for the October 1983 OCS Lease offering known as Lease Sale #73 and found it inadequate for reasons herein described, and

WHEREAS, the draft Environmental Impact Statement does not adequately disclose the anticipated impacts from the proposed action on existing conditions and uses of the offshore and onshore affected areas or adjacent areas; and

WHEREAS, the draft Environmental Impact Statement does not adequately quantify impacts and direct effects of the proposed action on the Coastal Zone of the State of California, nor does it indicate the degree of conformance of the proposed action with the laws, goals and policies of the State of California including the California Coastal Act, California's federally-approved Coastal Zone Management Plan, county Local Coastal Plans (LCPs), California's pipeline policy, or California's air quality standards; and

WHEREAS, the draft Environmental Impact Statement does not present an adequate range of alternatives to the proposal nor does it include a sufficiently high-resolution look at the impacted area and its existing resources and uses, incorporates no "worst-case" analysis of impacts, nor does it adequately identify or analyze cumulative impacts which are likely to result from leasing and development on tracts within this sale combined with prior and planned lease sales and development; and

WHEREAS, the draft Environmental Impact Statement does not consider an alternative which addresses the long-held position of the State of California and affected local governments to the effect that leasing is inappropriate in areas to the north of the line between Row N808 and Row N809 of the Universal Transverse Mercator Grid System (approximately the Santa Maria River); and

Mr. John Lane

April 22, 1983

Due to the inexact nature of delineating with certainty the OCS development and associated activities for this sale a true worst case consideration is paramount. This is particularly critical for each specific environmental concern.

We look forward to the final EIS and hope the concerns expressed herein by resolution and comment are addressed in that document.

Sincerely,

*Douglas Quetin*  
Douglas Quetin  
Administrative Assistant

DQ:ac  
Attachment: Resolution 83-25  
Ozone Transport in the North Central Coast Air Basin - 4 copies  
cc: H. Charter

File: 3850

WHEREAS, the Minerals Management Service, in spite of requests from numerous affected local agencies, has denied the opportunity for "scoping meetings" as provided for in the relevant CEQ Guidelines in order to identify issues to be utilized in determining the scope of the draft EIS; and

WHEREAS, the Minerals Management Service has refused to hold adequate and accessible public hearings on the draft EIS in affected coastal communities which would be impacted by the proposal; and

WHEREAS, the Minerals Management Service has shortened the comment period from 60 days as provided by Department of Interior regulations to 45 days, in spite of numerous requests for the full 60-day comment period; and

WHEREAS, required NEPA procedures, CEQ guidelines, and Department of Interior regulations have not been adhered to in the preparation of the draft EIS or throughout the pre-lease planning process for this sale and the above mentioned procedural deficiencies have precluded interested members of the public from adequate opportunity for participation in the environmental review process; and

WHEREAS, above and beyond the inadequacies of the draft EIS with respect to the present limited sale area encompassed by Lease Sale #73, the present draft Environmental Impact Statement would be wholly inadequate and inappropriate as a basis for future decisions outside of the 360-tract October 1983 sale area and unsuitable for use as the basis for an area-wide central and northern California OCS Planning Area EIS; and

WHEREAS, key environmental studies now funded and underway by the Minerals Management Service are necessary to informed decisions about the proposed action, but will not be completed until after October 1983 proposed date of sale, and therefore the sale date should be delayed.

NOW, THEREFORE BE IT RESOLVED, that the Air Pollution Control Board of the Monterey Bay Unified Air Pollution Control District does hereby adopt this resolution, finding the draft Environmental Impact Statement for the October 1983 OCS lease offering to be inadequate and not in compliance with relevant federal and state laws; and

BE IT FURTHER RESOLVED, that this resolution should be forwarded to the Regional Manager Pacific OCS Region, Minerals Management Service, 1340 W. Sixth Street, Los Angeles, CA 90017.

On motion of Supervisor Levy, seconded by Supervisor Lydon the foregoing resolution is adopted this 20th day of April 1983 by the following vote:

AYES: Supervisors Levy, Lydon, Petrovic and Shipnuck.

NOES: None.

ABSENT: Supervisors Del Piero, Patton and Peters.

I CERTIFY THIS RESOLUTION WAS  
DULY ADOPTED BY THE  
AIR POLLUTION CONTROL DISTRICT  
BOARD ON APRIL 20, 1983.  
BY: *Douglas Quetin*

Due to space limitations and the bulk of the materials submitted to the MMS regarding the Draft EIS for proposed Lease Sale No. 73, all written comments have not been included in this volume. The following documents have been reviewed by the EIS staff and responses to specific comments have been prepared as indicated.

Attachment I - Ozone Transport in the North Central Coast Air Basin.

San Luis Obispo County and Cities  
Area Planning and Coordinating Council

Arroyo Grande  
Atascadero  
Graver City  
Marro Bay  
Paso Robles  
Pismo Beach  
San Luis Obispo  
San Luis Obispo County

April 12, 1983

Mr. John Lane, Chief  
Environmental Assessment Division  
Minerals Management Service  
Pacific OCS Region  
1340 West Sixth Street  
Los Angeles, California  
90017

Dear Mr. Lane:

SUBJECT: LEASE SALE #73 DRAFT ENVIRONMENTAL IMPACT STATEMENT

On April 12, 1983, the San Luis Obispo County and Cities Area Planning and Coordinating Council considered the draft Environmental Impact Statement (DEIS) for proposed offshore oil lease sale #73. The attachments represent the comments, recommendations and concerns of the County Board of Supervisors and representatives of the incorporated cities in the county. These comments were based upon a detailed page-by-page evaluation of the DEIS. Emphasis was placed on the adequacy of the document in addressing specific potential impacts from the sale, cumulative impacts from LS #53, appropriate alternatives, specific measures to mitigate identifiable impacts, and the manner and extent to which previously submitted comments on the scope of the DEIS have been incorporated or addressed.

The results of this evaluation clearly indicate that our comments submitted during the scoping process have not been considered or, in most cases, even acknowledged. These comments were submitted in a good faith effort to identify concerns, alternatives and potential mitigation measures to reduce identifiable impacts for evaluation in the DEIS. Moreover, our review has indicated that the DEIS, in addition to suffering from the apparent lack of consideration of our comments, has significant shortcomings that require correction in the Final EIS.

The following attachments are submitted to identify shortcomings and highlight suggested alternatives and mitigation measures that are requested for attention in the Final EIS. Attachment 1 includes overall comments on the document. Attachment 2 is a general evaluation of the attention given or not given to our comments. Attachment 3 includes comments on the air quality aspects of the EIS by the San Luis Obispo County Air Pollution Control District. We will also be sending written, specific page-by-page comments prior to April 25th. These comments are intended to provide constructive input to the formulation of a credible

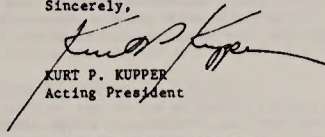
County Government Center, San Luis Obispo, Ca. 93408, (805) 549-5710

John Lane, Chief  
April 12, 1983  
Page 2

environmental impact statement that adequately addresses local concerns, and possible impacts, alternatives and mitigation measures.

We strongly urge that you give in-depth consideration and specific attention to our comments as you develop the final Environmental Impact Statement.

Sincerely,

  
KURT P. KUPPER  
Acting President

cc: All member entities  
Secretary of Environmental Affairs  
California Coastal Commission

KPK/RD/msK1&e

Due to space limitations and the bulk of the materials submitted to the MMS regarding the Draft EIS for proposed Lease Sale No. 73, all written comments have not been included in this volume. The following documents have been reviewed by the EIS staff and responses to specific comments have been prepared as indicated.

- Attachment I - San Luis Obispo County and Cities Area Planning and Coordinating Council Comments on the Draft Environmental Impact Statement for Proposed Offshore Oil Lease Sale # 73.
- Attachment II - Comments on the scope of the LS # 73 Environmental Impact Statement and whether comments were addressed in the Draft EIS.
- Attachment III - Specific comments on Draft Environmental Impact Statement Proposed 1983 Outer Continental Shelf Oil and Gas Lease Sale No. 73 Offshore Central California.

EXXON COMPANY, U.S.A.  
POST OFFICE BOX 4279 - HOUSTON, TEXAS 77001

EXPLORATION DEPARTMENT  
ALASKA/PACIFIC DIVISION  
HUGH F. BUSHNELL  
GEOLOGICAL MANAGER

1983 - OCS, DIV.  
APR 20 1983  
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LOS ANGELES

April 25, 1983

Comments on DEIS  
Central California  
Outer Continental Shelf  
Lease Sale No. 73

Mr. Reid Stone, Manager  
Pacific OCS Region  
Minerals Management Service  
Room 200  
1340 W. 6th Street  
Los Angeles, California 90017

Dear Mr. Stone:

Exxon Company, U.S.A., a division of Exxon Corporation, is pleased to have the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS) for the Proposed Outer Continental Shelf Oil and Gas Lease Sale No. 73. We support Alternative 1 - The Proposed Action described in the DEIS and urge the Secretary to proceed with Lease Sale No. 73 as currently scheduled. This proposed lease offering is important to the economic and energy security of this country. Further, activities resulting from Proposed Lease Sale No. 73 can be executed without significant disruption of, or interference with, other multiple uses of the OCS. We believe these activities will not result in unacceptable impacts to biological, cultural, aesthetic, or socioeconomic resources of the OCS or adjacent coastal waters and State lands.

Exxon commends the Minerals Management Service for making every effort to consider and evaluate the full range of potential beneficial and adverse consequences of post-lease sale activities. Our comments on the draft EIS are intended to be constructive and helpful to those who will be involved in preparing the FEIS.

We offer the following brief comments on a number of general issues that warrant your attention, and refer you to our attached detailed comments on these and other issues addressed in the DEIS. Our general comments follow:

- Worst Case Analysis for Oil Spills

In the FEIS, reference to the "conditional mean scenario" should identify it as the "worst case analysis" for oil spills instead of "high case" since only "worst case" is referenced and explained in the regulations. Further, it is important that the worst case analysis include the probability of occurrence of the worst case event(s).

• Resource Estimates

Definition of the Conditional Mean Resource Estimate is not clear and needs further attention. Examples of definitions that appear contradictory are provided in our detailed comments, together with recommended changes and information that would assist all readers. This section is important to all subsequent discussion. Thus, summary information, definitions, history, and illustrations should be clear in all detail.

41.2

• Development Timing

Exxon considers the development timing overly optimistic. In our judgment, development timing should be extended three and one-half years to allow sufficient time for regulatory approvals. Please refer also to our detailed comments.

41.3

• Consolidated Facilities

The EIS was developed assuming joint industry processing and storage facilities. By not evaluating the possibility of new facilities, they could be precluded if consolidation or collocation opportunities are not available.

41.4

• Interrelationship of Proposal to Other Projects

To update information presented in the OEIS, Exxon's Development and Production Plan (DPP) and corresponding Environmental Report - Production (ER[P]) were filed and transmitted to the MMS by our letter dated October 25, 1982, and deemed officially submitted on December 27, 1982. This plan contains two options in equal detail: Option A, offshore oil treating and terminalling; and Option B, onshore oil treating and nearshore terminalling.

41.5

• Industry Marine Terminal Locations

The proposed nearshore marine terminal in the Exxon DPP onshore Option B should receive the same consideration as that given the Getty terminal. All potential terminal and transport options currently under consideration should be described.

41.6

• General tone of DEIS

Despite efforts to objectively evaluate potentially adverse and beneficial impacts of offshore oil and gas operations, the general tone of the DEIS is still decidedly negative. This derives primarily from the seemingly endless barrage of rather speculative estimates of potentially adverse consequences resulting from modeled, hypothetical oil spills. We believe the FEIS should increase emphasis on the known effects of oil and gas operations on the OCS relative to the assumed effects. In addition, the many advances in spill prevention and well control technology, personnel training programs, spill contingency planning and clean up capabilities, regulatory controls, and impact mitigation options should be given greater recognition. Offshore operators place a great deal of emphasis on the prevention of accidents, spills, and other potentially adverse impacts. Environmentally prudent and safe operations are decidedly in industry's own self interest and this point should not be missed in the FEIS.

41.7

Again we thank you for the opportunity to review the OEIS and trust our comments will be useful in preparing the FEIS. If we can provide additional information or technical consultation, please contact our offices.

Sincerely,

*Hugh P. Bushell*

HPB:OLM:slw  
Attachment

ATTACHMENT I

DETAILED COMMENTS: DEIS, LEASE SALE NO. 73

Page iii, paragraph 3

This paragraph is unclear and we offer the following suggested revision. With the exception of impacts described below, the results of this analysis reveal that the proposed action has low or very low impacts on the above listed resources, resource uses, and other qualities at issue.

41.8

Page iii, paragraph 5

In the summary to the EIS regarding the biological environment, a statement is made that a high adverse impact on the California Northern Fur Seal population is expected (25 percent mortality of the California population) if a spill occurs during spring and summer pupping or breeding season. This statement is made without indication of where the spill occurs or the amount of oil spilled, and can be construed to represent a devastation to the species without justification.

41.9

Page iv, Section B

Inclusion of a brief summary of impacts associated with each alternative would be useful and appropriate in this section.

41.10

Page 1-6, paragraph 7

This paragraph needs to be revised to reflect the administrative responsibilities of the Minerals Management Service for leasing of submerged Federal lands and management of offshore oil and gas operations on the Outer Continental Shelf.

41.11

Page 1-10, paragraph 6

Reference to the USGS should be changed to MMS.

41.12

Page 1-10, paragraph 8

The word "of" in the statement "... Federal permits to industry for construction of navigable waters." should be replaced by the word "in".

41.13

Responsibilities and authorities of the USFWS for the protection and stewardship of certain species are covered under the Marine Mammals Protection Act of 1972 and Migratory Bird Treaty Act of 1918, as amended, in addition to the Endangered Species Act.

Page 1-11, paragraph 7

Responsibilities and authorities of the Department of Commerce that are related to OCS development include both Title II and Title III of the Marine Protection, Research, and Sanctuaries Act of 1972.

41.14

Page 1-13, paragraph 2

Subsurface injection is subject to MMS regulations and operating orders.

41.15

Pages 2-1 to 2-4, Section II.A.1.b. Resource Estimates

There is ambiguity in definitions provided for the Conditional Mean Resource Estimate. Several examples provided below illustrate this point:

- Page 2-1, Conditional Mean Resource Estimates

"The Conditional Mean Resource Estimate is an estimate of the total undiscovered recoverable oil and gas given that hydrocarbons are present within the proposed sale area." (emphasis added).

- Page 2-3, paragraph 9  
Page 9-92, paragraph 1 (In Appendix I)

"The end product of these modifications is the Conditional Mean Estimate for undiscovered oil and gas resources given hydrocarbons are present for the unleased Federal OCS portion of the planning area." (emphasis added).

- Page 4-212, paragraph 4

"The Conditional Mean Estimate is an estimate of the total undiscovered recoverable oil and gas given that hydrocarbons are present within the proposed sale area (for a detailed description refer to Appendix I). The Conditional Mean Estimate of oil and gas to be recovered from this area is 970..." (emphasis added).

41.16

- Page 4-15, paragraph 3

"The resource estimates are critical in determining the oil spill model results... The Conditional Mean represents the amount of oil and gas predicted to be found for the whole study area (excluding state waters) if any oil and gas is actually present." (emphasis added).

- Page 4-13, Figure IV.A.4-4

This figure presents a "MAP SHOWING THE EXISTING LEASE TRACT GROUPS (E1-E23) IN THE STUDY AREA" (emphasis added). The study area shown in this figure does not correspond to the "Proposed Sale 73 Study Area" shown in "Figure IV.A.4-3. MAP SHOWING OIL SPILL MODEL LAUNCH AREAS" on page 4-12.

Definitions for the Most Likely Resource Estimate are fairly similar. The 30 percent figure should be noted wherever the definition is provided. Two examples are:

- Page 2-4, paragraph 2 (Most Likely Resource Estimate)

"Most Likely Resource Estimate is a percentage of the Conditional Mean resource expected to be discovered and developed as a result of Proposed Sale No. 73."

41.17

Page 4-15, paragraph 3

"The Most Likely Estimate is 30 percent of the Conditional Mean, representing the amount of resources expected to be developed as a result of Proposed Sale No. 73."

The contradictions for the Conditional Mean need to be clarified. A summary of the Conditional Mean and Most Likely Resource Estimates should provide a clear understanding of:

1. How each is derived, qualitatively and quantitatively,
2. Exactly which Federal-State, Leased-Unleased, and Planning Area - Sale Area - Study Area lands are involved, for each step,
3. Any differences in meaning or scope of planning areas involved in RAGS and Conditional Mean,
4. Any differences in methods for calculating the expected number of oil spills resulting from Lease Sale No. 73, even though the Most Likely Estimate is stated to be 30 percent of the Conditional Mean. Variations between the two probabilities should be explained, and
5. Exactly which portions of the DCS areas, State Waters, and existing leases are involved in the RAG and USGS modified RAG estimates.

41.18

Any manner of marking or tabbing the text to assist a reader in identifying and staying abreast of the resource scenario, expected events, magnitude of event, and probability of occurrence would be most helpful.

Page 2-4, paragraphs 3 and 4

Paragraph 3 states that exploration "is expected to begin in 1983 after the proposed lease sale." Based on the currently scheduled October 1983 lease sale date, it is extremely unlikely that exploration would commence any earlier than the second quarter of 1984. The approximate six month interval is the probable minimum time necessary for regulatory approval of the required exploration plan and environmental report.

We recognize the necessity for making various assumptions in order to establish a basis for estimating and describing the consequences of future exploration and development activities. However, given a "Most Likely Resource Estimate" of 291 million barrels of oil and 285 billion cubic feet of gas, we consider the 12 exploratory wells to be far fewer than the number that would be needed to evaluate the sale area's potential. In our experience, three times that number would perhaps be more appropriate.

41.19

Paragraph 4 states that the development phase "is expected to occur from 1988 to 1990 with the installation of five platforms." Furthermore, it states that "oil and gas production would begin in 1988 and end in 2007." This development timing is entirely too optimistic. Based on an economic discovery after only two years of exploration (second quarter 1986) and three years for all regulatory approvals (second quarter 1989), installation of the first platform is not likely to occur until mid-1991. Also, production could not begin until at least one and one-half years later. Table II.A.1.c-1 should be revised to reflect a more reasonable schedule of events.

Table II.A.1.c-1

Under ML, Delineation Wells, 9 wells are assumed to be needed for delineating the 291 million barrels of oil and 285 billion cubic feet of gas resources projected under the "Most Likely Resource Estimate." This number is considered conservatively low. We would expect about three times that number of wells to be necessary for delineating the sale area's stated resource potential.

41.20

As no supporting information is provided in the text, only one lease tract appears to be subject to a 10-year primary lease term. Further, the MMS presently considers the breakover depth for ten-year terms to be nearly 1000 meters in certain OCS areas. Exxon believes that the time required to explore for and delineate commercial sized discoveries and the economic risks assumed by operators to complete operations at depths beyond current production capabilities, are among a number of factors that justify a reevaluation and revision of MMS policy on length of lease term.

Page 2-6, paragraphs 2 through 4

These paragraphs describe the assumed hypothetical transportation scenario. This scenario apparently calls for joint industry processing and storage facilities, and an offshore marine terminal. First of all, industry should not be limited to consolidated or collocated common facilities if alternative facilities are deemed environmentally acceptable and economically prudent. Secondly, the "offshore marine terminal" under consideration is actually a shore-based marine terminal and offshore loading facility, and should be described as such to differentiate it from the OS&T, which is an offshore marine terminal.

41.21

Finally, these paragraphs assume that a marine terminal will be in place as a result of current permitting processes. This may or may not be true. The FEIS should include a more comprehensive discussion of all marine terminals and transportation options currently under review. This will assist the reader in understanding more fully the interrelationship of the proposed action with other projects.

Page 2-6, paragraph 5

Paragraph 5 states that "modifications to refineries could be required to process the expected heavy and sour proposed Sale No. 73 crude oil." This is an understatement. Significant refinery retrofit would be required to handle the additional crude from Lease Sale 73.

41.22

Page 2-6, paragraph 6

Paragraph 6 states that "numerous markets for refined oil from the Gulf of Mexico may exist in the eastern and southern states." The word "may" should be deleted from this sentence, which is consistent with the language presented on page 4-4, paragraph 3.

41.23

Page 2-7, paragraph 5

Paragraph 5 states that the impacts from muds and cuttings on non-rocky surfaces are expected to be moderate to high, and if platforms are concentrated on hard bottom reefs, high impact could result. Moderate to high impacts will not necessarily occur. If platforms are located on soft bottom, some effects of burial and physical alteration

41.24

of sediments may be evident, but field studies show that toxic effects would not be significant. If platforms are concentrated on hard bottom rock outcrops, the possibility exists that the ecology can be altered but any such alteration will also be a burial or other physical effect, not a toxic effect.

Page 2-8, paragraph 1

For the exploration phase, we recommend that the Regional Supervisor, Dffshore Field Operations Division, retain flexibility to invoke the biological stipulation on a case-by-case basis rather than automatically on the basis of an arbitrary distance (1000 meters) from a rock outcrop. It is highly unlikely that significant impacts on biological resources will occur or even be measurable in areas of moderate to high currents, as numerous studies have demonstrated. Information available on currents, water depths, depositional and erosional environments, biota and other pertinent oceanographic or operational parameters should be considered for a particular drilling site before invoking the biological stipulation or arbitrarily requiring an offset of 1000 meters.

41.25

Page 2-8, Section (a)

Site specific surveys may be required if there is reason to believe biological populations may require protection from development, and if the results of the survey indicate that adverse effects from the lease operation exist, in which case the MMS may require relocation of the platform.

41.26

A decision to relocate structures should not be made solely on biological considerations. Geotechnical and geophysical factors, as well as potential loss of reserves, should be among the considerations.

Page 2-9, paragraphs 3 and 4

Personnel safety also is an important factor that must be considered in the barging of muds and cuttings. Drilling vessels have limited space for storing spent drilling fluids or cuttings and may require frequent changes in drilling fluids, depending on borehole or other drilling conditions. During storms and rough sea states, offloading of drill fluids and cuttings may be especially hazardous to personnel engaged in removing these materials. Such conditions also involve greater risks for damage to both drilling and support vessels, damage that can result in spills of refined petroleum or loss of other drilling materials.

41.27

The second sentence of paragraph 4 appears to have had some information deleted.

Page 2-13, Section V.(a)

Section V.(a) stipulates that pipelines will be required if rights-of-way can be determined and obtained; if laying of such pipelines is technologically feasible and environmentally preferable; and if, in the opinion of the Lessor, the pipelines can be laid without net social loss. The excess crude supply in Pad V means that some oil must leave California either as crude or product. For those operators with major refining capacity in the Gulf Coast area, no pipeline exists and, therefore, tankers are a necessary mode of crude transportation and should be evaluated as a transportation option.

41.28

Page 2-14, Evaluation of Effectiveness

This stipulation requires that pipelines be used instead of tankers, when feasible, to transport oil, and suggests that pipelines are the safest and environmentally the more preferable method over tankers. We feel that tankering is an acceptably safe transportation alternative, and necessary for some operators to maintain market feasibility.

41.29

Page 2-17

The socioeconomic impacts discussed on this page should be moved to "Section iii. Socioeconomic Environment" on page 2-18.

41.30

Page 2-19, paragraph 2

This paragraph states that refinery retrofitting "is estimated to cost from \$10 million to \$800 million per refinery (1982 dollars)." The \$800 million limit is based on Shell's program to modernize its refining system, as reported in the Oil and Gas Journal (September 13, 1982). However, paragraph 2 states that "this is considered to be a low impact to individual refineries" since the Sale 73 crude oil would be expected to represent a partial contribution to the requirement for expensive modifications. Eight hundred million dollars would be a large impact to a refinery, whether or not the Sale 73 crude oil represented a partial contribution to the requirement.

41.31

Page 2-21, paragraph 2

Although the word "insignificant" is used frequently in Chapter IX.A., "Definitions of Level of Expected Impact," it is not one of the terms defined. We suggest "very low" be substituted in order to maintain consistency throughout the FEIS. This comment applies also to pages 2-26 and 4-223.

41.32

Page 2-21, Section 3b, paragraph 1

This paragraph states that "any economic or national security benefits which could be attributed to the domestic production of hydrocarbons in these amounts would be postponed." (emphasis added). The word "any" should be changed to "all", and "could" should be changed to "would". Industry and government alike agree that domestic production has very definite economic and national security benefits.

41.33

Page 2-22, Section 4

The previous statement regarding economic and national security benefits should be repeated for Alternative 4 - No Sale in the following form:

All economic or national security benefits which would be attributed to the domestic production of hydrocarbons in these amounts would be indefinitely postponed.

41.34

Page 2-23, paragraph 2

Fish populations may experience high population fluctuations in response to natural phenomena unrelated to and beyond any control of humans. This is acknowledged in

41.35

later sections and should be included among factors listed in this section. Some readers otherwise may be left with the impression that human activity is the only important influence on fish or other vertebrate species populations.

Page 2-25, Section B.

Exxon strongly supports Alternative I - The Proposal Action. This Alternative provides for the protection of physical, biological, cultural, and socioeconomic resources and encourages the multiple compatible use of such resources. We believe Alternative I is in the national interest with regard to the importance of strengthening this nation's economic, energy, and national security. Considering the long lead time necessary to begin production of new hydrocarbon discoveries, we urge the Secretary to hold Lease Sale No. 73 as scheduled.

41.36

Page 3-38 Table III.B.4-1

The California gray whale's scientific name should read Eschrichtius robustus.

41.37

Page 3-51 Table III.B.6-1

For consistency, the scientific name of the Pacific Ridley, Lepidochelys olivacea, should be included.

41.38

Page 4-3, paragraph 3

This paragraph mentions that the crude from the Lease Sale 73 field destined for the Gulf of Mexico would be shipped to Galveston. This would vary with each operator. Exxon Hondo crude, for example, is shipped to Baytown, Texas.

41.39

Page 4-18

This page duplicates discussion on page 4-15.

41.40

Page 4-23, paragraph 3

The second sentence of this paragraph is incomplete.

41.41

Page 4-31, paragraph 7

The first two sentences contradict the third one regarding the uses of explosive charges.

41.42

Page 4-50, paragraph 5

Reference should be to "... Exxon Hondo platform personnel)."

41.43

Page 4-61, Section C

As in earlier comment, we suggest that marine terminal and transportation options currently under review for past, present, or future Federal and State lease sales be described. This will illuminate the interrelationship of the proposed action with other projects and proposals. New information should be incorporated in Table IV.O.4-1.

41.44

Page 4-67, Senta Ynez

This section states that "as yet no development or production plans have been submitted." It should be noted that the Development and Production Plan (DPP) and the corresponding Environmental Report-Production (ER(P)) were transmitted to the MMS by our letter dated October 25, 1982, in seven volumes. Furthermore, the MMS has deemed the DPP/ER(P) officially submitted and complete, effective December 27, 1982. In addition, the DPP presented the following two oil treating options in an equivalent level of detail:

41.45

1. Offshore Option A - an expanded offshore storage and treating vessel.
2. Onshore Option B - onshore oil treating facility and marine terminal facilities that would be the nucleus of a joint industry marine terminal.

Since the second option, onshore facilities, provides for an onshore joint industry marine terminal, this option should be given the same consideration in the FEIS as the proposed expansion of the Getty marine terminal.

Page 4-69, Table IV.D.4-1

41.46

The Table shows 0.63 BBO for future State resources whereas Page 4-70 notes a 95% probability of at least 63 million bbls.

Page 4-73, paragraph 6

41.47

Please provide a reference in Chapter VI to the citation of (Dickey, 1980).

Page 4-76, paragraph 2

Throughout the OEIS there are references to the expected number of oil spills but with no reminder of the resource scenario upon which it is based, (i.e. pages 4-76, 4-79, 4-96, 4-101, 4-102 and 4-116). Further, the probability of the expected event happening often is not mentioned. Readers unfamiliar with the format of the report, or those that may not read the full document or in the sequence presented, may have difficulty evaluating the many impact projections present under different Alternatives or resource scenarios.

41.48

Page 4-76, paragraph 5; Table IV.E.1.a-3

The statement "Mercury could pose a serious threat at the levels noted in one crude oil if conditions did not permit dispersion and dilution (such as an estuary trapped spill)." is accompanied by a concentration value of 21.2 ppm Hg in Table IV.E.1.a-3. A footnote to the Table shows the referenced crude to be one of three from California. The original study of this crude was accomplished using neutron activation analysis and was reported by Filby and Shah (1971) as cited and referenced in the OEIS.

41.49

In a subsequent report (Filby, R.H. 1975. The Nature of Metals in Petroleum. In: Yen, T.F. 1975. The Role of Trace Metals in Petroleum. Ann Arbor Science Publishers Inc., Ann Arbor, Mich., p.31-56), Filby noted the anomalously high concentration of mercury and other trace metals in that crude oil (same as the crude reported in the OEIS). He analyzed the oil to determine whether water soluble metal compounds were present.

He found only 0.2 ug/g of the mercury to be extractable with distilled water. His results indicated the mercury is contained in the asphaltic component of the oil (resins and asphaltenes) and is not present in the oil as a porphyrin complex. He suggested that the origin of the trace elements in the California crude may be related to the origin of the asphaltenes and related resins. Their origin also might involve "complexing from an aqueous or solid phase during maturation of petroleum in the source rocks or during migration."

Although the toxic (methylated) form of mercury is known to move through aquatic food webs, the inorganic (non-methylated) mercury most probably present in most crude oils would not present a threat to marine organisms or humans.

The above referenced California crude not only contains anomalously high concentrations of mercury, but the metal also appears to be complexed such that it would represent a residual type of mercury not readily biodegradable or available to marine organisms, even if it were spilled. Therefore, we believe the stated and further implied threat from mercury contaminants in potential crude production from the Lease Sale 73 is unwarranted.

A suggested reference regarding toxicity of metals in marine ecosystems is "Bascom, W. 1982. The Non-Toxicity of Metals in the Sea. MTS Journal, V.17, No. 1, p.59-66.

Page 4-78, paragraph 5

Reference to 20,000 and 12,000 "barrels per day" should be changed to read "barrels/day per platform."

41.50

Page 4-91, paragraph 2

The statement is made that the MMS would require VOC controls to mitigate O<sub>3</sub> impacts because photochemical modeling showed a concentration increase. MMS control criteria for VOC are based strictly on emissions, not modeled impacts.

41.51

Page 4-111, paragraphs 4 and 5

A recent study by Tetra Tech on oil spill risks to the sea otter (An Overview of Sea Otter Oil Spill Risk Analysis, January 1983) indicates that the oil spill trajectory analyses of MMS, and earlier projections by USFWS, overstate the threat to the sea otter in the Sale 53 area. A similar report in preparation for the Proposed Lease Sale No. 73 area will soon be submitted to MMS. Based on available evidence, we do not believe that oil and gas exploration, development, or transport activities jeopardize the continued existence of the sea otter. The OEIS also recognizes the very low impact expected from activities resulting from Lease Sale 73.

41.52

Projections of a 30% mortality resulting from a large tanker spill reflects the highly conservative nature of the MMS trajectory models which do not consider or account for clean up capabilities, spreading, weathering, or other variables that would be considered in oil spill events. The Tetra Tech report for Lease Sale No. 73 will address various aspects of the current MMS trajectory analysis.

Page 4-116, paragraph 3 and 4

The paragraphs just preceding and following "PROPOSED SALE AREA" provide an example of how confusing some of the spill projection information can be to many readers. Paragraph 3 states "... one oil spill is expected to occur and contact land within 30 days as a result of the proposal." Immediately following, paragraph 4 states "One spill is expected to occur in the Proposed Sale Area as a result of the proposal. However, no contact is expected with the coast." Readers may be confused by the seeming contradiction and in neither case is the probability of the event occurring, or spill magnitude given. Without keeping constant vigil, even the resource scenario being used may not be evident.

41.53

Page 4-128, paragraph 6

See comment for Page 4-111. In view of oil spill experience on the Pacific OCS over the past 5-10 years and results of recent studies by Tetra Tech, we believe this discussion overstates the risks to the sea otter from oil and gas operations. Offshore exploration and development activities have been delayed and lease awards withheld for tracts in the Lease Sale 53 area on the basis of the perceived jeopardy to the sea otter population resulting from an oil spill. However, years of actual operating experience and available oil spill analyses do not support the contention that offshore oil and gas operations have harmed sea otters or create unacceptable risks for the California population.

41.54

Page 4-169, paragraph 4

The EIS also estimates that an oil spill will create a 30% economic loss to the sport fishing industry as a result of the large oil spill predicted. This forecast is too high, based on the recommendations of a Tetra Tech study soon to be submitted to MMS.

41.55

Page 4-212, Section I

Based upon the reasoning presented on pages 2-1 to 2-4 and Appendix I, the "conditional mean scenario" should be identified as the "worst case analysis" for oil spills instead of "high case" since only "worst case" is referenced and explained in the literature. This "worst case analysis" should include the probability of this event happening. The "worst case analysis" of impacts discussed concerning the sea otter should be clearly designated and accompanied by probability data.

41.56

Pages 9-91 and 92

Please refer to general comments in the letter and those presented for Pages 2-1 to 2-4.

41.57

Page 9-93, Benthic Macroinvertebrate

We suggest the word "see" be replaced by "be seen" in the explanation.

41.58

**Western Oil and Gas Association**  
 727 West Seventh Street, Los Angeles, California 90017  
 (213) 627-4866

RECEIVED  
 APR 27 2 04 PM '83  
 MINERALS MANAGEMENT SERVICE  
 PACIFIC OUTER CONTINENTAL SHELF OFFICE  
 LOS ANGELES, CALIF 90017

April 26, 1983

Mr. Reid Stone, Director  
 Pacific OCS Office  
 U.S. Minerals Management Service  
 1340 West Sixth Street  
 Los Angeles, California 90017

Subject: OCS Lease Sale No. 73 - Review Process

Dear Mr. Stone:

The enclosed report, prepared by Tetra Tech, Inc. for the Western Oil and Gas Association (WOGA), is submitted for your consideration in the review process for OCS Lease Sale No. 73.

The report addresses assumptions and techniques used by the federal government in assessing the risk of oil spill occurrence and contact with designated target areas, particularly the southern sea otter population. As John Kopeck stated in his oral testimony on April 13, industry believes the Minerals Management Service has made significant improvements to their spill models in recent years. However, due to a number of very conservative assumptions made regarding spill exposure and some rather creative interpretations of modeling outputs, we believe the risk of a major spill and associated impacts have been severely overstated.

We appreciate your time in reviewing the enclosed report and look forward to receiving the Final Environmental Impact Statement for Sale No. 73.

Should you have any questions regarding the contents of this report or require further information, please contact Mr. John Kopeck, Union Oil Company of California, at (213) 977-6679.

Sincerely yours,

*Robert Harrison*

Robert Harrison  
 Assistant General Manager

RH:va

Enclosure

APPENDIX A

REVIEW OF OIL SPILL RISK ASSESSMENT FOR OCS LEASE SALE 73

INTRODUCTION

The habitat of the California sea otter (*Enhydra lutris*) is located within zones of potential impact from oil spills associated with oil exploration and production within several Outer Continental Shelf (OCS) lease sale areas. These lease sale areas include OCS Lease Sales 53, 73, and the state of California lease area between Point Arguello and Point Conception.

The report An Overview of Sea Otter Oil Spill Risk Analysis was released by the Western Oil and Gas Association in January, 1983. This report provided a critical review of the oil spill risk assessment prepared by the Minerals Management Service (MMS) for OCS Lease Sale 53. The review includes an analysis of the entire MMS risk assessment methodology with emphasis on the evaluation of the risk to the California sea otter. At the time the report was prepared, the MMS oil spill risk analysis for OCS Lease Sale 73 was not available (the Sale 73 analysis was released in April, 1983).

This appendix provides a review of the MMS oil spill risk assessment for OCS Lease Sale 73. Special attention is given to oil spill occurrence rates, volume throughput, trajectory analysis, and target representation. The reader is cautioned that the report, An Overview of Sea Otter Oil Spill Risk Analysis, should be read for a complete review of the MMS risk analysis methodology. This Appendix provides a discussion of only specific aspects of the Sale 73 analysis where differences from the Sale 53 analysis occur.

The methodology used in the Sale 73 analysis is basically the same as that used in the Sale 53 analysis. Some significant changes have been made, however, in the spill occurrence rates. While the lower spill occurrence

A-1

rates have resulted in a much lower predicted impact to the sea otter, some factors in the analysis still lead to an overestimation of the risk of oil spill impacts to the sea otter.

Spill occurrence rates for platforms, pipelines, and tankers have been updated to reflect recent experience. Rates used in the Sale 73 analysis are shown in Table 1 and the expected number of spills for the study area are shown in Table 2. These rates reflect spill data from 1964 through 1980 (Lanfear and Amstutz 1983).

Platforms--

The historical spill rate from U.S. outer continental shelf activity was used to estimate the expected number of spills from platforms. The updated platform oil spill occurrence rates used for Sale 73 are 1.0 and 0.44 spills per billion barrels of oil produced for spills greater than 1,000 and greater than 10,000 barrels, respectively. The occurrence rate for spills larger than 1,000 barrels (1.0 spills/8bbbls) was obtained using a maximum likelihood analysis as discussed by Nakassis (1982). Upon examining the spill record from 1964 to 1979, Nakassis concluded that fewer platform spills had occurred in recent years. Nakassis calculated a U.S. OCS platform spill rate of 0.79 spills/8bbbls for spills greater than 1,000 barrels. Using an updated USGS spill data base through 1980, the MMS revised this rate to 1.0 spills/8bbbls (Lanfear and Amstutz 1983).

Due to the small sample size for oil spills larger than 10,000 barrels, the occurrence rate was estimated using a log normal spill size distribution. From this distribution, it was estimated that approximately 44 percent of the spills should be greater than 10,000 barrels and therefore, the occurrence rate is estimated as 0.44 spills/8bbbls (Lanfear and Amstutz 1983). This spill occurrence rate represents a significant improvement over the platform spill rates used in the Lease Sale 53 spill risk assessment.

A-3

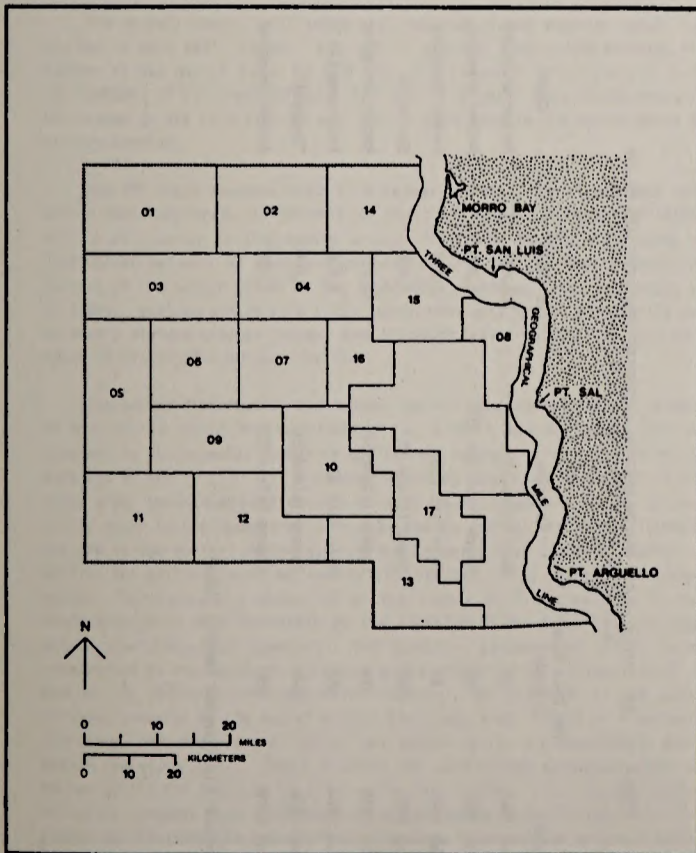


Figure A-1. Map showing oil spill model launch areas for Sale 73.

A-2

TABLE 1. OCCURRENCE RATES FOR ACCIDENT OIL SPILLS, SALE 73 (SPILLS PER BILLION BARRELS)

Mode (bbls)	>1,000	1,000-10,000	>10,000
Platforms	1.00	0.56	0.44
Pipelines	1.60	0.93	0.67
Tankers	1.30	0.65	0.65

Reference: Lanfear and Amstutz (1983).

A-4

Pipelines--

The historical spill rate from U.S. OCS activity was also used to estimate the expected number of spills from pipelines. The updated pipeline oil spill occurrence rates used for Sale 73 are 1.6 and 0.67 spills/Bbbls transported for spills greater than 1,000 and greater than 10,000 barrels, respectively. No trend was found in the pipeline data to warrant a reduction in the occurrence rate. The occurrence rate of 1.6 spills/Bbbls for spills greater than 1,000 barrels is calculated by dividing the eight historical spills by a total production volume of 5.01 Bbbls. Due to the small number of spills greater than 10,000 barrels, the occurrence rate for this spill size was again estimated using a log normal spill size distribution. From this distribution, it can be shown that approximately 42 percent of the spills should be greater than 10,000 barrels to give an occurrence rate of 0.67 spills/Bbbls (Lanfear and Amstutz 1983).

Table 3 lists the pipeline spills greater than 1,000 barrels that have occurred on the U.S. OCS during 1964 through 1980. Of the eight spills recorded, all have occurred in the Gulf of Mexico and five were caused by anchor dragging, one by environmental causes, one by trawler activity, and one by corrosion. Five of the eight recorded pipeline spills occurred in water depths less than 180 ft (55 m); one spill occurred in water approximately 200 ft (61 m) deep; and two water depths were unknown.

Conditions off the coast of central and southern California are very different than those present in the Gulf of Mexico. Vessels with anchors large enough to present a potential impact to pipelines do not anchor in the deeper waters off the southern California coast, therefore eliminating the major cause of pipeline spills.

Recent advancements in pipeline technology including improved corrosion inhibitors, monitoring apparatus, and shutdown devices are expected to reduce oil spill frequency and spill size from future pipelines.

Although the Sale 73 occurrence rate for pipeline spills greater than 1,000 barrels is expected to be much less than that predicted for the Gulf of Mexico data base, pipeline spills greater than 10,000 barrels are virtually impossible.

A-6

42.1

TABLE 3. OIL SPILLS, 1,000 bbl OR GREATER, OCCURRING FROM PIPELINES ON THE U.S. OUTER CONTINENTAL SHELF, 1964-1980

Date	MMS Data Base 10 Number	Location	Size (bbl)	Cause
17 Oct 1967	20	West Delta 73	160,638	Anchor dragging
12 Mar 1968	30	South Timbalier 131	6,000	Anchor dragging
11 Feb 1969	60	Main Pass 299	7,532	Anchor dragging
12 May 1973	280	Grand Island 73	5,000	Corrosion
18 Apr 1974	320	Eugene Island 317	19,833	Anchor dragging
11 Sep 1974	350	Main Pass 73	3,500	Environmental
18 Dec 1976	440	Eugene Island 297	4,000	"Damaged"
17 Jul 1978	530	Eugene Island 215	1,000	Anchor dragging

Reference: Lanfear and Amstutz (1983).

A-7

TABLE 2. EXPECTED NUMBER OF OIL SPILLS RESULTING FROM LEASE SALE 73

Scenario	Resource Estimate (Bbbls)		Platform Spills 1,000-10,000		Transportation Spills <sup>a</sup> 1,000-10,000		Total Spills 1,000-10,000	
	>1,000	≥10,000	>1,000	≥10,000	>1,000	≥10,000	>1,000	≥10,000
Proposed action (most likely)	0.29	0.13	0.16	0.13	0.61	0.34	0.27	0.90
Conditional mean scenario	0.97	0.43	0.54	0.43	2.03	1.13	0.90	3.00
Existing leases	1.31	0.58	0.73	0.58	2.10 <sup>b</sup>	1.22 <sup>b</sup>	0.88 <sup>b</sup>	3.41
Tanker transport (imports)	7.63	-	-	-	4.96	2.52 <sup>c</sup>	2.52 <sup>c</sup>	4.96
from Alaska	6.12	-	-	-	3.98	2.02 <sup>d</sup>	2.02 <sup>d</sup>	3.98
from foreign sources	1.51	-	-	-	0.98	0.50 <sup>e</sup>	0.50 <sup>e</sup>	0.98

a Pipelines and tankers where applicable.

b Pipelines transportation only.

c Calculated number should be 2.48.

d Calculated number should be 1.99.

e Calculated number should be 0.49.

Reference: MMS (1983a).



Table 4 lists the capacity of typical pipelines proposed for the Sale 73 area. Assuming an average pipeline diameter of 10 in and length of 7 nmi, the total volume of oil held by the pipeline is approximately 4,080 bbls. In addition, detection times (measured from the time of a complete break to complete shutdown) are typically less than 15 minutes as a result of using modern materials balance monitors. Assuming an average pumping rate of 30,000 barrels per day and a detection time of 15 min, a total of 312 barrels will be discharged into the ocean. The maximum possible spill volume could then be calculated by adding the pipeline volume to the oil loss from pumping to obtain a spill volume of 4,400 barrels (J. Kopeck, personal communication). This estimate is still very conservatively high. In an actual pipeline break, the buoyant oil in the "uphill" segment of the pipe would remain in the pipe. Also, it is probable that the pipe could be patched before most of the oil in the "downhill" portion of the pipe floated out. These calculations suggest that there is little chance of a spill greater than 10,000 barrels occurring from a pipeline off the southern California coast, and therefore, the occurrence rate for this spill size category should be close to zero. For the Sale 73 analysis, only one spill size category remains: 1,000 to 10,000 barrels. The occurrence rate for this category is 0.93 spills/8bbls which is significantly reduced from the overall rate of 1.6 spills/8bbls for spills greater than 1,000 barrels used by MMS (1983a). Further analysis should be done, however, to assess the possibility of a spill over 1,000 bbls from a modern pipeline system.

MMS (1983a, pp. 2-14) states that use of pipelines instead of tankers to transport oil will reduce the expected number of spills from the proposal. Pipeline occurrence rates used in the Sale 73 analysis are higher than tanker rates which seems to be contradictory. The re-evaluated pipeline spill rate of 0.93 spills/8bbls supports a reduction in number of expected spills.

Tankers--

The occurrence rates for tanker spills in the Sale 73 analysis are based on worldwide tanker spill statistics and have been calculated as 1.30 and 0.65 spills/8bbls transported for spills greater than 1,000 and greater than 10,000 barrels, respectively. The worldwide tanker data are used although all tankers used offshore California will be U.S. flag vessels.

A-B

42.2

TABLE 4. PIPELINE VOLUMES (bbls) FOR TYPICAL DIAMETERS AND LENGTHS

Inner Diameter (inches)	Pipeline Length (nmi)			
	1	3	5	7
5	146	437	730	1,022
8	373	1,119	1,865	2,611
10	583	1,748	2,914	4,080
12	839	2,518	4,196	5,875

Reference: J. Kopeck, personal communication.

A-9

The overall tanker spill rates are composed of two separate rates: at sea and in port spill rates. For spills greater than 1,000 barrels, the tanker at sea spill rate is 0.9 and the in port spill rate is 0.40 spills/8bbls of oil transported. For spills greater than 10,000 barrels, the tanker at sea rate is 0.50 and the in port rate is 0.4 spills/8bbls of oil transported.

The MMS model assumes that if a tanker makes at least one port call within the study area, 50 percent of the total expected number of tanker spills will occur in the study area. The Sale 73 analysis makes no distinction between in port and at sea tanker spills. Approximately 31 percent of the tanker spills in the historical record occurred in harbors or at piers. Lanfear and Amstutz (1983) state that only the in port spills can be evenly divided between inbound and outbound travel because the data base makes no distinction between the two.

Instead of distributing the tanker spills by assuming that 50 percent of the spills occur in the study area, a more appropriate method of determining the expected number of spills from tankers is to separate the in port and at sea spills. If a tanker makes at least one port call in the study area, the assumption should be made that 50 percent of the in port spills occur in the study area as suggested by Lanfear and Amstutz (1983). For the at sea spills, which account for 70 percent of the total number of spills, the spills should be evenly distributed along the transportation route. Therefore, the number of at sea tanker spills predicted for the study area would be proportional to the fraction of the total route mileage within the study area boundary. For example, assume that oil is being transported to the southern California area from Valdez, Alaska, which is one of the shortest transportation routes. The fraction of the total distance traveled by the tanker within the study area is 0.04 or 4 percent. Therefore, only 4 percent of the at sea tanker spills are expected to occur within the study area. Table 5 shows the calculated expected number of tanker spills for the Sale 73 area using this method. The expected number of spills (greater than 1,000 barrels) calculated by distributing the at sea tanker spills along the transportation route is 0.34 and the expected number of in port spills is 1.54 resulting in a total number of tanker spills of 1.88 for the Sale 73 area. The draft EIS predicts an expected number of

A-10

42.3

TABLE 5. COMPARISON OF EXPECTED NUMBER OF TANKER SPILLS FOR THE SALE 73 AREA (SPILLS GREATER THAN 1,000 BARRELS)

Transportation Scenario <sup>a</sup>	Expected Number of Spills		
	OEIS	At Sea <sup>b</sup>	In Port
25% tankering to San Francisco	0.094	0.065	0.029
25% tankering to Gulf of Mexico	0.05	0.003	0.014
Import tankering	4.96	0.27	1.5
Total	5.1	0.34	1.54

<sup>a</sup> Proposed scenario of 0.29 8bbls used in this analysis.

<sup>b</sup> Four percent of the at sea spills assumed to occur within the study area. Tankering from more distant locations will result in a smaller percent estimate.

A-11

spills of 5.1 for the study area. By distributing the at sea spills along the transportation route, the expected number of spills for the study area has been reduced by 63 percent. For spills greater than 10,000 barrels, the reanalysis shows a reduction in the expected number of tanker spills for the study area of 65 percent. Table 6 shows the comparison of expected values for the Sale 73 EIS and the reanalysis for this spill size category.

The MMS has assumed that 50 percent of the total number of tanker spills will occur in the study area with no apparent basis for this distribution. By distributing tanker spills along the transportation route, the expected number of spills within the study area is significantly reduced (greater than 60 percent reduction).

Mean Resource Estimates

Mean resource estimates for the Sale 73 area are shown in Table 7 and B for the proposed and existing lease areas. The reserves oil volumes are estimated using information from exploratory test wells at existing sites. The resource estimates are the statistically expected amount of oil for the site based on available geologic information. Of the total oil volume used in computing spill exposure from Sale 73, approximately 55 percent is expected from the existing leases, 32 percent from tanker imports through the area or to ports in the study area, and only 12 percent is expected from the proposed action.

The volume of oil predicted for the proposed action (most likely scenario) was calculated as 30 percent of the conditional mean scenario volume (0.97 Bbbls). The basis for the 30 percent was not stated in the EIS. Using this assumption, the estimated amount of oil for the most likely scenario is 0.29 Bbbls.

MMS OIL SPILL TRAJECTORY MODEL

The computerized oil spill risk analysis model has been used to estimate the conditional probabilities of oil spills in DCS Lease Sale 73 impacting the California coast. The purpose of this section is to describe the MMS spill trajectory analysis applied to Lease Sale 73.

TABLE 6. COMPARISON OF EXPECTED NUMBER OF TANKER SPILLS FOR THE SALE 73 AREA (SPILLS GREATER THAN 10,000 BARRELS)

Transportation Scenario <sup>a</sup>	Expected Number of Spills		
	DEIS	At Sea <sup>b</sup>	In Port
25% tankering to San Francisco	0.047	0.145	0.011
25% tankering to Gulf of Mexico	0.024	0.006	0.005
Import tankering	2.48	0.15	0.57
Total	2.55	0.30	0.59

<sup>a</sup> Proposed scenario of 0.29 Bbbls used in this analysis.

<sup>b</sup> Four percent of the at sea spills assumed to occur within the study area. Tankering from more distant locations will result in a smaller percent estimate.

TABLE 7. MEAN RESOURCE OIL VOLUME ESTIMATES FOR SALE 73

Scenario	Oil Volume (million barrels)
Proposed action (most likely scenario)	291
Conditional mean	970
Tanker imports	763
from Alaska	612
from foreign sources	151

TABLE B. MEAN RESOURCE AND RESERVE OIL ESTIMATES FOR EXISTING SOUTHERN CALIFORNIA LEASES

Area	Type	Oil Volume (million barrels)
Santa Maria Basin	Reserves	163
Other southern California leases	Resource	285
	Reserves	861
Total		1,309

Reference: MMS (1983b).

MODEL GRID RESOLUTION AND TARGET REPRESENTATION

Grid Resolution

Figure A-1 shows the oil spill model launch areas for Sale 73. The area was divided into 1.25 nmi square grids to digitize the spill sites and target areas. This grid resolution is considered crude when spill launch points are located near the coast as shown in Figure A-1.

42.6

Target Representation

The shoreline of Sale 73 is divided into segments, each approximately 27 mi long. Land segments in Sale 73 are numbered differently than the Sale 53 analysis (subtract 1 from the Sale 53 land segments to obtain the Sale 73 numbers) (K. Lanfear, personal communication).

The sea otter range location in the Sale 73 analysis has been shifted from the location in Sale 53. In Sale 73 the range extends 1 to 2 nmi offshore instead of 5.2 nmi, and corresponds in length to Sale 73 land segments 19 through 25, instead of 2D through 25 and a portion of 26 (K. Lanfear, personal communication). The range has been divided into two zones: the northern zone (segments 19-23), and the southern zone (segments 24 and 25).

42.7

In Sale 73, spill launch points are evenly distributed over the total area of the tract instead of distributing spill release points along a diagonal through each tract as in Sale 53. With this new method, there is equal chance of a spill being launched at any point in the lease tract (K. Lanfear, personal communication).

In the Sale 53 analysis, a major oil spill from OCS areas in the vicinity of the sea otter range had only a 38 percent probability of contacting approximately 13 percent of the total sea otter population (about 170 sea otters), most of which would be bachelor males. The worst case for the Sale 73 analysis gives a 14 percent probability of impacting 13 percent of the total sea otter population. These figures support the conclusion of a reduced risk of oil spill impact to the sea otter population. This analysis shows a significant increase in oil spill contact probability for

42.8

A-16

land segments 18 and 19 in Sale 73 (19 and 2D for Sale 53). According to the MMS (K. Lanfear, personal communication), the reasons for the increased probabilities at the north end of the sea otter range is due to an increase in Alaskan oil imports over that used in the Sale 53 analysis. As previously noted, the expected number of tanker spills used by MMS for Sale 73 should be reduced by 63 percent for spills greater than 1,000 bbls and by 65 percent for spills greater than 10,000 bbls.

The Sale 73 analysis has divided the sea otter range into northern and southern sections. While this technique provides some additional resolution in assessing sea otter risk, considering the risk by land segment is considered to provide the greatest reasonable resolution.

WINOS

Wind Data

As in Sale 53, wind data from the land stations at Monterey, Vandenburg, and San Nicholas were used in Sale 73. Since oil spill trajectories in the southern California coastal region are dominated by wind rather than currents, improvements in wind representation would be highly desirable. A review of data indicates certain significant inconsistencies between land-based wind measurements and ship-based wind measurements close to shore. Therefore, the same major criticism of using very questionable land-based wind data for offshore areas of Sale 53 applies to the Sale 73 analysis.

42.9

Currents

Geostrophic surface currents used in Sale 53 were obtained from analysis of oceanographic measurements. A new set of geostrophic surface currents for the Sale 73 analysis was obtained from the 3-dimensional numerical circulation model of the California shelf developed by Dynalysis of Princeton for MMS. The effect of using the updated currents was minor because nearshore surface currents are dominated by winds (K. Lanfear, personal communication).

A-17

OIL SPILL TRAJECTORY SIMULATION

Superposition of Winds and Currents

There has been one modification in the oil spill trajectory simulation technique used for Sale 73. Instead of using a deflection angle which is a constant 20° to the right of the wind direction (as in Sale 53), a variable deflection angle is used, the formula for which was presented and discussed on page 58 of this report. As shown in Figure 11 on page 59, the deflection angle becomes smaller as wind velocity increases. However, since the deflection angle remains about 20° for most California offshore winds (velocity less than 10 m/sec), there is little difference in oil spill "hits" using the new deflection angle formula. More importantly, as previously discussed for Sale 53, there is significant uncertainty as to the validity of using the wind factor approach (superposition method) in nearshore waters due to local effects of bottom roughness and lateral boundaries on controlling the ultimate surface currents caused by larger scale wind patterns.

Oil Spreading and Decay

There have been no modifications made to the treatment of oil spill spreading or decay for the Sale 73 analysis. As in the Sale 53 analysis, only the age of the spill in the three categories (3, 10, and 30 days) is given.

42.10

CONCLUSIONS

The risk of oil spill contact to sea otters and other environmental resources has decreased considerably under the conditions of the Sale 73 scenario as shown in Table 9. This table shows the probability of oil spill contact with land and the sea otter population distribution along the range. This distribution is from a more recent survey than that used in the DEIS (MMS 1983a, Figure III B. 4-4, pp. 3-45). For the worst case scenario, the probability of an oil spill contacting any portion of the range was reduced from 38 percent (Sale 53) to 14 percent for Sale 73. In the DEIS (MMS 1983a, pp. 4-112), the probability of a spill contacting the otter range within 10 days during the fall is stated as 89 percent. This value is

42.11

A-18

TABLE 9. COMPARISON OF PROBABILITY (PERCENT CHANCE) OF ONE OR MORE SPILLS CONTACTING LAND OR TARGETS (PROPOSED + EXISTING + IMPORTS)

Land Segment or Target Sale 53	3 Days		10 Days		30 Days		Sea Otter Population (percent)	
	Sale 53	Sale 73 <sup>a</sup>	Sale 53	Sale 73	Sale 53	Sale 73	Fall	Winter
19	1	12	4	22	8	26	1	5
20	n	4	1	13	3	16	11	8
21	n	1	2	2	4	2	27	25
22	n	n	1	n	2	1	10	8
23	n	n	n	1	1	2	15	13
24	n	1	2	2	6	7	21	19
25	n	2	4	4	11	7	12	9
(26)	(25)	13	(33)	14	(38)	14	3	13
Sea otter range	7	23	20	31	36	39		
N. sea otter range		7		14		20		
S. sea otter range		18		20		26		

<sup>a</sup> Conditional mean scenario.

A-19

incorrect and should be approximately 31 percent as shown in Table 9. Although the overall risk is reduced in Sale 73, the distribution of the risk along the sea otter range is slightly different for the Sale 73 analysis. The oil spill contact probability for land segments 18 and 19 (Sale 73 notation) has increased significantly. This redistribution of risk is due to increased transportation of Alaskan oil included in the Sale 73 analysis.

Re-evaluation of oil spill occurrence rates used for Sale 73 has shown that these rates and therefore the risk of oil spill impact in the shady area can be reduced further for the following reasons:

- Conditions in the Gulf of Mexico are substantially different than those off the southern California coast. The major cause of pipeline spills in the Gulf of Mexico seems to be anchor dragging which is not expected to occur off the California coast. Improved pipeline technology including corrosion inhibitors, monitoring devices, and shutdown equipment will reduce the chance of a large pipeline spill in the Sale 73 area. Based on this re-evaluation, the occurrence rate for pipeline spills greater than 10,000 barrels in the Sale 73 area should be 0, and the rate for spills greater than 1,000 barrels should be 0.93 spills/Bbbls.
- The MMS makes no distinction between at sea and in port tanker spills in the Sale 73 DEIS analysis. They have assumed that 50 percent of the total expected number of tanker spills will occur in the study area. A more appropriate method is to assume that 50 percent of the in port spills occur within the study area but that the at sea tanker spills are distributed evenly along the transportation route. For a conservative example calculation, this method resulted in a reduction in the total expected number of tanker spills greater than 1,000 barrels of approximately 60 percent. Expected number of tanker spills from this method for the proposed action is 1.88 spills greater than 1,000 barrels and 0.89 spills

A-20

greater than 10,000 barrels (compared to 5.1 spills and 2.55 spills presented in the DEIS for Sale 73). This reduction is significant because the tanker traffic accounts for 53 percent of the total spills for the area (Sale 73 OEIS analysis).

Again, the spill trajectory analysis has made no evaluation of cleanup activity and its relationship to impact reduction. A spill that is detected quickly and contained will have a reduced probability of contacting the sea otter range.

A-21

43



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MINERALS MANAGEMENT SERVICE  
PACIFIC OCS OFFICE  
SHELF OFFICE  
LOS ANGELES, CALIFORNIA

**ACTION FOR ANIMALS' RIGHTS  
(AFAR)**

P.O. Drawer AA New address—P.O. Box 908  
Atascadero, Calif. 93422 Atascadero, CA 93423  
Tel. (805) 466-9299 Tel. (805) 466-5403

April 5, 1983

RECEIVED  
APR 0 8 1983  
LOS ANGELES

The Manager  
Pacific OCS Office - MSS, Rm.200  
1340 W. Sixth St.  
Los Angeles, CA 90017

Dear Sir:

Action For Animals' Rights (AFAR) joins state, county and city agencies, and the majority of California's coastal residents in opposing Lease Sale 73. We support the proposal that the area be placed in an reserve until the year 2000.

We believe the impact on our fishing and tourist industry, the threat to the endangered sea otter, and the degradation of our air quality would not be in the national interest, and the deleterious effects would ultimately reach the entire nation.

We request that these comments be documented. We also ask that hearings be held in San Luis Obispo County, and that the public review period be extended to at least 60 days.

Sincerely yours,

*Katherine Johns*

Katherine Johns, President

cc. Rep. William Thomas  
Rep. Leon Panetta  
Ron DeCarli - SLO Co.Planning Dept.



43.1

44



**THE CALIFORNIA NATIVE PLANT SOCIETY**

DEDICATED TO THE PRESERVATION OF CALIFORNIA NATIVE FLORA

18 April 1983  
8707 Casitas Road,  
Atascadero, CA. 93422.

John Lane, Director,  
Minerals Management Service,  
Pacific OCS Office,  
Federal Building, Room 200,  
1340 West 6th Street,  
Los Angeles, CA. 90017.

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APR 20 11 17 AM '83  
MINERALS MANAGEMENT SERVICE  
PACIFIC OCS OFFICE  
SHELF OFFICE  
LOS ANGELES, CALIFORNIA

Dear Mr. Lane,

The 500 member San Luis Obispo County Chapter of the California Native Plant Society wishes to protest the limiting of the comment period to 45 days on Lease Sale #73 DEIS and we strongly request a local public hearing extending into the evening hours on that document be held in San Luis Obispo County so that all residents who wish to testify may do so. Obviously, the hearing in Santa Maria excluded many people from other areas along the coast from taking part in the comment process.

We find the DEIS to be ambiguous, vague, and incomplete in its approach to the myriad problems regarding offshore oil drilling on the coast of California. It glosses over and totally ignores the environmental and economic impact that offshore oil drilling would have in many extremely sensitive marine sanctuaries and beautiful scenic areas. It encompasses the entire coastline in general and does not address any specific area in depth. Oil spill technology is inadequate and lacking in seas over 4 to 6 feet in height. We cannot afford the despoliation of our magnificent coastline for what would amount to a few days supply of oil and gas for the nation as a whole.

The wishes and concerns of the local citizenry must be included and incorporated into the DEIS. If this is done and the DEIS is properly evaluated we believe that many of the projected lease sales will of necessity have to be cancelled.

Thank you for your consideration in this vitally important matter.

cc: Sen. Alan Cranston  
Sen. Pete Wilson  
Rep. Leon Panetta  
Rep. William Thomas

Sincerely yours,  
*E. Craig Cunningham*  
E. Craig Cunningham, Chairman  
The Conservation Committee,  
The SLO County Chapter of the CNPS.

44.1



california state park rangers association

April 18, 1983  
Half Moon Bay, CA

Pacific OCS Office - MMS  
Room 200  
1340 West Sixth Street  
Los Angeles, CA 90017

USGS - CONS. DIV.  
APR 21 1983  
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SAN FRANCISCO

Dear Regional Manager,  
The California State Park Rangers Association is opposed to the proposed lease sale #73.

There are eight state parks on the coast east of the lease sale and the EIS shows there is a potential threat to these areas. There will be no benefit to state parks yet we will risk great losses in revenue as well as sustained environmental damage to our resource if a spill occurs.

The EIS predicts one to three oil spills will occur under the operation of the leases. This is one to three too many.

The EIS does not sufficiently explore the subtle effects of sublethal levels of hydrocarbons on the marine environment.

45.1

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california state park rangers association

The EIS does not realistically represent the numbers of marine mammals that could be affected by a spill nor the disruption of behavior that can be caused by smaller spills, increased traffic and the acoustic effects of exploration and drilling. Further the EIS does not address the combined effects of lease sale 73 with that of lease sale 53 and on going drilling that already occurs in that region.

45.2

We urge that lease sale 73 be denied because it is an environmentally unsound venture. One spill could affect our neighboring state parks for decades.

45.3

Sincerely,  
Wendy Liber  
CSPRA Editor

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Center for Environmental Education

April 25, 1983

Mr. John Lane  
Minerals Management Service  
Pacific Outer Continental Shelf  
1340 W. Sixth Street  
Los Angeles, CA 90017

Dear Mr. Lane:

The Center for Environmental Education (CEE) is here commenting on the Draft Environmental Impact Statement for Proposed Outer Continental Shelf Oil and Gas Lease Sale No. 73 (DEIS). In many ways, the DEIS is an improvement over past efforts of this type. But perfection is an elusive goal, and CEE has the following comments to offer in an effort to improve the DEIS still further.

With respect to the description of the affected environment, CEE is concerned that the DEIS is almost entirely devoid of any quantitative data on the sale area's biological resources. Billions of living creatures inhabit the area, but this is not apparent from reading the DEIS. Sources are available which would allow quantification of at least some of the biological resources of the area with an exactitude surpassing that of the oil and gas resource estimates. Among the sources are some of the biological studies sponsored by the Department of the Interior such as the U.C. Santa Cruz studies regarding marine mammals and seabirds. Other sources include the ARCO Biological Survey of blocks P0425 and P0430, the State Lands Commission Studies on the Pt. Conception/Pt. Arguello State lease sale, the Air Force study of the Pt. Arguello boathouse area, data from the CALOFT Cruises, and various California Department of Fish and Game Studies, such as those of northern anchovies and of kelp bed fishes.

46.1

Up to a point the task of quantifying these resources is a relatively simple one. While an absolutely complete quantification would not be possible, most of the more numerous species could be quantified at an acceptable level of precision. This would allow a more meaningful analysis of the already-quantified oil and gas resources and the living resources than is currently possible with the DEIS's generally qualitative living resource descriptions.

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PACIFIC OUTER CONTINENTAL SHELF  
OFFICE OF ENVIRONMENTAL  
LABORATORY, CALIFORNIA

Indeed, given the DEIS's emphasis on the economic value of the oil and gas resources of the area, this analysis could be carried further by assigning economic values to the living marine resources. This would allow a common denominator for making a meaningful risk-benefit comparison. A sample partial valuation for the lease sale 73 area is enclosed with these comments.

46.2

A separate problem we see with the DEIS is that in many instances the area covered is too large. As Figure 11.A.1.a-1 shows, the lease sale area is limited to the area from Point Conception through Row N 816 UTM Grid System, which is roughly at Morro Bay. Yet the analysis sometimes covers areas as far north as the Oregon border. This is unnecessary and even confusing at times, making the analysis of the DEIS's information needlessly complicated. Accordingly, the DEIS should not include any reference to areas outside those affected by the proposed action.

46.3

Additional CEE comments on the description of the affected environment are:

- o the detailed geological summary is not presented. Instead the reader is referred to a report in press. There is no way to evaluate this matter.
- o the DEIS lacks a list of endangered species "for which it has been determined that no effects will be sustained as a result of the proposed sale." In order to evaluate this determination, such a list must be presented.
- o the DEIS statement that some estuaries are not of ecological concern is simply untrue. All estuaries are of ecological concern. The fact that Mugu Lagoon is described as likely to be affected yet not of ecological concern is particularly disturbing in this regard.

46.4

46.5

46.6

With respect to environmental consequences, CEE is concerned that the discussion is based on the so-called most likely resource estimates to the exclusion of the conditional mean resource estimates as used in the past (e.g. in the sale 68 oil spill risk assessment). This results in a serious underestimation of the proposed sale's potential impacts.

46.7

Other comments follow:

- o The DEIS states that harbor seals are evenly distributed along the coast. This is not the case. The harbor seals found in California are concentrated in two broad areas, one of which is San Luis Obispo and Monterey Counties. The California Department of Fish and Game has information in this regard. 46.8
- o The DEIS places too much emphasis on hard bottoms to the detriment of describing soft bottom impacts. The number of organisms on and in soft bottoms is staggering, and the risks they face are not inconsequential (e.g. burial from cuttings and muds). 46.9
- o The DEIS lacks discussion of mortality rates for species potentially exposed to impacts from the proposed sale. There is a rich literatures on the effects of crude oil spills on species as diverse as seabirds, marine mammals, barnacles, mussels, kelp, and sea grass. What descriptions of potential mortality do exist in the DEIS have no citation to authority and appear to be little more than speculation without scientific basis. 46.10
- o In a minor matter, the table on page 4-165 gives the impression that the total number of jobs equals the sum of each year's jobs. This may be "job-years" but it is not jobs per se. 46.11

CBE appreciates the opportunity to comment on these matters.

Sincerely,

*Richard T. Tinney*  
 Richard T. Tinney  
 OCS Program Director

RTT/bjd

Due to space limitations and the bulk of the materials submitted to the MMS regarding the Draft EIS for proposed Lease Sale No. 73, all written comments have not been included in this volume. The following document has been reviewed by the EIS staff and responses to specific comments have been prepared as indicated.

Attachment I - The Value of the Non-market Living Marine Resources of the OCS Lease Sale 73 Area.

83640

aCBE Comment

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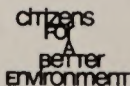
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DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR LEASE SALE 73

COMMENTS OF ANDREW GUNTHER

ON BEHALF OF CITIZENS FOR A BETTER ENVIRONMENT

SUBMITTED TO REGIONAL MANAGER PACIFIC OCS REGION MINERALS MANAGEMENT SERVICE APRIL 22, 1983



aCBE Comment

CBE-83640

Citizens for a Better Environment (CBE) is pleased to have the opportunity to comment on the Draft Environmental Impact Statement (DEIS) regarding Lease Sale 73. CBE is a national public-interest organization involved in environmental research, advocacy, and litigation. We have about 13,000 members in California and well over 20,000 nationwide.

The following comments address the air quality impact analysis contained in the DEIS and supporting documents. CBE has concerns regarding specific sections of the DEIS and general comments, both of which are presented below.

General Comments

1. It is our opinion that the air quality analysis in the DEIS is incomplete, as many air quality impacts of Lease Sale 73 are not discussed. The issues that have been overlooked are detailed in the next section of these comments. In addition, the DEIS relies upon the air quality regulations promulgated by the Department of the Interior (30 CFR 250.57) to mitigate the air quality impacts onshore due to OCS development. We believe these regulations are inadequate to protect the public health and welfare of the residents of California coastal areas, and these deficiencies are described below. 47.1

2. Given the controversial nature of the DEIS, in combination with its substantial length, one would expect the Minerals Management Service (MMS) to extend the public comment period. Instead, the MMS has shortened the public comment period, in violation of the 60-day requirement in the Department of Interior's Manual (Part 516, Department Manual, Section 4.24(A)). 47.2

Public comment is an integral part of the environmental impact review process as outlined by the National Environmental Policy Act (NEPA). The shortened comment period, combined with the length of the DEIS and the delay in the availability of supporting documents, has significantly hampered the ability of the public to submit comments to MMS. CBE objects to this rushed and illegal procedure that clearly violates the spirit of NEPA.

3. Throughout the DEIS and the supporting documents, discussion of onshore air quality impacts is qualified by pointing out that the analysis is based upon worst-case meteorological assumptions regarding wind speed and direction, mixing heights, dispersion coefficients, and modeling trajectories. The implicit suggestion of such qualifying statements is that the air quality impacts discussed in the DEIS are exaggerated or unrealistic. 47.3

The reason air quality analysis uses worst-case meteorological assumptions is that they represent the conditions under which air pollution impacts occur. Modern air pollution problems are the result of anthropogenic emissions interacting under prevailing meteorological conditions. On any given day, it is the weather that determines whether an air pollution episode will occur. The focus of air pollution control programs is to prevent air quality from reaching unhealthy levels under adverse meteorological circumstances.

Consequently, air quality analysis always focuses upon unfavorable weather conditions in order to determine the impacts of the activity under study. Such analysis is not unrealistic or irrelevant, and this point should be made clear in the OEIS.

Specific Comments

1. Neither the OEIS nor the support document (Air Quality Impact of the Proposed OCS Lease Sale No. 73 Offshore Central California, by Form and Substance, Inc. (FSI)) addresses the effect of secondary particulate formation on air quality. Secondary particulates are those formed in the atmosphere by chemical reactions. These compounds originate from NOx, SOx, and VOC emissions and have two major impacts that must be addressed in the OEIS.

First, particulates can have adverse effects upon health, and consequently there is a health-based national ambient air quality standard for total suspended particulates (TSP). TSP includes both primary and secondary particulates, but the OEIS makes no mention of the latter, even though they can be important. In Riverside, for example, secondary nitrate particulates alone result in violations of the federal standard.

47.4

Second, particulates are a major cause of visibility degradation. Visibility is a major component of the unique aesthetic value (and attractiveness for tourism) of the California coast, and thus represents a resource that must be carefully protected. While FSI includes a discussion of the impacts of Lease Sale 73 on visibility, they point out that "... present modeling capabilities do not permit an assessment of impacts due to nitrate formation that also degrades visibility" (p. VI-27-29). As NOx emissions (the precursor to nitrate particulates) are the major pollutant discharged from OCS activities, this means that an adequate assessment of the impact of secondary particulates on coastal visibility has not been performed in the OEIS.

The unique nature of this coastal resource requires that MMS stipulate that oil and gas development under Lease Sale 73 utilize Best Available Control Technology for NOx emissions, regardless of the requirements of the OOI regulations (30 CFR 250.57).

2. According to the OEIS, no modeling was performed to determine the ozone impacts from exploratory operations (4-B5). The reasoning given is that impacts would be the greatest during production, so only that phase was modeled. Moderate impacts were projected for the production phase.

This reasoning contradicts the FSI report, which states that "the hourly emission rates for the peak production year are expected to be lower than the hourly emissions associated with either the exploration or development phases" (FSI, p. 22). Given this statement, along with the discovery of moderate impacts during production, one would assume that MMS would now go back and model the ozone impacts of exploratory activities, but it appears that this has not been done.

47.5

California Air Resources Board (CARB) modeling studies (see CARB Staff Report, dated February 25, 1982) have indicated that the emissions from only

three drillships can cause significant increases in onshore ozone concentrations (10-100%). The impact of exploratory activities upon ozone concentrations onshore, both alone and in conjunction with development and production, should be assessed.

3. Air quality modeling is very uncertain, as the OEIS notes (4-84). Gaussian models (for inert pollutants) can be uncertain by a factor of 10, and grid models (for ozone) by a factor of two (at least). This is especially true for models of OCS impacts, as FSI points out (p. VI-3), because the sparse data on OCS air quality means model validation is not possible.

47.6

The OEIS, however, does not include uncertainty ranges in its estimates of air quality impacts. What if the impacts are twice or ten times as bad as projected? The conservative and prudent assumption to protect public health and welfare is that the impacts will be at the high end of the uncertainty range, and the OEIS should reflect this thinking.

4. In coastal areas, the wind often changes at night and blows offshore from the coast. This results in pollutants being transported back offshore at night. These pollutants then return to the onshore areas the next day when the wind reverses again.

Consequently, pollutants emitted from OCS activities can have relatively long residence times in coastal areas. Tracer studies confirm this phenomenon (see CARB staff report cited in point 2). It does not appear that this "sloshing" effect due to wind reversals has been considered in the air quality modeling.

47.7

5. The OEIS points out that gas processing facilities onshore could be significant sources of NOx (4-216), but these emissions are not included in the assessment of the air quality impacts of Lease Sale 73. Some estimate of the number of such facilities, their emissions, and the impact of those emissions should be included in the OEIS.

47.8

6. The OEIS assumes that, in its mostly likely (ML) scenario, only 21 exploration and delineation wells will be drilled in the sale area. It is our understanding that in the past year 17 such wells have already been drilled in the Lease Sale 53 area. Thus, the ML estimate of 21 wells seems low, and this has significant implications for the projected emissions from exploratory activities.

As FSI states:

The history of offshore lease sales shows that the quantities of oil and gas recovered and the level of development activities which actually occur in an offshore area often differ significantly from the initial predictions. (p. V-1)

47.9

This underscores the importance of not underestimating the amount of exploratory activity that will occur in the Lease Sale 73 area.

This is especially important because, according to the CARB, the OEIS drastically underestimates the emissions from exploratory drilling. The OEIS (p. 4-44) estimates that drilling seven exploratory wells will result in the emission of 319 tons of oxides of nitrogen. This is based upon an emission factor for NOx of 48 tons/well (FSI, p. V-24). According to the CARB, however, 80 tons of NOx are emitted for each exploratory well. This difference in emission factors must be reconciled, because if CARB is correct, the OEIS underestimates NOx emissions from exploratory drilling by 40%.

47.10

7. Throughout the OEIS, it is assumed that the air quality impacts identified will be mitigated by application of the OOI air quality regulations (30 CFR 250.57) adopted pursuant to the Outer Continental Shelf Lands Act Amendments of 1978. We believe it is clear that the OOI regulations will not be adequate to protect onshore air quality from the effects of emissions due to OCS development. This is due to three basic flaws in the regulations: (1) they exempt many sources from control; (2) sources not exempt are only required to control their emissions if the contribution they make to onshore pollution is "significant"; and (3) they do not adequately address the cumulative onshore impact of many OCS sources.

47.11

Unless a single OCS facility emits more than 100 tons per year of a single pollutant, it is exempt from emission controls under OOI regulations. In other words, OOI assumes that such a facility will not significantly impact onshore air quality. For comparison, new sources in Los Angeles are only exempt from offset requirements if they emit less than 13.6 tons per year of hydrocarbons or 27.3 tons per year of NOx, and every source (no matter how small) must use Best Available Control Technology (BACT). Moreover, OOI's 100-ton-per-year exemption is only for sources three miles offshore, the beginning of federal OCS waters. As they get farther away from the shore, the exemption level increases by one additional ton for every three miles. Consequently, it is not surprising that all facilities in the federal waters off of Santa Barbara have been exempted from air pollution control requirements under the OOI regulations. Indeed, FSI concludes that:

No activity during any phase (of Lease Sale 73) is expected to exceed applicable OOI Emission Exemption Levels, indicating that OOI emission control requirements will not be triggered. (p. V-48, emphasis added)

This is not solely due to the exemption formula. Even if an OCS facility is not exempted outright under the OOI regulations, modeling is to be performed to determine whether the emissions from the facility in question will result in "significant" increases in onshore pollutant concentrations.

The assumptions and data extrapolation that are necessary for air quality modeling make it an uncertain operation at best. This problem aside, however, the OOI has defined "significant" as 2% of the federal air quality standard for the pollutant in question. Consequently, if modeling predicts that the emissions from a given facility will increase onshore pollutant concentrations by less than 2% of the federal standard, no pollution control is required.

The concept of "significance levels" is inappropriate for nonattainment areas. If an area is not achieving air quality standards, and OCS emissions are not included in the inventory, then these emissions clearly will interfere with reasonable further progress toward attainment and maintenance of air quality standards. (The latter is important because emissions from Lease Sale 73 will occur over a 30-year period.)

Indeed, the San Luis Obispo County Air Pollution Control District believes that emissions from Lease Sale 73, and the resultant ozone violations that will probably occur in that county, will result in redesignation of San Luis Obispo County from attainment to nonattainment for ozone. Clearly, this is a significant onshore impact, and yet no air pollution control is expected to be required under the OOI regulations.

While the OEIS ignores this problem, FSI does not:

(1) it should be noted that any increase in ozone concentrations in areas designated as nonattainment for ozone would be significant for local efforts to attain the ozone standard. (p. 12, emphasis in original)

47.12

Finally, the OOI regulations do not adequately address the cumulative impact of a multitude of OCS sources. Instead, each source is considered in isolation. As CARB staff have pointed out, under this proposal you could have 51 facilities each contributing an "insignificant" amount of pollution (2% of the federal standard) and still have violations of air quality standards onshore without the existence of any other source of air pollution. Yet the OCS facilities would be exempt from pollution control requirements.

Modeling studies performed by CARB staff indicate that the cumulative emissions from only three drillships can result in significant onshore air pollution. The ARB assumed the drillships would be spaced according to exploratory plans submitted by leaseholders, and examined only cumulative impacts from Santa Barbara channel development. The CARB model predicts that the onshore concentrations of NO2 due to just these three drillships could be as high as 387 micrograms per cubic meter, or 82% of the state one-hour standard. Onshore ozone concentrations could be increased by almost 100%.

In addition, as was discussed above, tracer studies have shown that once pollutants from the OCS reach the shore, they can persist for a long period of time. This is because at night, winds often reverse direction, and the day's accumulation of pollutants is blown back offshore. When the wind changes back the next day, this pollution is brought back onshore along with new emissions. This multi-day "sloshing" of pollutants can increase the cumulative impact of OCS emissions.

While air quality modeling is recognized as an uncertain business, the CARB results clearly indicate that the cumulative impact from extensive exploration, development, and production of oil and gas in OCS waters off of California could have very significant adverse impacts on air quality onshore.

The discussion of this issue in the DEIS is incomplete and incorrect. According to the OEIS:

Prior to any company constructing a source resulting in significant pollutant emissions on the OCS, Minerals Management Service (MMS) will perform a detailed air quality analysis and will determine anticipated air quality impacts including cumulative effects from interaction with existing OCS pollution sources. (p. 4-84, emphasis added)

This is not true. As was pointed out above, DOI regulations will probably exempt all OCS sources without performing a detailed air quality analysis (30 CFR 25D.57-1(d)). Moreover, in applying the air quality regulations to OCS facilities, the Director of the MMS is supposed to consider

the distance of the facility from shore; the size of the facility; the number of sources planned for the facility and their operational status; and the air quality status of the onshore area. (30 CFR 25D.57-a(b)(1))

The Director is not explicitly required to examine cumulative impacts, but shall do so if s/he wants to or if a state convinces him/her that cumulative impacts will occur (30 CFR 25D.57(j)). However, Richard Baldwin, Air Pollution Control Officer for Ventura County, has stated in a letter to State Senator Gary Hart (March 14, 1983) that "the DOI has failed to initiate the cumulative environmental impact assessment which both counties (Santa Barbara and Ventura) and the state believe is necessary." This is not surprising, since the DOI has clearly stated that it does not believe that cumulative impacts will occur (47 FR 16358).

B. In summary, the DOI regulations will not mitigate the air quality impacts of oil and gas development in the Lease Sale 73 area. Consequently, it is incumbent upon the MMS to clearly state this fact in the DEIS, and then to propose alternative means for mitigating the air quality impacts.

One way for MMS to do this would be to include a special air quality stipulation in all leases made as a consequence of Lease Sale 73. This stipulation should require that (1) all drillships operating on these leases utilize ignition timing retard and any other emission control strategy identified by the Government/Industry Task Force on Drillship Emissions; (2) all equipment installed on platforms, or used to construct platforms, in federal waters off of California utilize the Best Available Control Technology as determined by local districts and the CARB; and (3) emission offsets be obtained at a 1.2:1 ratio for all OCS emissions from sources onshore in the Central Coast Counties. This would ensure that OCS development off the coast of California will not interfere with reasonable further progress toward attainment and maintenance of national ambient air quality standards.

However, the metals concentrations given in Ayers (1983) are much lower than the numbers presented for the same metals from muds collected during the same study and presented in EC and C (1982). This discrepancy reflects the wide range of metals concentrations found in drilling mud and/or inconsistent analysis of those drilling mud samples. In either case, the DEIS should present the actual range of metals concentrations found in the wide variety of drilling muds, rather than depending on one study of a few samples. The numbers presented in the DEIS are inappropriate for determination of the total amount of heavy metals discharged from the various drilling operations and of the biological impacts resulting from the discharges.

Using figures given in the DEIS for Lease Sale No. 73, p. 4-33, roughly 80,000 bbl of drilling mud will be discharged from the 34 wells drilled in the vicinity of each production platform (31 production, 3 exploratory and delineation). Using actual metal concentrations found in whole used drilling mud (EC and C, 1982), it is found that 3,000 tons of barium, 6.5 tons of chromium, and 2 tons of copper would be discharged into the marine environment at each production site. If figures given in Crippen and Hood (1980) are used in this scenario, 13 tons of lead and 425 lbs of mercury would be released with the same discharges.

It should be noted that these figures represent average metals concentrations reported in the drilling mud literature. In most cases the numbers are higher than reported in the DEIS but below the highest metals concentrations found in some used drilling muds (Mobile Bay muds).

An accurate picture of the total amount of metals discharged at each production site and in the entire southern Santa Maria Basin is important for several reasons. Once discharged, heavy metals will remain in the effected area for a long period of time. They do not degrade into harmless substances but rather accumulate in the sediment. Most of these metals are bioavailable in either the original form in which they are discharged, or after they have been transformed into different forms through degradation processes or the action of microbes living in the sediment.

Barium is released into the marine environment in the form of barium sulfate. Crustaceans exposed to BaSO4 showed an increase in the barium concentration in their tissues (Grannon and Rao, 1979). Liss, et.al. (1980) found similar results in molluscs exposed to barite. Tsgatz and Tobia (1981) found that exposure to barium sulfate results in a 58% reduction in recruitment of macrobenthic organisms.

Bacteria known to exist in marine sediment (Postgate, 1965) are capable of releasing Ba ions from incorporated barium sulfate. Barium ions are bioaccumulated by concentration factors of 17,000 in phytoplankton, 900 in zooplankton (Lowman, et.al., 1971) and 150 in fishes (Templeton, 1958). Schatten (1981) found that barium interfered with the fertilization and early development of sea urchin embryos. The environmental Protection Agency stated in 1978 that "barium may be a potential problem from the standpoint of bioaccumulation and chronic toxicity in marine organisms (EPA, 1978).

April 1983

Coastwatch  
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Apr 26 12 10 PM '83

COMMENTS ON LEASE SALE NO. 73 DRAFT ENVIRONMENTAL IMPACT STATEMENT

We appreciate this opportunity to comment on the Draft EIS for Lease Sale No. 73. Public input is crucial for insuring that a minimum environmental impact results from any development activity on the California OCS.

The DEIS for Lease Sale No. 73 presents an incomplete and inaccurate discussion of the potential environmental impacts resulting from the ocean disposal of drilling muds and cuttings. Mitigation measures based on this discussion do not provide adequate protection to the marine communities effected by the proposed discharges. The following comments illustrate the need for a more thorough analysis of this issue in the Final EIS.

1. The estimate given in Table IV.A.8.s-1 of the total amount of drilling muds and cuttings discharged in Lease Sale No. 73 is very low. The DEIS predicts that roughly 450,000 bbl of drilling muds and 250,000 bbl of cuttings will be released from the predicted 176 wells drilled in this lease area. Twenty one exploratory and delineation wells are expected in addition to the 155 production wells divided among the five production platforms. The predicted number of wells per platform, 31, is much lower than the actual number of wells drilled from the majority of production platforms operating on the California OCS. Production platforms have an average of 60 slots, with one platform in the Santa Barbara channel having 90 slots from which production wells can be drilled. The expected number of wells per platform must be accurate for a meaningful prediction of the total amount of drilling muds and cuttings discharged at a single production site and in the entire Lease Sale No. 73 area.

Dil company officials have predicted an average depth of 6,000 ft. for wells drilled in the southern Santa Maria Basin (Bob Ayers, pers. comm.). The DEIS estimates 2,500 bbl of muds and 1,400 bbl of cuttings produced by each well drilled. For a 6,000 ft well the mud estimate is fairly accurate. However the DEIS drastically underestimates the barrels of cuttings produced by a 6,000 ft well. Petrazullo (1980) predicts over 2,000 bbl of cuttings produced by one well of this depth. This minimum 600 bbl per well discrepancy adds over 10,000 bbl of cuttings to the discharge estimate. It must be noted that cuttings are by weight 20% adhering drilling mud. Once again, the extent of the impacts from these discharges are directly proportional to their amount and must be presented accurately.

2. Table IV.A.8.a-3 presents a range of metals concentrations found in whole drilling mud. The numbers given on this table are generally much lower than the concentrations of heavy metals found by EC and C (1982), Crippen and Hood (1980), Liss and Knox (1980) or Gerber et.al. (1980). The heavy metals concentrations found on this table correspond exactly to the maximum allowed heavy metals concentration in "generic" drilling mud discharged under the general NPDES Permit No. CA 0110516 (Part III.C.18) which regulates drilling discharges for much of the California OCS. The numbers given in this table were based on metals analyses of muds used in a mid-Atlantic bioassay program focusing on the toxicity of various "generic" drilling muds (Ayers, et.al. 1983).

Chromium is added to drilling mud to enhance the thinning properties of the lignosulfonates. Originally it is added to the mud in the hexavalent form. Exposure to other mud constituents and downhole conditions are thought to transform the majority of the chromium to the trivalent state prior to discharge. However, there is some question regarding how rapidly this reduction occurs and whether high concentrations of chromium in the trivalent state allows the reaction time. The oxidation state of the discharged chromium is important as Cr<sup>3+</sup> is more acutely toxic than Cr<sup>6+</sup> because of its ability to penetrate cell membranes as both a mutagen and a carcinogen.

In the sediment the slow oxidation of Cr<sup>3+</sup> to Cr<sup>6+</sup> may be increased by bacteria living in that environment. Spiller and Reiser (1981) stated that the concentration of hexavalent chromium would likely increase after dispersion of the discharged muds. Further research must be conducted on the implications of this oxidation process in the sediment, to the areas effected by repeated discharges from production platforms.

Lead is incorporated into the discharged muds from drill pipe and drill collar lubricant. Initially the majority of the discharged lead will be adsorbed to clay particles and lignosulfonates. Once again bacteria in the sediment are capable of releasing dissolved lead into the substrate and water column. In this form lead inhibits the respiratory process in marine organisms (Whittle, et.al., 1977).

Mercury sometimes enters the mud from the formation or as a contaminant of barite. Inorganic mercury can be converted into methyl mercury by anaerobic microbes living in the sediment. CH<sub>3</sub>Hg<sup>+</sup> can then be bioaccumulated by marine organisms living in the food chain.

Copper has been shown to be extremely toxic to phytoplankton.

3. Other non-metallic constituents will be discharged in huge quantities from each production platform. The DEIS, p. 4-35, states that up to 15 lbs/bbl of lignosulfonates will be added to the muds used at Lease Sale No. 73. Consequently, one production platform will release up to 600 tons of lignosulfonates into the marine environment. Carney and Harris (1975) found that phenols and mercaptans were released upon decomposition of this compound. Wang, et.al. (1975) and Patrick (1971) found lignosulfonates to contain phytotoxic, free phenylpropanes which are released upon decomposition of these plant residues under aerobic conditions. Marine sediment becomes anaerobic within several centimeters of the surface.

Humic acid is the chief constituent of lignite, added to drilling muds to reduce clay flocculation. Boehm and Quinn (1973) reported that these compounds, which also occur in seawater, increase the solubility of hydrocarbons, which will likely increase the availability of hydrocarbons to planktonic organisms. (Spiller and Reiser, 1980).

Up to 2,000 tons of bentonite and attapulgite clay may be released from one production platform in Lease Sale No. 73. Clays found in drilling mud have a very small particle size. Deposition of these fine clays onto coarser sediment interferes with the burrowing and feeding mechanisms of many bottom organisms, preventing them from recolonizing the disturbed area.

The presence of these toxic components found in most drilling muds was not adequately discussed in the DEIS. Consideration of these compounds must be made before the potential biological impacts of these discharges are known.



4. The concept that bioassay results from three tests (2-96 hr and 1-10 day) will represent the toxicity of each of seven "generic" muds ignores actual mud compositions and toxicities. A huge variety of additives are combined in the muds to produce the proper drilling mud characteristics needed to meet the actual or anticipated down-hole conditions. These conditions vary not only between different holes but also at the various depths of a single well. Many drilling mud components are transformed into chemically different forms by well-bore temperature and pressure. Materials from the variety of formations drilled, become incorporated in the muds.

Thus, the complex drilling mud mixture with its variety of additives interact with the incorporated formation materials at the extreme temperatures and pressures encountered at the bottom of the well-bore to create unique compositions of drilling mud. This uniqueness is reflected in the wide range of concentrations observed to have toxic effects on marine organisms. Drilling muds must not be categorized into seven different formulations where all the muds in each group are assumed to have the same toxicity.

5. Section III.A.4. provides information on the general ocean circulation patterns in the Lease Area. No specific information is presented or available on the actual oceanographic conditions which will be encountered at the time of discharge from a particular rig. This specific information is essential for determining the actual fate of the discharged drilling mud and cuttings. In turn the fate of the discharges reveal not only the areas effected by the discharges, but also the concentration of the drilling muds in the sediment and water column. This information is needed to relate laboratory toxicity data to actual discharge conditions and to anticipate mitigating measures needed to protect a particularly sensitive marine habitat.

6. Section IV.E.1 repeatedly states that water quality impacts will be limited to several hundred meters from the discharge site. EPA (1978) cites several reports of drilling mud components detected between 1 and 4 kilometers from the discharge site. A study funded by API revealed elevated barium levels in the water column more than five miles from the discharge site (Bob Ayers, presented at Drilling Muds Fate conference, Feb. 8-11, 1983). A computer simulation of a drilling mud discharge reported by Ted Sauer of Exxon found the greatest concentration of discharged drilling muds to be over 2.5 miles from the rig. Another computer simulation reported by Ian Austin (Oames and Moore) found the drilling mud and cuttings accumulation surrounding a production platform to extend for at least 2,000 km<sup>2</sup> from the discharge point.

7. Mitigating measures designed to protect rocky bottom areas have been proposed in the OEIS. However, soft bottom habitats are of equal importance but have received no consideration in this document. One survey of soft-bottom organisms conducted in the vicinity of Lease Sale No. 73 revealed over 42 new or rare species (Nekton, 1982). These organisms may be less visible than those found on rocky outcroppings, but this in no way lessens their significance.

Drilling mud and cuttings discharges are of particular concern in a soft-bottom environment as most of the heavier materials found in the muds accumulate on and are incorporated in the sediment. Both chemical and physical toxicity may result from these impacts.

-4-

7. Existing evidence on the toxic nature of drilling mud should preclude disposal of these materials in the marine environment. Further investigation is needed to assess the chronic impacts of continual discharge in the vicinity of single production platforms and in the entire geographic area where drilling occurs. Discharge should not occur until the results of these studies are known.

We therefore recommend that drilling muds and cutting be barged ashore for disposal. The limited space in approved dump sites requires the development of a chemical or biological detoxification process for these materials.

If the discharge of drilling muds and cuttings must occur, a number of measures must be taken to ensure the least possible impact resulting from the discharges. A pre-drilling survey must be conducted at each drill site to determine what type and amount of organisms/communities exist in the area and need special consideration.

This information must be incorporated into an NPOES discharge permit which is tailored to the actual environmental conditions found in that area. Spent drilling muds must be chemically analyzed prior to discharge to determine the presence and concentration of known toxic compounds. Acute and chronic bioassays must then be conducted on the sample to determine the potential effects of the discharge on the local organisms

Both of these stipulations require that muds be stored in a holding tank on the platform until their actual toxicity is known. Muds containing any toxic components or found to be toxic through standard bioassay procedures must be barged ashore.

Monitoring studies capable of detecting any changes in the biological community resulting from the drilling discharges, must be conducted during and after the drilling operation

To ensure compliance with these requirements, a system of permanent monitoring devices must be installed at increasing distances and in all directions from the rig. The discharged material collected in these devices must be removed at regular intervals and analyzed for the presence of any unauthorized discharges.

-5-

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Defenders OF WILDLIFE

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April 22, 1983 10 23 AM '83

MINERALS MANAGEMENT SERVICE  
PACIFIC OUTER CONTINENTAL  
SHELF OFFICE  
LOS ANGELES, CALIFORNIA

Mr. Reid Stone, Manager  
Pacific Outer Continental Shelf Office  
Minerals Management Service  
U.S. Department of the Interior  
1340 Sixth Street  
Los Angeles, California 90017

Re: Draft Environmental Impact Statement: OCS Sale #73 (March 1983)

Dear Mr. Stone:

Defenders of Wildlife (Defenders)<sup>1/</sup> submits the following comments in response to the above-referenced Draft Environmental Impact Statement (DEIS). The scope of Defenders' review is primarily limited to the biological environment and the anticipated effects of hydrocarbon development activities upon those resources.

Introductory Remarks. As an initial observation on the DEIS, Defenders finds the description of the proposed sale area somewhat confusing. Although it appears that proposed Sale #73 includes only those unleased tracts located from Point Conception through Row N816UTM Grid System (Morro Bay), the reviewer might easily infer that a great deal more acreage is involved:

"The proposed action (Alternative I) is offering for leasing those unleased tracts from Point Conception through Row N816UTM Grid System and within the boundaries of the Call for Nominations and Comments." (Emphasis added).

As described at page 1-3, the "Call for Nominations and Comments" area encompasses the entire western U.S. coastline between the Mexican and Canadian borders, incorporating approximately 24.1 million acres. Figure II.A.1.a-1 (p. 2-2) more clearly indicates the proposed acreage involved, but the DEIS's "Summary" and other descriptive language could be made clear by explicitly identifying the appropriate coordinates.

<sup>1/</sup> Defenders of Wildlife is a national, non-profit, tax-exempt organization which, on behalf of its more than 75,000 members and contributors, is dedicated to the protection of the nation's wildlife resources and the natural environment.

Defenders is certainly not categorically opposed to off-shore oil and gas development in areas where those activities can be conducted with reasonable safety, relative to biological and esthetic resources. Based upon both what is known and what is not known of the proposed lease area, however, Defenders believes increased leasing in the Santa Maria Basin presents unacceptable levels of risk to those resources. This organization is therefore unable to support Alternative I, the proposed action, at this time. At a minimum, Defenders believes leasing in this area should be deferred until there is both better scientific understanding of the Basin's environment and development of safer deepwater technology.

Areas of Particular Concern.

1. Southern Sea Otter (*Enhydra lutris nereis*). The uncertain fate of the remnant population of southern sea otters in the face of the proposed action is a primary reason for deferring Sale #73. Defenders finds the DEIS discussion of this threatened species inadequate, and in some instances, inaccurate.

The current population of southern sea otters cannot be accurately estimated as "probably...about 1,800," as the DEIS states (p. 3-44). More importantly, the DEIS fails entirely to note that whatever the current otter population, that number represents only a small fraction of the species' historical population, and that the current otter range remains approximately 10% of its former historical range.

Recent population counts by the California Department of Fish and Game and the U.S. Fish and Wildlife Service (November 1982) not only indicated no growth in the overall otter population, but also a possible decline since 1977, when the otter was designated a threatened species. Additionally, the state agency has recently made a downward correction to its 1976 census records, due to inadvertent inclusion of some other pups. This revision, coupled with the 1982 count of 1,194 independent (non-pup) otters, strongly indicates a population nowhere near 1,800 animals.

Although other factors in addition to oil spills have contributed to the decline of the sea otter population and its habitat, the spectre of a major spill was a primary factor in the threatened determination. In addition to tanker terminals located at both ends of the sea otter range, the entire range itself is now proposed for leasing. These proposals go forward in spite of anticipated spills (p. 4-76) over the lifespan of the field and the conclusion by the U.S. Fish and

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Wildlife Service (FWS) that no oil spill contingency plan can protect sea otters from a major spill.<sup>2/</sup> A more generalized fear was also recently expressed by California's State Lands Commission:

"At the outset it should be stated that available technology is not capable of controlling a major oil spill under adverse conditions. Weather actually determines if a containment and cleanup action will be undertaken at all. Heavy fog and darkness virtually eliminate the use of any equipment because the oil cannot be seen...Waves in excess of six feet...or winds of 20 knots or more reduce the efficiency of all equipment to nothing."<sup>3/</sup>

In spite of the DEIS's cautionary discussion, Defenders believes the assumption of 75% mortality due to direct oil contact (p. 4-111) is overly-conservative. The FWS, among others, has expressed the opinion that "it may be safe to assume 100% mortality for sea otters...contaminated by oil."<sup>4/</sup> Obviously, indirect threats to the otters are also posed by Sale #73, in the form of increased harassment by increased vessel traffic and higher numbers of onshore support facilities, as well as reduced or contaminated food sources. There is, in conclusion, no question that

"...the greatest threat to the survivorship and recovery of the [southern sea otter] population today is oil contamination within the sea otter's range."<sup>5/</sup>

2/ U.S. Fish and Wildlife Service Biological Opinion, OCS Lease Sale #53, 1980.

3/ State Lands Commission, State of California, "Staff Report on Current Status of Proposed Point Conception/ Point Arguello Oil and Gas Leasing Program," December 15, 1982.

4/ "Secretarial Issue Document for Tentative Proposed Final Five Year OCS Oil and Gas Leasing Program," Appendix 8-A, U.S. Department of the Interior, Office of OCS Program Coordination, March 1, 1982.

5/ U.S. Fish and Wildlife Service, "Biological Opinion on Moss Landing Tanker Terminal Expansion," 1980.

Given the assumed oil spills anticipated from this proposed action, and the "season-critical" nature of ocean currents,<sup>6/</sup> it is unimaginable that the DEIS could nonetheless state that "impacts to...sea otters are expected to be very low." (p. 2-18).

2. North Pacific Fur Seal (*Callorhinus ursinus*). Like the southern sea otter, the North Pacific fur seal cannot tolerate direct oiling which may result from Sale #73's anticipated oil spills. As the DEIS states (p. 2-18), adverse impacts to the fur seal population are expected to be high (i.e., 25% mortality) if a spill occurs during breeding or pupping season. This season, it should be noted, occurs normally from May through late summer (August), with new born pups being tended to on shore through early autumn.<sup>7/</sup> Defenders voices particular concern about this population in part because of the steadily declining population of fur seals in the Pribilof Islands, Alaska. Scientists have recently concluded this decline is occurring at a rate of 5% to 8% annually.<sup>8/</sup> Causes for this mortality may well be linked to factors other than oil contamination - particularly entanglement in discarded fishing gear. However, the newly-established and growing population at San Miguel Island (now estimated to number approximately 10,000 animals) is particularly vulnerable to the anticipated effects of Sale #73.

3. Channel Islands National Marine Sanctuary. Defenders finds particularly distressing the DEIS prediction (p. 4-117) that one oil spill is expected to contact the six-mile buffer zone around the northern Channel Islands. Especially vulnerable to oil contact, of course, is San Miguel Island, which provides

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6/ See Attachments 1-3, indicating prevailing ocean currents and countercurrents in the lease area. See also pp. 4-78 and 4-79 for discussion impact on water quality resulting from anticipated oil spill in lease area.

7/ "Final Environmental Impact Statement on the Proposed Channel Islands Marine Sanctuary," U.S. Department of Commerce, May 1980, p. E-20.

8/ "Status of Northern Fur Seals on the Pribilof Islands," Background paper submitted to the 26th Meeting of the Standing Scientific Committee of the North Pacific Fur Seal Commission, March 28 - April 8, 1983, Washington, D.C.

habitat for six species of pinnipeds.<sup>9/</sup> Nowhere else in U.S. waters does this phenomenon occur. The sensitivity of the vast array of biological resources at the Channel Islands argues logically for a delay in leasing activities at least until improved development and clean-up technologies are available.

Informational Comments. The DEIS discussion of National Marine Sanctuaries and Sanctuary proposals should be updated to reflect the following:

1. Cordell Bank, an undersea elevation located approximately 20 miles west of Point Reyes, is still under active consideration by the U.S. Department of Commerce (DOC) as a possible National Marine Sanctuary. Although the nomination has not as yet been named an "active candidate," it may well be so selected during 1983.

2. Morro Bay (San Luis Obispo County) has recently been nominated for consideration as a Marine Sanctuary. Currently, this 2,000-acre embayment occurring entirely within state waters, is on the "Draft Site Evaluation List," which is open to public comment. If finally designated, the protection of extensive fishery, shellfishery, and shorebird resources would be further enhanced by the deferral of proposed leasing activities in that immediate vicinity. As the DEIS notes (p. 4-76):

"The most severe water quality degradation would occur during incoming tides in relatively calm waters of enclosed bays and estuaries. Severe impacts would be felt in these areas since surface slicks of oil in shallow areas would create high chemical oxygen demands relative to the volume of water underneath the slick, and organisms in these habitats would be much closer physically to the oil compared to open ocean slicks."

The subsequent discussion of the proposed action's impacts on estuaries and wetlands (pp. 4-132 to 4-138) argues forcefully for the deletion of tracts in the immediate vicinity of the Bay. Although the DEIS states that "large spills are not predicted to reach the coast in Southern California," these assumptions are largely speculative. The vulnerability of bay/estuary resources is simply too great to proceed with oil and gas leasing activities at this time.

9/ California sea lion, northern fur seal, Stellar sea lion, Guadalupe fur seal, Northern elephant seal, and harbor seal.

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Mr. Reid Stone  
 April 22, 1983  
 Page Six

In brief summary, Defenders believes that the value of the biological and esthetic resources of the Santa Maria Basin area far exceeds that of the Basin's hydrocarbon reserves. The reasoned and balanced approach to offshore development in this area would be to defer such activity until safer deepwater technology is developed and proven.

Sincerely,  
*Sherrard C. Foster*  
 Sherrard Coleman Foster  
 Director  
 Marine Issues Project

Enc.

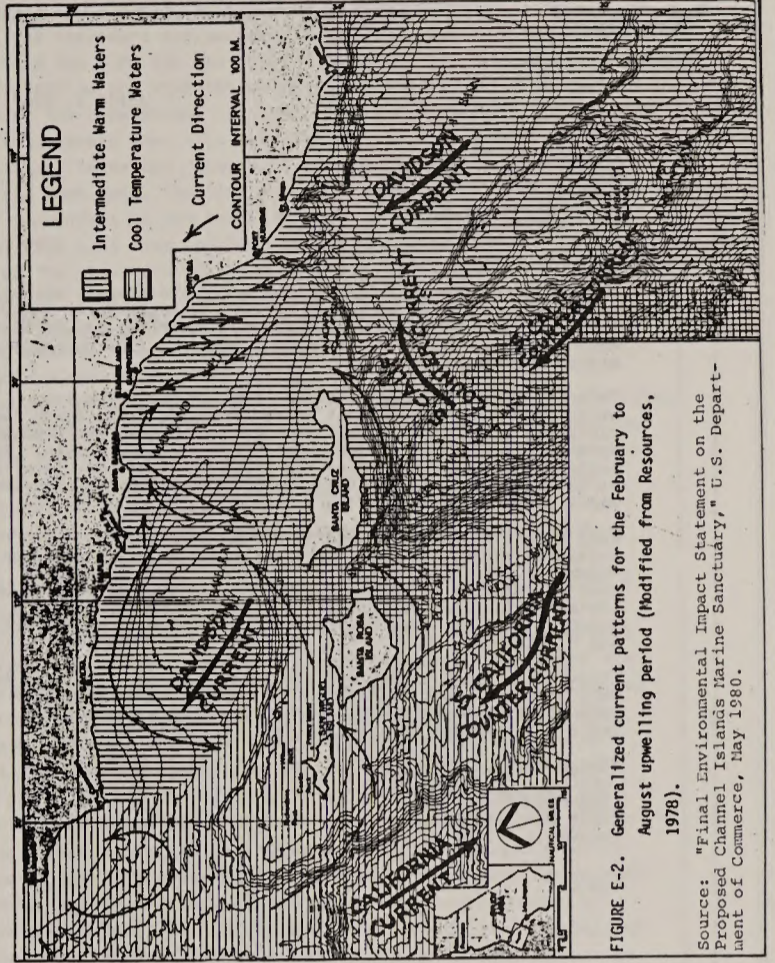


FIGURE E-2. Generalized current patterns for the February to August upwelling period (Modified from Resources, 1978).

Source: "Final Environmental Impact Statement on the Proposed Channel Islands Marine Sanctuary," U.S. Department of Commerce, May 1980.

E-6

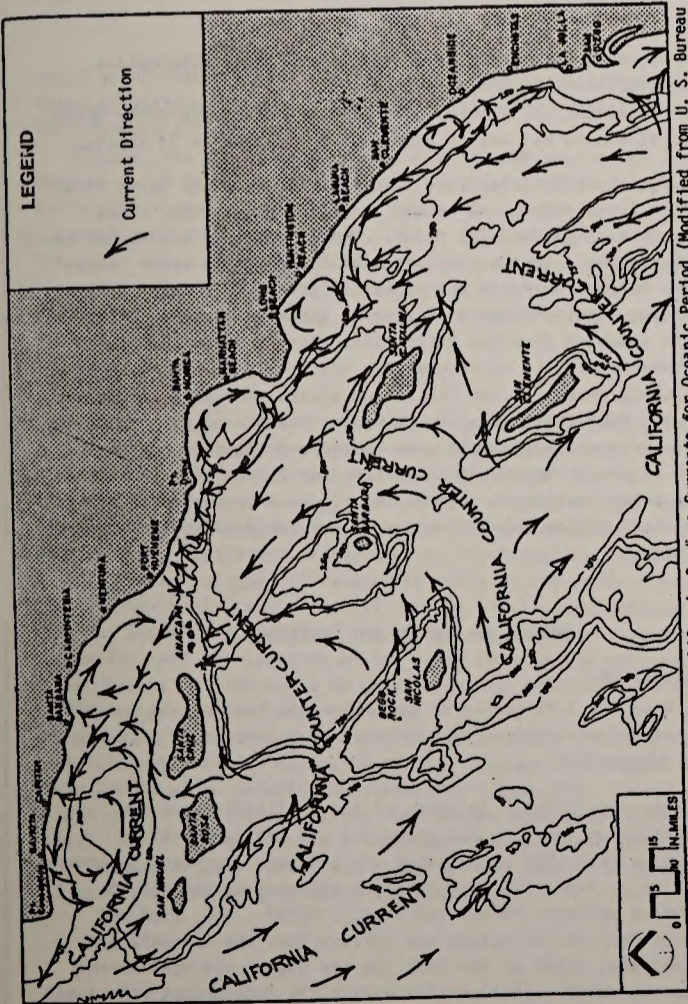


FIGURE E-3. Generalized Southern California Surface Currents for Oceanic Period (Modified from U. S. Bureau of Land Management, 1979).

Source: "Final Environmental Impact Statement on the Proposed Channel Islands Marine Sanctuary," U.S. Department of Commerce, May 1980.

E-7

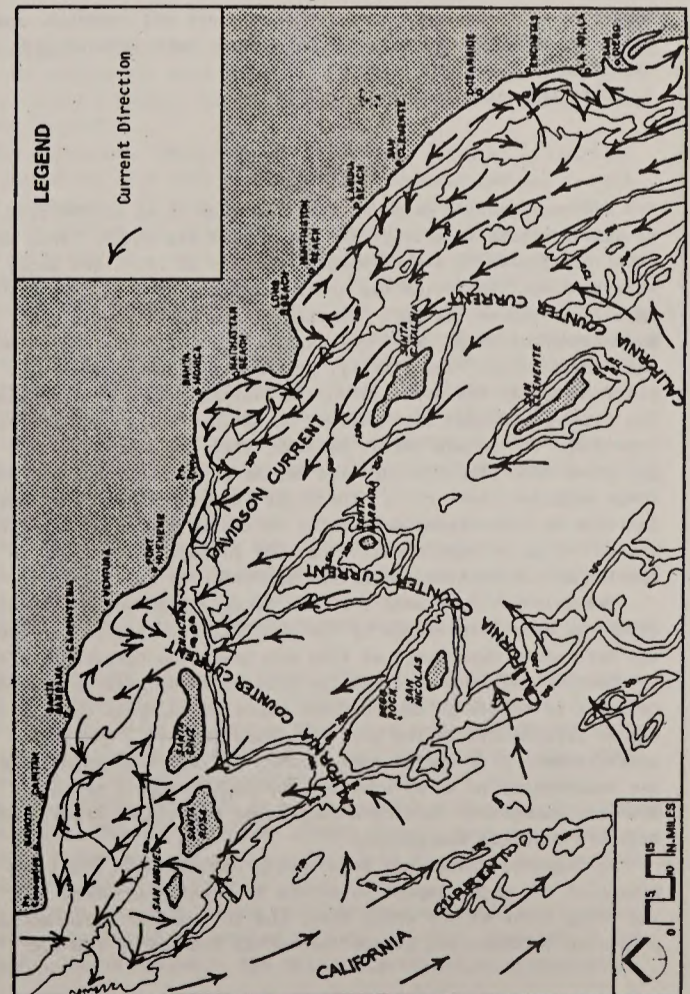


FIGURE E-4. Generalized Southern California Surface Currents for Davidson Period (U. S. Bureau of Land Management, 1979).

Source: "Final Environmental Impact Statement on the Proposed Channel Islands Marine Sanctuary," U.S. Department of Commerce, May 1980.

E-8



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April 7, 1983

Ms. Bea Gordo  
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1340 West Sixth St.  
Los Angeles, CA 90017

Dear Ms. Gordo,

Members of the Ecology Center of Southern California are unable to attend your April 13 public hearing in Santa Maria regarding the Department of Interior's Draft Environmental Impact Statement for Lease Sale #73. We would, however, like our position stated for the record.

This off-shore drilling proposal within three miles from shore near Morro Bay, off of Grover City and Pismo Beach, and along the coast in northern Santa Barbara County would pose serious threats to the highly productive fishing tracts. The sensitive biological communities could be negatively impacted by drilling mud discharges and potential oil spills. Tourism may also be substantially affected.

Many wildlife species depend on undisturbed habitat. The ecosystem cannot afford to have the giant kelp destroyed on which the California Sea Otter depends. This endangered species deserves a protected home. Birds also depend on the estuaries and the prolific concentrations of organisms which are "filter feeders" are equally sensitive to pollution and disruption.

Other environmental problems could be caused if the lease sale were approved. Air Quality by the release of hydrocarbons into the atmosphere would affect humans and animals alike. Let's not push for "one-upmanship" of standards.

Sincerely,

*Nancy Sue Pearlman*  
Nancy Sue Pearlman  
Executive Director

NSP:ez

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page 2

Inadequacies of the DEIS have been addressed and remedied, and until the relevant issues concerning Lease Sale 53 have been clarified.

Detailed comments on the DEIS follow.

Alternatives

The most glaring omission from the DEIS is an alternative to delete tracts to protect the California sea otter. When the otter was listed as a "threatened species" in 1977, the major threat to the population was the possibility of a massive oil spill from tanker traffic. Because of its small population and restricted range, a single major spill could devastate the California otter. Importantly, offshore oil development was not a factor in the 1977 listing, a listing made at a time when the otter population was believed to be increasing, and the range expanding. It is now known, however, that the population has not grown since its listing, and may have declined; nor has the range expanded since 1977. The major change has been the massive increase in oil-related activities in and adjacent to the otter's range. It is in this context that the failure of the DEIS to provide an alternative to protect the otter is so flagrant.

The deletion of tracts from the Santa Maria Basin to protect the otter has been recommended by the U.S. Fish & Wildlife Service, the California Department of Fish and Game, the Governor's Office of Planning and Research, and the California Coastal Commission. Deletion of tracts in the northern Santa Maria Basin (area P-8) was an alternative in the DEIS for Lease Sale 53. And the establishment of a buffer zone around the sea otter population was recommended as an alternative for Lease Sale 73 by the Minerals Management Service's own Acting Associate Director for Offshore Minerals Management.

In light of statements made throughout the DEIS about the potential for major impact on otters if a spill occurred in the wrong place at the wrong time, and in light of information presented in these and others' comments, Friends of the Sea

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FRIENDS OF THE SEA OTTER

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COMMENTS

on the

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Lease Sale 73

April 22, 1983

MINERALS MANAGEMENT SERVICE  
PACIFIC OFFICE  
515 WEST 6TH ST.  
LOS ANGELES, CALIFORNIA

It is the position of Friends of the Sea Otter that the Department of the Interior should:

- 1) DELAY Lease Sale 73;
- 2) DELETE all tracts north of the mouth of the Santa Maria River;
- 3) DELETE all tracts shoreward of Lease Sale 53 tracts.

This position is based upon a thorough review of the Draft Environmental Impact Statement, from which we must conclude that the document:

- fails to identify all possible alternatives, including an alternative to protect the California sea otter;
- fails to discuss with any specificity the impacts on marine resources;
- fails to address cumulative impacts;
- fails to identify meaningful mitigation measures, including buffer zones, oil spill contingency planning, operational requirements, biological surveys, etc.
- fails to document many of the conclusions.

The Department of the Interior has also failed to justify in the DEIS the development of oil and gas resources in this highly sensitive area of extreme biological and economic importance. Moreover, numerous issues of concern have arisen from Lease Sale 53 activities in the same area, including fisheries conflicts, the question of cumulative impacts (both offshore and onshore), and oil spills.

We therefore conclude that the only prudent course of action for the Department to take is to delay the sale until the gross

page 3

Otter requests that the FEIS include a sea otter alternative, which would:

- 1) eliminate all tracts north of the Santa Maria River Mouth,
- 2) eliminate all tracts shoreward of Lease Sale 53 tracts.

According to CDFG biologists, the mouth of the Santa Maria River delimits the southern end of the established sea otter range (pers. comm. Fred Wendell, CDFG). The deletion of tracts shoreward of Lease Sale 53 tracts would protect not only the otter, whose habitat is generally limited to within 1/2-mile from shore, but also other sensitive and biologically important nearshore habitats.

The omission of a Sea Otter Alternative underscores the Department's failure to acknowledge the problems that Lease Sale 73 uniquely poses for the California otter. Not only is the sea otter the most vulnerable of all marine mammals to oil contamination, but the proposed lease sale area contains or is adjacent to 1) 50% of the entire California otter population, 2) the largest single concentration of otters, and 3) the only part of the otter range where future population growth and range expansion are hoped to occur.

Impacts on the Marine Environment

I. Sea Otters

Much of the information on sea otters in the DEIS is erroneous, outdated, or selective. Conclusions about impacts to otters are often unsupported.

Sea Otter Population: In spite of the availability of new information on the size and status of the California otter population, the DEIS perpetuates obsolete and erroneous information. On p. 3-44, the DEIS cites an outdated source for the population estimate (Woodhouse et al., 1977). U.S. Fish and Wildlife Service biologists now believe that the estimate of 1800 animals, cited in the DEIS, is too high; the most recent census (November, 1982) counted only 1,194 independent otters and

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144 dependent pups. It is unlikely that, with the improved techniques of the 1982 census, more than a small percentage of animals was missed (pers. comm., J.A. Estes, USFWS).

The DEIS also states (p. 3-44) that since 1969 "growth has slowed, and the population may now have reached a plateau." First, biologists from both the U.S. Fish and Wildlife Service and the California Department of Fish and Game agree that there has been no population growth since at least 1976, and other sources (e.g. USFWS Recovery Plan) put that date back even farther. Moreover, USFWS biologists believe that the otter population may even have declined since 1976 (Estes and Jameson, in prep.). The Final EIS should more accurately reflect both the new data and the interpretation of the new data by USFWS biologist. Moreover, calculations appearing in the EIS should be based on these revised figures, rather than on erroneously inflated, and no longer valid, estimates of population size.

Sea Otter Distribution: On the basis of distributional data on otters, the DEIS concluded (p. 2-18) that impacts on otters from the proposed sale "are expected to be very low." The DEIS does not present any meaningful substantiation of this statement.

First, many of the statements about otter distribution are wrong. Page 4-112 states, "During the winter season, otters move north and impacts within the proposed sale area could be negligible." Otters do not move north during the winter; they move south, away from the center of the range, into the vicinity of the sale area. It is during the winter and spring that otter numbers are highest in and near the proposed sale area. Data collected by Suzanne Benech for ECOMAR, Inc. show that numbers of otters in the Point Buchon - Point San Luis area, in the heart of the proposed sale area, increase in the winter and spring as mature males move south from the center of the ranges. The FEIS should cite Benech's reports, which document otter distribution in this portion of the sale area during the past decade.

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Second, information in the DEIS on otter distribution is selective, and therefore misleading. The DEIS relies on distributional data from the CCMS for May 1980 - May 1981, and concludes (p. 3-44) that otters in the vicinity of Cayucos Point accounted for only 6-16% of the population. However, data from the USFWS for November 1981 demonstrate that this area contains as much as 23% of the population (Estes and Jameson, in prep.). By choosing to include only the CCMS data, the DEIS seriously downplays the impact to the otter population in the Morro Bay area in the event of an oil spill.

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The DEIS also uses the CCMS counts of May 25, 1981 as representative of "relative distribution of otters along the coast in the spring" (p. 4-111). However, the crucial information is the distribution of otters from late fall through early spring. This is the period in which otter numbers are highest in the immediate vicinity of the lease sale area.

The discussion about otter distribution on p. 4-112 focuses solely on relative numbers within the project area. The FEIS should also include a discussion about the importance of the proposed sale area for the otter population: the southern part of the range is considered by USFWS biologists to be the only area where range expansion and population growth can be hoped for (pers. comm., R.J. Jameson, USFWS).

Third, the FEIS should include, as the DEIS neglects to do, a discussion of the oil spill risk to the otter in light of the proposed transportation scenarios. On p. 4-3, it is stated that oil from the northern part of the sale area would come ashore via pipeline near Nipomo Mesa. It is therefore necessary to consider the risk of a spill from a pipeline into this area. According to LaBelle et al. (1983) a spill at transportation segment L5 has a 74% chance of contacting the sea otter range within 3 days (73% chance for the southern part of the range alone). As this is a probable transportation scenario, the risk to the otter population is very great, especially considering that the concentration of otters in the Pismo Beach/Morro Bay area - where pipeline segment L5 would be situated - is the largest single concentration of otters and accounts for 25% of the otter population. The segment of the otter range immediately north contains another 25% of the

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otter population. Thus, fully 50% of the entire California otter population could be exposed to a spill occurring at one of the probable oil transportation sites.

Finally, the FEIS should explain how the MMS arrived at its definition of "expected probability" of an oil spill occurring and contacting a particular target. "Expected" is defined as having a probability of 25% or greater. It is interesting that for the sea otter range there is a "24% probability of one or more spills occurring and contact (sic.) it within 30 days" (p. 4-20). A mere 1% in this instance suddenly erases the risk of an oil spill to the otter range.

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Sea Otters and Oil: The discussion of the No Sale Alternative erroneously downplays the impacts from the proposed sale by stating that marine mammals will continue to suffer other impacts. The FEIS should point out that oil is the most serious single threat to the survival of the otter population, as acknowledged by the USFWS (1980). Therefore, regardless of other ongoing impacts, the elimination of any oil-related activity in the otter range will significantly reduce the oil threat. This is particularly true for Lease Sale 73, given the precarious status of the otter population, and the location of the lease sale in the vicinity of large numbers of otters and in an area deemed critical for future population growth and range expansion.

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p. 4-25: This section neglects to mention that otters are the most vulnerable marine mammal to oiling, because they depend on their fur being in pristine condition for insulation. If as little as 20% of the pelt becomes oiled, the otters heat loss could be fatal. The FEIS should cite 2 important papers (Costa and Kooyman, 1982; Siniff et al., 1982), which discuss the results of studies on oiling and on attempts to clean oiled otters.

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p. 4-111: The species account for otters fails to mention that oil, in conjunction with the small population size and restricted range, was the primary threat to the California otter when it was listed in 1977.

The statement, "Mortality due to contact (of oil) is 75%" is not justified. The FEIS should explain its calculation, or omit this statement. It should also acknowledge that the U.S. Fish and Wildlife Service has concluded that there could be as much as 100% mortality of otters contaminated with oil (USFWS, 1982). By using the lower, unsupported, figure of 75%, the DEIS falsely underestimates the impacts to the otter population from an oil spill.

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p. 4-114: The statement, "It is uncertain whether otters can or would avoid oiled areas," should be omitted. The DEIS neglected two relevant papers (Siniff et al., 1982; Williams, 1978) which discuss an experimental study on avoidance of oil by otters. Williams concludes that the experiment demonstrated "that the otters would not avoid the oil even after repeated exposure." The otters became fully contaminated with oil.

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The FEIS should also discuss the ecological, as well as the physiological, reasons that make otters particularly vulnerable to oiling. Otters live in and around kelp beds, often maintaining close physical contact with the kelp plants. Therefore, otters are very likely to become contaminated with oil caught in floating kelp.

Rehabilitation of oiled otters: The DEIS omits any discussion about the state of the art of capture and rehabilitation of oiled otters. It neglects to mention that it is extremely difficult to capture an oiled otter, which will spend up to 75% of its time underwater trying to groom (Williams, 1978). The DEIS also fails to mention that there is no successful method for cleaning an oiled otter. Costa and Kooyman (1982) clearly show that washing an oiled otter jeopardizes the survival of the otter by dramatically raising the animal's metabolic rate.

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p. 4-131: The FEIS should omit the statement, "If the southern sea otter population is reduced by more than 25%, jeopardy to the population could result." The DEIS has provided no documentation

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for the 25% figure. What evidence is there that a population reduction of 10%, or 15%, or 20%, could be sustained? Such a statement must be supported by data on population growth and recruitment rates.

Sea Otters and Other OCS Activity: Although oil is the most serious threat posed by the proposed lease sale, the DEIS omits a discussion of other threats associated with OCS activity.

p. 4-114: The FEIS should include a discussion about otters and noise stress. Studies of otters in captivity indicate that noises caused by activities the otters cannot see induce stress in the animals, and this probably contributes to reproductive failure in captive otters (Nightingale, 1981).

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p. 4-115: This section mentions that aircraft and boats are of serious concern only for pinnipeds. Both are also of particular concern to otters. The drowning of several otter pups, resulting from their mothers' fright responses to low-flying aircraft over Point Lobos State Reserve, prompted the passage of legislation prohibiting overflights below 1000 feet throughout the entire sea otter refuge (Carmel to Cambria). The FEIS should include, as a special operating requirement, a prohibition of overflights over the sea otter range.

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Otters are also known to have been killed by trauma from propellers (Dept. of Fish & Game data), and being surface animals, they would be vulnerable to boating accidents.

These dangers are also pointed out in the Southern Sea Otter Recovery Plan of the USFWS, along with other OCS-related problems: "Increased tanker traffic and/or offshore oil and gas development may result in increased harassment and/or deaths due to collisions with boats or malicious shooting."

These other impacts from OCS activity, in addition to impacts from oil spills, should be discussed in the FEIS.

Ocean Currents and Otter Distribution: The DEIS fails to acknowledge the importance of northward-flowing nearshore currents in assessing the risk of oil spills to the otter population. Even a spill occurring in the southern Santa Marie Basin, where there are relatively fewer otters, could be carried directly north through the otter range. A winter spill, when nearshore currents flow north, would be particularly devastating, because otters are more numerous in and just north of the lease sale area at this time. Numerous studies have documented nearshore current patterns, but none are cited in the DEIS. Crowe and Schwartzloss (1972) record the results of 16 years of drifter studies, during which drift bottles released in the Lease Sale 73 vicinity were carried north through the otter range, often being picked up in the center of the range or in Monterey Bay, where large concentrations of otters are found. These results were confirmed by a more recent study by the National Oceanographic and Atmospheric Administration (1980). Speeds in the northward-flowing Davidson Current, which becomes a nearshore surface current in the winter, have been measured at 16 mi. per day (Samuels et al., 1982) to as much as 25 mi. per day (according to the DEIS on p. 3-8). The FEIS should omit the statement made on p. 4-112, that "during the winter season... impacts (on otters) within the proposed sale area could be negligible." In view of information on the distribution of otters, and the direction and velocity of nearshore currents (much of which information is either omitted from the DEIS or wrong), this conclusion cannot be justified.

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II. Other Marine Fauna

Macrofauna (p. 2-24): The discussion about oil spill impacts is very superficial and omits important information about long-term and sublethal effects of oil. For example, Sanders et al. (1980) made the following observations after the FLORIDA crude oil spill in West Falmouth, Massachusetts:

1) Invertebrate populations may be reduced for periods much longer than indicated in the DEIS. Recovery of fiddler crab populations did not even begin until 7 years after the FLORIDA spill.

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2) The discussion mentions studies where sublethal effects were observed after exposure to sediments contaminated with 500-1,200 ppm oil. Yet Sanders et al. found cumulative sublethal concentrations to be less than 100-200 ppm.

3) The discussion in the DEIS completely omits major effects of oil on ecosystem dynamics. Following the FLORIDA spill, species composition changed dramatically. As a result of oil-induced stress, "most species disappear from such an environment, leaving only those few tolerant species typical of chronically polluted habitats."

The FEIS should include an in-depth discussion about sublethal effects and ecosystem dynamics in relation to oil spills.

Fish (p. 4-24): The DEIS omits any discussion about the uptake of petroleum hydrocarbons by fish and their availability in the food chain. Sanders et al. (1980) found fish to have 75 ppm petroleum hydrocarbons in their tissues after the FLORIDA spill. Another study demonstrated behavioral changes in flatfish as a result of uptake of sediment-bound hydrocarbons. This study (McCain et al., 1978) "confirmed the bioavailability of hydrocarbons from sediments into yet another level of the food chain."

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Rocky Intertidal (p. 4-96): The discussion of oil spill impacts is woefully inadequate. There is no information about the length of recovery time, the species that would be affected, etc. According to Southward (1982), recovery of high-energy rocky environments following a spill is generally 5-10 years, sometimes longer. "There have been many misleading statements in the 'grey' literature of

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Rocky Intertidal (cont.)

pollution about 'rapid recovery' of rocky shores," Southward states. His paper should be cited in the FEIS, along with a substantive discussion about ecological changes and recovery time.

Subtidal Benthos: The discussion on p. 3-32 should include the results of the recent study by Chambers Consultants and Planners (1982) on the benthic biota of the Point Arguello and Point Conception area. This report documents many new species, and the high diversity of the marine biota in general. It is considered by the marine biologists who reviewed it to be the best report of its kind ever prepared for a lease sale, and its omission from the DEIS is inexcusable. Another obvious omission is Newman's (1979) paper about the uniqueness of the marine biota of the proposed sale area.

The discussion on oil spill impacts to the subtidal benthos (p. 4-101ff) makes an unsupported conclusion: "Impacts from a large oil spill... on soft bottom communities generally would be low." Nor is there any justification for concluding that only the "more sensitive species, particularly microcrustaceans" are likely to be killed by oil." Southward (1982) reports: "The animals of fine subtidal sediments are especially sensitive to fresh crude oil and fuel oils, and very high or even total mortalities have been reported. The effects on burrowing filter-feeders in general, and on echinoderms, lamellibranch molluscs and processid prawns in particular, are now well documented." In subtidal sediments, he reports, oil can remain for more than 5 years, and "hydrocarbons can be detected in the tissues of resistant species and those recolonizing" (emph. added). The FEIS should include Southward's information and substantiate the conclusion that impacts to the subtidal benthos would be "low" and restricted to a few species. A discussion of community change and recovery times is needed.

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Kelp: The discussion on p. 3-33 neglects the importance of kelp for commercial kelp harvesting, as well as its value to commercial and recreational fisheries.

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Other Marine Fauna (cont.)

Fishery Resources (p. 4-103ff.): The DEIS omits any discussion about impacts on invertebrate fisheries other than squid. Major commercial and recreational shellfisheries occur within the Lease Sale 73 area, and in adjacent areas along the mainland and at the Channel Islands. These include, among others, fisheries for red and black abalone, spiny lobster, pink shrimp, and red sea urchins. This section should discuss the potential financial loss due to 1) direct impacts (including mortality of larvae and juveniles), and 2) contamination of the resource from hydrocarbon uptakes, as a result of a spill. The financial impact, in the event that a fishery must close down for a "short" period of time (1-several years), should be discussed.

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Whales (p. 4-128): The conclusions about oilspill impacts on right whales are completely unsupported. Where is the documentation about population size and growth parameters to support the statement, "Impacts would still be very low" even if 10% of the total annual production were killed by oiling? Nowhere in the DEIS is there sufficient information on numbers and distribution of whales to support the statement (p. 4-113) that no more than a few whales would contact a spill. The DEIS information on "distribution and abundance of gray whales along the central-northern California coast" is inadequate to assess potential impacts to the gray whale population. The DEIS provides no total numbers for any given area at any given time of the year.

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III. Effect of Small Spills

The DEIS inaccurately dismisses the potential for environmental impacts associated with small spills. On p. 4-21 it is stated, "These spills, however, are lost most quickly to the environment, and are most responsive to clean-up efforts." In fact, though, small spills most often go unreported, as acknowledged in the DEIS itself on p. 4-14. For the sea otter range alone between 1977 and 1981, the U.S. Coast Guard reported almost 200 oil and gas spills of less than 1,000 bbls. Of these, 50% were spills of unknown

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Effect of Small Spills (cont.)

origin (USCG, 1983).

On p. 4-14, the DEIS minimizes the problems associated with small spills, because they "occur most often near port where cleanup capabilities are best." However, according to Coast Guard data, much of the material is never recovered, even though the spills are relatively small. Furthermore, if these spills happen near port areas, they are also much more likely to hit the shore and contaminate the nearshore and intertidal areas much more rapidly than if they occurred farther offshore. Given the frequency of small spills, the poor reporting, the statistics on recovery of spilled material, and the proximity to shore of many of these small spills, there is no justification for dismissing as unimportant spills of less than 1,000 bbls.

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Much attention has been paid by the oil and gas industry to the fact that a major oil spill has not (yet) occurred in the sea otter range. This attitude ignores the frequency with which spills can, and do, occur within the otter range. Fortunately, the otters have as yet been spared a major spill. The death of over 100 sea otters from a tanker spill off the coast of the U.S.S.R. in 1964 underscores the very real potential for devastation of the California otter population in the event of a major spill.

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Impacts on the Marine Environment (cont.)

IV. Magnitude of the Impacts

Scope of the DEIS: The DEIS does not adequately address specific impacts to the proposed lease sale area. Numerous references are made to areas well outside the limits of the proposed area, north all the way to the Oregon border.

First, all references to impacts originating outside the sale area should be deleted from the EIS. The only valid references to areas outside the proposed lease sale area are in cases when activities within the proposed area result in far-reaching impacts.

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Second, because the area of the sale has been reduced from that originally proposed, there is no excuse for discussing impacts in such general terms. Site-specific analysis of biological, economic and physical impacts is virtually lacking, and should be provided in the FEIS.

Third, in addition to the text covering too broad a geographic region, there are no site-specific graphics. The Final EIS should include graphics, including maps, of just the proposed sale area and of areas that would be affected by activities within the lease sale area. Resource maps, including all resources discussed in the text - e.g. fisheries, marine mammals, habitat types, etc. - should be included in the FEIS.

Worst Case Scenarios: The FEIS should include worst-case analyses of all impacts discussed.

First, all impacts should be reanalyzed using revised estimates of activity levels based on new recent oil strikes in the Santa Maria Basin and an increase in industry interest. All oil spill risk analyses should be based on revised resource estimates.

Second, impacts to marine fauna should be presented in a worst-case analysis, using seasonal distribution, geographic distribution, information on ocean currents, etc. to determine the maximum number of animals that could be affected. For sea otters, a worst-case scenario would use the winter distribution of otters. At this time of the year 1) the population in the vicinity of the sale area is highest, 2) a spill is most likely to occur, due to weather and sea states, 3) a spill is most likely to be carried north through the otter ranges, due to directionality

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Worst Case Scenarios (cont.)

and seasonality of nearshore currents, and 4) a spill would be most difficult to contain. For whales, a worst-case scenario would involve at least calculation of maximum numbers in and near the lease sale area, with a seasonal breakdown of distribution and abundance.

Finally, a worst-case scenario should involve an assessment of cumulative impacts. The DEIS persists in treating impacts from the proposed lease sale as if they existed in a vacuum, comparing impacts generated by the sale to other, existing impacts. Cumulative impacts are, by definition, additive. Therefore, all activities - existing and proposed - should factor into a worst-case analysis of any resource, whether it is sea otters or air quality, drilling effluent discharge or small oil spills.

Mitigation Measures

I. Biological Stipulation

The stipulation discussed on pp. 2-7ff. is too vague in its wording and too narrow in its application.

According to the DEIS (p. 2-8), the stipulation would be invoked if the MMS had reason to believe that the area or some resource needed protecting. The stipulation should be changed so that the site-specific surveys are carried out (and mandatory) prior to any drilling activity. These surveys must be conducted by a qualified marine biologist, approved by the appropriate federal agency (U.S. Fish and Wildlife Service or National Marine Fisheries Service). The surveys should include photographic documentation, accompanied by sampling where appropriate (e.g. benthic invertebrates, plankton, fisheries, etc.) The stipulation should also include specific language about funding responsibilities of the lessees, as incorporated into the special operating requirements of the State Lands Commission for lessees in state waters.

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Monitoring during drilling operations should be required. The DEIS states that "If information from the monitoring shows adverse impacts to the communities present, other operating procedures... can be initiated." Yet, unless monitoring is required, adverse

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Mitigation Measures (cont.)

impacts will never be identified, and such alternatives are meaningless.

The stipulation should not be restricted to rocky areas, as implied in the DEIS. Although rocky areas may be particularly sensitive to certain impacts, soft-bottom communities should not be ignored. The Biological Characterization of the State Tidelands Lease Sale Area (CCP, 1982) clearly identifies some of the deeper soft-bottom areas as having both a high diversity and a high density of organisms. The State Tidelands area is adjacent to the proposed Lease Sale 73 area, so information on the biota and expected impacts is relevant. The CCP report states: "Infaunal populations in the deeper portions of this area are particularly rich both in number of species and number of individuals. Sediment changes associated with oil development might lower this diversity by changing the conditions which allow so many species to live here." Many of the rare marine organisms found in the CCP survey are restricted to soft-bottom habitats.

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II. Oil Spill Response Capability

All lessees should be subject to a special operating condition which clearly identifies required oil spill contingency measures. The oil spill response capability should be at least as stringent as that required by the State Lands Commission for lessees on State Tidelands. Required measures shall include:

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- 1) the lessee shall supply and maintain a dedicated vessel comparable to Mr. Clean II, which must be capable of being on location in the project area within 2 hours of notification that a spill has occurred;
- 2) such vessel must be available prior to consideration of any drilling activity;
- 3) the lessee must fund semi-annual oilspill response training;
- 4) the lessee must fund the establishment, staffing, maintenance and operation of an open water oilspill containment and recovery system; this system must be equivalent to that available from the U.S. Coast Guard Pacific Strike Team, but must have the added capability of a response time of no more than 4 hours to any part of the lease sale area.

Technical CommentsReferences

Many references on various subjects are not cited in the DEIS; other cited references are often outdated. (see preceding comments).

Many references are poorly or incompletely cited, making it impossible for the reader to go back to the original literature.

Examples:

McCulloch et al. (in press). USGS Open File Rept. 82-XX. USGS Open File Report 82-XX is a report on Alaska.

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Petrazullo, 1981. No agency is given from which to obtain the report.

Ianfear and Amstutz, 1982. There are references throughout the text of the DEIS to Ianfear and Amstutz, 1983. Is this a typographical error, or is there another more recent paper not cited in the reference section?

U.S.G.S. 1981b. There is no reference given, except the title. There is a USGS circular with the same title, but it is 60-70 pages long, not 17 pages, as noted in the DEIS.

What are the references for Tables II.A.1.c-1 and Fig. II A.1.c-1?

Typographical Errors, Missing pages, etc.

Numerous typographical errors, transposed paragraphs and sentences, incomplete sentences, reversed pages, etc. make the document very confusing and difficult to read. Careful editing is required if the FEIS is to be a readable document.

Examples:

Tables cited in the text do not exist. e.g. there is no table IV.E.91, as cited on p. 4-134. There is no table III.B.8-3 (p. 4-135) or table III.B.8-2 (p. 4-132).

51.32

The text refers the reader to other sections, which are not relevant to the topic being discussed. e.g. p. 4-132, a discussion about wetlands, refers the reader to Section III.A.6 for more information on "repopulation or restoration of wetlands;" but Section III.A.6 is about water quality.

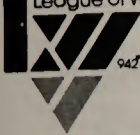
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APR 25 12 21 PM '83  
MINERALS MANAGEMENT SERVICE  
PACIFIC OFFICE  
SHELL OIL COMPANY  
LOS ANGELES, CALIFORNIA April 21, 1983

Kenni Friedman, President

Manager, Pacific OCS Office  
Minerals Management Service  
Federal Building, Room 200  
1340 West Sixth Street  
Los Angeles, Ca. 90017

Dear Sir:

Subject: Comments on Draft Environmental Impact Statement of OCS Lease Sale 73

The League of Women Voters of California will confine their comments on this DEIS to two areas of major concern: the procedural inadequacies which inhibited citizen participation in the environmental review process and the air quality impacts onshore of Lease Sale 73.

We believe that there should be increased opportunities for citizen participation in hearings, not decreased opportunities as occurred during the current process. We strongly disapprove of the elimination of the scoping meetings, the reduction of comment time from the established 60 days to 45 days, and the consolidation of a number of hearing days customarily held in various locations into a single hearing day in one community.

52.1

By abandoning the usual process, ignoring many of the comments submitted in lieu of the scoping meetings, and responding to these comments with a form postcard, the Department of Interior has alienated many of the residents, some previously neutral or supportive, in the communities most likely to be impacted. This estrangement was compounded by conducting three hearings simultaneously at the same location. This resulted in confusion, chaos and further frustration when people were not able to hear testimony submitted by others in other rooms. This method of "streamlining" the process also hampered full press coverage.

In addition, the DEIS is lacking. It has not focused on the specific project area, does not present a sufficient range of alternatives, has no "worst case" analysis, does not address the cumulative effects adequately and fails to consider mitigation for many other impacts.

52.2

The DEIS recognizes the existence of air quality problems, but does not consider recommendations by local and state agencies to alleviate these problems. The inadequacy of the DOI air quality regulations to protect onshore air quality from OCS development emissions has been documented by the California Air Resources Board, local Air Pollution Control Districts and others. These regulations permit an increase in emissions as the distance from shore increases. Recent Bureau of Land Management funded meteorological studies have

52.3

shown that emissions do not disperse as well over water as over land and do move onshore with the prevailing winds. While moving toward shore a photochemical process takes place and may create smog. Santa Barbara and San Luis Obispo counties could experience significant increases in the levels of certain pollutants. These increases may cause these areas to exceed the federal air quality standards. The cumulative impacts of this Lease Sale 73 development, in addition to those of Lease Sale 53, other offshore and onshore, related and unrelated facilities have not been adequately addressed.

The LWV of San Luis Obispo and LWV of Santa Maria will submit combined detailed and specific comments on the DEIS. The LWV of Monterey will also be sending remarks on their concerns.

The League of Women Voters of California urges the Department of Interior to carefully consider and respond fully to the comments and concerns stated at the hearings and submitted by all government agencies and all citizens. We request a complete and accurate final EIS and the opportunity to comment on that EIS.

Very truly yours,

*Kenni Friedman*  
Kenni Friedman, LWVC President

*Betty Taylor*  
Betty Taylor, LWVC Air Quality Director

Box 1995  
Monterey, California 93940  
RECEIVED  
APR 25 12 21 PM '83

Manager, Pacific OCS Office  
MMS Room 200  
1340 West Sixth St.  
Los Angeles, CA 90017

RE: Lease Sale #73 EIS

Dear Sir,

The impact of Lease Sale #73 on the Monterey County coast is of great concern to the League of Women Voters of the Monterey Peninsula. We find the EIS inadequate in this regard. The data on this section of the coast are detailed, but the document underestimates the possibility that an oil spill would reach this coast and the impact if that should happen.

The EIS mentions the possibility of oil spills from tankering (4-136) and this risk, even if slight, exists now, and will increase with increased tanker traffic. Any spill in the Monterey Bay area would be detrimental to commercial fishing (4-107, 4-165). The impact on already depleted salmon fisheries could be severe, and recovery of the salmon population, which is under pressure throughout its range, might be slower than indicated (4-164). The impact of a large spill or a series of small spills on the valuable fisheries of the Monterey Bay area could have more severe economic consequences than forcing a few fishermen out of business (4-165). Since estuaries serve as breeding grounds for fish (4-136), the impact of oil on Elkhorn Slough could be severe. The EIS estimates oil retention in the Slough as over a year, but long-term studies of spills elsewhere conclude that oil retention in an estuary can last as much as 5 years.

53.1

The importance of tourism to the economy of the Monterey Peninsula area makes it especially vulnerable to the impact of oil on beaches and any degradation of the scenic quality of the coastline.

53.2

If on-shore support facilities should be required, the impact on housing and public services (4-146) would be severe. A shortage of affordable housing, including rentals, exists. The area is water-short and sewage treatment facilities are at or near capacity. North Monterey County, which attracts commuters from as far away as San Jose has serious water problems, including salt intrusion in farm lands. Reliance cannot be placed on communities to control onshore economic growth (4-146). The statement that no significant adverse impact will result from OCS development has no factual basis.

53.3

Yours truly,

*Sandra M. Smith*  
Sandra M. Smith, President



POST OFFICE BOX 4210 - SAN LUIS OBISPO, CALIFORNIA 93403

TO: Department of the Interior/Minerals Management Service  
RE: Draft Environmental Impact Statement, OCS Sale No. 73  
SPECIFIC COMMENTS - APRIL 22, 1983  
FROM: Joan Leon, President, League of Women Voters of San Luis Obispo

The League of Women Voters of San Luis Obispo in conjunction with the League of Women Voters of Santa Maria Valley have already submitted general comments on the Draft Environmental Impact Statement for Lease Sale 73 at the public hearing held in Santa Maria on April 13, 1983. The attached comments are more detailed, page by page comments. We request that a revised EIS for Lease Sale 73 be prepared to reflect both our general and specific comments.

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MINERALS MANAGEMENT SERVICE  
PACIFIC OFFICE  
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LOS ANGELES, CALIFORNIA

April 22, 1983

SPECIFIC PAGE BY PAGE COMMENTS

DEIS Lease Sale 73

Page Number	Comment
1	"Description of the Area and Proposed Action": This section which describes how many and which tracts are being considered for sale under Lease Sale 73, leaves a number of questions unanswered. For example, are all 360 tracts being considered for this lease sale? Are the 19 litigated tracts from Lease Sale 53 part of the 55 tracts mentioned from Lease Sale 53? Why are these litigated tracts being considered at this time if they are under court injunction? Are any leased tracts from Reoffering Sale 2 and Lease Sale 53 included in the 360 tracts? If so, why are they being considered for sale at this time, if they are already leased? Are all unleased tracts from Lease Sale 53 and Reoffering Sale 2 included in the 360 tracts? The final EIS should provide a clear statement of which tracts are being offered for this lease sale and under what circumstances they are being offered. A full listing of tracts and mapping of the area with specific tract numbers should be included. 54.1
11	The DEIS states that "The Conditional Mean Resource estimates, associated development and transportation scenarios provide the basis for a 'High Case' analysis." Using "Conditional Mean" resource estimates for a "High Case" analysis is a contradiction. A worst case scenario should be based on "high" resource estimates, and no such estimates or analysis is provided for Lease Sale 73. To provide analysis for only two resource estimates, a low estimate (termed Most Likely) and Mean (termed Conditional Mean) ignores potential impacts from a high resource. 54.2  Based on past experience from Lease Sale 53, such a high case analysis is essential. The analysis in the EIS for Lease Sale 53 provided three resource estimates, "low", "conditional mean" and "high". After the completion of the EIS, all the resource estimates were doubled and the original "high" resource estimate, used in the EIS analysis, became the new "conditional mean" estimate.
111	<u>Summary of Impacts</u> . The summary provided in this section is not complete. Also, the statements made are not fully substantiated by either the data presented or the conclusions reached in the body of the document. For example, the summary states 54.3

Page Number	Comment
111	that "Moderate air quality impacts were predicted for coastal regions adjacent to the proposed sale area." Yet according to the definitions of impacts found in the Appendix, the violations of AAQS by San Luis Obispo County, even 2 or 3 times a year would be considered a <u>Very High Impact</u> . "Pollutant concentrations in attainment areas increasing to levels equivalent to the ambient air quality standards". (DEIS, p 9-2)
	Nor does this Summary acknowledge that such violations would result in a change of status for San Luis Obispo County from attainment to nonattainment under the Clean Air Act, clearly a very high impact. The Summary (p 111) also states that "It is likely, therefore, that OCS facilities associated with Proposed Sale No. 73 would be required under Department of the Interior air quality regulations to apply emission controls. Application of emission controls would reduce the predicted impacts to low." The likelihood of the DOI air quality regulations fully mitigating air quality impacts is disputed by the California Air Resources Board, local APCD's, and others and is the subject of pending litigation. It is also disputed by the Supplement to POCs-5, the Air Quality Impact Analysis prepared for adjacent Lease Sale 53, which analyzed the extent to which these regulations would reduce air pollution emissions and impacts. That document concludes that the reduction in ozone concentrations due to these rules would be minimal and that VOC emissions would be reduced only on an order of 10%. (Supplement, POCs 53-5, pages X-14 & XI-7, July 1980)
	The Summary of Biological impacts fails to consider serious impacts on the southern sea otter range despite 1) the statement on page 4-112 that "Analysis of winds and currents by the oil spill model (OSRAM) indicates that if a spill occurs along the sea otter range within 10 miles of the coastline, there is an average probability of greater than 40 percent that it would contact the otter range within 10 days. Should a spill occur during the fall, the probability of a spill contacting the otter range is as high as 89 percent in 10 days"; 2) the documented serious impacts on the sea otter due to oil spills (Biological Opinion, Fish and Wildlife Service, Lease Sale 53), 3) the fact that the southern sea otter is a threatened species protected under the Endangered Species Act, and 4) the populations are reported to have not increased as predicted.
	The assertion that "impacts to public services and facilities would be moderate, that is, "short-term stress of local systems that may be accommodated through time and with small use adjustments" has not been substantiated in the DEIS (See our comments on page for further discussion). The Summary also fails to acknowledge the gaps in information and data necessary for a full analysis and assessment of impacts.
iv	It does not summarize impacts from alternatives to the proposed action, nor does it include a discussion of cumulative impacts from previous lease sales, despite the fact that this proposed lease sale surrounds an existing lease sale area, Lease Sale 53 (and Reoffering Sale 2). Further deficiencies will be highlighted in other sections of our comments. In short, the Summary should fully and accurately reflect the information contained in the report.

Page Number	Comment
v	<u>Table of Contents</u> Although the table of contents is easy to follow, the headings and subheadings are not differentiated by underlining or bold face type. This format problem becomes important when reading the DEIS itself. Because the DEIS is organized with the analysis of all impacts from the proposed action first, and followed by a discussion of impacts from development of "conditional mean resources", and finally cumulative impacts in separate sections, a great deal of flipping back and forth is necessary to understand impacts on a single category (i.e., Biological Impacts), and to keep track of the various headings and subheadings. We suggest a liberal use of underlining, bold faced type and other devices to clearly mark changes in topics to facilitate reading, understanding and comment.  Also, as stated in our general comments, worst case and cumulative impacts should be discussed along with and integrated into the discussion of project impacts.
	CHAPTER I.
1-2	<u>Streamlining Process and Administrative Events</u> League has objected to the new streamlining process and the fact that this process has been used for Lease Sale 73 which was initiated under previous procedures prior to July, 1982. This process does not allow sufficient opportunity for public review and comment or for the required consultation and coordination between Federal, State and local governmental agencies. For a fuller discussion of our concerns see our general comments and comments submitted by the League of Women Voters of California. We question whether these procedures meet the requirements of NEPA. 54.4
1-13	<u>Issues Raised as a Result of Scoping</u> A number of critical issues identified in the scoping process have not been fully addressed in the DEIS. We refer to our general comments and to the comments prepared by the County of San Luis Obispo which provide a comprehensive list of scoping comments and an assessment of whether these comments are fully covered in the DEIS. The Final EIS should fully address all issues raised. 54.5
1-16	<u>Alternatives</u> As discussed in our general comments, the alternatives to the project discussed in the DEIS do not reflect recommendations and comments submitted by state and local governmental agencies for adjacent Lease Sale 53 or for previous steps in the Lease Sale 73 process including the Call for Information and Scoping. See comments submitted by the County of San Luis Obispo for full discussion. A full range of alternatives must be included in the Final EIS.  Furthermore, the EIS dismisses an alternative to provide a six mile buffer to reduce air quality impacts on coastal areas but fails to explain why this alternative would not significantly reduce air pollution. If such an alternative is rejected, full analysis and justification must be provided in the EIS. 54.6  Finally, although an alternative is provided to protect the biologically sensitive area of Morro Bay, this alternative does not include protection for other biologically sensitive areas including San Luis Bay and the southern sea otter range between Point Buchon and Pismo Beach, near shore of the litigated tracts.

Page Number	Comment
	CHAPTER II
2-1	<u>Analysis of Alternatives</u> See comments on page 1 of our comments regarding the number of tracts in the lease sale and use of conditional mean resource estimates for a "high case" analysis. 54.7  It is also unclear from the text to what extent the factors; knowledge of geological factors, economic considerations, exploratory history and potential learning curve were used to reduce the Conditional Mean Resource estimates to Most Likely estimates. A full explanation is necessary in the EIS.
	<u>Figure II.A.1.9-1 Proposed Sale No. 73 Lease Area</u> Are we to assume that all tracts not leased previously are included in this Lease Sale, including the litigated tracts? No tract numbers are provided in this figure and as discussed earlier, it is unclear from the text which tracts are included and which are excluded from the lease sale. The maps and text should list tract numbers and clearly designate which ones are being considered.
2-4	In assessing impacts from "development from existing leased tracts" and discussing potential cumulative impacts, which resource estimates were used for the Lease Sale 53/Reoffering Sale 2 tracts: the original Conditional Mean resource estimate or the doubled conditional mean resource estimate? How have new discoveries off northern Santa Barbara County been factored in to these estimates and impact analyses? The EIS should use the most up-to-date information available.  There is no full analysis of cumulative impacts provided in the DEIS, merely a brief discussion. Full cumulative analysis should add Lease Sale 73 impacts to those anticipated from new resource projections for Lease Sale 53/Reoffering Sale 2 tracts. There is no comprehensive discussion of these cumulative impacts including a listing of total number of platforms, crewboat/supply boat trips anticipated, size and length of pipeline requirements, etc. Because Lease Sale 73 surrounds an existing lease sale area, it is this kind of detailed cumulative analysis which should be emphasized in the EIS. 54.8
	<u>Protected Transportation and Markers</u> The DEIS analysis is based on only one transportation scenario: 1/2 pipeline and 1/2 tanker transport of oil resources found. Because a majority of the tracts being considered are some distance from shore and because an onshore pipeline system is only in the planning stage, an all-tankering scenario, to insure worst case analysis should be considered. 54.9
	Table II A.1.c-1. This table should include development time tables for infrastructure for Lease Sale 73 in conjunction with Lease Sale 53 since these two lease sales are in the same area and will not occur in isolation.
2-6	The DEIS states that "hydrocarbon production from the northern portion of the proposed sale area would be transported to shore via subsea pipeline to treatment facilities assumed to be constructed at Nipomo Mesa". Which tracts are included in this northern portion? The ones off Morro Bay? The ones further offshore, beyond the litigated tracts? It seems unrealistic to assume

Page Number	Comment	
2-6	that resources from either of these two areas would be transported by subsea pipeline to Nipomo Mesa treatment facilities because of the distance involved.  The DEIS states that "Modifications to refineries could be required to process the expected heavy and sour proposed Lease Sale No. 73 crude oil". Yet, there is no discussion of a Los Angeles New Source Review Rule concerning retrofitting of Los Angeles refineries to process such oil, or the stated reluctance of oil companies to retrofit California refineries if the oil can be refined elsewhere in Texas. Thus it may be overly optimistic to assume that 1/4 of the oil will be transported by pipeline to Los Angeles refineries and only 3/4 of the oil will be tankered to Galveston.	54.10
2-7	<u>Proposed Mitigation Measures</u> The County of San Luis Obispo has included in their comments on the DEIS (p. 14-16) a full analysis of mitigation measures discussed in the DEIS. Their analysis points to a number of serious deficiencies in these requirements and they offer specific suggested changes in the standard lease sale stipulations and new lease sale stipulations to rectify these deficiencies. These recommendations should be incorporated into the Final EIS.  Our comments will focus on several of the standard lease sale stipulations of particular concern: <u>Biological Stipulation</u> The DEIS states that "this stipulation provides protection for all biological resources". However, it is planned to only invoke the stipulation "as necessary on tracts having rocky areas". What about other biological habitats? In addition, the stipulation applies only after the lease sale, once areas have already been committed for development, and thus may not necessarily protect unique or important biological communities. Finally, the stipulation is not mandatory; requiring each lessee to conduct site specific surveys to assess the presence and provide for protection of important biological resources. Thus the effectiveness of this biological stipulation to protect all biological resources is limited.  The DEIS also includes references to Graphic No. 2 which indicates rocky areas where this stipulation might apply. However, no tract numbers are given in Graphic 2 even though this stipulation will be invoked on a tract by tract basis. Graphic 2 also includes the total coastline of central and northern California. Since biological stipulation applies only to tracts being leased under Lease Sale 73, why have areas outside of the project been included on this map? Without better resolution on a tract by tract basis, it is difficult to tell where specifically this stipulation might apply if it were to be invoked. The text should include specific tract numbers and the graphic should be revised to include only the project area in sufficient size and scale to provide full details.	54.11
2-13	<u>Transportation of Hydrocarbon Products Stipulation</u> Given the State of California's stated pipeline policy and similar policies of local government, this lease sale stipulation should be re-evaluated. For example, it is unclear how such factors as "net social loss", "incremental benefits", etc., will be determined or weighed in the decision on whether or not to require pipeline transport. Nor is it clear what constitutes an "emergency" under	54.12

Page Number	Comment	
2-13	section (b) of the stipulation. For example, would the lack of California refining capacity by an individual oil company be defined as an "emergency"? Would it constitute a "net social loss" or an "incremental benefit"? <u>Wells and Pipeline Stipulation; Fisheries Training Program Stipulation</u> Although these two stipulations will assist in resolving conflicts between OCS activities and the fishing industry, other provisions are needed to mitigate full impacts. For example, muds and other debris also foul nets and interfere with trawling operations. Funds similar to the Fisherman's Contingency Fund should be considered to establish hatcheries, a marine mammal distress center, etc. (See page 15 of County of San Luis Obispo Comments, DEIS Lease Sale 73, April, 1983.)	54.13
2-16	<u>Summary of Impacts</u> The summary of impacts considers only the impacts from the "Most Likely" resource estimates and does not include a discussion of how these impacts will add to existing lease sale impacts in the immediate area. This summary should be revised to include both "Conditional Mean" resource impacts and cumulative impacts from existing lease sales. <u>The Definition of Levels of Impacts</u> found in the Appendix used for the summary are very general and often raise more questions than they answer. (See our comments on Appendix page 29) In addition, some of the statements in this summary concerning the impacts of Lease Sale 73 are misleading or unsubstantiated by the data presented. For example, the DEIS on page 2-16 predicts moderate air quality impacts, but according to the definition of impacts in the Appendix, the projected violations of standards for San Luis Obispo County would be considered a very high impact. (Also see our comments for page iii.)  The summary also predicts low or no impacts on various biological communities including marine mammals, intertidal areas, etc., despite inadequacies in data and analysis. A more detailed discussion of these inadequacies will be discussed under the appropriate section of the DEIS.	54.14
2-19	<u>Alternative II - Modification of the Sale to Protect Sensitive Biological Areas.</u> Not all sensitive biological areas are protected by this alternative. The areas to the south of Morro Bay in San Luis Bay and along the Nipomo Dunes complex have not been included nor is there sufficient protection provided for the southern sea otter south of Point San Luis. Tracts east of Lease Sale 53 should be included in this alternative to provide maximum protection and buffer zones for these sensitive areas consistent with recommendations from State and local	54.16

Page Number	Comment	
2-19	governmental agencies. In addition, the description of Alternative II fails to include tract numbers or to identify which tracts are to be included in this alternative. Do the tracts extend out to or include any of the litigated tracts off of Morro Bay? Also, why does the map include areas outside of the current lease sale to the north in the area expressly removed from consideration by the Interior Department's Appropriations Bill, FY 1983? No mention is made in the discussion of this alternative of the proximity of these tracts to the state tidelands.	
2-21, 22	<u>Alternative III - Delay</u> No mention is made of the time frame for such a delay in the sale. <u>Alternative IV - No Sale</u> The DEIS states that the total area would be removed from proposed leasing "at this time", under this alternative. How is this different from Alternative III, Delay of Sale?	54.15
2-24, 2-25	<u>Summary of Impacts</u> The discussion implies that without the sale, deterioration will occur anyway, and that Lease Sale 73 will not add significantly to this deterioration.  No attempt is made to emphasize existing lease sales and their impacts.  Also, some of the conclusions reached about future impacts without the sale are questionable or inaccurate. For example, are no increases in future fish harvests anticipated? Gasoline shortages and economic recession may or may not decrease tourism in the area, depending on whether persons coming to the area select it because it is closer or less expensive than other areas they might have visited. Although the status of the sea otter is "questionable", the discussion fails to note that population counts are decreasing not increasing, as projected. It has not been determined if Port San Luis will be used for crew or supply facilities for Lease Sale 53. The assumption that "Without the proposal, many of the refineries will lose much of their investment and benefits from the modification.." fails to consider other supplies of sour/heavy crude.	54.16
2-26 & 2-34	<u>Alternative Energy Sources</u> This discussion fails to consider energy conservation as a source of energy supply. A full discussion of the available energy savings that can be derived from various methods of conservation is needed.	54.18

Page Number	Comment	
3-2	CHAPTER III A major concern is that the DEIS does not focus on the project area and includes irrelevant information from other areas of California. Chapter includes many examples, and the chapter should be rewritten to specifically focus on the project area of southern San Luis Obispo County and northern Santa Barbara County. Figure III.A 1-1 is a prime example. Although the figure is titled Basin Boundaries in Central and Northern California, the basin boundary for the Santa Maria Basin (in the project area) is not defined; areas outside of the proposed project area, in northern California, are included. All maps and figures in the DEIS should be confined to the project area unless the reason for including information about other areas is stated and can be justified.	54.20
3-4	The DEIS states that "Instability of the sea floor, whether from seismic activity or sedimentary process is recognized as the principal hazard to emplacement of platforms and pipelines in the marine environment," and notes that the Santa Maria Basin is "adjacent to one or more seismically active faults and can be expected to experience seismically-induced ground motion." Again, on page 3-5 the DEIS states that "there may be the potential for a large earthquake along the eastern side of the offshore Santa Maria Basin" and that "strong seismic shaking can be expected in the eastern part of the basin associated with the Hosgri fault." (page 3-6). The DOI's report on An Ecological Characterization of the Central and Northern California Coastal Region (Volume V Data Source Appendix, October, 1981) states that "offshore drilling near faults could result in release of oil" and that "movement along faults could have a particular adverse impact on offshore drilling." (page v-21) Yet, the DEIS on page 4-15 states that "no spills of 1,000 bbls or greater have been attributed to geohazards." The fact that such spills have not occurred, does not mean that they will not occur. In light of the above discussion, the EIS should account for the possibility of such spills.  The Graphic No. 3 maps the entire area of northern and central California, a scale which is totally inappropriate since the project area is confined to offshore of northern Santa Barbara and southern San Luis Obispo Counties. Thus, geohazard features in the project area are not readily identified because of the scale of the map. Potential geohazards should be identified on a tract-by-tract basis using data specific to the project area.	54.22
3-8	<u>Physical Oceanography</u> The DEIS states that "nearshore current data for most of the Central California coastline is lacking" and that "surface currents in Central California are primarily wind driven, leading to seasonal variability in patterns." DOI's study of October 1981, previously cited, states "the lack of data on longshore currents will make predictions of the movement of oil slicks from oil spills difficult." The Santa Maria area is specifically mentioned. (page v-19) Although drifter studies can show the complex patterns of surface circulation, the only studies cited in the DEIS are from outside the project area. Despite this lack of	

specific and vital information, the DEIS relies heavily on the predictive ability of the oil spill analysis to reach conclusions about the specific impacts on coastal resources.

The DEIS also does not discuss a study performed by the Department of Fish and Wildlife reported in a March, 1982 edition of Science. This study describes a lumber spill which occurred off the Central California coast, and documents the disposition of the lumber all along the central coast.

- 3-9 Figure III.A 4-1 shows major upwelling areas along central and northern California. Which tracts in the project area overlie these upwelling areas? How far offshore do these areas extend? What is the significance of these upwelling areas in terms of fisheries? The California Coastal Commission staff comments on the DEIS prepared for the Commission's April 15, 1983 hearing, stated that the DEIS "must consider the possible bio-amplification of toxins in the marine food over the long term" since the lease sale area is within an area of significant upwelling. (page 9) 54.23
- 3-11 Table III.A 4-1 shows Annual Persistence of Favorable and Unfavorable Significant Wave Heights and Table III.A4-2 shows Characteristics of Ten Most Severe Storms. Yet no data is provided closer than San Francisco. How valid is this data for the project area? 54.24
- 3-12 Table III.A 4-1 shows Annual Persistence of Favorable and Unfavorable Significant Wave Heights and Table III.A4-2 shows Characteristics of Ten Most Severe Storms. Yet no data is provided closer than San Francisco. How valid is this data for the project area? 54.24
- 3-14 Much of the information presented in the discussion and in Table III.A6-1 is from outside of the project area, and all studies cited on page 3-16 are from outside the project area with concentration on San Francisco Bay. Irrelevant information should be eliminated from the DEIS. 54.25
- 3-16 Ocean Dumping  
The DEIS describes low level radioactivity waste site dump off Central California within the project area. The map on page 3-16 does not include the project area so that the relationship between the dump sites and the tracts to be leased can be seen. Nor is there a listing of the specific tracts which overlie this dump site. No mitigation is offered or special requirements provided if this area is leased. From the discussion it is not clear how significant or what are the implications of leasing, exploration and development of petroleum resources in the area. A full discussion of these issues must be included in the DEIS. 54.26
- 3-21 Climate and Meteorology  
Table III.A8-1 cites irrelevant information about Bodega Basin, outside the project area. 54.27
- 3-22 The DEIS should note that temperature inversions along the coastal plain from San Simeon to Lompoc are the lowest and persistent in California. (Source: California Air Resources Board, San Luis Obispo County APCD) The results of the tracer studies should be integrated into the air quality impact analysis. The DEIS states that the results of these studies will be available "early in 1983." Will this be in time for incorporation into the Final EIS? Will the discussion of air quality impacts be revised to reflect this information? 54.28
- 3-23 The DEIS relies on the DOI air quality regulations to mitigate 54.29

presented in the FEIS for Lease Sale 53 from a May 1980 flyby. (See Table II B.7-9-2, page 2-22 Final EIS Lease Sale 53). Yet the DEIS for Lease Sale 73 appears to use the 1981 distribution figures to draw conclusions about oil spill impacts on the southern sea otter. Because of the significant variation from year to year as exhibited by these two area surveys, any conclusions reached about oil spill impacts must take into account these yearly variations. The new aerial survey may be reflective of a trend in population distribution and density, but this conclusion cannot be reached until several more years' distribution data is obtained.

The DEIS discussion of the southern sea otter should include a full discussion of the vulnerability of the otter to oil spills. (See Biological Opinion, U.S. Fish and Wildlife Service, Lease Sale 53, September 1980)

- 3-54,55 Estuaries and Areas of Special Biological Concern  
Table III.B7-2 notes Estuaries of Ecological Concern in Central California and Table III.B7-3 (Width of Entrance of Major Habitats in Central California) includes areas near San Francisco. This is not in the project area and should not be included unless justified. 54.36
- 3-58 Table III.B7-4 describes the total area of major habitats but has only two categories: San Francisco Bay and South of San Francisco Bay. What is specifically included in the area south of San Francisco? What is the total area for habitats in the project area? 54.37
- 3-60 Figure III.B.8-1: The scale of this map is too small and covers all of northern and central California, far beyond the project area. Many areas of special concern for the project area have not been included. 54.38
- 3-63 No mention is made in the DEIS that Morro Bay is a nominated National Marine Sanctuary or that the Nipomo Dunes Complex is a Registered National Landmark. 54.39
- 3-64 Socioeconomic Environment  
Throughout this section and the DEIS itself, population and demographic figures for the four counties of San Luis Obispo, Santa Barbara, Monterey and Santa Cruz are used, yet the impacts of this project will not affect this four-county area, but will be confined to the southern San Luis Obispo and northern Santa Barbara counties. Population and demographic information from this limited project area should be used and the focus of the socioeconomic study should be on specific coastal communities, i.e., Pismo Beach, Grover City, etc. 54.40
- 3-63 The DEIS says that the petroleum industry enhances the economy of Central California but no specific information is provided about the percentage that this component contributes in comparison with other components such as tourism, agriculture and fishing. 54.41
- 3-64 The DEIS states that population increases "associated with OCS development will be insignificant (less than .5%) when considering overall projected population growth" and thus does not consider services such as fire and police protection, etc. in the discussion. While the population increases for the total four-county region may not be significant, there would be serious impacts on several specific communities (Pismo Beach, Grover City, etc.) and these impacts should be addressed in the EIS. 54.42

air pollution impacts. Yet, the adequacy of these regulations is disputed by both the local APCD and California Air Resources Board and is the subject of litigation.

Excessive ozone concentrations occur not only "in larger urban areas" but in smaller urban communities such as Santa Barbara and San Luis Obispo. 54.30

- 3-24 Why are areas outside of the project area included in Table III.A 8-2 and Table III.A 9-1? 54.31
- 3-27 The DEIS states that scientific literature is spotty for much of the coast for rocky intertidal areas. They conducted a helicopter general survey of principal intertidal species to complement similar studies performed in Southern California. We question whether this is sufficient to provide adequate data for decision making. Numerous other examples of inadequate data can be found in this section of the DEIS. 54.32
- 3-40 Marine Mammals  
The map of gray whale migratory routes covers the whole coast of northern and central California. There is no map of the project area to show specifically where this route is in conjunction with the tracts being offered for lease sale. 54.33
- 3-41 The discussion of pinnipeds on this page is incomplete. There is no attempt to incorporate data from a recent 3 year MMS study conducted by the University of California at Santa Cruz on marine mammals and seabird distribution. San Miguel Island is the northernmost rookery for some species of pinnipeds and the southernmost rookery for others. In all, five species use this island as a rookery and it will be subject to high impacts from oil spills. Also, there is no map, inventory or discussion of rookeries or haul-out areas in the project area. Incomplete information and discussion has led to the minimizing of impacts. The DEIS states that the southern sea otter is found from Point Buchon near Morro Bay to Soquel Cove in Monterey Bay. The southern sea otter range is from Pismo Beach south of Morro Bay, and some otters have been seen further to the south. This correction should be made in the Final EIS. 54.34
- 3-44 More recent population figures are available than the 1977 data provided in the DEIS. The most recent counts place the southern sea otter population at approximately 1200 individuals, not the 1800 stated in the DEIS. In addition, it is considered that the population is not increasing as projected and may even be decreasing. The DEIS should be corrected. Figure III.B4-4 shows relative distribution and abundance of sea otters observed on May 25, 1981. This data from an overflight is significantly different from the distributions and counts 54.35

- 3-65 Tables on these pages use region-wide rather than project -area-wide population figures. Any projections or conclusions about the project over such a large area obscures and underestimates potential impacts. 54.43
- 3-68 The DEIS discusses many service inadequacies and problems in the project area including lack of available water, sewage capacity, and limited road access to Port San Luis (the proposed site of crew and supply facilities). Yet no mitigation is provided and these problems are minimized in later analysis of impacts. 54.44
- 3-71 Coastal Land Uses  
The DEIS states that "major airports in the area are located at the City of Santa Barbara, Santa Maria and the City of San Luis Obispo." What is considered a major airport? The DEIS states that crew boats for existing leases have used Port San Luis occasionally. Exploratory drilling plans approved by the California Coastal Commission have not allowed crew boat use of the Port. If crew boats have used the Port, they are in violation of these plans. 54.45
- 3-73, 74 Commercial Fisheries  
The DEIS uses outdated data from 1976. The most recent data should be used in the EIS. Also much of the information provided is outside of the project area; only relevant information should be included. 54.46
- 3-79 Sportfishing  
The DEIS mentions sportfishing from a number of places along the coast, most of them outside of the project area including Humboldt Bay, yet fails to mention sportfishing out of Port San Luis within the project area. Again, only relevant information and all information about the project area should be included in the EIS. Figure III.C.6-1 and Figure III.C.7-1 include areas outside of the project area. They fail to highlight the importance of these recreational uses for the Central Coast and the project area itself. The discussion from pages 3-79 to 3-86 highlights the importance of recreation and tourism and aesthetics to the project area. Yet the DEIS downplays the importance of these factors when reaching conclusions about the impacts of the project. For example, there is no discussion about the implication of leasing tracts within three miles of significant recreational and visual areas such as Morro Bay, Pismo Beach, or an attempt to separate out these tracts for special analysis from other tracts in Lease Sale 73 which are further offshore beyond Lease Sale 53 litigated tracts. 54.47
- 3-84 The discussion about San Francisco at the top of the page is not relevant to the project area and should be deleted. The information provided in Table III.C.8-1 appears to be based on lodging receipts only. This does not reflect the full value of recreation to Central Coast communities since many visitors use the recreational areas for camping and beach use. 54.48
- 3-88 Marine Traffic  
Fort access routes for Estero Bay and Port San Luis are not being considered, but need to be established prior to the lease sale. No Traffic Separation Schemes have been adopted north of Point Conception. These lanes need to be established prior to the lease sale to ensure that the safest, most efficient routes are available for consideration. The recommended routes found on Figure III.C.12-1 are not the most direct routes in the project area and are not the routes currently being used by vessel traffic. No discussion is provided in the DEIS of which specific tracts these routes overlie. 54.49
- 3-90, 91

3-92 Refineries  
The discussion of refining capacity is not detailed enough. For example, Table III.C.13-1 does not differentiate refining capacity for the heavy, sour crude anticipated from this sale. More information about the capacity of each refinery to refine this specific type of crude is necessary. 54.50

CHAPTER IV - ENVIRONMENTAL CONSEQUENCES

4-1 Information Used in Impact Analysis  
As indicated in our general comments, League questions many of the assumptions used in this analysis including the use of "most likely" resource estimates and not "conditional mean" resource estimates, and only one transportation scenario. 54.51

4-3 The DEIS also assumes that certain facilities developed or expected to be developed as a result of existing Federal and State leases would be shared by Lease Sale 73. Depending on the size and location of these facilities, this assumption may not be valid. In addition, no mention is made of the possible need to expand such facilities and the impacts of such expansion on surrounding communities. 54.52

The DEIS states that "it is assumed that oil and gas production from the two proposed platforms located in the northern portion of the proposed sale area would come ashore via subsea pipeline near existing oil and gas treatment facilities at Nipomo Mesa." If these platforms are in isolated tracts off of Morro Bay or in the northern part of the sale, west of the litigated Lease Sale 53 tracts, we question whether these resources will come ashore. They may be treated on an O S & T and transported by tanker. 54.52

4-3,4 Although the DEIS may assume that crew boat facilities at Port San Luis may be in place, alternatives should also be considered since the use of the Port for crew facilities is not assured. 54.53

Do Los Angeles, San Francisco and Galveston have the excess refining capacity for the type of oil anticipated? (sour, heavy crude) Retrofitting refineries is discussed in other sections of the DEIS but no thorough discussion is provided about how much retrofitting may be required or what the capacity is now for these refineries to process the kind of crude anticipated. These issues should be further explored in the EIS. 54.53

Oil Spills  
The DEIS describes the oil spill risk analysis as a "tool to aid in the overall understanding of the potential risks of oil spills to the environment from specific offshore oil and gas lease sales." Yet, as stated previously, the DEIS seems to rely too heavily on the predictive ability of the model in reaching conclusions about project impacts on specific coastal resources. 54.53

The model assumes seasonally averaged oceanic surface currents and average winds can be used to assess the probable trajectories of floating oil. The FEIS for Lease Sale 53, however, used current information on a month-by-month basis rather than average seasonal current. The use of average winds does not account for seasonal variations. How would the results be different if these averaged figures were not used? 54.53

4-5 Model Description  
Why did the model study area include areas from the Washington/Oregon state line to the Mexican border? 54.54

Although the DEIS states that using shoreline segments "aids in the analysis of specific coastal areas where estuaries, (etc.) may be located...", it does not describe each shoreline segment in the project area in terms of these features. Charts similar to those included in the FEIS for Lease Sale 53 should be included. 54.55

More than one transportation scenario should have been incorporated into the model, including an all-tankering scenario. 54.55

Site specific wind data and nearshore current data are seriously lacking, limiting the predictive capabilities of the model. 54.55

4-6 Figure IV.A.4-1 does not focus on the project area. It is difficult to determine from the map which areas are specifically included in each shoreline segment in the project area. Only areas to be affected by the project oil spills should be included in the map. 54.56

4-7 What was the basis for separating the sea otter range into northern and southern halves? What criteria was used? 54.56

4-8,9 Morro Bay, a nominated marine sanctuary, and the California Marine Sanctuary from the San Luis Obispo/Santa Barbara County Line north, should be noted on these maps. 54.57

4-14 The DEIS states that "the very narrow openings of most of the estuaries systems make it feasible to prevent oil from entering the system by either boom containment or diversion techniques." Yet, the DEIS states that the Morro Bay opening is 200 meters. Can the oil be successfully kept out of Morro Bay using this existing technology? 54.57

The DEIS states that spills that occur are often small and are usually due to transferring oil, "...which most often occurs near ports where cleanup capabilities are best." Yet, if some of the platforms were to use O S & Ts and oil were not pipelined to shore, but transported from far-shore tracts to refineries by tankers, these operations will not be near ports and available cleanup capabilities. Both possibilities should be considered. 54.58

4-15 No oil spills of 1,000 bbls or greater were attributed to geohazards based on historical data. Yet, as discussed previously, it cannot be assumed that such spills will not occur, given the high seismic activity of the region. 54.59

4-17 Existing federal leases are never clearly defined in the DEIS. Which tracts and lease sales are included? Are the litigated Lease Sale 53 tracts considered existing leases or not? Are any leases in the Santa Barbara Channel included? The DEIS should clearly define which leases are included and which tracts are included in "existing" federal leases. 54.60

4-20 The DEIS states that only two segments show any expected number of spills occurring and contacting the coast: land segment No. 25 (Port San Luis area) and No. 39 (San Miguel Island). What specific coastal resources exist in these areas that would be impacted by such spills? As stated earlier, a list similar to that included in the FEIS for LS 53 for each land segment, should be included in the EIS, detailing the coastal resources in each area. 54.61

The DEIS states that the number of large spills (over 1,000 bbls) predicted to occur due to existing "federal leases" in all of California is 3.41. Yet, for LS 53, the predicted number of spills for the doubled resource estimates was 3.28. The predicted spills for all California leases, including LS 53, appear to be underestimated in the DEIS. 54.62

The DEIS dismisses as insignificant the calculated additional 10% risk of spills from LS 73. This risk may not be insignificant, however, depending on where this spill occurs, or which shoreline segments are impacted. 54.62

Small spills may be "lost most quickly to the environment" and may be "most responsive to clean-up efforts", but long term impacts are unknown from chronic spills. 54.62

4-25 More detailed information about the effects of oil spills on the southern sea otter is readily available (Biological Opinion, Lease Sale 53, U. S. Fish and Wildlife Service), and should be included in the EIS. 54.63

Exploratory Activity  
The DEIS states that exploratory operations are temporary. However, the discussion fails to consider that while a vessel may be in one specific location for approximately 4 months, several wells are usually drilled in the same general area, and that exploratory activity may be, in the general area, for a much longer period of time. 54.64

4-28 In discussing the impacts on fishing from exploratory activity, the DEIS should consider the intensity of activity from all kinds of vessels associated with this activity, i.e., drilling rigs, crew boats, supply boats, seismic vessels, etc. As witnessed in the Santa Maria Basin and western Santa Barbara Channel, such intense activity may in combination seriously conflict with fishing, particularly trawlers. The discussion in the DEIS tends to minimize such conflicts and impacts. 54.64

Development  
The DEIS implies that only 8 acres of space, used by the platform, would not be available for fishing. This fails to consider vessel conflicts noted above, and implies that if an area is excluded from certain types of fishing because of OCS activity, the fisherman can go elsewhere. Depending on the type of fish caught and fishing operation, this assumption may not be valid. Fish, like oil and gas resources, occur in particular locations. 54.65

4-30 "Direct, impact-producing agents that are associated with tankers" include, in addition to those agents mentioned in the DEIS: air pollution. The discussion of crew boat operations fails to mention tools and other supplies transported routinely by crew boat. 54.65

4-31 The DEIS lists three impact-producing agents associated with crew and supply boats. Local traffic and noise should be added to this list. There are space-use conflicts between oil industry and recreational uses as well as with other industries. Traffic, noise and socio-economic impacts on surrounding communities need also to be considered. 54.65

Page Number Comment  
4-33 Effluents and Discharge  
Table IV.A.8.a-1 lists predicted volumes of effluents and discharges from the proposed Lease Sale 73. Predicted levels from adjacent Lease Sale 53/Reoffering Sale 2 should also be included to provide a better picture of cumulative impacts. 54.66

4-39 The DEIS notes that a field study of the effects of mud and cuttings from exploratory wells is expected to start in the "near future". Before intense drilling/activity occurs in an area, these studies should be completed, particularly in light of the blanket area-wide permits issued by EPA. 54.66

Air  
4-41 The DEIS states that "Photochemical smog is by far the most serious air pollution problem in many urbanized California coastal areas." But when reaching conclusions about the significance of ozone impacts on these coastal communities, particularly in the summary, the seriousness of this problem is minimized. 54.67

4-44 Table IV.A.8-1 estimates maximum annual emissions from proposed Lease Sale 73. However, no total emissions from all sources, for each phase, are provided. In addition, several assumptions used in calculating these emissions are questionable. The estimates are based on "Most likely" rather than "Conditional Mean" resource estimates. The table assumes that only 7 exploratory and delineation wells will be drilled during peak exploratory activity in 1985; yet for a far less resource estimate in the FEIS for Lease Sale 53 (low resource estimate), 9 such wells were predicted. 54.67

The NOX emission estimate of 319.2 tons/year for such exploratory activity also appears low. The California Air Resources Board estimates that each exploratory vessel emits 1 t/day of NOX per well resulting in emissions of over 300 t/year. Are we to assume that only one drilling vessel will be in the area at a time and that all 7 wells will be drilled in that one year? In addition, it cannot be assumed that VOC emissions will be controlled by using vapor/balance lines. 54.67

4-43 Changes in Economic Activity  
The DEIS states "The California economy in 1982 is expected to follow the national recessionary trend." Yet, the DEIS was supposedly prepared after the scoping comments deadline of January 31, 1980. 54.68

The discussion in this section has no relationship to the proposed project; the changes noted will occur whether or not the project is approved. 54.68

4-45 Geologic Hazards  
Although basin-by-basin analysis of geologic hazards is presented, no tract-by-tract analysis is provided. We object to the "regional scale representation of the geologic hazards" on the visuals for all of central-northern California, when the project is confined to southern San Luis Obispo County and northern Santa Barbara County. More site-specific maps should be included in the EIS. The DEIS states that many of the faults cutting central and northern California OCS are not considered hazardous to hydrocarbon development except where they are considered active. Which specific faults are considered active in the project area and which specific tracts overlie these faults? 54.69

Page Number Comment

- 4-50 Meteorology  
The DEIS states that the Central California coastal waters experience a high frequency of restricted visibilities that could occasionally hinder the movement of crew boats and supply vessels, but that such conditions may not last long enough to cause significant delays in OCS operations. Yet, one of industry's arguments for using Port San Luis for crew boats is that fog conditions off the coast will restrict helicopters from transporting crews and result in significant delays. The EIS should discuss this conflict and should also discuss the extent fog could hinder oil spill cleanup and containment. 54.70  
  
The recent storms caused the sinking of a drilling vessel and water-spouts to occur off our coast and should be noted in the EIS
- 4-51 Mitigating Measures - OCS Operating Orders  
The DEIS states that MMS conducts "daily inspections of all exploratory functions". Yet several unreported oil spills and purported illegal use of dispersants occurred aboard the Penrod 73 earlier this year. How were these violations overlooked in such inspections occur? 54.71
- 4-52 Oil Spill Cleanup and Containment  
See our comments above regarding fog and low visibility conditions
- 4-53 The DEIS notes on this page that current capabilities of cleanup and containment equipment is controversial, yet fails to detail this controversy. The California Coastal Commission, State Lands Commission, U.S. Fish and Wildlife Service and others dispute the efficiency of oil spill containment and cleanup equipment reported in the DEIS. 54.72  
  
The toxic effects of chemical dispersants on the southern sea otter is well documented (Biological Opinion, U.S. Fish and Wildlife Service, Lease Sale 53, August, 1980) and because this threatened species will be impacted by oil spills from this end adjacent lease sales, a full discussion should be presented in the EIS. Although rigorous approval for dispersants may be required, what are the penalties for illegal use of dispersants?
- 4-54 There is no discussion of the willingness of oil spill crews and boat owners to work in adverse and harsh weather conditions.
- 4-54 The DEIS notes that a final report on the oil spill response/cleanup capabilities of all California cooperatives is pending, but states that if the lease sale proceeds as planned, a detailed oil spill contingency plan will be required. These statements elude the basic issue of whether oil spills can be adequately contained and cleaned up in the lease sale area to protect coastal resources. As the California Coastal Commission staff stated in their comments for the April 15, 1983 hearing on the DEIS for Lease Sale 73, the policy of DOI appears to be one of "Lease Now, Plan Later". 54.73
- 4-55 Although the DEIS states that there is a 24% probability of an oil spill reaching the southern sea otter range, no other mitigation is required beyond the deployment of oil spill containment equipment. The EIS should consider a 12 mile buffer as recommended by the California Coastal Commission and local government.

Page Number Comment

- 4-58 Fisherman's Contingency Fund  
The revisions to the regulations for Fisherman's Contingency Fund go a long way toward mitigating some of the impacts by making it easier to recover damages. However, many fishermen still contend that these revisions are not enough. What mechanisms have been established to evaluate these complaints and consider additional revisions to the regulations? 54.74  
  
Fleeting Vessel and Gear Damage Compensation Fund: requires a filing fee of \$ 75; a 4% administrative fee is deducted from any award. Although there is compensation for losses to gear and income, such fees may deter fishermen from filing for compensation except if larger amounts of money are involved.
- 4-61 Interrelationship With Other Proposals  
No mention is made of Morro Bay as a nominated National Marine Sanctuary although Montarey Bay and Cordell Bank are mentioned (outside the project area). 54.75  
  
No mention is made of the Nipomo Dunes complex as a registered National Natural Landmark although a full paragraph is devoted to the Point Reyes Wilderness area (outside the project area).
- 4-63 Although the DEIS maps and discusses the State Oil and Gas Sanctuary in central and northern California from the Santa Maria River mouth to Point Ano Nuevo, there is no discussion of the possible implications of leasing tracts which border this sanctuary between Morro Bay and the mouth of the Santa Maria River. No mitigation is provided, such as a buffer to protect the integrity of any state tidelands resources that may occur in the area. 54.76
- 4-68 Projects Considered in Cumulative Impact Assessment  
Cumulative impacts are not fully assessed in the EIS; only a summary discussion is offered. The DEIS fails to differentiate future oil and gas activity, existing lease sales, from other projects such as the Point Conception LNG facility and the expansion of Vandenberg Air Force Base, although these latter two projects may have a different kind and intensity of impact-producing agents and may not affect all parts of the project area, particularly San Luis Obispo County. 54.77  
  
Also future onshore oil production has not been mentioned in the cumulative impact discussion.
- 4-69 The Table IV.D.4-1 lumps existing and future federal lease sales in central California under one heading. Are the existing leases in the Santa Barbara Channel included as central California federal lease sales along with Lease Sale 53/Reoffering Sale 2? The EIS should clearly indicate which lease sales are included in each category. 54.78  
  
The number of platforms projected for federal future leases in central California (10 platforms) appears low in light of information contained in the EIS for Lease Sale 53.

Environmental Impacts of Alternative 1

Water Quality

- 4-73 & 4-79 The DEIS states that "the impact level on water quality of cuttings will be minimal because cuttings drop to the bottom or settle out rapidly from the discharge plume"; that trace metals and hydrocarbons introduced into the ocean during routine oil and gas operations "will pose no significant environmental issues from the proposed action"; and that ambient trace metal concentrations will still remain "safe" for marine aquatic life. However, because of the lack of stated sufficient study and data about the long term effects of these materials, and the lack of consideration of bioamplification and accumulation in the food chain, definite statements about the insignificant impacts may be premature. (See Coastal Commission staff comments, DEIS Lease Sale 73, April, 1983, p.9). 54.79
- 4-76 & 4-79 Oil Spills  
The DEIS discusses water quality degradation due to oil spills in estuaries and bays, but fails to discuss specific examples in the project area. For Example, what would happen specifically to Morro Bay if an oil spill were to enter that area? What would happen specifically at San Luis Bay? The Santa Maria River mouth? The general discussion does not provide enough detailed information. 54.80
- 4-80 Cumulative Impacts  
No analysis is provided, merely a brief discussion of these impacts. The DEIS does not list the impact-producing agents from LS 53 / RS #2 in adjacent areas and add these agents from LS 73. For example, the large oil spill from LS 73 is not added to the three large spills from existing leases or anticipated spills from State tidelands leases (Point Conception to Point Arguello) to assess total oil spill impacts on water quality from all leases north of Point Conception in the project area. 54.81  
  
Also see our discussion of Chapter 9 for further comments on the definitions used for impacts.
- 4-80 Impact on Ocean Dumping  
"Since bottom disturbing activities are the major impact-producing agents to dump sites," and direct contact from OCS operations will occur from a variety of activities, including platform placement, subsea completions and pipelines, the exact location of the radioactive waste dump sites within the "Black Triangle" area should be known and the amount of waste material dumped should be determined. 54.82  
  
The DEIS dismisses the significance of including this area in the lease sale, without more precise information, by stating that leasing is unlikely because the sites are in deep water and that if leased, bottom surveys will serve to avoid waste containers. If these tracts are in deep water and not likely to be leased, why are they included in Lease Sale 73? At what point will the significance and implications of leasing these tracts be considered?  
  
Because the DEIS states that if a dump site is contacted the potential impacts could be very high including possible

contamination of the water column over a large area, a full mapping and investigation of the "black triangle" area, prior to any consideration of leasing, should occur.

Also see our discussion of Chapter 9 for further comment on the definitions used for impacts.

Air Quality

- 4-84 & 4-91 The County of San Luis Obispo Air Pollution Control Department has prepared a full discussion of inadequacies of the air quality impact analysis and DEIS for Lease Sale 73, raising many issues which must be addressed in the Final EIS. (Submitted as part of the San Luis Obispo County and Citiee Area Planning and Coordinating Council comments, April, 1983) 54.83  
  
Two of the issues raised in their analysis are of particular concern:  
1) The minimizing of the ozone impacts on San Luis Obispo County from this lease sale and in combination with other lease sales in adjacent areas; and  
2) the lack of effectiveness of the DOI Air Quality Regulations for the OCS.  
The DEIS fails to consider that the violation by San Luis Obispo County of the federal AAQS, two or three times a year, will result in a change of attainment status for that county under the Clean Air Act. There is no analysis of the regulatory or economic impacts on local onshore communities resulting from these violations or from becoming non-attainment for ozone. Nor does the DEIS add the concentrations and violations expected to occur from LS 53 to LS 73 for a comprehensive assessment of cumulative impacts.  
The DEIS relies on the DOI Air Quality regulations to mitigate impacts despite excessive exemption and significance levels and the lack of automatic cumulative impact analysis.  
  
The Final EIS must be revised to address these and other issues raised in the San Luis Obispo County APCD comments.  
  
Also see our discussion of Chapter 9 for our comments on the definitions used for impacts.
- 4-92 Biological Environment  
The DEIS states that only one spill is predicted for LS 73 so that multiple spills are not expected. However, this statement fails to consider cumulative impacts from existing and future lease sales in the area which could result in multiple spills. 54.84
- 4-101 The DEIS states that variable currents and wind patterns would prevent most intertidal areas from receiving chronic oil pollution consistently, despite the lack of nearshore current data to verify this statement.
- 4-96 Despite lack of data (meteorological and current) the DEIS relies heavily on the predictive capacity of the oil spill analysis to determine the significance of impacts on specific coastal resources. 54.82  
  
The statement "since no oil is expected to contact an intertidal area...significant impacts are not expected," (p4-98) is based on the DEIS's discounting all spills with a probability of 25% or less. These spills are "not expected" to happen. (See page 4-19)

4-100, 102 Although the DEIS states that moderate impacts will occur in the immediate vicinity of the platforms in soft bottom areas, and high impacts for rocky areas, from drill muds, etc., the Biological Lease Sale Stipulation is for rocky bottom areas and only on an "as needed" basis. How does the EIS plan to mitigate all acknowledged impacts?

54.8:

Also see our comments on Chapter 9.

4-107 Fish Resources

Conclusions reached concerning the expected decline in fish populations without the proposed project are not substantiated. Each of the impact-producing agents (geophysical vessels, platforms, oil spills, effluents, etc.) is considered separately in assessing impacts on fisheries. However, some of these impacts may occur in combination, and as such, could have more significant impacts on fish populations. This issue should be addressed in the Final EIS.

54.8

Also see our comments on Chapter 9.

4-109 Marine Mammals

The discussion of impacts on the sea otter is in sharp contrast and contradicts information contained in the U.S. Fish and Wildlife Service's Biological Opinion for LS 53 (Aug. 1980). Absent from the DEIS is information which would tend to refute or raise questions about the conclusion reached that the proposed project is expected to have a low impact. For example, the DEIS uses a population figure for 1977 (1900 individuals). However, the earlier FEIS for LS 53 used 1979 population counts (1500 individuals) and the most recent population counts (1982) indicate that there are only 1200 individuals. The analysis should be based on the most recent data.

54.8:

In addition, page 4-111 provides the results of an analysis of possible otter mortality if contacted by an oil spill. However, the assumptions used in this analysis are highly questionable and contrary to information contained in the 1980 Biological Opinion. For example, it is assumed that there is a mean distribution of 20 animals/nautical mile. This does not account for seasonal variation or documented uneven distribution. In winter otters are concentrated together because of damaged kelp beds. (See Biological Opinion) It is also assumed that population counts for May 25, 1981 represent the relative distribution of the otters. However, this distribution is significantly different from the distribution in May 1980 and different from the information in the LS 53 Biological Opinion which shows a dumbbell configuration. Thus a new analysis which includes all data and more realistic assumptions must be performed for the EIS.

4-112 The DEIS does not account for the fact that during the winter sea otters are more vulnerable to oil spills. The LS 53 Biological Opinion states "relative to a spring or summer spill, a winter spill is likely to contact a greater number of otters, occur during a greater sensitive period for pups, and result in a greater loss of individuals from the sea otter population which is currently in a precarious state of existence." (page 12) Also, the Biological Opinion states that "a large spill in either the northern or southern peripheral areas ... could feasibly impact the population such that either the population or its recovery is endangered,"

54.88

(page 11) (emphasis added) contrary to this discussion in the DEIS

4-113 The DEIS states that the effects of low level chronic exposure to oil "are not known" and "Evidence of toxic effects of oil on marine mammals is very sparse." Given this lack of data, how then can the DEIS conclude that "presently the impacts due to the toxic effects of oil are estimated to be very low (insignificant)?"

54.89

There is no discussion of the possible effects of contamination of the southern sea otters' food supply. (See LS 53 Biological Opinion, U.S. Fish and Wildlife Service, 1980)

4-116 The DEIS states that one spill is expected to occur in the proposed sale area from the project. However, "no contact is expected with the coast. Therefore since there are no significant pinniped colonies in the area and no contact is expected with the sea otter range, impacts from one spill are expected to be very low. (Emphasis added)

This statement is a prime example of how inadequate analysis, invalid assumptions and inadequate data base have led to definite and highly questionable conclusions. Predicted rates of contact with the sea otter range and with the coast below 25% have been discounted in the DEIS thus leading to the conclusion that no contact is "expected." (page 4-19) Yet, there is a 24% probability of one or more spills occurring and contacting the Port San Luis area (within the sea otter range) within 30 days. (p.4-20) A full listing of pinniped areas within the project area is not available in the DEIS nor is "significant" defined; therefore it is difficult to determine whether or not there are significant pinniped colonies in the area. And finally, the oil spill risk analysis, itself, is based on limited site specific data as discussed previously.

54.90

4-117 Cumulative impact discussion is very limited and no analysis is provided. The LS 53 Biological Opinion of August 1980 states that development of the LS 53 resources will have a significant impact on the survival of the southern sea otter due to oil spills. The additional spill from LS 73 can only add to this significant impact.

54.91

Also see our comments on Chapter 9 (appendix)

4-132 Impacts on Estuaries and Wetlands  
The discussion is too general and added focus is needed on the project area, particularly the specific impacts on Morro Bay.

4-134 The DEIS discusses oil diversion/containment operations. To what extent can oil be diverted or contained so that it will not move into Morro Bay? The DEIS states that estuary openings of greater than 100 meters "are extremely difficult to protect." Morro Bay's opening is 200 meters. Yet, nowhere in that paragraph is Morro Bay specifically discussed. The DEIS merely states that there are 9 estuaries in Central California with openings greater than 100 meters and then mentions San Francisco Bay and the Pajaro River, which are both not in the project area. While discussions of areas to the north of the project may be pertinent in terms of possible tankering of the oil resources from LS 73, the main focus of the

54.92

EIS should be specifically on the project area of southern San Luis Obispo and northern Santa Barbara counties.

4-135 The discussion of oil containment equipment effectiveness is contrary to information from both the California Coastal Commission and California State Lands Commission as discussed in our general comments and previously here.

The DEIS states that "since no spills are expected to enter an estuary within the proposed sale area, significant impacts are not expected." (See our comments for page 4-116)

4-140 The DEIS fails to consider the nominated federal marine sanctuary of Morro Bay.

Also see our comments on Chapter 9, (the appendix)

4-142 Socio-economic Environment

Our major concern with the analysis performed for socio-economic impacts is that population and other demographic figures for the 4-county planning area were used, while impacts will mainly occur in southern San Luis Obispo and northern Santa Barbara counties. The EIS should focus on the project area and specifically on those communities like Pismo Beach and Morro Bay which will sustain the largest impacts.

4-146 The DEIS states that "no community in the study area is expected to suffer any significant adverse impact as a result of OCS development for Sale No. 73." Yet, no analysis is provided for specific communities so it is difficult to evaluate this statement.

54.93

4-148 The cumulative impact discussion fails to differentiate existing federal and state lease sales or to consider that the LNG terminal and Vandenberg expansion will most likely have minimal impacts on San Luis Obispo County.

Also see our comments on Chapter 9 (appendix).

4-150 Public Services and Facilities

The discussion of impacts on water supplies, waste treatment facilities and transportation assumes that these services and facilities will be eventually available despite current limitation in the project area, and no mitigation is offered. More specific information is needed about particular communities in the project area.

Transportation

Many questions are left unanswered:  
What size road would be necessary to service OCS activities?  
To what extent is rail necessary?  
At what point would road improvements and rail spurs be needed to service OCS development? Which specific communities or areas would need additional road or rail service to provide service for OCS operations?

54.94

4-151, 152 The discussion of overall impacts to public services describes these impacts in terms of low to moderate, denoting some stress

and strain on limited existing systems. However, there is no discussion of the ability of these systems to deal with these stresses and limitations, nor is mitigation offered. For example, the road to Port San Luis now experiences Level Of Service E during the summer and LOS D during other times of the year. The added traffic from crew boat facilities at the port can hardly be termed a low impact. The port has limited sewage treatment facilities and serious space constraints, and the water supplies are allocated for other uses (Harbor Master Plan Draft). Yet, the DEIS proposes that the Port will be used as a crew base. How does the DEIS propose to deal with these service constraints at the Port? The DEIS speaks of a major modification at the Port but does not describe where the crew base facility would be located.

Although the overall impacts to public services and facilities on an area-wide basis may be low or moderate, such impacts to specific communities may be high, depending on current service constraints. The EIS should fully address this issue, and acknowledge these impacts in any summary or concluding statements.

4-151 The DEIS states that "no new onshore processing facilities or marine terminals are predicted for the sale since it is assumed that adequate capacity will be available from existing lease sales. Is this because these facilities will be built in the first place to accommodate LS 53 supplies? Any capacity utilized by LS 73 resources must be attributed to that lease sale and impacts assessed.

4-152 Cumulative Impacts:  
Impact-producing agents and future projects for San Luis Obispo County need to be differentiated from Santa Barbara County.

See also our comments on Chapter 9 (appendix)

4-156 Impacts on Coastal Land Use

The DEIS states that impacts to land use from the proposed sale are expected to be low, a statement which is not substantiated by the information which precedes it.

54.95

4-158 The DEIS states that adequate onshore facilities would be in place and few new facilities are proposed as stated above. That portion of existing facilities used by LS 73 resources must be attributed to that lease sale and analyzed as impacts.

The DEIS states that a crew base at Port San Luis is an allowable use under the County's Local Coastal Program and General Plan. The County's LCP is inconsistent with respect to this point and in one part of the plan an amendment is required for a crew base (Port and Harbor Chapter) and in another part (Energy Chapter) no plan amendment is required. Since adoption, these parts of the LCP have been "whiteholed" by the County and Coastal Commission pending completion of the Harbor Master Plan. Thus it cannot be said that a crew base is an allowable use. The County is currently engaged in a study to assess need for and siting alternatives of such a facility. No conclusions about Port can be made until after the results of this study. Therefore, this section of the EIS should be revised.

4-159 DEIS states that incompatible uses will be mitigated through local permitting and planning process. This may not mitigate the impacts; conflicts may not necessarily be removed or lessened through issuing permits.

The conclusions reached in the DEIS concerning impacts on land use need to be reviewed in light of the above comments.

See also our comments on Chapter 9 (appendix)

4-164, Impacts on Commercial Fisheries

to 166 The DEIS states that impacts on Commercial fishing are expected to be low to moderate. However, it also states that a large oil spill could contact the Port San Luis area preventing fishermen from leaving and resulting in high economic loss; could cause a five year reduction in salmon; could decrease fish populations due to impacts on fish eggs and embryos and other serious impacts.

There are several questions which must be answered before full evaluation of conclusions reached is possible, including: How might the effects of oil or other contaminants in areas of intense upwelling affect fish populations or the food chain? In addition to pipelines, what are the other conflicts that might affect trawling operations? Are there other kinds of fishing operations (crab pots, etc.) which might be impacted? Would a 10% economic loss be significant in terms of the current profit margin for fishermen? Can they sustain this loss and still remain in business? What would be the effects of competition for space at Port San Luis or Harford Pier on the fishing industry if the area were to be used for a crew base?

In addition, the questions raised about the definitions of impacts found in the Appendix (chapter 9) must be answered and considered.

The estimates for crew boat trips (2 per week per platform) are not realistic. Information developed as a result of the County's Crew Base Alternative Site study indicates that a more realistic figure is 25 to 30 trips per month.

4-171 Recreation and Tourism

Although oil spill containment and contingency plans may lessen the impacts to the shoreline, the effectiveness of containment equipment is questionable and controversy exists over how effective this equipment is in the prevailing sea conditions off Central California (See comments by California Coastal Commission, DEIS LS 73, April 1983 and Biological Opinion, LS 53, U.S. Fish and Wildlife Service, August, 1980) The EIS should acknowledge this controversy in this section. While cleanup is possible on sandy beaches, rocky intertidal areas cannot be effectively cleaned; both are used for recreational purposes.

4-171, 177 The DEIS dismisses the chronic spillage of oil, saying that the overall impact on beaches would be low, as the oil would tend to reduce beach use at particular sites, on a day-to-day basis. Chronic fouling by oil on beaches may have more important consequences depending on how often it occurs and whether this fouling

happens during summer months when beach use is high.

4-172 Where are the natural seeps located that affect the project area?

Onshore facilities may also impact recreational areas in the immediate vicinity because of odors.

4-173 The DEIS states that oil spills would reduce the value of recreation to the local economy by an unknown amount, yet it goes on to estimate that amount and concludes that "overall the expected impact would be moderate."

4-173, 174 The EIS should look at the specific local communities likely to be affected (Pismo Beach, Morro Bay, etc.) and assess the probable impacts on these communities. The analysis used in the DEIS is based on region-wide data and underestimates the impacts for these communities. The total impact on recreation, like commercial fishing, may be the sum of all impacts from platforms, air quality, vessel traffic, noise, etc. The EIS should emphasize these impacts together, as well as separately.

4-176 Conclusions reached about low impacts on tourism and recreation do not appear to be fully substantiated.

4-179 See also our comments on Chapter 9 (appendix) Definition of Impacts.

4-180 Impacts on Visual Resources

Platforms  
The DEIS fails to consider, in its discussion of visual impacts of platforms, that leasing of tracts adjacent to the State tidelands off of Morro Bay and Pismo Beach may result in a drainage sale by the State of California since no alternatives are provided in the DEIS to protect the integrity of the Tidelands resources. If such sales take place, visual impacts would occur within 3 miles of the shoreline. The EIS should not only consider this project but whether this project may lead to other projects in the immediate area.

4-181 Many of the comments made earlier about impacts on recreation and tourism apply to this section.

4-184 The DEIS states that there will be a low visual impact because platforms will be placed at the southern end of the Santa Maria Basin. This ignores the scenic quality of many areas off of San Luis Obispo County south of Morro Bay.

Also see our comments on Chapter 9 (appendix) which discusses deficiencies in the definition of impacts.

4-188 Impacts on Ports and Harbors

The EIS should discuss the "cumulativity" of all impacts from the project (ports and harbors, fishing industry, recreational uses, tourism and support services) on the coastal areas particularly from Morro Bay to Pismo Beach, for a comprehensive picture of the total economic impact on these communities and the county. The DEIS considers each of these impacts separately.

In discussing the impacts on Port San Luis, a full discussion of service capabilities, space constraints, and road impacts need to be considered. While some of these issues were discussed on the section on services, they should be discussed more fully in this chapter.

What other vessels (Clean Seas, mud barges, etc.) would be using the Port besides crew boats?

What additional damage could be sustained by oil spills fouling boats moored in the harbor?

4-189 Transportation

Are we to assume from the discussion in the DEIS that no LS 73 oil will be transported from existing marine terminals at Estero Bay or Avila Beach? Or that OS&T and tankering will not be considered for isolated tracts either near Morro Bay or west of the LS 53 litigated tracts? The EIS should consider these alternatives.

4-189 Although the DEIS states that a crew boat base will be built at Port San Luis, such a determination must await the results of current local planning efforts (County alternative crew base study and development of the Port San Luis Harbor Master Plan).

Also see our comments on the Appendix, chapter 9, which discusses deficiencies in the definitions used for impacts.

4-190 Impact on Marine Traffic

The adoption by the Coast Guard of Vessel Separation Schemes and port access routes for Port San Luis and Estero Bay is necessary prior to the leasing of tracts in the area to ensure that the most efficient and safest routes are considered.

Also see our comments on chapter 9 (appendix) which discusses deficiencies in the definition of impacts.

4-199 Alternative II

Alternative II is designed to protect biological areas but calls only for deletion of tracts off of Morro Bay. No tracts off of Pismo Beach, or the Nipomo Dunes Complex, or within the total southern sea otter range have been considered for deletion. The alternative should include these and other areas of biological significance as recommended by the California Coastal Commission and others. (See our previous discussion of alternatives.)

This discussion fails to note that Morro Bay is a nominated National Marine Sanctuary. The DEIS speaks of using dispersants, but fails to note their toxicity, particularly to the southern sea otter. Since these tracts are in this range, the use of dispersants in the area should be carefully controlled or avoided. (See LS 53, Biological Opinion, August 1980.)

4-200 Alternative III and IV

See our comments on alternatives.

4-212 Environmental Impacts of Total Development

The failure of the DEIS to base the impact analysis of the project

on the conditional mean resource estimate is a serious fault. We note that this is not a "high case" analysis since no high resource estimates have been provided. (See our general comments for further information).

In addition, this section should have been integrated with sections discussing impacts from most likely resource estimates, for a more clear understanding.

Finally, the DEIS did not fully explain how the most likely resource estimates were developed from the conditional mean estimates. For example, were the resources from deepwater tracts subtracted? If these deepwater tracts are not likely to be leased because of current technology, why are they included in the lease sale at this time? If they are in the lease sale, then the impacts from developing these tracts must be fully considered.

4-213 Does Table IV I-1 include LS 53 tracts? Litigated tracts? Table IV I-2 is entitled "Oil Spill Occurrence Expected from Proposed Sale No. 73, Existing Federal Leases and Imported Oil Transportation Sources within the Study Area (conditional mean)." However, only 3 major oil spills are projected (greater than 1,000 bbls). The estimate for the doubled mean resource estimate for LS 53 was 3 major spills. The additional spill for LS 73 would bring this total to 4 major spills.

Many of the comments made here for the analysis and discussion of impacts for the most likely resource estimates in preceding pages apply to the analysis and discussion presented here. However, this DEIS section is much more general and abbreviated. This section should be fully revised to address the concerns stated in our previous comments.



APPENDIX

Page Number Comment

9-1 Appendix - Chapter IX

Chapter 9 in the Appendix contains definitions of impacts used throughout the DEIS. Each category contains definitions of what would constitute very low to very high impacts from the proposed project. This approach, however, has 3 serious problems associated with its use, raising serious questions about the validity of this approach and the conclusions reached about the levels of impacts assigned in the DEIS :

1.) These are very general categories and as such obscure specific impacts which may be significant. For example, the DEIS assigns a low or a very low impact to endangered and threatened species including the southern sea otter (p 2-18) and no mention is made in the Executive Summary (p iii) or Summary (chapter 2) of any significant impacts to the otter. It is not until the entire DEIS is read that it becomes apparent that impacts to the southern sea otter could range from low to very high depending on oil spill trajectories; that jeopardy to the population could result from a very large spill within the range (p 4-130, 131) and that if an oil spill were to occur within 10 miles of the coast there is a high probability that the oil would reach the range (p 4-112).

Furthermore, this approach does not allow for the limits in information and baseline data to be accounted for in summary statements. The FEIS for Lease Sale 53 used a Summary Table of Probable Impacts which although not completely satisfactory, provided more complete and meaningful information to the reader. For example, this report concludes that for 1.65 major spills "if the sea otter range (is) hit by a spill, sea otter, their habitat and their food could be impacted so severely as to restrict recovery". (FEIS, Lease Sale 53, p 4-209)

2.) The impact categories have been assigned inaccurately in the DEIS. For example, the DEIS assigns a moderate air quality impact for the project because of nonattainment areas (Santa Barbara County only). (p 2-16, 4-91). No mention is made of the impacts to San Luis Obispo County (currently an attainment area), even though the DEIS predicts that this county will exceed the Federal AAQ standards 2 to 3 times a year (resulting in the county becoming a nonattainment area for ozone). By the definition of impacts in the Appendix this would be a VERY HIGH impact: "Pollutant concentrations in attainment areas increasing to levels equivalent to the ambient air quality standards". (9-2)

The DEIS assigns a low impact to marine traffic because of the project (p 2-19). However, because Vessel Separation Schemes and Port Access routes have not been adopted for the project area, rerouting of (some, if not all) shipping traffic and creation of a new routing system may be necessary depending on which tracts are leased, considered to be a HIGH or VERY HIGH impact.

3.) Finally, no full definitions are provided. For example, the definition of impacts for Ports and Harbors

Appendix - Chapter IX

states that a HIGH impact would require "additional docks, berths and facilities" and MODERATE impacts would require "some new facilities". Each of these is not defined further and the reader cannot obtain a clear picture of the difference between these two categories.

Visual impacts are defined in terms of visual quality being degraded for "all" people "in the area" (VERY HIGH) or "most people in the area" (HIGH), etc. How many people constitute "most"? What is meant by "in the area"? Under this definition one platform, three miles from shore could degrade the visual quality for those living or visiting a single beach or coastal area. Would this be considered a VERY HIGH impact?

Low and minor impacts are defined in terms of "minor degradation" with "most people accepting the change" or "no significant degradation" with "few people" "noticing the change". What is meant by "minor"? How will it be determined if "most" or "a few" people accept the change? Similar problems can be found with the definitions for impacts on recreational and other categories where such terms as "most", "several", "significant", etc., are used.

In some instances, the definitions contain a specific percent degradation to define impact categories. For example, Commercial Fishing Impacts are defined as "low" if there is a 10% economic loss to the industry, "moderate" if there is a 10 to 20% loss, etc. Yet there is not discussion of what criteria is used to assign these particular values. Similar problems exist with the definitions for recreation, sportfishing, demography, endangered species, air quality and water quality. Finally, at least one of the definitions is internally inconsistent. Ocean Dumping assigns the same definition to both moderate and low impacts.

In conclusion the new approach used by MMS to assign specific levels of impacts fails to provide any additional meaningful information, and in some instances serves to obscure or minimize important impacts. We suggest the EIS be revised and this approach be eliminated in favor of the approach used in the FEIS for Lease Sale 53.

IN CONCLUSION,

With all of these constructive suggestions, questions and comments, the Final EIS should be substantially different.

We look forward to a complete revision.

55

MARIN CONSERVATION LEAGUE

A non-profit corporation founded in 1934

1330 Lincoln Avenue, San Rafael, CA 94901  
Office telephone: 456-1912

RECEIVED  
APR 27 1 54 PM '83  
MINERAL MANAGEMENT SERVICE  
PACIFIC OCEAN ENVIRONMENTAL  
SHELTER OFFICE  
LOS ANGELES, CALIFORNIA

April 25, 1983

Regional Manager  
Pacific OCS Office - MMS  
1340 West Sixth Street, Room 200  
Los Angeles, CA 90017

Dear Regional Manager:

Please find enclosed the official comments of the Marin Conservation League regarding the proposed Lease Sale #73 Draft Environmental Impact Statement.

The enclosures include:

"Offshore Drilling: A Citizen's Guide to Proposed Lease Sale #73 (San Luis Obispo and Northern Santa Barbara Counties)".

Technical Comment Outline for Sale #73 DEIS.

Environmental Impacts of the Ocean Disposal of Waste Drilling Muds and Cuttings from Offshore Oil and Gas Development.

Memorandum: Adequacy of biological surveys, especially with respect to the reporting of new and rare species discoveries.

Critique of Biological Criteria Used in POCs-MMS Final Environmental Impact Statement for Lease Sale 53.

The Value of the Non-Market Living Marine Resources of the O.C.S. Lease Sale 73 Area.

I also request that you refer to my letter dated March 18th, 1983 to you that contained our request for local public hearings in the San Francisco Bay Area regarding the DEIS for Sale 73, protested the lack of scoping meetings with local governments and concerned citizens, and made the final request that the public comment period be extended from the inadequate 45 days to the traditional 60 days.

In conclusion the Marin Conservation League urges the inclusion in the Final Environmental Impact Statement the following "preferred alternative" to the proposed Lease Sale 73:

That no leasing of tracts located to the north of the line between Row N808 and N809 on the UTMGS maps shall be offered. In addition, a moratorium on leasing of tracts that would protect Santa Monica Bay, Laguna Beach and San Diego shall be immediately enforced until the year 2,000.

Please keep the Marin Conservation League on your priority mailing list with respect to Lease Sale 73 and all other OCS proposals that affect the California coastline.

Thank you.

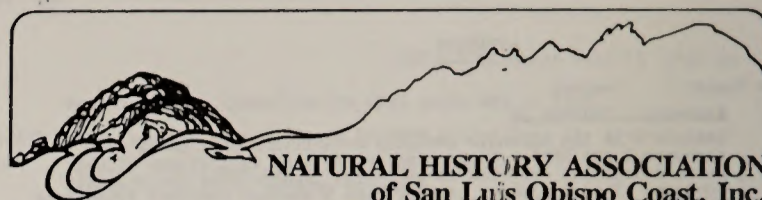
Sincerely,

Catherine Fox  
Catherine Fox  
COASTWATCH Coordinator

- Past and Present  
Angel Island  
Mt. Tamalpais  
Samuel Taylor Park  
Bolinas Lagoon/Kent Lake  
Strinson Beach  
Drakes Bay Beach  
Tomales Bay  
Pt. Reyes National Seashore  
Richardson Bay Sanctuary  
Corte Madera Tidelands  
Strawberry Tidelands  
Bothin Marsh  
Heard Marsh  
The Northridge  
Rancho Olompali  
Marin's Agricultural Lands  
Marin's Dairy Farms  
Coastal Protection  
Golden Gate National Recreation Area  
Offshore Oil Drilling  
Marin Planning Issues  
Wild and Scenic Rivers
- President  
Gloria Duncan
- Executive Director  
Karin Urquhart
- Board of Directors  
Katherine Arnaudo  
Peter Behr  
Jean Berensmaier  
Sandy Blauvelt  
Barbara Brooks  
Donald Dickenson  
Gloria Duncan  
Dale Elliott  
Willis Evans  
Phyllis Faber  
Emma Gilman  
Asa Hanamoto  
Katherine H. Holbrook  
Roger Hooper  
Susanna Jacob  
Alan Johnstone  
Warren Levinson  
Natalie Lewis  
Pamela Lloyd  
Alex MacMillan  
Willa Marten  
Wallace McDust  
Ralph Mead  
Frank Moncrief  
Bill Noble  
Ivy Partman  
Bob Reab  
Otto Reutinger  
Tom Robertson  
Jean Rose  
Jean Starkweather  
Susan Stompe  
Gordon Strawbridge  
Rosalie Webb  
Theodore C. Wellman  
Bruce F. Wolfe  
Chip Wray

Due to space limitations and the bulk of the materials submitted to the MMS regarding the Draft EIS for proposed Lease Sale No. 73, all written comments have not been included in this volume. The following documents have been reviewed by the EIS staff and responses to specific comments have been prepared as indicated.

- Attachment I - Offshore Drilling: A Citizen's Guide to Proposed Lease Sale # 73.
- Attachment II - Technical Comment Outline for Sale # 73 DEIS.
- Attachment III - Environmental Impacts of the Ocean Disposal of Waste Drilling Muds and Cuttings from Offshore Oil and Gas Development.
- Attachment IV - Memorandum - Adequacy of Biological Surveys, especially with Respect to the Reporting of New and Rare Species Discoveries.
- Attachment V - Critique of Biological Criteria used in PDCS-MMS Final Environmental Impact Statement for Lease Sale 53.
- Attachment VI - The Value of the Non-Market Living Marine Resources of the OCS Lease Sale 73 Area.



**NATURAL HISTORY ASSOCIATION**  
of San Luis Obispo Coast, Inc.  
Morro Bay State Park, Morro Bay, CA 93442

April 13, 1983

To: Mineral Management Service  
Pacific OCS Office-Rm 200  
1340 W. Sixth Street  
Los Angeles, CA 90017

From: Thomas L. Richards, Ph.D.  
Marine Animal Distress Center Project  
Natural History Association  
1901 Lariat Dr. Los Osos, CA 93402

Subject: Oil Lease Sale 73 Testimony relative to a Marine Animal Distress Center For The Central California Coast

RECEIVED  
APR 29 10 31 AM '83  
MARINE ANIMAL DISTRESS CENTER PROJECT  
NATURAL HISTORY ASSOCIATION  
LOS ANGELES, CALIFORNIA

If the Federal Mineral Management Service goes ahead with oil lease sale 53 I propose that as a mitigating measure they contribute \$250,000 to help establish a marine animal rehabilitation center to be located on the Central California Coast. The Mineral Management Service would also contribute \$100,000 a year, with a 10% yearly increase, for Center operating expenses for the duration of oil lease sale 73 operations. This rehabilitation center would be located on California Department of Parks and Recreation land adjacent to Morro Bay and would be administrated by the Board of Directors of the Natural History Association of the Central California Coast, Inc., the local area State Park non-profit cooperating association.

This facility will serve as the only complete care marine animal distress center along the Central California coast, from Los Angeles to Monterey. Currently distressed marine animals are cared for as well as possible by the Morro Bay Aquarium, Santa Barbara Natural History Museum, California Polytechnic State University, Cooperating Veterinarians, Individuals (designated by the California Department of Fish and Game and the Department of the Interior) or they are transported to distant distress centers. In many cases distressed marine animals are left to die where they are injured or stranded when it might be possible to successfully return them to the environment after only a minimal amount of care. This is especially true when the animals are contaminated only by a small amount of oil. Once the animal is cleaned and rested it can be returned to the environment with a good chance of survival.

Marine Animal Distress Center  
Testimony - Richards; Page 2

This facility would help lessen the potential adverse oil development impact on the endangered southern sea otter, seals/sea lions, cetaceans, birds and other coastal marine organisms. The Center would also be designed to care for terrestrial animals such as raptorial birds, including the endangered American Peregrin Falcon and Bald Eagle. Existing facilities for short term handling of distressed animals are not adequate under normal conditions and would definitely not be able to respond in an emergency.

It is unfortunate that a short term complete care marine animal distress facility is not already operating on the central California coast as several hundred birds and mammals, some common, others threatened, rare or endanger of extinction could benefit each year. Even those that do not survive to be released would provide valuable scientific information that will benefit their species. The physical facility, its staff and volunteers, would also provide a valuable service to the area by immediately responding to reports from the public of distressed animals and as a central location where the public could direct their questions concerning distressed animals. It is also envisioned that through the centers staff and volunteers an educational program would be developed for both school children and adults.

The concept of a marine animal rehabilitation facility for the central California coast has received support from the local chapter of the American Cetacean Society, the California Department of Parks and Recreation and the Department of Fish and Game. Several Cal Poly faculty and local Veterinarians have expressed an interest in contributing their professional expertise to the Center. It seems only fair that a small part of the revenue generated by the sale of this offshore lease be invested in rehabilitating the animals that would suffer the most from an oil spill.

Thomas L. Richards, Ph.D., Coordinator  
Marine Animal Distress Center Project  
Natural History Association  
1901 Lariat Dr. Los Osos, CA 93402

Phone 805/528-1836

State of California

The Resources Agency of California

**Memorandum**

Date : April 1, 1983

To : Larry Helm, Resource Ecologist  
Central Coast Region

From : Department of Parks and Recreation, San Luis Obispo Coast Area  
20-A Higuera Street  
San Luis Obispo, CA 93401

Subject: Wild Animal Distress Center

The attached correspondence from Dr. Tom Richards of Cal-Poly University is self explanatory.

By copy of this memo to him I am notifying him that I support this proposal. In addition to life saving measures for wild animals in distress, this center would provide an excellent opportunity for the Occents and Ranger staff to inform visitors to this area of the environmental hazards to all types of wild-life and what they (the visitors) can do to help.

Will you please review his proposal and take appropriate action to obtain support for the project from the department.

Thank you,

Ken Huddlestone  
Acting Area Manager

KJH:mar

cc: Tom Richards



April 11, 1983

Mike and Carol Stalder  
1 State Park Rd.  
Morro Bay, CA 93442  
(805) 772-5571

We are holders of both State and Federal permits for rehabilitating sick and injured birds.

Operating for a 9 month period in Ventura, CA, we treated 150 distressed birds. Approximately 75% were oiled seabirds and the majority were able to be cleaned and released.

Operating in Morro Bay for 2 years (starting in April, 1981) we have treated approximately 200 birds:

- 60 Pelagic Species (including 18 Brown Pelicans)
- 15 Marsh/Fresh Water Species
- 50 Raptors (plus 2 Red Tailed Hawk eggs)
- 75 Other Species ( Passerines, Swifts, Hummingbirds, etc)

- 12 of the total were oiled birds
- 40 " broken wings
- 27 " immature (2 weeks to 4 months old)
- 30 " botulism/poison
- remainder " misc. injuries

This list does not include over 100 birds mistakenly picked up by the public that were not injured which we examined and then immediately put back into their habitat or nest. Nor does it reflect the 1 to 5 phone calls a day about birds.

For the most part we are funded out of our own pocket (we did accept funds for 2 flight cages from a private donor) and 2 local veterinarians provide treatment at no cost.

We have received birds from as far away as Creston, or Northern Santa Barbara County. People are referred to us by many different local agencies (i.e. Fish and Game, Audubon, Fire Dept. Diablo Canyon Power Plant, etc.)

Our training in Avian Rehabilitation comes from many sources. The International Bird Recovery Center in Berkeley trained us in oiled seabird

Arthur Robert Neumann  
Raptor Biologist  
589 Los Osos Valley Rd.  
Los Osos, Calif 93402  
(805)528-0235

I am a holder of a California Master Falconer's License and have held a federal Raptor Rehabilitation permit.

I have been operating an avian rehabilitation project since summer 1979 when I received an injured Golden Eagle. This bird, along with many others, was housed and cared for at such facilities that could be provided by the California Polytechnic State University Department of Biological Sciences. When I first undertook this rehabilitation project I was unable to foresee the magnitude that the project quickly reached.

Word-of-mouth helped by several newspaper articles soon caused my skills as a Raptor Biologist to be taxed to their limits as I began to receive distressed birds on a regular basis. Depending upon the season of the year, I might receive one or two birds per week. Raptors are not the only birds brought in. Various wading, song, and sea birds are also brought to me in order that they might be rehabilitated and released. The eventual release of a patient is considered a success. Release is often much more than just taking an animal out and turning it "loose". It often involves much work to help insure an animals survival after release. At least 70% of all birds taken in are released. Those that do not survive are used by local museums or other educational institutions while those that could not live in the wild have been placed in zoos.

When I finally had to vacate the facilities at Cal Poly I could only move my project to my home in Los Osos where, sadly, I have been forced to turn away many distressed animals due to a lack of space and food. Money for more space, food and medicine are the main limiting factors currently. Veterinary care has been provided free of charge by several local veterinarians.

Since starting this project in 1979 I have taken in at least 117 birds and have spent hundreds of my own dollars and have received only occasional small donations from individuals or concerned groups. I currently give lectures dealing with the various aspects of raptorial birds for local schools and other organizations with any payment received used strictly to pay for transportation.

The Central California Coast has need of a raptor rehabilitation facility. My solitary efforts only provide for a fraction of what should be done. The only way to expand such efforts is through outside financial aid.

page two

recovery and Dr. Ron Dalzel gave us training and guidance in many areas of avian treatment. We are also members of the Western Wildlife Rehabilitation Council and we receive numerous journals and periodicals on all aspects of downed birds and have an extensive library.

A major rehabilitation center on the Central Coast is greatly needed. Currently the closest large centers (which also accept mammals) are in Monterey, Fresno and Santa Barbara and are too far to travel. The overwhelming numbers of birds that we sometimes receive is one good reason a large center should be established. Another reason is that in 2 years we have been here we have received only 12 oiled birds. The offshore oil development that is planned will greatly increase these numbers (during a 9 month period in Ventura, an oil producing area, we treated approx. 100 oiled birds).

The release potential for an oiled bird is roughly 75% to 80%, depending on the degree of oiling, physical condition of the bird prior to oiling, length of time its been oiled, and the degree of refinement of the oil. (oil from the ground is not toxic, but the more it is refined the more poisonous it becomes...aviation fuel, for example, is so highly toxic to birds that contamination is fatal and any living bird must be euthanized)

To my knowledge my wife and I are the only people on the Central Coast trained in de-oiling a bird. With volunteers and training we could be prepared for an oil spill. A large center could provide this, along with marine mammal recovery.

Carol and I would like to offer our support and any help we can give in starting a distressed wildlife care center. Please feel free to get in touch for any help you may need.

Sincerely yours,

*Mike Stalder*

Mike Stalder

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## Natural Resources Defense Council, Inc.

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25 April 1983

Regional Manager  
Pacific OCS Region  
Minerals Management Service  
1340 W. Sixth Street  
Los Angeles, CA 90017

Dear Regional Manager:

Enclosed are the official comments of the Natural Resources Defense Council on OCS Lease Sale No. 73. As noted therein, these comments are submitted under protest within the comment period prescribed in the Federal Register of March 9, 1983; that comment period is shorter than that to which the Department of the Interior has officially bound itself under its Departmental Manual.

Please feel free to contact me if you have any questions concerning NROC's comments.

Sincerely,

*Trent W. Orr*

Trent W. Orr  
Senior Attorney

TWO:rjf  
enclosure

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## COMMENTS OF THE NATURAL RESOURCES DEFENSE COUNCIL, INC.

ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR  
PROPOSED 1983 OUTER CONTINENTAL SHELF OIL AND GAS  
LEASE SALE OFFSHORE CENTRAL CALIFORNIA,  
SALE NO. 73

April 25, 1983

Prepared by  
Trent W. Orr  
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## INTRODUCTION

This document comprises the official comments of the Natural Resources Defense Council, Inc. (NRDC) concerning the draft environmental impact statement for proposed OCS Lease Sale No. 73 (Lease Sale 73) off the coast of central California. NRDC is a national, nonprofit environmental law and policy organization dedicated to the preservation of the natural environment and the protection of the human environment from health and safety hazards. NRDC has over 44,000 members, approximately 8,400 of whom reside in California. One of NRDC's major concerns is the promotion of wise management of the nation's coasts and offshore waters so that these may continue to provide a wide range of renewable resources for this and succeeding generations.

NRDC believes that the draft environmental impact statement (EIS) on Lease Sale 73 and the process by which it has been prepared and is being offered for public review are grossly in violation of the National Environmental Policy Act (NEPA), the regulations of the Council on Environmental Quality implementing that act (CEQ regulations), and the Department of the Interior's own Departmental Manual provisions for NEPA compliance. NRDC's legal concerns are both procedural and substantive. As to the former, the Minerals Management Service (MMS) has unreasonably and, in several cases, illegally curtailed opportunities for full public involvement in its environmental review process. As to

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the latter, MMS has either entirely omitted or inadequately provided information and analyses that NEPA specifically mandates for inclusion in EISs. NRDC also believes that MMS has not fulfilled the requirement of the Endangered Species Act that it ensure that the proposed sale will not jeopardize the continued existence of any threatened or endangered species.

Because of the shortness of the review period, NRDC will limit its comments to the legal inadequacies of the Lease Sale 73 DEIS and process as outlined above. NRDC recognizes, however, that there are many specific flaws and omissions in the technical information and analyses offered in the DEIS. Therefore, NRDC hereby endorses and incorporates herein by reference the comments on these matters of the Oceanic Society, the County of Marin, and the Sierra Club.

### I. FLAWS IN THE PUBLIC PARTICIPATION PROCESS

#### A. Scoping

The scoping process that preceded the release of the DEIS on Lease Sale 73 was transparently a sham: It did not, as it should have, set the stage for the preparation of the DEIS. Instead, after numerous inquiries from concerned elements of the public, a vague semblance of scoping was grudgingly provided scarcely a month before the DEIS was released.

The CEQ regulations set forth the requirements for scoping in 40 C.F.R. § 1501.7. This section of the regulations makes absolutely clear that scoping -- *i.e.*, "the process for

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determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action" -- must occur at the outset of EIS preparation. Thus, scoping is required to occur "[a]s soon as practicable after [an agency's] decision to prepare an environmental impact statement," not after the preparation of the draft EIS itself. This is borne out by the CEQ regulation's requirements that scoping be employed, *inter alia*, to "[d]etermine the scope ... and the significant issues to be analyzed in depth in the environmental impact statement," to "[a]llocate assignments for preparation of the environmental impact statement among the lead and cooperating agencies," and to "[i]dentify other environmental review and consultation requirements so the lead and cooperating agencies may prepare other required analyses and studies concurrently with, and integrated with, the environmental impact statement." 40 C.F.R. § 1501.7(a)(2), (4), (6). All of these requirements plainly indicate that scoping is a prerequisite to the compilation and writing of a draft EIS, not merely to its publication.

Yet MMS treated scoping as if it were a minor formality, conducting the process at a time when it could not conceivably play the critical role in setting the scope of the draft EIS that it is, by definition, to perform. Preparations have been underway for Lease Sale 73 since the Call for Nominations was published November 28, 1980. In the months that followed, numerous local officials and other members of the public

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contacted MMS regarding the need for scoping on the proposed sale. But it was not until December 30, 1982, in the midst of the year-end holiday season, that MMS announced "its intent to prepare" the DEIS on Lease Sale 73 and invited comments on "the scope of the EIS" through January 31, 1983. 47 Fed. Reg. 58390. On March 9, 1983, a little more than a month after the close of the so-called scoping process, the DEIS, a document well over five hundred pages in length, was released. 48 Fed. Reg. 9951.

It is obvious that the DEIS was substantially completed before the scoping process began. The DEIS makes no contrary contentions, nor does it even explain the uses to which the fruits of its belated scoping process were put, merely stating that these were "summarized and evaluated" and that issues "identified as significant" were distributed to various public locations. Pp. 5-6 - 5-7.<sup>1/</sup> MMS has flouted the requirements of NEPA and the CEQ regulations in its treatment of scoping as a procedural afterthought.

Further, numerous commenters (including NRDC, by letter of January 28, 1983, to John Lane, Chief of the Environmental Assessment Division of the Pacific OCS Region of MMS) requested that scoping meetings be held concerning proposed Sale 73 in the vicinity of the project area. While not mandatory under the CEQ

<sup>1/</sup>All references to the DEIS will be in this form, i.e.  
"P. \_\_\_\_\_."

regulations, such meetings are encouraged "when the impacts of a particular action are confined to specific sites." 40 C.F.R. § 1501.7(b)(4). Given Congress's geographic limitation of the proposed lease sale last fall, this condition clearly is met. In general, the CEQ regulations indicate that public meetings are appropriate in cases involving "[s]ubstantial public controversy concerning the proposed action or substantial interest in holding the hearing." 40 C.F.R. § 1506.6(c)(1). The recent history of public outcry, protracted litigation, and expressions of congressional concern over leasing off central California, including the very area involved in Lease Sale 73, certainly evinces such "substantial public controversy." Finally, the CEQ regulations advise a public meeting at the "request ... by another agency with jurisdiction over the action." 40 C.F.R. § 1506.6(c)(2). The California Coastal Commission, which has jurisdiction to evaluate the consistency of the proposed lease sale with the California Coastal Management Program, requested such a meeting by letter of January 19, 1983. Despite all these indicia of the propriety of holding at least one scoping meeting, MMS, in violation of the spirit of NEPA and its implementing regulations, refused to hold any such meetings.

In sum, no legitimate scoping process was held for Lease Sale 73. Rather, the scope of the DEIS was determined wholly without public involvement, in direct contravention of NEPA and the CEQ regulations.

B. The Comment Period

Astonishingly, the public comment period that has been provided for the Lease Sale 73 DEIS violates the Department of the Interior's own binding internal procedures for NEPA implementation. NRDC submits these comments within MMS's illegally short comment period under protest.

The notice of availability of the DEIS was published March 9, 1983. 48 Fed. Reg. 9951. This announcement indicated that written comments on the DEIS must be submitted to MMS by April 26, 1983. However, the Department of the Interior's Departmental Manual, Part 516 DM § 4.24(A), states: "The minimum review period for a draft EIS will be sixty (60) days from the date of transmittal to the Environmental Protection Agency." Assuming the date of this transmittal to have been March 9 (both the notice of availability and the DEIS are silent on this point), the comment period should not close until May 9, 1983.

Many members of the public have complained to MMS about the unlawful brevity of the comment period. For example, NRDC fully apprised MMS of this problem in a letter of March 17, 1983, to the Regional Manager of the Pacific OCS Region of MMS. To date, no response, formal or otherwise, has been received to this complaint.

However, Pacific OCS Region staff members are alleged to have told several members of the public in telephone conversations that Interior's Departmental Manual merely provides

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"guidance" for NEPA compliance but is not binding upon MMS. This is plainly incorrect; the Department's NEPA procedures were promulgated in the Federal Register through a public notice and comment procedure and apply to all Interior subagencies. See 45 Fed. Reg. 27541 (April 23, 1980). The courts have held that federal agencies are bound to follow their own duly promulgated procedures even when these do not take the form of official regulations. See, e.g., Parker v. United States, 448 F.2d 793 (10th Cir. 1971); National Forest Preservation Group v. Butz, 343 F. Supp. 696 (D. Mont. 1972), rev'd on other grounds, 485 F.2d 408 (9th Cir. 1973). Indeed, Patricia Sanderson Port, the Regional Environmental Officer for the Department of the Interior in San Francisco, has informed the author of these comments of her concurrence that a sixty-day comment period on the Lease Sale 73 DEIS is necessary and has attempted to transmit this information to the Pacific OCS Region.

Beyond its blatant violation of Interior's comment period requirement, MMS is acting very unreasonably in refusing to extend the comment period beyond the minimum of sixty days legally mandated. The DEIS is a voluminous and complex document, the contents of which are based upon numerous technical studies and reams of data. The proposed action, as noted above, is a highly controversial one. The logical conclusion to be drawn from these circumstances is that a lengthy comment period should be provided, so that all elements of the public may participate

fully and informedly in the NEPA process. MMS, in an apparent attempt to insulate itself from any criticism of its predetermined plan of action, has taken the opposite course, doing all it can to make public involvement as difficult as possible.

C. The Public Hearing

A brief note is in order upon the public hearing on the DEIS held by MMS on April 13 in Santa Maria, California, as it is further indicative of the contempt with which the agency views public expression of its concerns over the proposed action. While hearings on draft EISs are not always mandatory under the CEQ regulations, they are required "whenever appropriate." 40 C.F.R. § 1506.6(c). The criteria which indicate appropriateness of hearings include "[s]ubstantial environmental controversy concerning the proposed action or substantial interest in holding the hearings." 40 C.F.R. § 1506.6(c)(1).

Both conditions were met in the instant situation. Many members of the public contacted MMS requesting at least one public hearing in one of the coastal communities that would be most affected by the proposed lease sale. (Among those contacting MMS, NRDC requested that a hearing be held in Morro Bay, California, by letter of March 17, 1983, to the Regional Manager of the Pacific OCS Region of MMS.) MMS's response was to hold a single hearing in the inland, oil-dependent community of Santa Maria, California. Despite several hundred citizen

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requests to testify about the DEIS, MMS did not schedule additional hearings in coastal communities to accommodate witnesses from those areas but held three simultaneous hearings in Santa Maria, limiting each witness to a scant six minutes of testimony, cut back shortly before the hearings from an already brief ten-minute restriction. There can be no explanation for the staging of these hearings in this outrageous manner in an inconvenient forum but MMS's cowardly refusal to give its critics a full and fair hearing.

D. Conclusion

If the process employed to date for proposed Lease Sale 73 is a fair example of how the NEPA process will be treated under Secretary Watt's "streamlined" OCS leasing scheme, then the public's worst fears about that "streamlining" have unfortunately been realized. What has been revealed so far is not a process for making leasing decisions more efficiently but one that seeks systematically to deprive all outside the agency of any meaningful voice in the management of the nation's offshore resources.

II. FLAWS IN THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

A. Lack of Sufficient Site Specificity

Prior to the action of Congress in the fall of 1982 that limited Lease Sale 73 to the area north of Point Conception up to and including Row N816 UTM Grid System, Sale 73 was to cover the area from Point Conception to the Oregon border. If further

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proof were needed that the DEIS was prepared prior to the January 1983 scoping period (see Part I.A., above), a perfunctory reading of the document would provide ample evidence, for it plainly appears that preparation was well under way before Congressional action truncated the sale. That is, the focus of much of the DEIS's discussion and analysis is on the impacts of the lease sale as originally envisioned, offshore all of central and northern California, not the proposed action described in the DEIS.

A few of the more blatant instances where this can be seen will suffice to prove the point. For example, the maps which accompany the DEIS are not detailed depictions of the current Lease Sale 73 area but cover the coast to the Oregon border. The relevance of geologic structures or geologic hazards off the Mendocino coastline, for instance, to the currently proposed action is rather difficult to fathom. On pages 4-93 and 4-97, the reader is informed that no oil spills are expected from the Santa Cruz or Bodega Basins but that, should such spills occur, impacts to rocky and sandy beach intertidal areas would be low. As neither basin is being offered for lease in Sale 73, this information is rather pointlessly offered.

While there are many such glaring oversights in the editing of the draft of the DEIS prepared for the much larger, earlier version of Sale 73, far more important to the question of the adequacy of the DEIS in its present form is the failure of the

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editors of the earlier version to move sufficiently from generalities about the entire central and northern California coast to the specific features of the current project area and the specific effects that the proposed action -- not leasing along the entire coast -- would have in the project area and elsewhere. Thus, to choose some random examples, we find descriptions of fish (p. 3-33 ff.), seabirds (p. 3-46), recreation (p. 3-79), and tourism (p. 3-83) that discuss those topics generally for all of central and northern California. This is symptomatic; Chapter III -- "Affected Environment" -- sorely lacks detailed descriptions of the features of the discrete project area proposed for leasing. While the general descriptions of environmental characteristics of the coast beyond the project area are appropriately offered insofar as the proposed action may have impacts on them, such generalities cannot substitute for detailed treatment of the project area itself.

Having not described the affected environment in sufficient detail, it comes as no surprise that the description of impacts from the proposed action in Chapter IV also fails to be adequately site-specific. The impacts discussion must be focused far more on the currently planned Lease Sale 73. In addition, the faulty attempt to alter the DEIS from a document addressing a central and northern California lease sale to one addressing a sale solely in the Santa Maria region has produced some odd

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results. For example, far more emphasis is placed on the effects of the proposed action on the Point Reyes-Farallon Islands Marine Sanctuary, several hundred miles to the north, than on the Channel Islands Marine Sanctuary, immediately to the south, despite the DEIS's admission that an oil spill from the sale area is likely to contact the waters of the latter. P. 4-19, 4-140, 4-226.

A line-by-line analysis of the DEIS repeatedly reveals a tone of generality arguably appropriate to the project as originally conceived but scarcely adequate given its present contours. MMS must write an EIS that addresses squarely and with specificity the action it is proposing and the environmental consequences thereof. A mere re-edit of the current broadly focused DEIS would hardly suffice; a new DEIS should be scoped, prepared, and circulated for full public comment.

**B. Inadequate Range of Alternatives**

An essential part of any EIS is a careful analysis of a full range of reasonable alternatives to the proposed action. Indeed, the CEQ regulations term the analysis of alternatives "the heart" of the EIS. 40 C.F.R. § 1502.11. The courts have fully concurred. See, e.g., *California v. Block*, 690 F.2d 753 (9th Cir. 1982); *NRDC v. Calloway*, 524 F.2d 79 (2nd Cir. 1975). NEPA and the CEQ regulations require that an EIS "[r]igorously explore and objectively evaluate all reasonable alternatives" to the preferred alternative and "[d]evote substantial treatment to

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each alternative considered in detail." 40 C.F.R. § 1502.14(a), (b) (emphasis added).

The Lease Sale 73 DEIS considers only three alternatives to the proposed action. In so doing, it neither examines the range of "all reasonable alternatives" nor devotes "substantial treatment" to each of the three alternatives put forth.

As to the range of alternatives examined, only one envisions a sale with a different configuration than the proposed action. This is Alternative II, which proposes the deletion of tracts sufficient to create a ten-mile buffer zone centered on Morro Bay. The rationale offered for this special protection of Morro Bay is its status as a "sensitive biological area." P. 2-19. NRDC concurs with this classification but finds no justification in the DEIS for the failure to consider additional alternatives deleting different tracts to protect other areas of biological or recreational significance. For example, such areas as the coastal lagoons and tidal mudflats of the Santa Maria and Santa Ynez Rivers, the various small beaches between Morro Bay and Pismo Beach, and the Pismo Beach sand dunes are important areas for which a protective alternative or alternatives should be developed.

Further, it was wholly inappropriate for the MMS to formulate an alternative to protect onshore air quality and then reject it because it would be ineffective in achieving that purpose. P. 1-17. If, as MMS recognizes in the EIS, coastal air

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quality is threatened by the proposed offshore oil development, then it is entirely reasonable that an alternative be considered that would adequately protect onshore air quality. That the six-mile buffer alternative contemplated would not accomplish this purpose argues for the creation of another alternative that would, not the abandonment of a clean air alternative.

Regarding the adequacy of the discussions of the three alternatives that are considered, none is of sufficient detail to satisfy NEPA. In addition, the descriptions of Alternatives III and IV reveal a pronounced bias against these alternatives. In both respects, the discussions must be rewritten and considerably expanded to serve NEPA's purposes.

While hundreds of pages are devoted to the proposed action, the other three alternatives combined receive a total of seven pages of description and fourteen pages of impact analysis. Pp. 2-19 - 2-26, 4-199 - 4-212. In both instances, the majority of the discussion is inappropriately devoted to the impacts that are projected for the central and northern California coastal environment if no sale is held. Discounting this material, there is a total of six pages of discussion on the three alternatives in the entire DEIS. These short expositions are not the "vigorous explorations" and "substantial treatments" that NEPA and the CEQ regulations demand of EIS alternatives. Far from providing detailed alternatives with which the proposed action and its costs and benefits can be carefully compared, MMS has

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offered a pro forma set of alternatives that it clearly has no desire to consider seriously.

The descriptions of Alternative III -- Delay the Sale -- and Alternative IV -- No Sale -- clearly demonstrate MMS's disregard for its duty to evaluate all reasonable alternatives thoroughly and objectively. The brief initial description of Alternative III, occupying a bit more than half a page of text, is repeated virtually verbatim in the discussion of impacts of the alternatives. Pp. 2-21, 4-201. This is all that is heard of Alternative III in the DEIS. While these curt discussions give lip service to some of the many advantages of delay (e.g., it is noted that additional information on the sale area could be obtained during the delay period, but no detailed discussion of important studies currently underway, or of further data that should be collected, is included), MMS tries to create the overall impression that a delay of the sale would simply delay all of the impacts attributed to the proposed action.

The bias with which Alternative IV is treated is even more obvious. The reader is told that, while this alternative would (rather obviously) eliminate all impacts from the proposed action, many other impacts would occur in the region over the next twenty-five years. These are then set forth in an eleven-page discussion as if they were impacts attributable to the "no sale" alternative. Pp. 4-201 - 4-212. Obviously, these impacts would occur no matter which alternative is chosen; they

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should be discussed under the rubric of cumulative impacts, not improperly associated with Alternative IV, creating a false impression of causation.

To make the Lease Sale 73 EIS an adequate document, a new discussion of alternatives must be provided. This discussion should expand the range of alternatives being considered and should give to each alternative the detailed and objective treatment that NEPA demands.

C. Insufficient Discussion of Mitigation Measures

The CEQ regulations require that an EIS discuss measures aimed at mitigating the adverse environmental impacts predicted for the proposed action and the other alternatives. 40 C.F.R. §§ 1502.14(f), 1502.16(h). To the extent mitigation measures are discussed at all in the Lease Sale 73 DEIS, they are intended for the proposed action; for none of the other three alternatives is there any additional discussion of mitigation.

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Critical among measures to mitigate the environmental impacts of OCS activities are stipulations attached to leases at the outset to commit the lessee to protect various environmental values. Unfortunately, the lease stipulations proposed for Lease Sale 73 are highly unsatisfactory in that they do not offer sufficient mitigation and, worse yet, are entirely hypothetical. The reviewer of the DEIS is given no assurances whatsoever that, should the action go forward as proposed, the stipulations outlined would even be used, let alone be adequate.

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The stipulation discussion occupies nine pages of the DEIS. Pp. 2-6 - 2-15. At the outset, the reader is informed that:

A secretarial decision on these mitigating measures has not occurred; they are noted here as potential measures which could further mitigate impacts resulting from this Proposed Lease Sale No. 73. Some of these measures have been imposed by the Secretary in past lease sales. If any of these measures are adopted, they will appear in the Final Sale Notice.

Thus, there is a threshold problem of whether the adverse impacts of the proposed action will be mitigated at all, because the Secretary of the Interior is unwilling to commit himself to even the general lease stipulations described in the EIS. The actual stipulations that will be attached to Sale 73 leases will not be revealed until the Final Notice of Sale, which is far too late for effective public comment. Given NEPA's strong regard for full public involvement in federal decisions affecting the environment, this is an intolerable approach.

Even if all the stipulations discussed are put into effect, it is apparent that these will not adequately mitigate the adverse impacts of the sale. For example, the discussion of the biological stipulation largely ignores the problems drilling can cause the biological communities in areas with soft substrates. Pp. 2-7 - 2-8. Moreover, this stipulation assigns responsibility for the surveys for special biological resources to the lessee, by no means a disinterested party.<sup>2/</sup> P. 2-9. The further

<sup>2/</sup>The same is true of cultural resource surveys. P. 2-9.

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mitigation measures that may be used should special biological resources be discovered are described very tentatively; the conditions under which these would be employed must be spelled out much more clearly.

The criteria under which pipelines are required should be much more mandatory and less subject to the lessor's discretion, and collaboration among the various lessees should be required to minimize the number of pipelines and onshore facilities required, for both environmental and economic reasons. A stipulation to mitigate air quality impacts from the proposed action should be formulated and presented for public review. In general, a much more specific list of stipulations, to which MMS and the Secretary are willing to commit themselves, should be provided and discussed in sufficient detail to allow reviewers to assess intelligently their adequacy to achieve their stated purposes.

D. Failure To Consider Cumulative Impacts Adequately

The CEQ regulations define cumulative impacts as follows:  
"Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

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NEPA requires that the cumulative impacts of any proposed federal action with other actions in the project area be discussed in detail in the EIS. The DEIS for Lease Sale 73 is faulty in its treatment of cumulative impacts in two significant respects.

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First, the discussions of cumulative impacts under the various impact categories in Chapter IV are very spotty. Sometimes these discussions ignore the proposed state tidelands oil leasing between Point Conception and Point Arguello, sometimes they ignore the activities on federal leases from Lease Sale 53, and sometimes they ignore both. For example, the DEIS's discussion, in its total development scenario, of cumulative impacts on coastal land use does not appear to consider the effects of all offshore oil development planned for the vicinity of the proposed sale on onshore support facilities, such as those at Port San Luis. P. 4-229 - 4-230. Again, in describing the cumulative impacts of OCS activities on the subtidal benthos, the DEIS limits itself to the effects of the proposed action and development of existing leases from previous sales; apparently the proposed state tidelands sale was not taken into account. P. 4-130. In most discussions of the cumulative impacts on various resources, it is impossible to determine the extent to which other state and federal OCS activities have been considered.

Second, the DEIS treats most of its terse cumulative impact discussions as if the intent of these were not to display the proposed action's impacts in conjunction with other activities but rather to trivialize the impacts solely attributable to the proposed action by comparison to the impacts of other activities. Thus, the tone of the cumulative impact discussions is one that emphasizes how much worse the combined impacts of

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other human activities will be than those of the proposed action. See, for example, p. 4-98 (emphasizing visitor damage to intertidal areas); p. 4-107 (emphasizing the likely decrease in fish populations through other pressures "[w]ithout the proposal"); p. 4-159 (emphasizing the effects of "general population increases" on coastal land use). The prevailing notion in the DEIS that cumulative impacts are properly addressed by looking at impacts of other activities "without the proposal" is obviously antithetical to the concept of cumulative impacts. The document must be amended so that the cumulative impact discussions all look at the impacts of the proposed action in conjunction with, not in opposition to, the effects of other activities.

E. Absence of Worst Case Analysis

The recent case of Sierra Club v. Sigler, 695 F.2d 957 (5th Cir. 1983), makes clear that, when there is uncertainty about the extent of the adverse impacts likely to result from a proposed action, NEPA and the CEQ regulations require the performance of a "worst case" analysis. 40 C.F.R. § 1502.22(b) provides:

If (1) the information relevant to adverse impacts is essential to a reasoned choice among alternatives and is not known and the overall costs of obtaining it are exorbitant or (2) the information relevant to adverse impacts is important to the decision and the means to obtain it are not known (e.g., the means for obtaining it are beyond the state of the art) the agency shall weigh the need for the action against the risk and severity of possible adverse impacts were the action to proceed in the face of uncertainty. If the agency

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proceeds, it shall include a worst case analysis and an indication of the probability or improbability of its occurrence.

Here, it is apparent that information on the potential damage from oil spills and from release of radioactive substances during OCS oil activities -- two risks of Lease Sale 73 -- is important to the decision whether and where to lease but that the means to obtain it are either not known or exorbitantly costly. As a consequence, worst case analyses of both dangers must be performed before Lease Sale 73 can proceed.

The DEIS acknowledges that the likelihood and severity of oil spills associated with Lease Sale 73 is highly speculative. Pp. 4-4 - 4-21. At the same time, "[o]il spills are considered one of the single greatest potential impacting agents to the environment from offshore oil and gas activities." P. 4-4. For these reasons, it is incumbent upon MMS to conduct a worst case analysis of oil spills, analyzing the impacts of the worst conceivable spill attributable to Lease Sale 73 activities under the worst weather, current, and other conditions.

Another hazard of unknown dimensions is posed by the apparent presence of a radioactive waste dump in the Sale 73 area. The description of the size and contours of this area is far from precise; a map should be provided. P. 4-83. Yet it is clear from even the limited text on this subject in the DEIS that no one is at all sure where the waste containers actually are. The DEIS admits that disturbance of these containers during OCS

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oil and gas activities could result in a very high impact to the marine environment. Again, the conclusion to be drawn from the considerable uncertainty as to the precise location of the radioactive waste is that a worst case analysis of the effects of release of the largest potential amount of radioactive material directly into ocean waters must be performed.

F. Lack of Discussion of New and Rare Species

While the many flaws in the DEIS's technical information and analyses (amply set forth in the comments of others that NRDC has endorsed at the outset of these comments) are beyond the scope of this document, one omission in this regard is so important that it is worthy of brief mention here. Studies of the benthic communities in the area of the proposed state tidelands sale between Point Conception and Point Arguello have revealed more than twenty species of animal life previously unknown to science. Chambers Consultants also identified forty-nine rare species in this region. Many of these species were found in soft bottom areas, which the DEIS for Sale 73 largely ignores as sensitive biological areas.

The relevance of this information to Lease Sale 73 is obvious. As the area studied is in the immediate vicinity of the Sale 73 area, MMS should be amply alerted to the possibility that these and other new and rare species may well exist in that sale area. Yet the DEIS does not even mention the state tidelands information and demonstrates -- by the absence of any similar

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information -- that no effort comparable to the Chambers Consultants study has been made. MMS has an obligation to discuss this problem and to gather appropriate data on the benthic species of the sale area or to justify its failure to gather such data and conduct a worst case analysis. 40 C.F.R. § 1502.22. Without this information, the EIS is fatally flawed.

III. FAILURE TO COMPLY WITH THE ENDANGERED SPECIES ACT

According to the DEIS, there are seven species of whales that occur in the Sale 73 area that are listed as endangered under the Endangered Species Act, 16 U.S.C. §§ 1531 et seq. (ESA). Pp. 3-50 - 3-51. In addition, the southern sea otter, the southern range of which is adjacent to the sale area, is listed as threatened under ESA. P. 3-51.

Section 7 of ESA requires every federal agency to ensure "that any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the continued existence of any endangered species or threatened species." 16 U.S.C. § 1536(a)(2). This determination is to be made using "the best scientific and commercial data available." Id. Two courts have recently examined this duty as it relates to marine mammals and threats from petroleum activities; the more recent of the two cases specifically addressed an MMS OCS oil leasing proposal. Roosevelt Campobello International Park Commission v. Environmental Protection Agency, 684 F.2d 1041 (1st Cir. 1982); Conservation Law Foundation v. Watt, No. 83-0506-MA (D. Mass.,

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March 28, 1983). Both courts concluded that the requirement that jeopardy determinations for endangered and threatened species be made on the best data available mandates the performance of any studies that are suggested by the best available science and technology. 684 F.2d at 1052 n. 9; Conservation Law Foundation slip opinion at 21-22.

As in the Conservation Law Foundation case, Interior Department studies are currently being conducted that are directly relevant to the question of the adverse effects of DCS oil activities on the endangered and threatened marine mammals. These studies have been underway since Lease Sale 53 was in the planning stages. The studies in question are "Marine Mammal and Sea Bird Study for Central and Northern California," "Commercial and Sports Fishery Diloxicity Study," and "Northern California Risk Assessment to Marine Coastal Habitat." Until these studies have been completed and their results analyzed, MMS cannot possibly ensure that Sale 73 will not jeopardize the various endangered cetaceans and the southern sea otter. The studies must therefore be completed before an adequate determination of lack of jeopardy to these species from Sale 73 can be made and the sale allowed to proceed.

CONCLUSION

Until all of the many flaws in the Lease Sale 73 DEIS and the legal process leading toward the sale are fully corrected,

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the sale cannot lawfully occur. Moreover, in light of the invaluable scientific, fishery, recreational, scenic, and other renewable resources of the sale area, and the area's low oil resource estimates, particularly in its northern portion, NRDC urges that no sale be held. Until the current oil glut ends and currently leased Sale 53 tracts are fully developed, there is no adequate justification for further disturbance of this valuable area.

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PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOCIATIONS, INCORPORATED

3000 BRIDGEWAY BUILDING, SUITE 104 • (415) 332-5080  
P.O. BOX 1626, SAUSALITO, CA 94966, USA



22 April 1983

REGS. CONS. DIV.  
APR 20 1983  
FISHERIES

Manager-Pacific DCS Office  
Mineral Management Service  
1340 West 6th St. Room 200  
Los Angeles, CA 90017

Dear Sir or Madam,

The Pacific Coast Federation of Fishermen's Association represents 21 commercial fishermen's associations in California and Oregon. Through our member associations, we represent many of the salmon, crab, shrimp, sablefish, swordfish, herring, rockfish, sea bass, shark, urchin and abalone fishermen who could be dramatically affected by any future offshore oil development along the Central and Northern California coast, that area being considered for the proposed OCS Lease Sale 73.

Our organization is extremely concerned with the Department of Interior's leasing of tracts for oil development offshore California. Virtually all of the fishermen belonging to our member associations could be affected by the lease sale being proposed for offshore California. Indeed, fishermen belonging to one of our member associations, the Commercial Fishermen of Santa Barbara, presently operate within an area where there has been extensive offshore oil development on state lands. Their fishing operations have been adversely affected by offshore oil development and they will continue to be adversely affected by increased OCS development.

On behalf of the majority of the commercial fishermen in California, we wish to make the following comments regarding the Department of Interior's Draft Environmental Impact Statement (DEIS) on Lease Sale 73. Our comments are broken down into three categories: 1) Economic impact of OCS development on the fishermen and coastal communities, 2) Physical conflicts, and 3) Biological impacts.

Economic Impacts

The commercial fishing industry and its associated businesses significantly contribute to both state and national economies. According to the Department of Commerce, in 1981, California was the second leading state in the U.S. in total value of fish landed, and third in total volume of fish landed in the nation. According to the California Resources Agency, the current annual value of the California commercial fishing

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industry is \$1.25 billion. This is conservative figure. With the increased harvest by U.S. fishing vessels and eventually the processing by U.S. firms of such currently underutilized species as squid, Pacific Whiting, and shortbelly rockfish, the total landings and value of the California fishing industry will be increased significantly. The value of the California salmon fishery is also increasing as a result of monies and efforts being invested in the rehabilitation of lost salmon spawning and nursery habitat and the rebuilding of that resource.

The DEIS fails to consider that the commercial fishing industry involves more than merely fishermen and their vessels. Multipliers are necessary to assess the value of commercial fishing to shoreside processing and distribution and the total value of this industry to the regional economies. For example, salmon is the second most important commercial fisheries in the U.S., both in quantity and value, and the most valuable of California's fisheries. Salmon is also the number one fishery export in the United States, yet nowhere in the DEIS is the potential value of fishery exports to the balance of trade noted. How can there be a balancing between the risks involved with DCS development in relation to the commercial fishing industry, when the full value of fisheries, a renewable fisheries, is not provided?

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The value of the commercial fishing industry has been severely minimized in the DEIS by the use of obsolete and outdated statistics. The DEIS uses 1976 Fish and Game statistics when 1982 data is readily available and would more accurately reflect the value of our industry.

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The DEIS also fails to consider other major commercial fisheries such as the pink shrimp fishery which is valued at \$250,000 to \$600,000 yearly or the hook-and-line rockfish fishery valued at \$500,000 yearly.

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Physical Conflicts

1. CONFLICTS WITH SEISMIC EXPLORATION ACTIVITIES. Seismic exploration has created a serious problem for the commercial fishing industry by interfering with fishing activities, loss of fishing time, lost and damaged fishing gear, dispersal of fish schools and creating major navigational hazards. The DEIS does not adequately address these problems nor their economic implications to our industry. In addition, no solutions to this problem were offered, such as 'sharing of the data' to help minimize the traffic problems that now exist between the tremendous number of seismic vessels operating in the same localities as the commercial fishing vessels.

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2. ADEQUACY OF COMPENSATION FOR GEAR LOSS OR VESSEL DAMAGE. The DEIS fails to look at the inadequacy of the fishing vessel and gear damage compensation fund and the fact that those funds do not offer full compensation damage to fishermen for losses and are many times caught up in red tape and beauracracy. Many times claims may be difficult or nearly impossible to obtain by such groups as fixed gear fishermen, who by nature of the fishery, must leave their gear unattended at various times. This makes it difficult to pinpoint OCS activity as the specific cause of the gear loss even though it is the suspected cause.

3. ADEQUACY OF PORT FACILITIES. The DEIS includes very little discussion of the space-use conflicts and fails to address the resultant economic impacts. Currently there is a critical shortage of adequate berthing and support facilities for the commercial fishing industry in addition to a shortage of land available for development of these facilities. The California Coastal Act of 1976 mandates this state to protect and enhance commercial and recreational boating facilities. Additionally, the act calls for orderly development of the coastline, while protecting pristine areas, and states the desire to congregate industrial development in areas where it already exists. Obviously a serious conflict will arise if commercial fishing and its associated industries are displaced or impacted by new oil-related facilities, especially in non-industrial ports such as those in northern California. No studies that we are aware of on the possible harbor use conflicts arising from OCS development have yet been prepared by Interior specifically for Northern and Central California.

4. LOSS OF FISHING GROUNDS. The loss of fishing area resulting from OCS oil development can be significant when considering platforms, pipelines, tanker traffic, pollution and exploration. Structures, such as platforms and pipelines, not only obstruct fishing, but pose a hazard to fishermen. The DEIS does not address this issue to any extent.

5. ENFORCEMENT OF REGULATIONS GOVERNING OCS ACTIVITIES. The DEIS fails to include guidelines for enforcing and monitoring development and implementation of OCS activities. In addition, there was no discussion of the possibility of standard requirements for OCS related gear and equipment to help minimize gear losses by fishermen due to underwater obstructions.

6. PROPER BALANCE BEING MAINTAINED. The effects of OCS activities upon the commercial fishing industry are grossly inaccurate. The DEIS states that even without the sale, the commercial fishing industry is expected to sustain economic losses due to natural fluctuations in fish stocks, competition with other fishermen and other factors. The DEIS fails to

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acknowledge current federal and state management programs designed to maintain and protect our fishery resources. It also fails to acknowledge the ongoing programs and financial investments fishermen have contributed towards the protection and enhancement of many of our major commercial fisheries.

Biological Impacts

1. MITIGATION AND PROTECTION FROM DAMAGES. The DEIS contains no discussion on this subject.

2. SUMMARY OF SPECIFIC SPECIES. Only a select number of commercial fisheries are discussed in the DEIS. No discussion of smaller, but important, commercial fisheries was available.

3. DRILLING MUDS AND FISH. Information on the effects of drill muds and cuttings is severely inadequate. General studies available are not discussed or cited. Drilling muds, depending on the location of disposal and the composition of the muds, can bring serious harm to fish. This was not discussed.

4. PLATFORMS AS ARTIFICIAL REEFS. The loss of fish habitat and potential elimination of certain demersal fish species (who require open-water, sandy or mud bottom habitat) due to placement of oil platforms was not included in the DEIS.

5. ESTUARINE AND WETLANDS DAMAGE. Due to their importance as a nursery area and foodsource for commercial fisheries, the productivity of estuaries can be important to the overall productivity of an offshore area to the degree that the economic viability of certain fisheries in an entire region could be affected. The long-term damages to an estuary as a result of an oil spill or from oil related pollution, can mean reduced year-classes of important commercial fish species for some time after. The resulting 'snowball effect' to the commercial fishing industry needs to be addressed.

6. OIL SPILLS AND FISH. The impacts of oilspills directly on fish was not adequately discussed. The DEIS lacked the following information: 1)Direct lethal toxicity to overall ecology and to specific species of resources. 2)Disruptions to physiological and behavioral activities. 3)Effects to genetic mechanisms. 4)Effects of direct coating and ingestion of oil. 5)Tainting of edible fish and shellfish. 6)Bio-accumulation of potentially carcinogenic compounds in the food chain. 7)Change in habitat and overall ecosystem (especially egg to larvae stages of various fish species) and 8)Bioconversion of residual oil products in the marine environment.

We do not believe the Department of Interior is maintaining a balance between the need for energy development with that

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of fishery production offshore California. The fishing industry is not ignorant of the nations' energy needs or the goal of becoming energy dependent, however the pace of leasing that is now occurring will only lead to the improper and disorderly use of our valuable coastal resources and to the detriment of those industries dependent on those resources. We must exercise the utmost caution in OCS development off Central and Northern California--caution that is not currently being shown by the Department of Interior.

Sincerely,

*Nathaniel Bingham*  
Nathaniel Bingham  
President

NB/srt

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PACIFIC SEAFOOD INDUSTRIES, INC.  
P. O. Box 2544  
Santa Barbara, CA 93120

April 19, 1983

The Manager, Pacific OCS Office  
MMS  
Room 200  
1340 W. Sixth St.  
Los Angeles, CA 90017

Dear Manager, Pacific OCS Office:

Re: Proposed lease sale #73

My company grows shellfish, primarily abalone and oysters in the waters off of Santa Barbara. Clean, unpolluted water is essential for producing quality seafood that will meet public health standards. My operation therefore, has an economic interest in maintaining our coastal waters as clean as possible.

The effects on the food web from oil drilling cuttings and muds have not been documented along our coast. Each set of oceanographic conditions, which vary from ocean to ocean, can produce different effects on the food web. We should know more about local oceanographic conditions and effects from dumping before we find longterm damage.

I want to go on record as opposing offshore dumping of drill cuttings and muds for lease sale #73 when; the effects of dumping have not been shown to be benign to the food web and while practical alternatives such as barging these wastes to land exist.

Sincerely,

*Jeffrey Young*  
Jeffrey Young, President  
PACIFIC SEAFOOD INDUSTRIES, INC.

JY:ms

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April 20, 1983

Mr. Cyril V. Bird  
Minerals Management Service  
Pacific OCS Region  
1340 W. Sixth Street  
Suite 100  
Los Angeles, California 90017

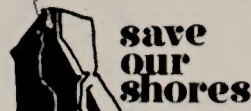
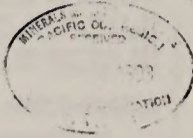
Dear Mr. Bird:

Having reviewed the E.I.S. for OCS Lease Sale 73. I feel there is a great threat to fish, fishing grounds and spawning areas from many activities involved with exploration, development and transportation of offshore oil. We have also heard testimony from Southern California fishermen of how oil production activities have negatively impacted fisheries in that area. Therefore, I must object to OCS Oil Lease Sale 73.

I oppose offshore oil development north of existing areas of development.

Sincerely,

George A. Balding  
STMA Director



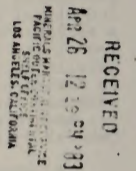
P.O. Box 1560 - Santa Cruz, California 95061

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT ON PROPOSED OCS LEASE SALE #73

(Central and Northern California)

Submitted by SAVE OUR SHORES  
(Santa Cruz, California)

APRIL 25, 1983



Prepared by:

Kim Tschantz  
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SAVE OUR SHORES, Vice Chairperson

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Environmental Studies  
Univ. of California at Santa Cruz

AND

The Members of SAVE OUR SHORES

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT ON PROPOSED OCS SALE #73

Although the process of formulating the DEIS is not a topic covered in the DEIS document, it cannot be separated from the document itself since both the document and the process regarding its development and review are commingled as major foci in the final decision-making on Lease Sale 73. These comments will therefore first focus on the process and second on the document itself. The latter divided into general comments and specific comments on the DEIS.

THE PROCESS

The DEIS (pp. 1-13 to 1-17) refers to issues raised as a result of "scoping". But nowhere is it mentioned that the process of "scoping" was the most minimal ever provided in OCS leasing activities. The normally held scoping meetings held in affected localities were cancelled only to be replaced by "scoping by mail". Receipt of issue identification concerns by letter cannot replace the information gained at a question/answer/clarification interaction which previous lease sale scoping meetings provided. To say that scoping meetings under previous Lease Sale #53 sufficed for this requirement is unacceptable since new issues have been raised since the scoping meetings of Lease Sale #53. The short circuiting of the "scoping" process under Lease Sale 73 results in beginning the entire process with limited input from the public and local government officials.

The reduction of the normal 60 day review and comment period to 45 days also causes great concern. No rationale is given for this reduction in the review period other than Interior's new policy of "streamlining" the lease sale process. However, the 15 days saved by the Interior Dept. to "streamline" the process is minimal compared to the two weeks lost to the public to give the document a thorough review. This 15 day reduction constitutes a 25% reduction in the review period from previous lease sales. The Interior Dept. has failed to discuss how this severe review time reduction will benefit the public in its proposed leasing of public lands.

Just as serious as the two problems discussed above is the Interior Dept.'s decision to only hold one public hearing on the DEIS. This single public hearing, held in Santa Maria, was not even located in an affected coastal community! One location was certainly effective in curtailing public comment from all over Central and Northern California!

Although the Interior Dept. is forbidden by Congressional action to lease tracts north of Morro Bay during this fiscal year this does not excuse the Interior from holding public hearings north of Morro Bay. Other coastal areas can also be affected by tanker traffic to refineries in the San Francisco Bay area and the possibility that the Interior could even lease tracts north of Morro Bay after the end of the 1983 FY. The process of this single public hearing itself took was the strange form of three simultaneous smaller hearings in the same building. This action prevented the public and a single hearing panel from hearing all the testimony given at the hearing. This action gives the appearance that the Interior purposely acted to lessen the impact of a large number of people participating in the public hearing state.

The short circuiting of the public participation stage throughout the entire lease sale process shows that the Interior has a higher disregard for the public and its input than ever before in the lease sale process. It is our position that the Interior has failed to comply with the public participation requirements of NEPA and therefore cancellation of this Lease Sale 73 is appropriate.

GENERAL COMMENTS -- ALTERNATIVES

The DEIS (pp. 2-1 to 2-26) discusses four alternative actions regarding Lease Sale 73. These four alternatives are inadequate because they do not address recent actions taken in Congress. Clearly, there is sentiment in Congress to delete all tracts north of the Santa Maria River or north of Morro Bay, as evidenced by the AuCoin funding stipulation in the 1983FY Interior Appropriation's Bill and the joint Senate/House version of H.R. 6365. The first action is a compromise which prevented the Interior Dept. from using funds in Lease Sale 73 north of Morro Bay and the second a bill pending currently in Congress to place a 17 year moratorium on any off-shore leasing and development activities north of the Santa Maria River (line between Row N808 and N809 on UTMGS maps). It is a direct affront to the U.S. Congress that neither of these alternatives were even included in the group of potential alternatives for Lease Sale 73.

Secondly, the alternatives are inadequate because they do not include an alternative which would delete tracts of potential geohazards (Seismic activity existing faults and fissures). Pages 1-17 of DEIS states this alternative was not considered necessary because lessees are required to conduct geohazard surveys prior to commencing operations. The DEIS, however, fails to consider or even discuss the conflict of interest created by the lease purchaser to conduct their own testing that could result in constraining their own operation and investment. Has this requirement been conducted successfully and honestly in the past? What are examples?

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GENERAL COMMENTS -- ADVERSE IMPACTS/CUMULATIVE IMPACTS

Oil spills are discussed in terms of mortality levels to species but they do not discuss what these mortality levels mean for the survival of the population of that specie. Page 4-243, for example, states that "the occurrence of one major oil spill would be likely during the lifetime of the proposed project". This would result in a 7-15% mortality to the California Sea Otter. While such statistical predictions are helpful in assessing impacts what is even more important is what will this level of death mean: 1) to the survival of the specie as a whole, 2) how will it affect other species in the same food chain and symbiotic ecological community, and 3) if population recovery is possible, how long will that take? In regards to oil spills, the Section on adverse impacts ends with a statement on P. 4-246 that "large oil spills could do irreversible damage but the probability of this occurring would be very low". This contradicts statements made on preceding Pages 1-182 and 4-243 about the expected high likelihood of a major oil spill and the historical record on studied affects on fisheries after oil spills such as occurred off the coast of Brittany with the Arco merchant disaster. The DEIS admits the likelihood of oil spills but in general contains very limited discussion on what this really means to the ecology, fishing industry, tourist industry, property values and personal lifestyle/psychology of a locality. Only 3 1/2 pages are devoted to the section entitled "Unavoidable Adverse Impacts". These 3 1/2 pages are inadequate because the effects of these impacts are not discussed.

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The environmental impacts of Alternative IV (no sale) are discussed unfairly on Pages 4-201 to 4-206. Impacts mentioned such as "water quality will still continue to degrade...primarily to agricultural runoff" (P. 4-202) and "without the proposal marine mammals will suffer impacts from several sources over the next 25 years" (P. 4-203). While these statements may be true, the only time this "normally expected" type of impact is discussed is under Alternative IV. If these impacts are expected to occur "no matter what", then why have not they been included as additional basic impacts under Alternatives I, II and III? This gives the erroneous impression that only under the No Sale Alternative will the impacts stated on Pages 4-201 to 4-206 occur.

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One of the weakest areas of the entire DEIS is its lack of analysis of cumulative impacts created by several leasing actions and environmental impacts occurring simultaneously. Cumulative impacts are "identified" in a paragraph at the end of each section within "Environmental Impacts of Total Development" (pp. 4-214 to 4-244). However, these paragraphs merely state that "the proposal significantly adds to the impacts from these sources" (P. 4-237) without analyzing what such cumulative impacts will have on the affected socio-economic-ecological environment. Secondly, the

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"identification" of these cumulative impacts are discussed separately by topic (i.e. cultural resources, marine traffic, etc.) as if an impact resulting within one area (recreation potential) cannot interact with and affect an increased impact within another topic area (commercial fisheries). The entire document conducts its analysis without including the results such impacts have in total when working in a cumulative fashion on the environment. An example of this psychology can be found within sections discussing analysis from a comprehensive standpoint such as Page 4-244 which states "visual quality of the environment would be degraded by platforms being visible from the coastline, and also may have a slightly negative effect on tourism". What about increased tanker traffic, lower air quality, lower water quality, loss of recreational berth space? All these impacts will work together to create a problem to the tourist industry of far greater magnitude than "a slightly negative effect".

SOCIO-ECONOMICS (INCLUDING TOURISM/RECREATION)

While much of the descriptive material within Pages 3-63 to 3-93 and 4-142 to 4-199 seem reasonably accurate, it is at a fairly broad and superficial level. Someone with expertise in this study area can obviously "read between the lines", but a lay person would get only the most general overview without fully understanding the consequences of the impacts. For example, while the DEIS admits that very few jobs would be created by proposed OCS activities (P. 4-143, paragraph 6 -- "1% increase over the base") no analysis is presented to estimate how many jobs could be lost if a serious oil spill shut down the tourist industry within the sale area or adjacent affected areas. Since the DEIS states that one major oil spill can be expected, this prediction on potential employment loss represents a major lack of information.

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In the tourism and recreation section an undue emphasis was placed on Northern California. This section was relatively extensive but far too general. The section on the "sale area" (Central California) was no more specific.

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The northern area stands only the likelihood of a tanker spill; the central and southern coast risk much more. The southern coast, south of Point Conception, was largely ignored yet not only does it risk tanker spillage, but also with coastal surface currents flowing south, damage from oil escaping from coastal installations. An initial conclusion, even working with only secondary and tertiary data, was that equal attention should have been paid Southern California.

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Within the sale area one wished for specificity. "A moderate impact to tourism could occur if the potential thirty platforms are grouped directly offshore. If the platforms are relatively scattered throughout the sale area, a low impact to tourism is expected from the proposal" (p. 4-234). It would seem that anyone with average intelligence could make such a deduction.

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In the sale area, beach use is in excess of 35 million visitor days (p. 4-171). The area, it is said, would be sensitive "to impacts occurring as a result of the proposal. The impacts "to recreation could result from oil spills, pipeline landfalls, onshore facilities, offshore structures, vessel traffic, noise and air quality".

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Defined narrowly the sale area is not tourist oriented. However, anything attractive to a recreationist will have a high degree of attraction to a significant number of tourists. For this reason, we don't intend to separate the two activities.

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The DEIS notes that "oil spills are the most noticeable impacting agents to recreation, as they tend to preclude all recreation in the areas of contact". It points to the damage (already well known) of spills at sea and in contact with the coastline. It lists restrictions such spills would cause. Strangely it states, "If only tar balls were present, most general beach use would still be possible...The loss of beach usage... due to oil spills could range from very low (no closure...) to a very high (complete closure... or partial closure...)" (p. 4-172). One wonders what purpose such an amorphous statement serves.

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Although tar balls are summarily dismissed, anyone who has spent time in the Mediterranean knows what a deterrent tar is to enjoyment. Even pinheadsized deposits can spoil beach enjoyment, not only for the period tar is physically on the beach, which is much longer than may be expected, but also for a very long psychological after-period during which beaches have limited attraction.

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The references to pipeline installation and onshore facilities are true as far as they go (p. 4-172), but the DEIS seriously discounts the changes wrought by a pipeline, onshore facilities and offshore structures. (Admittedly expected pipeline landfalls will be made in areas of low use. (t seems essential that this should be so.)

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In a nutshell, it is considered that given a strictly limited amount of time after construction, business will soon resume as usual, once people become used to a changed landscape. This is an opinion rather than a statement of objective fact.

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Despite the fact that a heading "visual resources" is used, it appears that too little attention is paid the psychological effects a changing seascape, perceived changes, imagined changes, expected change, expected visual pollution, and expected oil spills at some period would have on the recreational attraction of Central California beaches. Change would take two important forms: physical and perceived. The second is quite as important as the first, yet it is largely ignored throughout the DEIS.

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SUBTIDAL AND INTERTIDAL ECOSYSTEMS

Identification of rocky intertidal areas of greater sensitivity on page 3-29 are based on self-declared assumptions. What study results are these assumptions based on? Data should be supplied supporting the accuracy of such assumptions rather than listing the names of five intertidal biologists who were consulted.

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The mortality potential that OCS activities would have on intertidal organisms appears to be discounted with the use of statements like "impacts from a large oil spill cause mortality... toxic related mortality is also possible" (p. 4-93, paragraph 4). Research done at Woods Hole Institute and other stations show that mortality to intertidal organisms is not only possible - it is definitely probable.

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The paragraph 6 on page 4-93 contradicts itself when it says the "potential impacts caused by a large oil spill for the majority of intertidal areas will be lower than...during the Santa Barbara spill" but then continues on to say "the impacts caused by a large spill to areas believed to be sensitive (Table III, B. 1-1) would be the same or greater...". Once again mortality to the intertidal ecosystem is discounted. Table III, B.1-1 on page 3-30 gives a listing of those "sensitive habitats". Fourteen separate rocky intertidal areas from Point Conception (Santa Barbara County) to Pt. Reyes (Marin County) are shown and this listing does not even include the highly productive coastal estuaries such as Morro Bay and Elkhorn Slough. If all these areas are deleted from a map of coastal California, very little of the coastline below Pt. Reyes remains. The abundance of those ecosystems and their sensitivity to oil spill smothering is discounted throughout the analysis.

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Regarding estuaries, the DEIS does discuss the damage an oil spill could have to Morro Bay but fails to explain what this really means to the ecology of the area since the biological productivity is never estimated. The DEIS makes no mention of productivity in, or impacts to, estuaries farther north such as Elkhorn Slough or the San Francisco Bay. This is a problem since the DEIS itself states that approximately 25% of the extracted crude would be tankered to the San Francisco Bay.

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Again, the potential mortality to intertidal life is discounted on page 4-93, paragraph 3, which states that since the "oil spill model predicts only one spill for the entire sale area, multiple spills are not expected". The oil spill model, conservative by its own definition, is not infallible. Multiple spills are very possible as well as cumulative low-level water pollution from illegal bilge cleaning and well discharges.

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OCEANOGRAPHY AND OCEAN DUMPING

The DEIS uses the hindcast methods for the years 1951-1974 (average wave action) and 1951-1960 (10 worst storms) to predict future ocean conditions on OCS activities. (pp. 3-10, paragraphs 4-6). The winter storm conditions of 1980 to 1983 along the California coast show that the hindcast method for those years is very unreliable to predict future ocean conditions, storm severities and extreme wave heights. The severe ocean storm conditions of 1982 and 1983 especially show there is not reliable prediction of the weather. Tsunamis could arrive on the average once every 2 years, one year or each month during the winter. There is no reliable way to predict this phenomenon. It is for this reason that we have consistently taken the position that off-shore drilling rigs present a serious safety hazard. The toppling of the off-shore platform off the New England coast during the winter of 1982 was evidence of that - 84 workmen were drowned. An off-shore platform off the coast of southern California was toppled during this past winter of 1983.

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The impact of ocean dumping from OCS platforms is not adequately addressed in pages 3-16 to 3-19. The discussion on these pages merely focuses on EPA's ocean dumping permits under the NPDES System. How this dumping of sewage, formation waters, drilling muds and metallic cuttings affects the water quality within existing leased areas of the OCS is never mentioned. To say that this permit process "preserves the ecological balance in the area by choosing sites where least damage is expected to occur" is completely erroneous. EPA's new "streamlining" of the NPDES permits in southern California during the past year have resulted in lessening dumping restrictions on industry so dumping can occur any time, any place and in any quantity. EPA promised to monitor the southern California OCS in a pilot study. Are there any results of those studies to date?

MARINE MAMMALS

affected Environment--(Page 3-39) This section presents information on the distribution of cetaceans in the proposed lease sale area, as summarized from data from the Center for Coastal Marine Studies, UCSC, 1982. The summary is so broad as to be meaningless. It seems that a summary of this kind should relate the very different distribution and abundance patterns of each species (as detailed in the CCMS Report prepared for BLM/MMS) to the portions of the lease sale area that will most likely be developed. This would provide the basis for assessment of the potential impacts of the proposed development. Except for a brief discussion on gray whale migration through the area, no mention of how the habitat is utilized

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by the cetaceans is made. Within the proposed Lease Sale 73 area, the ranges of different cetacean vary from remaining from 0.25 nautical miles of shore as in the case of the harbor porpoise (*Phocoena phocoena*) to being found primarily over the continental shelf waters between 100 and 1000 fathoms, as in the case of the very abundant northern right whale dolphin (*Lissodelphis borealis*) and including such species as Risso's Dolphins (*Grampus griseus*) that move throughout the entire proposed lease sale area. Movements of most species in the area vary seasonally. Repeated patterns of animal behavior do not occur within a vacuum. There are reasons for the seasonal patterns of distribution and abundance. Typically, such patterns are related to the utilization of resources available to the animals (i.e. food supply). The movements of cetaceans are generally very closely tied to their needs.

(discussion continued on next page)

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They often correlate with the movements of very specific prey items or are related to the need to find waters with optimal characteristics for giving birth and caring for newborns that lack the flexibility of the adults in dealing with temperature changes (See D.E. Gaskin, 1982. The Ecology of Whales and Dolphins, Heinemann Press:London, for a review). While such remains to be learned about the habitat use of cetaceans, the CCMS (1982) report alludes to several indications of habitat use within the proposed lease sale area. For example, northern right whale dolphins (*Lissodelphis borealis*) use the waters of central and northern California as calving and nursery grounds during winter months. The tendency for antinatal coalescence of cetacean schools into larger aggregations suggests the importance of social contact between conspecifics in these waters at this time. In summary, the specific environment in which each species lives is an extremely important component of the "Affected Environment" and should be treated as such--not dismissed by merely a few broad generalizations and the presentation of cumulative sighting rates for all cetaceans.

61.27

In the same section, the migration route of the gray whale (*Eschrichtius robustus*) is described. Increased emphasis should be placed on the last sentence in the quote on 3-41 that states that gray whales passing San Luis Obispo Bay are frequently found several miles from the coastline due to headland-to-headland traverses; this could place the whales in the proposed lease sale area.

Environmental Consequences --(Page 4-109) This section purports to discuss the "Impact on Marine Mammals", but the discussion is quite incomplete. The initial paragraphs attempt to define the limits of available knowledge on this topic, but do not acknowledge the existence of information from several government-funded projects or the occurrence of ongoing research with direct application to the task at hand. For example, research is presently underway along the coast of central California to study the effects of potential industrial disturbance on migrating gray whales. Research funded by BLM has been underway in the Canadian Beaufort Sea since 1980 dealing with the potential effects of offshore petroleum exploration and development on a species of baleen whale, the bowhead (*Balaena mysticetus*) (Fraker, M.A., W.J. Richardson and B. Wursiq. 1982. Disturbance responses of bowheads. p. 145-248 in W.J. Richardson (ed.), Behavior, disturbance responses and feeding of bowhead whales *Balaena mysticetus* in the Beaufort Sea, 1980-81. Unpubl. Rep. by LGL Ecological Research Associates, Inc., Bryan TX, for U.S. Bureau of Land Management, Washington. 456 p.). In addition, research on disturbance responses of humpback whales, *Megaptera novaeangliae* in Glacier Bay, Alaska, have been underway for several years. Rather than stating that only limited information is available for assessing the impacts on marine mammals, the nation is available should be utilized to the fullest, and some indication of the kinds of data that are due to become available from research currently underway should be made.

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In the same section it is stated (P. 4-109) "It is outside the scope of this document to speculate on potential impacts to the emotional or social structure to these animals from OCS Hydrocarbon

\* Now called MMS

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activities." This is a critical gap in the discussion in the assessment. It is becoming increasingly apparent that the social structure of cetaceans is crucial to all other aspects of their lives (See L.M. Herman, 1980, Cetacean Behavior, John Wiley & Sons:New York, for a review). Factors that disrupt the social structure of cetacean schools will ultimately affect the reproductive potential of cetacean populations. Potential disturbances from hydrocarbon development must be examined relative to the possibility of disrupting these schools.

61.29

On page 4-113 the DEIS states "There are no known significant impacts to porpoises, dolphins, or whales from contact with oil". One is given the impression from this statement that there are no impacts from contact with oil. This is another case where a lack of adequate data is equated with a lack of impact. On page 4-111 the DEIS states that there have been no observations of oil-covered whales. The significance of the impacts to porpoises and dolphins is open to interpretation. Only a few studies of the effects of oil contact on dolphins have been conducted. St. Aubin and Solangi (1983) state "The skin of cetaceans is biochemically unique and may be adversely affected by petroleum hydrocarbons. Recent studies have identified specific ultrastructural and metabolic defects in bottlenose dolphin skin following exposure to oil and gasoline. The consequences and scope of these changes are the focus of a continuing research program, though it does not appear that such exposure would present a major threat to an otherwise healthy dolphin" (In:Keller, C.E. and J.K. Adams, eds. 1983. Proceedings of a workshop on cetaceans and sea turtles in the Gulf of Mexico: study planning for effects of outer Continental Shelf development. Prepared by the U.S. Fish and Wildlife Service for the Minerals Management Service, Metairie, LA. 42 pp.). The important condition in this statement is that the effects would not be expected to be major in an otherwise healthy animal. Mere contact with oil is not the only consequence to be expected in the event of a spill. Cetaceans encountering quantities of oil should be expected to face exposure through inhalation and ingestion as well. The cumulative effects of this exposure would probably not result in a healthy animal. St. Aubin and Solangi (1983) state "Cetaceans in the midst of an oil spill will likely inhale petroleum vapors, which in some instances may be mixed with hydrogen sulfide gas. High concentrations of volatile hydrocarbons are rapidly fatal. Sublethal effects principally include neurologic disturbances and irritation to mucous membranes of the eyes and respiratory system. Hydrocarbons absorbed through the respiratory mucosa have further systemic effects on the kidneys, liver, adrenals, stomach, and hematopoietic system (bone marrow)." They also state "The effects of ingested oil depend upon the amount consumed, the composition or nature of the oil, and whether or not the ingested oil is regurgitated and aspirated. Based on LD-50 data for other species, it is unlikely that medium to large-sized cetaceans could consume enough oil to experience toxic effects. Furthermore, their peculiar laryngeal anatomy precludes the possibility that any ingested oil could be aspirated into their lungs. Oil ingestion may pose more of a threat to smaller species and particularly to calves." Smaller species and calves are definitely a concern in the proposed lease sale area.

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Impacts due to toxic effects of oil or contact with oil are dismissed on three accounts in the DEIS. On page 4-111 it is stated that "There is evidence that some of the marine mammals can detect oil and learn to avoid contact if possible." This statement is not particularly referenced. To the contrary, St. Aubin (in Keller and Adams, 1983) states that "The ability of marine mammals to detect and avoid oil slicks is critical to any assessment of the potential impact of oil, and yet such information is lacking."

61.31

On page 4-113 the DEIS makes the argument that because the great whales are widely spaced, it is unlikely that more than a few whales would contact an oil spill, and therefore the "potential impacts from an oil spill are estimated to be insignificant for all of the cetaceans." This statement fails to take into account the fact that the entire endangered Northeast Pacific stock of gray whales passes through the lease sale area or between the sale area and shore, well within the range of an oil spill, twice each year.

61.32

On page 4-113, the DEIS states that "Presently the impacts due to the toxic effects of oil are estimated to be very low (insignificant), that is, not measurable and do not significantly reduce the health of the population though th [sic] effects may extend for the life of the proposal." This statement is totally unfounded and can only be considered wishful thinking in the face of the information presented above, or at the very least in light of the dearth of hard data upon which to make an adequate assessment.

61.33

On page 4-114 the statement is made that oil tends to collect in the kelp beds. While this statement is made in reference to effects on sea otters, it should be noted that much of the northward migration of mother and calf gray whales involves passing through the kelp beds, thereby putting the most susceptible portion of the population in a region of potentially high concentrations of oil.

Little reference is made to the effects of oil on cetacean food. It is stated on page 4-114 that "Due to the patchiness of pelagic fish and plankton, food die-offs would be very local and recovery should be rapid." The patchiness of food resources is one of the major factors involved in defining the characteristics of pelagic cetacean schools. Cetacean schools have presumably evolved in part to efficiently utilize these patchy food resources (See Herman 1980 for a review). The destruction of these patchy resources could jeopardize the survival of some cetacean schools. The terms "rapid recovery" were not defined in the DEIS--would recovery be rapid enough to prevent starvation by predators with high metabolic rates and therefore high energetic and food requirements? Even if the food resources were not destroyed, accumulation of toxic materials through concentration in the food chain would be a major factor, as discussed on page 4-113.

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The effects of human activity and noise were not adequately discussed in the DEIS. Before 1983, no systematic experiments on the effects of industrial activities on gray whales have been conducted--how can it be stated that the impacts to the population should be very low

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(page 4-115)? The ultimate effects on reproductive potential can not be assessed easily. Even stress levels can not be easily determined without utilizing telemetry devices to monitor heart rates. But the lack of data on these parameters does not take away from their importance in considering the potential effects of hydrocarbon development. Short and long term responses to human activity by gray whales have been reported by Reeves and others (R.E. Reeves 1977. The problem of gray whale (Eschrichtius robustus) harassment: at the breeding lagoons and during migration. U.S. Marine Mammal Commission Rep. MMC-76/06. Nat. Tech. Info. Serv. PB-272506. 60 p.). Flight reactions are especially evident in response to boats moving at high speed or erratically. Gray whales formerly used San Diego Bay but no longer do so as a result of ship traffic, other direct human disturbance, or changes in water characteristics. Ship traffic and other human disturbances in conjunction with salt works in Guerrero Negro Lagoon were believed to be responsible for a reduction in the numbers of whales entering the lagoon. This trend has reversed recently with a reduction in traffic.

61.36

The discussion of the effects of seismic activity is inadequate (page 4-115). The DEIS describes only the possibility of damage to the hearing apparatus of whales. Other important potential impacts are the possibilities of masking important communication signals of whales and other cetaceans, and especially the possible reduction of reproductive fitness as a result of stress induced by the presence of seismic pinging. Seismic sounds can be extremely loud over a distance of over 100 km.

61.37

On page 4-117 it is stated that while the proposal is expected to result in one oil spill, eight others are expected as a result of existing leases, foreign and Alaskan tankering. The DEIS to this point had dealt with the effects of the single spill expected from the proposal; now we find that the animals in the area will not only be subjected to one spill, but eight others as well! How can this fact be disregarded so completely in the rest of the discussion? Eight more spills not only tremendously increase the probability of any given cetacean encountering a spill, but also increases the potential for cumulative effects.

61.38

The DEIS disregards the point made by CCMS (1982) that gray whales avoid highly turbid waters and divert their path around such areas. Increases in turbidity due to hydrocarbon development could adversely affect migrating gray whales.

61.39

Finally, on page 4-128 the DEIS states "Likely impacts from an oil spill are very low. Should a right whale baleen plate become permanently fouled, the impacts would still be very low due to the death of a single animal which represents only ten percent of the year's estimated production of right whales." "Only ten percent" of a slowly-reproducing, extremely endangered species such as the right whale is highly significant! If we carry this example to the extreme, and assume that the one right whale was a female that had not yet given birth, that females calve once every three years, and their reproductive lifespan is 30 years or more, then the oil spill has not merely killed one whale, a mere ten percent of the year's production, but has killed outright one whale, a minimum of ten offspring, and all of the offspring in future generations; all of this at a time when the right whale is on the brink of extinction. Much more care in biological interpretation is needed in this DEIS.

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#### SEABIRDS -- GENERAL COMMENTS

1. Although the DEIS contains an adequate list of the seabird species involved, essentially no primary life histories of affected species are included. Considering the fact that most readers lack access to all of the studies and documents referenced, it is questionable whether the DEIS "stands alone" as required by the National Environmental Policy Act (NEPA). 61.41
2. The Oil Spill Trajectory Model is adequately described; its assumptions and limitations are identified. However, OSTM results regarding open water habitats and possible impacts to seabirds utilizing those habitats are not reported in the DEIS. This is illustrative of the fact that the DEIS considers only a portion of the obvious impacts related to proposed Sale 73. 61.42
3. There exists considerable information on the location of Brown Pelican concentrations in the Channel Islands Marine Sanctuary, and in/near the sale area, which has not been presented or (apparently) evaluated in the DEIS. Therefore, conclusions about possible impacts to the Brown Pelican are likely misleading and premature. 61.43
4. The DEIS does not address potential impacts that might result from development of northern areas outside the proposed lease (especially Bodega and Santa Cruz Basins), but deals only with tankering through the area or the spread of spills originating in the south. A new EIS will be required if development of "deferred" northern areas is considered in the future. 61.44

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#### SEABIRDS -- INSUFFICIENT EVIDENCE TO SUPPORT CONCLUSIONS

- 3-39/3 "Sensitive nesting areas" tabulated do not include feeding sites in open water or sections of coastline used during non-nesting seasons. Therefore, conclusions drawn about important areas for seabirds are based on incomplete data. 61.45
- 4-123/7 This summary statement is misleading. What about seabirds such as scoters, grebes, pelicans and cormorants using nearshore waters of the sale area? What of open waters used by birds for feeding but not included in shoreline OSTM "targets"? What of shorebirds (sanderlings, turnstones) whose habitats would surely be affected by an oil spill on the coast? Graphics in the annual report by MMS contractors (CCMS 1982) show significant numbers of seabirds at sea in the sale area in May, 1981, and perhaps 5,000 pelicans along the coast later that year. This information should be taken into consideration. 61.46
- 4-124/8 This conclusion is premature if not erroneous in view of the lack of documentation concerning the mortality of seabirds from spill "hits" in open water targets. 61.47
- 2-18/5 Summary states "Impacts to all endangered species from an oil spill would be very low since no large spills would be expected to occur and contact habitat utilized by these species". Information presented in Sec. IV regarding Brown Pelican habitats is very incomplete; therefore, the summary is very misleading. 61.48
- 4-124/6 San Miguel Island also has nesting colonies of other species (as well as rookeries of Pintipeds). This paragraph should state that San Miguel is the most important seabird colony site in So. California. Since the feeding areas for Brown Pelicans are not described here or anywhere else in the DEIS, it does not follow that "hits" of oil spills on feeding areas are "unlikely". In fact, the scientific, technical and popular literature concerning Brown Pelicans makes it abundantly clear that thousands (perhaps tens of thousands) of pelicans feed, roost and migrate through the sale area, western and central Santa Barbara Channel, and the Channel Islands Marine Sanctuary. Statements here and elsewhere in the DEIS indicating that "habitats utilized by endangered species are not likely to be contacted by spills" appear to be completely unfounded. 61.49

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4-125, In general, the discussion and tabular material regarding  
126, Brown Pelicans is totally inadequate for impact analysis.  
127, Many of the sites listed are of little importance to  
128 pelicans, and many more sites that are of significance are  
not identified.

The following paragraphs (as well as pages 4-125 through 4-131  
in general) include conclusions based on incomplete review  
and analysis of readily available data, and are therefore  
premature if not erroneous:

4-130/ 2, 7  
4-131/ 3, 4  
4-132/ 7  
4-222/ 3, 4

SEABIROS -- LACK OF 'CUMULATIVE IMPACTS' CONSIDERATIONS

2-22/3 Impacts to seabirds and other species expected to occur  
over the next 25 years in the absence of Sale 73 are not  
quantified here or elsewhere in the document.

2-26/6 This paragraph implies that oil and gas recovered from  
Lease Sale 73 will alleviate "continued dependence" by the  
U.S. on foreign imports. However, the oil and gas estimated  
for Sale 73 area is insignificant to our yearly imports.  
Further, No-Sale would not "cause our continued dependence"  
but would simply maintain status-quo.

4-21/1 This paragraph is misleading. Spills expected from #73  
make it even more certain that a major spill will occur off  
California in the next 25 years. The sum of many small  
independent probabilities is certainty.

4-125/3 This statement is crucial and exemplifies the tenor of  
thought toward cumulative impacts throughout the document:  
to paraphrase, 'the proposal adds but little to the already  
high probability of significant impacts expected from  
existing leases and tankering'. This attitude is in obvious  
conflict with the intent of the "cumulative impact evaluation"  
requirement. How can the concept of cumulative impact have  
any validity if it can be so easily side-stepped each time  
a proposal is analyzed?

The OEIS is, in general, lacking a satisfactory analysis of  
the cumulative impacts from previous sales 68; 53; the  
State Tidelands Sale; and next year's proposed LEase Sale 80.

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SEABIROS -- OIL SPILL TRAJECTORY MODEL

4-5/2 The model allows for 'targets' to be specified at sea, yet  
results reported later do not mention 'targets' of open  
water feeding areas. Why? There is available information  
concerning bird populations at sea in Santa Barbara Channel  
and in Sale 73 area.

4-19/2,3 How can the model logically predict that tankering of oil  
from Alaska to California ports will result in 0.2 spills  
in Oregon coast segments, but "virtually no spills" in  
central and northern California coast segments?

SEABIRDS -- MISCELLANEOUS

4-119/5 A similar paragraph should be included which discusses San  
Miguel Island.

4-120/ Table IV E 2 c-1.  
This should definitely include the Brown Pelican and Xantus  
Murrelet which are both of primary concern and nest much  
closer to the sale area than several species included.  
Since impact is expected at San Miguel Island, a vulnerability/  
concern table for Southern California colonies should be  
included as well.

4-225/5 The comparison of natural fluctuations in populations with  
mortality due to potential spills is fraught with problems.  
In the absence of historical data on population fluctuations  
and in the absence of populations that are relatively  
undisturbed by human activity, the comparison appears to  
be pure guesswork.

CONCLUSION

The DEIS is a more improved document from that prepared for previous Lease Sale 53.  
However, this DEIS fails to adequately analyze impacts in regards to what OCS development  
really means in terms of loss of biological productivity over the long term, loss of  
employment and revenues within commercial fishing, tourist and related economies and  
change to psychological perceptions and lifestyles of coastal residents. In several  
instances the DEIS fails to utilize existing scientific data, some of which resulted  
from HLM (MMS) funded studies. This makes the DEIS a less credible document. The lack  
of sufficient alternatives to the proposed action and the superficial descriptions on  
cumulative impacts underscore the need for a totally revised document if a complete  
and accurate analysis is desired. Yet this document, as restrictive in its analysis  
as it is, gives ample justification for demanding that Alternative IV (no sale) be  
selected as the priority alternative action. The value to society derived from estimated  
petroleum reserves within the proposed sale area or the entire Lease Sale 73 Area\*  
can not even equal the combined value to society that are predicted to be lost as a  
result of negative impacts from OCS development north of Point Conception.

\* Unfortunately known data on these estimates are missing from the DEIS

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SIERRA  
CLUB



**LOMA PRIETA CHAPTER**

San Mateo, Santa Clara, San Benito Counties  
Located at the Peninsula Conservation Center  
2253 Park Blvd., Palo Alto, CA 94306  
(415) 327-8111 (1:00-5:00 p.m., Mon-Fri.)

April 25, 1983

Regional Manager  
Pacific OCS Office-M.M.S., Room 200  
1340 West Sixth Street  
Los Angeles, California 90017

Dear Regional Manager,

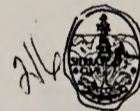
Thank you for the opportunity to comment on the Draft EIS for  
OCS Lease Sale 73, and the revised federal procedures to "streamline"  
the processing of this sale.

We find the DEIS inadequate in its presentation of information on  
Lease Sale 73. It is poorly organized, repetitious, and full of contradictions.  
Worse, it persists in addressing the entire California coast, not just  
the actual affected lease sale areas. It appears that this document is  
one that was prepared on the original Sale 73 with some pages taken out!  
The result is a document that inadequately addresses the biological,  
geological, physical and socio-economic impacts for the actual lease-  
sale area.

In addition to the inadequacy of the DEIS, we want to protest the  
entire "streamlined" process followed for this lease sale, which has  
denied citizens adequate access to knowledge of the sale and denied them  
sufficient opportunity to comment on the DEIS. In the official description  
of the streamlining process, the Department relies on "scoping meetings"  
with state and local governments to aid in the development of alternatives  
and necessary DEIS information. Requests for these meetings have been  
ignored.

It is our position that the Department of the Interior should delay  
Lease Sale 73 for several reasons. A delay is necessary to allow time for  
the Interior Department to rectify the serious inadequacies of the DEIS  
and to allow the federal and state agencies to carry out their responsibilities  
for protecting the commercial, biological and recreational resources in  
the Lease Sale 73 area. Furthermore, there has been no explanation as to  
why this area of significant biological and commercial importance should  
be developed at a time of a world-wide glut of oil. It seems counterproductive  
to develop oil reserves at this time, especially without proper environmental  
planning, in an area where oil drilling impacts significantly damage the  
recreational based economy of two counties, and a major fishery of the United  
States.

Sincerely,  
Sandy Lindenbahl  
Sandy Lindenbahl  
OCS Task Force Chair



SIERRA CLUB 530 Bush Street San Francisco, California 94108 (415) 981-8634

TESTIMONY OF THE SIERRA CLUB ON THE DRAFT ENVIRONMENTAL IMPACT  
STATEMENT OF MARCH 1983 FOR OCS SALE NO. 73 BY MICHELLE PERRAULT  
PRESIDENT

In addition to the following comments, the testimony also  
incorporates any comments by individual Sierra Club Chapters and  
Groups submitting statements pertaining to effects on their local  
areas including, but not limited to, the statement of the Bay  
Chapter by John Ledbetter. This testimony also incorporates the  
comments of the following: The Natural Resources Defense Council,  
Friends of the Sea Otter, Citizens for a Better Environment, Pacific  
Coast Federation of Fishermen's Associations, The Whale Center and  
The Oceanic Society.

Incorporation of the above testimony is particularly helpful  
due to the burden placed on the citizen's ability to respond  
created by a short public review time of 45 days despite repeated  
public requests for a larger comment time and by the lack of public  
meetings during the scoping process, both actions being vio-  
lations of the Department of Interior's regulations and processes.

As regards other written comments, the Sierra Club requests  
O.O.I. address all comments by local governments and incorporate  
the data presented by local officials with corresponding analysis,  
including information on effects on local industries, particularly  
tourism (including whale watching), and fishing. It should also  
respond to the local officials' abilities to cope with onshore  
land use impacts including accomodating facilities and dealing  
with the effects of impacts of OCS air emissions from OCS onshore  
and offshore development.

The Sierra Club finds the OEIS inadequate and not in compliance  
with relevant federal and state laws. We note the OEIS to be  
inappropriate as a basis for future decisions outside the 360  
tract--October 1983 sale area and unsuitable for use as the basis  
for any area wide Central and Northern California OCS planning area  
EIS.

The OEIS does not present an adequate range of alternatives  
reflecting the complexity of impacts associated with proposed  
development. It has not included a "worse case" analysis of  
impacts nor mitigation measurements for impacts associated with  
the lease sale. The OEIS fails to address the issues raised in  
sufficient detail including biological, socioeconomic and physical  
impact. It disregards the cumulative impacts of the potential  
drilling activities on the biological environment and the land  
use of adjacent coastal counties, both for this proposed sale,  
prior sales, and proposed new sales, including those in the adja-  
cent State Tidelands Area, Point Arguello/Point Conception.

-1-



Key environmental studies now funded and underway by the Minerals Management Service are necessary for informed decisions about the proposed action and will not be completed until after October, 1983.

Noting the above, the Sierra Club therefore requests that at a minimum there be a delay in the sale date and requests a new DEIS. The following comments request attention to issues that should be covered in a new DEIS or should one not be forthcoming, they should be addressed in the Final Environmental Impact Statement.

1. Delete all maps and text references to areas north of Morro Bay to ensure that the Department of Interior is consistent with Congressional funding restrictions. 63.5
2. Include resource data provided by the Department of Interior at the time of the Lease Sale 53. 63.6
3. Assess the present degree of proposed and actual onshore development associated with Lease Sale 53 proposed state tidelands sale at Point Arguello/Point Conception. Include problems faced by the Coastal Commission and local government in reviewing individual plans of exploration, dealing with air quality problems, fishing conflicts and inadequate facilities for boats and supplies, all of which were not addressed in Lease Sale 53 FEIS. 63.7
4. Consider an alternative which addresses the position of the State of California and affected local governments that leasing is inappropriate in areas north of the line between Row N808 and Row N809 of the Universal Transverse Mercator Grid System. An alternative should be offered to delete all tracts shoreward of the leased and litigated sale 53 tracts off Pismo Beach, Glover City, Arroyo Grande and the beaches of Northern Santa Barbara County. 63.8
5. Consider an alternative deleted by MMS involving a six mile buffer to reduce air pollution impacts on adjacent counties, making clear what parameters and criteria DOI used to delete this alternative and explain the air pollution modeling used for rejecting this alternative. 63.9

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6. Reassess the Geo-hazard alternative, as geologic hazards affect the Santa Maria Basin areawide and do not appear to be limited to specific tracts. Include results from a comprehensive basin wide geo-hazard survey, yet to be done, so proper leasing decisions can be made at the planning level as NEPA requires. 63.10
7. Incorporate results of a pre-sale biological survey, yet to be done, which can add to the growing recent information on the new species discovered in the area, or at a minimum, include discussion of the results of recent work by Chambers Consultants for the State Tidelands Leasing in Point Arguello area and analyze expected impact in litigation measures for these sensitive areas and species. Working with so little information as presently exists does not allow for proper planning of the lease area. 63.11
8. Discuss bio-amplification of toxins, an accumulation in the food chain. Consider the effect of turbidity on phytoplankton growth. 63.12
9. Provide a more sophisticated oil spill model that measures more than the parameters on the surface and allows for analysis below the surface. If this is not feasible according to DOI then document the state of the art on the issue as there are varying opinions by scientists. Department of Interior's use of one model can slant the whole issue of expected impacts. Correct the oil spill models so adequate weather data is used. Consider the effects of the Northwest flowing Davidson Current on the oil spill model. 63.13
10. Include a discussion on the controversy among scientists on the importance of small spills which the DEIS downplays. 63.14
11. Note the shortcomings of the oil spill containment technology onshore and offshore. Provide for buffer areas to protect sensitive habitats from potential spills. Identify a detailed onshore siting and employment plan for oil clean-up facilities to intercept weathered oil reaching critical breeding nesting areas of marine mammals and sea birds off the 63.15

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- Channel island and central coast of California as well as the coastal lagoons and wetlands in San Luis and Santa Barbara Counties. Provide a more in-depth analysis of the readiness of the local government and individuals to deal with major spills along the coast line. 63.16
12. Document the amount of land required for onshore processing facilities, crew and supply base for Sale 53, 73 and reoffering Sale 2. Include results of a needs assessment to be completed this summer on local county's ability to accommodate onshore support facilities for OCS. 63.17
  13. Consider the cumulative impact of Sale 53, 73, 68 and Reoffering Sale 2 on the biological community. Include "in field" monitoring of drilling operations in the lease sale area, yet to be done. 63.18
  14. Include a "worse case" scenario including a development scheme which involves only tankering and the largest projected spill. Consider cumulative impacts in worst case of Sale 53, 73 & 68. 63.19
  15. Quantify the economic costs to the fishing industry of various OCS scenarios. Address the cumulative impacts of multiple sales in the area of fishing industry. Include discussion of effects on smaller commercial fisheries like shrimp and impacts of discharged drilling muds on commercial fish species. Discuss the potential damage of the commercial resource due to damage to estuaries and wetlands including a specific discussion of productivity of Morro Bay Estuary assigning a dollar value or some equivalent to the productivity. Mention should be made of risks to wetlands and estuaries along the Santa Cruz and San Francisco Bay itself and corresponding effects on fisheries. This will require a detailed discussion of impacts of oil spills directly on fish. Discuss potential damage to benthic food resources for fish, mapping the benthic areas in addition and the principal communities in relation to fisheries food chains. 63.20
  16. Regarding air impacts, analyze secondary particulates and discuss the effects on human health, visibility and acid deposition. Assess the impacts of exploratory activities alone and in conjunction with development and production. Include uncertainty ranges in the estimated air quality. Estimate the number, 63.21

-4-

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emissions and impacts of onshore facilities for Sale 73 and the cumulative impacts for 68, 53 and Reoffering Sale 2. Discuss the controversy over the Department of Interior's assumption that its regulations would protect onshore air quality.

In summary, the Sierra Club deplors the haste with which this sale is being proposed, considering the lack of attention to some real problems existing in the same sale area which have not yet been resolved and have been additionally impacted by the entrance of the state in proposing the leasing of its tidelands parallel to the Federal OCS Sale Area. To truly balance environmental protection with economic development a delay in Sale 73 is of the utmost importance as well as a DEIS that gives a true picture of the potential impacts to the environment.

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SAN FRANCISCO BAY CHAPTER SIERRA CLUB

8014 COLLEGE AVENUE / OAKLAND, CALIFORNIA 94618 / (415) 658-7470

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MINERALS MANAGEMENT SERVICE PACIFIC OIL AND GAS DIVISION LOS ANGELES, CALIFORNIA

S.F. BAY CHAPTER COMMENTS DRAFT ENVIRONMENTAL IMPACT STATEMENT, OCS #73 U.S. MINERALS MANAGEMENT SERVICE

4/22/83

Thank you for this opportunity to comment on the Draft EIS. Before making any specific comments, a word in regard to procedure. Thus far, the Minerals Management Service has minimized, to an extreme, the opportunities in the Lease Sale process which require public comment.

64.1

Throughout the DEIS, the scope of the study often does not pertain to the subject at hand, while concurrently, the analysis which is provided lacks specificity and depth. Two obvious examples being the set of maps and the Alternatives section.

64.2

It would seem that this document has been hastily assembled from a larger version of the original Lease Sale 73 area (extending to the Oregon border), without either appropriate focus on the project area nor a sincere effort to provide ample opportunity for public input.

64.3

1. OIL SPILL TRAJECTORY MODEL

The MMS estimates the conditional probability of an oil spill landfall, given that a spill has occurred, by using their Oil Spill Trajectory Model (which estimates the probability of an oil spill impacting a given section of coastline within a certain period(s) of time, assuming that a spill has already occurred from a given site) to perform a Monte Carlo simulation of oil spill movements within the study area.

64.4

This limitation is not at first obvious by the way the background reports have been written. For LS 53, Bigham writes of the Monte Carlo study:

"hypothetical oil spills were simulated in random Monte Carlo fashion for each of the four seasons from 12 potential oil spill locations in the proposed lease area, 5 locations in the existing lease area, and from 31 locations along the transportation network. Thus, a total of 96,000 hypothetical oil spill trajectories were simulated." (p.56)

64.5

It is certainly agreed that 96,000 independent events will reasonably define a data base from which to determine probabilities. However, one needs to look at where the

(2)

number "96,000" comes from. Simple arithmetic shows that: 500 spills x 4 seasons x (12x5x31) locations = 96,000 events. These numbers appear reasonable until one considers how important the season is to the action of the Oil Spill Trajectory Model.

64.6

In addition to skewing the data, the choice of only four currents patterns in the Oil Spill Risk Analysis Model completely removes any probabilistic accounting of non-geostrophic current flow, such as nearshore eddies, alongshore transport, or seasonal upwellings.

The use of deterministic currents in the Oil Spill Trajectory Model points out the fact that the OSTM is not a numerical hydrodynamic model. Many researchers in the field of physical oceanography have developed sophisticated computer programs to solve the governing equations of fluid flow within the past ten years.

64.7

Citations in the DEIS not found in its list of References:

- Graham, 1976 (p 3-5, paragraph 6)
Bonilla, 1967 (p3-5, paragraph 6)
Page, et. al., 1979 (p3-5 para 7)
Sverdrup, et. al., 1942 (fig. III.A.4-1)
Interior Dept., 1980 (p3-13, para 1)
CALCOPI Atlases, 1963 to 1979 (p3-13, para 1) - not clearly cited
NOAA, 1980 (p3-22, para 2)
Reihle and Shair, 1981 (p3-22, para 5)
Lahelle, et. al., 1982 (p4-4, para 4)
A.F. Blumberg, et al., 1982- Interim Report (p 4-5, para 5)
National Climatic Center (p4-5, para 6)

64.8

(3)

2. RECREATION and TOURISM

This particular economic analysis, based almost exclusively on the Granville Study, reflects data which has been interpreted for the DEIS yet the methodology utilized are not clearly stated. In addition, the scope of the analysis, particularly where "Central California" begins and ends outside of the proposed sale area, is not consistent-thus weakens the analysis considerably.

The Granville study is both an aggregation of recreational studies as well as an aesthetic study of primary research. This study, as a whole, provides an incredible amount of data, although there is no one table or section which calculates total economic values for recreation or tourism per coastal area.

Table with 4 columns: # of Recreation Days, Daily Expenditure (\$64.82), Econ. Value of recreation (w/out regional multiplier), and a multiplier 'X'.

The DEIS seems to follow this methodology, as stated on p. 3-83: "The economic value of recreation in Central California is in excess of 387 million (based on Granville Corp., 1981). The value only considers the expenditure involved in furnishing the activity" (emphasis added).

64.9

Table with 4 columns: 7,794 (South Central Coast\* expressed in thousands of days), X, \$64.82, = 505,207,000

In regard to the scope of the analysis, the Granville Study defines the South Central as four coastal segments extending from just above the Monterey county line to just north of Surf (excluding the adjacent segment which extends down to Conception). In the DEIS, the Federal and State Recreation Area of the California Central Coast (fig. 11.C.7-1) extends from S.F. to Pt. Conception/Channel lands.

In determining the primary economic value for recreation, Outside the Area of the Proposed Sale (p.4-175), 27.3 million recreationists are listed for the local region (?). In the next paragraph, "The value of coastal recreation in the area north of the proposed sale is in excess of 288 million (the Granville Corp., 1981)" (emphasis added).

Finally, although tankering to S.F. bay is only superficially discussed (see next section), at least the possibility of a spill impact is implicitly acknowledged. However, for tankers heading south this is not the case. Recreation and tourism may indeed feel the impact of these tankers as they pass through the S.B. Channel enroute to Long Beach Harbor.

(4)

3. CUMULATIVE IMPACTS - S.F. BAY

Although the DEIS is quick to point out the degraded water quality of S.F. Bay (p.3-14), there is no mention of any specific projects, either ongoing or future, which together with LS73 may increase the cumulative impact.

The Baldwin Ship Channel dredging project is one such example. This project was undertaken to facilitate deep-draft tanker traffic through the northern Delta region, where the six refineries (the DEIS failed to include the Pacific Refining Co. in Hercules) in S.F. Bay are located.

No estimate has been made as to how many barrels (of the estimated 100,000 barrels of oil per day, at peak development, or 25% of the "High Production Estimate") will be lost to chronic refinery spills as a result of the proposed project.

The DEIS states that the municipal, industrial and agricultural pollutants, when combined with an oil spill, "could exert a synergistic effect with other pollutants and cause a greater impact than either would alone" (p.4-136). However, no analysis is given for any particular projects or future outfall estimates which will increase the probability of this serious impact.

64.10

The Valley Drain project, which would carry saline irrigation water from the San Joaquin Valley into the Delta, is one such example. The discharge of this brackish water will also include algae producing nitrogen and pesticide residuals, which of course will further degrade the water quality of S.F. Bay.

The Peripheral Canal, although temporarily halted, is another project which needs discussion. The threat of salt water intrusion into the Delta continues to be one of the primary controversies in the construction of such a canal (as is the case with the Baldwin Ship Channel dredging project).

In regard to municipal effluents, the DEIS fails to analyze any sewage discharge increases based on future population growth, particularly during LS73's peak production years. Under the Cumulative Impact Assessment section, the DEIS (p.4-70) reports 300 million gallons of effluents per day are discharged from S.F. Municipal Outfall into the ocean and that "impacts are not expected to add to any measurable degree to each (sections of the coast) due to the distance between proposed action areas".

Given the lack of analysis of these future projects and/or effluent projections, one has a most difficult time assessing the additional cumulative impact of tankering, transferring and refining of oil in S.F. Bay.

(5)

4. ALTERNATIVES

In Alternative II (p.2-26) the potential impact on "estuaries and wetlands (would be) reduced from high to insignificant". Although the creation of a buffer zone around Morro Bay may reduce the estuary and wetlands impact in that particular segment of the project area, it will do nothing to reduce the potential impact of additional tankers and refinery use in S.F. Bay, the largest estuary on the West Coast.

64.11

5. GENERAL ECONOMIC ANALYSIS

Is hereby incorporated by reference from the comments of Lee Lambert.

Given the serious deficiencies of this document and the absolute minimization of public input, we feel prudence dictates another more focused draft EIS for LS73 with the inclusion of more public hearings. However, under the present circumstances, we present the following recommendations:

1. Oil Spill Trajectory Model

Restructure the model to include:

- a) Non-geostrophic current flows such as nearshore eddies, alongshore transport, and seasonal upwelling
- b) Physical effects such as air-sea interactions, bottom friction, salinity, temperature, and turbulence.

64.12a

2. Recreation and Tourism

a) Define the methodologies utilized in the economic analysis.

b) Define the scope of "Central California"

c) Assess the impact on recreation and tourism due to the increased tanker traffic to the refineries in L.A. and S.F.

64.12b

3. Cumulative Impacts to S.F. Bay

a) Estimate the increased number and percentage of tanker transfers in S.F. Bay.

b) Estimate the increased number of barrels of oil that will be lost due to chronic low level refinery related spills.

c) Assess future projects and affluent projections, in order to determine the increased cumulative impact due to tankering, transferring and refining oil in S.F. Bay.

64.12c

Thank you again for this opportunity for comment.

Sincerely,

*John Ledbetter*  
John Ledbetter  
OCS Sub-Committee Chair

Jeff Ericson, M.S.  
Coastal Engineer

See next page for references.

5

(6)

REFERENCES

Ahrl, C.E. "Hurricane Surge Stage-Frequency Analysis for Dade County, Florida," Tech. Report HL-80-14, US Army Waterways Experiment Station, 1980

Bigham, G. (1983). An overview of Sea Otter Oil Spill Risk Analysis. Tera-Tech Report, PC-3664 (final)  
Coast Guard 12th District, (1971). On Scene Coordination Report.

Granville Corp. (1981) FOCS, California Recreation and Aesthetic Resources Study

Ippen, A. T. (1966). Estuary and Coastal Hydrodynamics.

Ritschard R. (1981). Estuarine Impacts of Fossil Fuel Based Energy Tech.: A Case Study (S.F. Bay).

Stegen, G. (1982). Santa Barbara Channel: Circulation Model and Field Study, Year I. Dynalysis of Princeton, AA851-RP2-20.

6

65



by Ansel Adams in This is the American Earth

SIERRA CLUB

Santa Cruz Regional Group  
P. O. Box 604, Santa Cruz, CA 95061

24 April 1983

Manager, Pacific OCS Region  
Minerals Management Service  
U.S. Department of the Interior  
1340 West Sixth Street  
Los Angeles CA 90017

Re: Draft EIS on Lease Sale 73 (Santa Maria Basin)

Dear Minerals Management Service:

Attached please find our resolution, dated 18 April 1983, in re the draft EIS on Lease Sale 73 (Santa Maria Basin).

Please note that the Santa Cruz Regional Group is an integral part of the Sierra Club. By reference we incorporate in our comments on the draft EIS all those comments previously submitted by the Sierra Club.

Respectfully yours,

*Reed Flocks*

Reed Flocks, chairperson,  
Santa Cruz Regional Group  
of the Sierra Club

Attachment

RECEIVED  
APR 27 1 54 PM '83  
MINERALS MANAGEMENT SERVICE  
FEDERAL BUREAU OF SURVEY  
4000 G STREET, N.W.  
WASHINGTON, D.C. 20548  
LOS ANGELES, CALIFORNIA

65a

RESOLUTION IN RESPONSE TO CALL FOR COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT ON PROPOSED OCS LEASE SALE 73

WHEREAS, the Pacific OCS Region, Minerals Management Service, of the U.S. Department of the Interior has issued a draft Environmental Impact Statement for their proposed October 1983 central California lease offering known as Lease Sale 73; and

WHEREAS, the Minerals Management Service on 9 March 1983 on pages 9951-9953 of Vol. 48, No. 47 of the Federal Register has requested comments on the central California OCS leasing proposal from individuals, representatives of organizations, and public officials; and

WHEREAS, written comments on the draft EIS will be accepted by the Minerals Management Service until 26 April 1983; and

WHEREAS, the Santa Cruz Regional Group of the Sierra Club has reviewed the draft Environmental Impact Statement on Lease Sale 73 and found it inadequate for reasons herein described; and

WHEREAS, the draft Environmental Impact Statement does not adequately disclose the anticipated impacts from the proposed action on existing conditions and uses of the offshore and onshore affected areas or adjacent areas; and

WHEREAS, the draft EIS does not adequately quantify impacts and direct effects of the proposed action on the Coastal Zone of the State of California, nor does it indicate the degree of conformance of the proposed action with the laws, goals and policies of the State of California including the California Coastal Act, California's federally certified Coastal Zone Management Plan, county and city Local Coastal Programs, and land use plans thereof, California's pipeline policy, and California's air quality standards and management plans; and

WHEREAS, the draft EIS does not present an adequate range of alternatives to the proposal nor does it include a sufficiently high-resolution look at the impacted area and its existing resources and uses, incorporates no "worst-case" analysis of impacts, includes no analysis of impacts on endangered, threatened, rare, and locally rare species, nor does it adequately identify or analyze cumulative impacts which are likely to result from leasing and development on tracts within this sale combined with prior and planned lease sales and development; and

WHEREAS, the draft EIS does not consider an alternative which addresses the long-held position of the State of California and affected local governments to the effect that leasing is inappropriate in areas to the north of the line between Row N808 and Row N809 of the Universal Transverse Mercator Grid System (approximately at the latitude of the mouth of the Santa Maria River); and

WHEREAS, the Minerals Management Service, in spite of requests from numerous affected local agencies, has denied the opportunity for "scoping meetings" as provided for in the relevant CEQ Guidelines in order to identify issues to be utilized in determining the scope of the draft EIS; and

WHEREAS, the Minerals Management Service has refused to hold adequate and accessible public hearings on the draft EIS in affected coastal communities; and

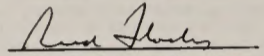
WHEREAS, required NEPA procedures, CEQ Guidelines, and Department of the Interior regulations have not been adhered to in the preparation of the draft EIS and throughout the releasing planning process for Lease Sale 73, and the above mentioned procedural deficiencies have precluded interested members of the public from adequate opportunity for participation in the environmental review process; and

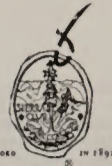
WHEREAS, above and beyond the inadequacies of the draft EIS with respect to the present limited sale area encompassed by Lease Sale 73, the present draft EIS would be wholly inadequate and inappropriate as a basis for future decisions outside of the 360-tract October 1983 sale area and unsuitable for use as the basis for an areawide central and northern California OCS Planning Area EIS; and

WHEREAS, key environmental studies now funded and underway by the Minerals Management Service are necessary to informed decisions about the proposed action but will not be completed until after the October 1983 proposed date of sale,

NOW, THEREFORE BE IT RESOLVED that the Santa Cruz Regional Group of the Sierra Club finds the draft Environmental Impact Statement on Lease Sale 73 to be inadequate and not in compliance with relevant federal and California laws, policies, and regulations.

PASSED AND ADOPTED unanimously by the executive committee of the Santa Cruz Regional Group of the Sierra Club this 18th day of April 1983.

  
Reed Flocks, chairperson,  
Santa Cruz Regional Group of  
the Sierra Club  
Santa Cruz, California



RECEIVED  
SIERRA CLUB  
APR 25 12 21 PM '83  
SANTA LUCIA CHAPTER  
MINERALS MANAGEMENT SERVICE  
PACIFIC OCS OFFICE  
LOS ANGELES, CALIFORNIA

April 22, 1983

Regional Manager  
Pacific OCS Office--MMS  
1340 W. Sixth Street, Room 200  
Los Angeles, CA 90017

Re: Draft EIS  
OCS Sale No. 73

Dear Regional Manager:

This letter follows-up on Chapter testimony given at 6 p.m. on April 13th at the public hearing in Santa Maria. The Chapter position is to oppose any leasing in OCS Sale No. 73 because of procedural problems and an inadequate DEIS. The Chapter supports R.R. 2059 (Panetta) and S. 760 (Granaton) which will delay leasing to the year 2000, putting most of these 360 tracts in a national reserve. The Chapter is also sympathetic to the ten year delay just proposed by Senator Pete Wilson, R-CA. The following items detail the problems with this proposed leasing off Central California.

**Procedural Problems:** The Sierra Club and this Chapter are parties to current litigation concerning 24 tracts off San Luis Obispo County that were included in OCS Sale No. 53. It is premature to proceed with OCS Sale No. 73 until this litigation is concluded since it involves the same coastal area with very similar issues. Second, the 45 day comment period is too short when the issues are so complex and there is this much public interest. NEPA permits a 90 day comment period; this lease sale should extend or re-open the public input period to a full 90 days. Third, there was a lack of availability of DEIS copies to review. The Chapter requested one, but was told to check at the local library. Unfortunately, not all branch libraries in the affected area had copies on hand. For example, Atascadero, while not directly on the coast, will still be affected by this sale; yet, no DEIS was in the Atascadero library. Fourth, there was no public hearing in San Luis Obispo County, although three hearing teams took testimony in Santa Maria. San Luis Obispo County will be directly impacted by this sale; a public hearing should be scheduled here. One of the three hearing teams could easily have been assigned to San Luis Obispo. Fifth, only one day was allowed for public oral input in Santa Maria, forcing the testimony to go over 15 hours in three separate rooms. Under such conditions, it is questionable if hearing teams could remain alert to each speaker for the 15 hour duration or thoroughly review all the input from all three hearing rooms. Also, this format prevents the audience from following the continuity of the hearing. Sixth, the DEIS, once again, does not seem to be consistent with CZMA.

66.1

Local government and state comments were not incorporated into the DEIS after the scoping stage. The DEIS and federal government proceedings are not giving equal status to local government and the state. Seventh, the DEIS lacks specificity since it insists on a regional focus covering the entire California coast north of Santa Maria. There should be a local focus, solely on the basin off San Luis Obispo County and northern Santa Barbara County. Eighth, the DEIS uses inadequate data, relying on San Francisco Bay figures for economic impacts, unrealistic assumptions about oil spill and clean-up capability, and untested accuracy of computer modeling of air pollutants. Ninth, the OCS--MMS fast pace of such lease sales reduces public input opportunities to only two steps, scoping and public comment. The fast pace does not permit an adequate consideration of issues in each affected coastal area. Tenth, the DEIS makes no reference to the Port San Luis Harbor District Master Plan or the San Luis Obispo County Crew Base Siting Study. These reports must be included if consistency with local government means anything. Finally, the DEIS does not present a range of alternatives. Other alternatives are deleting all near-shore tracts off Pismo Beach, Port San Luis, Montana de Oro State Park, and Merre Bay; delaying the sale; placing these tracts into a federal reserve; and, cancelling the sale.

66.2

**Marine Resources:** The DEIS inadequately presents issue in this category. First, there are no precautions for coping with the U.S. Navy dumping grounds off Pt. Arguello. Second, data about the impact of undersea noise from seismic surveys and well drilling is incomplete. Third, drilling discharges are permitted on an area-basis rather than on a well-by-well basis, making compliance with EPA standards and enforcement very difficult. Fourth, the impact of the several minor oil spills and three major spills predicted by the DEIS is sketchy at best. What kind and extent of risk is the federal government seeking Central California to assume, at what cost? Fifth, the problems in cleaning up after an oil spill in typically rough waters and along long stretches of rocky coast are underestimated. Sixth, the settling effect of the chemicals used in clean-up, many with toxic effects, is not fully evaluated, particularly upon bottom ocean life. Seventh, the reduction in quality of seawater is not examined in terms of cumulative impacts, plankton production, and the ocean foodchain. Eighth, the loss of local fisheries is poorly discussed. Ninth, the lease sale area includes the southern half of the sea otter range. There are only 1,194 sea otters at last count. They remain protected as a threatened species; yet, the activities and pollutants of off-shore oil exploration and production will significantly affect this animal. Finally, the effect of oil activities on gray whale migration is only poorly studied.

66.3

**Wildlife Considerations:** The DEIS is inadequate in its study of coastal estuaries. The discussion of Merre Bay is incomplete; and, other smaller yet significant estuaries, such as San Luis Creek lagoon and San Simeon Creek lagoon, are ignored. The impact on the steelhead

66.4

salmon runs, which still come as far south as San Luis Creek, is not well discussed. The peregrine falcon nests at Merre Reek end on the cliff by the Shere Cliff Ledge in Pismo Beach. The brown pelican and the least tern also inhabit the area of the sale. Hundreds of other migratory birds come through the sale area. The discussion of impacts on these species is incomplete. Finally, there is poor appreciation of the summulative impacts of a series of minor leases from such wildlife.

**Air Quality:** The diesel fuels on exploratory wells and the natural gas generators on production platforms produce pollutants that are underestimated by the DEIS. The effect of numerous crew and supply boat and helicopter trips on air quality is minimized. The very permissive federal standards, which permit another 100 tons of pollutant with each three mile increment out to sea, are far from compatible with California's more healthful air standards. The consequences of the above factors will likely mean a sacrifice of good air quality in the local area.  $CO_2$ ,  $SO_2$ ,  $NO_x$ , and  $CO$  pollutants equal smog. The San Luis Obispo County APCD reports that, contrary to the DEIS, this smog is not going to be dispersed consistently. The prevailing on-shore winds, low inversion layers, and coastal fog will often bring these pollutants to shore where they will likely hug the coast and lie low over the ocean. The region is now a Class II clean air attainment area. Such pollutants migrating on-shore will yield deteriorating air quality and non-attainment status for ozone. On-shore processing facilities and numerous tanker trips (113 per year to San Francisco) will also cause pollution. At a minimum, California air quality standards should be used, even in federal waters.

66.5

**Economic Factors:** The DEIS states that one major spill will result in a \$517 million loss to the regional economy. Unfortunately, the DEIS does not report dollar loss estimates for the local area, for the fisherman in Merre Bay, for the motel owner in Pismo Beach, for the restaurant owner in Avila Beach. San Luis Obispo County reports a \$58 million tourism industry each year and a \$10 million yearly fishing industry. This county sees over 6 million visitor days at the local State Parks. Sport fishing and recreational boating activities also need to be considered. Oil related problems could jeopardize jobs in the local service economy. Also, property values which are linked to the aesthetics of living by a beautiful ocean, such as at Sunset Pinnacles, would decline with oil problems. As air quality deteriorates, the local area would lose new, cleaner on-shore industry because of non-attainment status or the necessity for on-shore industry trade-offs. Demands by oil companies for on-shore facilities for pumping, processing, parking, offices, and supplies will cause land-use conflicts and an industrialization of the Central Coast. The DEIS inadequately addresses these issues. Finally, the resource estimate is only for a few days supply of oil for the nation from this 3% of OCS tracts. Considering the above factors, this seems an insignificant oil resource for such a high on-shore economic risk.

66.7

Page 4, OCS Sale No. 73  
Santa Lucia Chapter, Sierra Club

**Scenic and Recreation Factors:** It will be a fact that the oil platforms will catch one's eye as one looks out to sea and yield a disturbing view. The sale will change the coastal character for a long time to come. Our clean beaches, beautiful rocky coasts, and attractive harbors are a national treasure. Everyone needs pleasant surroundings and a beautiful environment to gain relief from daily stresses and approximate good mental health. The DEIS down-plays these factors.

66.8

**Summary:** To paraphrase John Muir, when we examine one thing, we find it attached to everything else in the universe. We have a vulnerable, fragile, beautiful Central Coast. We cannot re-create it. Recently, a drilling rig sunk in rough waters, a possible oil spill was not reported, and a survey ship was sounding without a permit in state waters. Can those of us on the Central Coast trust the Department of the Interior and EPA to protect us. The recent record tells us "no." The Chapter must urge cancellation or delay of this lease sale.

Sincerely,

*Frank R. Bush*  
Frank R. Bush  
Chairperson  
Conservation Committee



SIERRA CLUB ~ VENTANA CHAPTER

P. O. BOX 5667, CARMEL, CALIFORNIA 93921

April 23, 1983

Manager, Pacific OCS Office  
Minerals Management Service  
1340 West Sixth Street, Room 200  
Los Angeles, CA 90017

Dear Sir:

The Ventana Chapter of the Sierra Club wishes to express its concern in regard to a number of areas in the Draft EIS on OCS Lease Sale #73.

First, although leasing in the coastal area north of Morro Bay was eliminated from consideration in the DEIS, the document recognizes that there are a number of ways in which oil exploration and drilling operations could affect the Monterey and Santa Cruz coastline. Unfortunately, however, the DEIS deals very inadequately with these impacts.

For example, the "oil spill model predicts virtually no spills occurring and contacting any of the land segments north of the proposed sale area." (p. 4-19). Yet on p. 4-15 we read that "this model attempts to predict what is likely to occur given the large state of uncertainty of such factors as the resource estimates, transportation scenarios, wind and current conditions..." etc. And "the actual environmental risk may prove significantly higher or lower than discussed in this report..." Considering the value and sensitivity of the resources of the central coast, a far more precise study of impacts is required. Yet, we read on p. 3-8 that "nearshore current data for most of the central California coastline is lacking." Additional study of the influence of the northward-flowing Davidson Current is certainly necessary. Despite 29 pages of references, the DEIS fails to cite Van Blaricom and Jameson (1982). These authors monitored the progress of a large amount of lumber spilled from a towed barge 40 km west of Point Sur on 12 February 1978. Beached lumber was found as far south as San Miguel Island by early March. Other beached lumber was found between Oceano and Point Sal. Although most of the area through which the spill was evident lies north of Lease Sale 73, the occurrence of beached lumber from Oceano south to San Miguel Island indicates the probable course that oil would follow from a spill point within the confines of Lease Sale 73. This study provides the best estimate we have of the area that would be adversely affected by an oil spill within Lease Sale 73, and it suggests strongly that a considerable expanse of shoreline, and in addition at least San Miguel Island, would be so affected (Van Blaricom, G. R., and R. J. Jameson, 1982. Lumber spill in central California waters: implications for oil spills and sea otters. Science 215:1503-1504).

67.1

Several important studies necessary to clarify the impacts of OCS leasing have not been completed. We understand that these include 1) Commercial and Sport Fishery Study (due May 1983); 2) Northern California Risk Assessment to Marine Coastal Habitat (now in revision); and 3) Marine Mammals and Seabird Study for Central and Northern California (draft final report due in August 1983). Without an analysis of this information, the EIS remains seriously deficient.

67.2

... To explore, enjoy, and protect the nation's scenic resources ...

67

Manager, Pacific OCS Office

- 2 -

April 23, 1983

We also have serious questions about the EIS weather data, which are apparently based on the relatively calm period of the last 40 years. Some authorities state that recent severe winters presage a period of more extreme weather bringing greater wave heights, wind velocities, etc. Additional risks in this area should be discussed in the EIS.

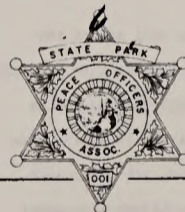
67.3

Finally, we are concerned that the sketchy information on impacts in the area north of Morro Bay might be incorporated intact into a document dealing with a much larger leasing area if the ban on the northern area should be lifted. All this material needs far more critical examination, correction, and additional public hearings before it would be adequate for rational and legal decisions on off-shore oil leasing.

Sincerely yours,

*Roy E. Anderson*  
Roy E. Anderson  
Chairman

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APR 26 12 14 PM 1983  
NATIONAL SYSTEMS CENTER  
LOS ANGELES, CALIFORNIA



State Park Peace Officers Association

of California  
218 Mulberry Lane • Auburn, CA 95603

Effective Representation for State Park Rangers

April 21, 1983

Regional Manager  
Pacific OCS Office-MMS  
Room 200  
1340 West Sixth Street  
Los Angeles, CA 90017

Regional Manager:

The State Park Peace Officers Association of California is opposed to the proposed lease sale 73.

The lease sale will have no measurable positive effects on the local economy but has potential negative effects on fishing and recreation that the Environmental Impact Statement has calculated as several hundred million dollars. These negative effects would most assuredly be felt in the eight State Parks on the coast east of the lease sale area. Mono Bay and its estuaries are particularly vulnerable.

68.1

Besides measurable economic repercussion from the estimated one to three oil spills predicted by the EIS, the issue of sublethal effects of increased hydrocarbons in the marine ecology is not sufficiently addressed. Further studies need to be conducted which can measure the effects of the routine spillage during exploration, transportation and offshore refining phases on marine life.

68.2

Further, the lease sale is treated in the EIS as if it exists in a vacuum. The combined environmental impact of lease sale 73 and lease sale 53 which share the same waters is not addressed at all. This is a serious shortcoming since all the lease sales effect an interrelated community-the ocean and its coastline.

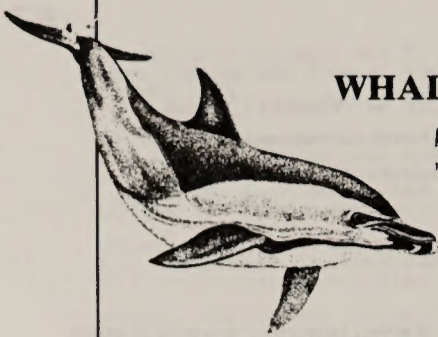
Sincerely,

*Mike Lynch*  
Mike Lynch  
President

ML/1k

AFFILIATED WITH  
The California Union of Safety Employees (CAUSE)  
The Peace Officers' Research Association of California (PORAC)

68



## WHALE CENTER

RECEIVED  
APR 25 12 20 PM '83

MINERALS MANAGEMENT SERVICE  
PACIFIC OCS OFFICE  
SOUTH OFFICE  
LOS ANGELES, CALIFORNIA

April 20, 1983

Manager, Pacific OCS Office  
Minerals Management Service, Rm. 200  
1340 West Sixth Street  
Los Angeles, CA 90017

Dear Sir/Madam:

Enclosed are the comments of the Whale Center on the DEIS prepared by your office on OCS Lease Sale #73. I trust these comments will be included in your considerations in preparing the final environmental impact statement.

Our recommendation is to cancel the lease sale process at this time until ongoing research projects mentioned in the DEIS are finished and analyzed. Making decisions in advance of gathering all the necessary facts is not good decisionmaking.

Sincerely yours,

*Maxine McCloskey*

Maxine McCloskey,  
Executive Director

Enclosure

(415) 654-6621 ~ 3929 Piedmont Avenue, Oakland, California 94611

WHALE CENTER - 3929 Piedmont Avenue, Oakland, California 94611 - 415-654-6621

Comments on DEIS for Lease Sale 73

April 20, 1983

These comments represent the views of the Whale Center and some five thousand readers of its Newsletter. Our major concern is for the welfare and survival of the many species of whales who inhabit these waters on a regular as well as an incidental basis. These include the migrating gray whale, who passes these shores twice a year. It also includes the less frequent and more endangered humpback whale, as well as blue. In all there are some 27 species of whales--great and small--that live in these waters.

The gray whale will be the whale most affected by the lease sale. As a general rule, the migration of the gray whale occurs within the 50-fathom line. The width of this line varies considerably along the entire California coast. In some areas it is as much as ten miles wide and clearly overlaps some of the tracts. Older, more experienced animals may even swim beyond the 50-fathom line, especially in broad shelf areas. Conversely, the younger animals tend to migrate closer to shore in all cases, even exploring the coastline between the first and second breakers. Where the 50-fathom shelf is closer to shore, the migration tends to be closer to shore regardless of the age of the animals.

At the Santa Marie Basin, there is a broadening of the shelf at Eterro Bay and San Luis Obispo Bay north of Ft. Arguello, which may overlap the lease tracts. Migrating whales will be farther from shore, and likely will be swimming through some of the tracts. Point Conception is another key point for concentrating the whales. They fan out from there to move in several strands among the Channel Islands. One of the favored areas of gray whales is in the Santa Barbara Channel just to the south of the Santa Maria Basin sale. This is an area of very extensive kelp beds and an area where the waters are protected from northerly winds during the winter migration. It acts as a refuge for the grays moving in both directions. In particular, cows with calves are known to hang out there, resting in the kelp beds. The vulnerability of this area to oil spills has already been documented by Patrick Heffernan's report several years ago.

-1-

Our concern for the welfare of the gray and other whales as well as for the marine and shore environment goes beyond Lease Sale 73. It is possible that eventually the entire route of the migrating whales in California waters will be impacted by drilling rigs, noise, increasing vessel traffic, and the danger of oil spills when all of the tracts are operational.

Add to these hazards in California the fact that 90 percent of the gray whale summer feeding grounds in Alaskan waters is scheduled for oil and gas leasing. No federal agency is studying the cumulative impact that could be expected when all these tracts in Alaska and California waters are operating. The whales are expected to cope with the dangers along most of their migration path, yet no one has even attempted to determine the cumulative effect of all of the OCS leases. For an animal like the whale whose entire migration path is impacted by OCS activity it is not sufficient to break the route up into small segments and say that the dangers to the whales in each one segment are acceptable. This is why the Whale Center urges that the entire Lease Sale 73 be cancelled now. No one knows enough yet to assess the risk.

We have further concerns. There is no adequate national energy policy in place that emphasizes the necessary development of conservation and renewable energy resources. It does not make sense to drain America first in order to continue to satisfy short-term wasteful uses of energy. Future generations will not applaud the hasty pursuit of deposits in the outer continental shelf by this generation, leaving them impoverished and without options. As the DEIS recognizes at page 2-26 the continued rapid exploitation of oil and gas resources will delay the development of alternative energy sources. Oil and gas are far too valuable to be used up quickly and discarded as a resource, we must attempt to stretch our supplies out for as long as possible.

In such a fragile area as Lease Sale 73, where the danger from oil spills to the living resources is so great, it makes much more sense to place the basins in a national energy reserve system. These reserves should be held for future critical and defense uses. This action would help prolong the availability of options.

-2-

The risk from oil spills and accidents to the scenic, economic, and living resources is too great to risk the hasty exploitation of these small reserves. The present renewable economic benefits from the fishing industry, recreation, and from tourism should not be sacrificed to the oil spills that are projected to occur from the exploitation of this short-term nonrenewable resource.

When one considers the negative and possibly irreversible impacts that the lease sale will have on living resources and the possible damage to the existing industries it is clear that we cannot yet say that Lease Sale 73 will have a positive benefit from society's point of view. Several agencies of the federal government have contracted research on various aspects of the impacts from OCS activity. In many cases, the results from this research will not be available before the final Environmental Impact Statement is issued. If the sale does go ahead, it is inconceivable that the OCS process would stop on the basis of research results issued later because of the great investment of capital.

It is clear that at least some of the research used to support the statements in the DEIS is not sufficiently thorough to allow one to accurately speculate on the impacts of OCS activity. In particular the St. Aubin and Geraci study cited on page 4-111 of the DEIS was reviewed by our Research Director, Ronn Storro-Peterson. He concluded that the study simply was not thorough enough to support the claims that impacts to cetaceans would be very low. His specific comments follow:

#### Tursiops Truncatus Oil Detection

Oil was placed directly in front of dolphins specifically trained to detect anything. Their attention was highly focused and not representative of the broad attention required by the real environment. The fact that the dolphins were specifically trained to detect anything means that one can not be sure that it was oil and not some experimental artifact that the dolphins were using.

69.1

-3-

Dolphins can and do use echolocation to examine their environment; baleen whales do not. This makes dolphins less than representative of the abilities of baleen whales.

Many cetaceans, including gray whales, travel equally both day and night. The chance of seeing oil at night is greatly reduced if not made impossible for nonecholocating cetaceans.

Many odontocetes are especially active at night, feeding then and resting during the day. Such cetaceans would be highly unlikely to detect oil, as echolocation was effective in detecting only the thickest of oils - approximately 1/2-inch-thick clumps of oil. A preponderance of such clumps is somewhat improbable.

#### Oil Avoidance By Captive Bottlenose Dolphins

The dolphins used for this experiment had been used for the previous nine months for skin contact studies in which their skin had been burned with petroleum products for various lengths of time. They were hardly naive subjects as far as oil was concerned. They had had nine months of basically negative experiences with oil and oil products. This would likely affect their behavior as far as avoiding oil is concerned.

Observations of free-ranging whales are inconclusive but do strongly suggest that such whales do come into contact with and swim through oil contaminated waters.

#### Gray Whale Oil Detection

The field observations were inconclusive as far as the avoidance of oil was concerned. There was inconsistent minor behavior modification when in the presence of oil. More significant was the fact that the observed gray whales did not avoid swimming through the oil.

-4-

What would happen then if each mouthful brought in more oil to foul the baleen?

When feeding on small dense schooling invertebrates, the fin whale's feeding is more leisurely. Again, it takes one "bite" or mouthful at a time, leisurely expelling the water, blowing, and taking another mouthful of water.

In summary, the circumstances faced by the whales are quite unlike those of the experimental circumstances of having a full flow of filtered clean water flowing at a 90-degree angle through unobstructed baleen continuously. The whales are potentially faced with reusing contaminated water, expelling water through partially covered baleen on a very intermittent basis.

The effect of persistent hydrocarbons on the feeding behavior of whales was not studied, and this could be the biggest effect of all. Especially in the case of gray whales, the effect of persistent hydrocarbons covering a highly productive limited feeding area could be quite significant and likely to occur.

#### Further Studies

One of the most important aspects is the indirect effect of oil, specifically its effect on the complex food web that supports life in the ocean environment. Since the basic fundamental plant component of the marine environment is primarily microbes, the concerns and effect of oil is fundamentally different than in the terrestrial environment.

Until much more is known about the indirect effects of oil on the marine environment, the only safe approach to this highly interdependent microscopically supported food web is one of caution.

As these comments demonstrate, the study used in this case to support the statements in the DEIS that the impacts to whales will be minimal are not adequate to base the DEIS on.

-6-

#### Baleen Fouling

Cleaning times for the experimental situation are highly unrealistic for what would likely be experienced by the whale itself. The approach of placing the fouled baleen in a constantly flowing stream of water is very unlike what takes place in the mouth of the whale.

In the case of the gray whale, feeding takes place by swimming to the bottom, holding the mouth slightly off the bottom, and taking a big "suck" which lifts up a patch of the bottom and its contents and draws them into the mouth. With the lips practically closed, the whale continues swimming, gliding towards the surface, with a gentle stream of water and sediment streaming out the gape of the mouth.

The mouth is practically closed the entire time, the stream of water is quite gentle, the process of expelling the water is quite discontinuous, and apparently consists of the contents, including the water, of one mouth full at a time.

In the case of the gray whale, a significant question is what happens to this bottom feeder if a large portion of its highly concentrated and spotty feeding grounds are covered with heavy, thick oil. Does it avoid these areas altogether, and if so, what is the consequence. If not, what effect does this have on its feeding?

Another example of baleen fouling would be fin whales. Fin whales feed on both fast moving small schooling fish and concentrated slow moving invertebrates. When going after fish, the fins have been observed to swim rapidly after the fish, make a dash through their school, opening the mouth slightly, and coming to a quick stop. They then slowly expel the water through a mostly closed mouth. The process is then repeated a number of times, but the expulsion of the water is infrequent and intermittent and limited to the contents of one mouthful each time.

-5-

On page 4-221 of the DEIS it states "platforms from the Sale No. 73 should not cause changes in the migration route. Expected impacts due to noise and disruption are insignificant." This section is speaking of total development, while the section on Alternative I, at page 4-117, states "the platforms could cause significant changes in migratory patterns and possibly other aspects of population dynamics." With statements like these it is difficult to use the DEIS to inform oneself about the impact of the lease sale on whales.

In conclusion the Whale Center urges that the Lease Sale No. 73 be cancelled until complete studies on the consequences of the sale can be evaluated. In view of the current worldwide surpluses of oil there is no reason to rush the lease sale. As we have already noted slowing down the exploitation of our existing reserves will preserve them for the future and encourage development of conservation and alternative resources. This development will make the oil from the tract last longer when it is used in the future. It will also allow us to slow down the rate at which we extract the oil, which will not only result in more efficient use of the basins, but allow more attention to be given to environmental and safety problems.

One final reason to not proceed with the lease sale is that, due to the current short term oil glut, the American public will not get a very good price for the leases at this time.

-7-

Douglas A. Knapp  
2916 Verde Vista Drive  
Santa Barbara, CA 93105

RECEIVED  
APR 21 10 56 AM '83  
MINERALS MANAGEMENT SERVICE  
PACIFIC OCEAN CONTINENTAL  
SHELL OFFICE  
LOS ANGELES, CALIFORNIA

April 14, 1983

U.S. Dept. of the Interior  
Mineral Management Service  
1340 West 6th Street  
Los Angeles, CA 90017

RE: Lease Sale #73, Effect of Offshore Oil Development on Fisheries

The fishing industry is one of the major "players" in the accelerating offshore oil development. As the only other industry that totally derives income through marine resources, the commercial and sport fisheries are directly impacted by any degree of offshore oil development.

70.1

The commercial fishing fleet of California realizes \$323 million annually in landed fish. The State's industrial multiplier of five shows that there is a five fold impact on the gross economy of the State. The fishing industry is worth \$1.5 billion to the economy of the State.

70.2

The mere physical presence of oil related equipment such as drill platforms, movable jacks-up rigs, exploratory drillships, supply ships, crew boats, barges, seismic exploration boats, piers, tanker terminals, sub-sea pipelines, industrial debris, and a maze of unmarked buoys all result in the complete exclusion of the fishing industry from many areas of historical fishing grounds.

70.3

The prospect of dumping millions of barrels of drill muds and cuttings in the traditional fishing grounds provide a specter of smothered bottom habitat. The changes to the marine environment which will result from the dumping of drill muds will include the alteration of the pH of the water, increased turbidity, buildup of toxic materials in the food chain, and outright smothering of the bottom species.

70.4

We fishermen have asked the Mineral Management Service, the State Lands Commission, and the Coastal Commission representatives to stop drill mud dumping due to the potential hazards this practise proposes to the health of our fisheries resources.

70.5

We have also asked for a moratorium on seismic research until further studies have been done. We fishermen are very aware of fish dispersal in areas of seismic research. There is great concern that the seismic concussion could be damaging the planktonic larval stages of crustaceans such as lobster, crab, shrimp and prawns, and also juvenile fish stock. The invertebrate larvae are very delicate creatures and are carried in the currents during the five to seven larval stages. The shearing effects of concussion such as those used in seismic research is also used in university laboratories to break apart microscopic creatures for study of the organelles.

U.S. Dept. of the Interior, Minerals Management Service  
April 14, 1983  
Page 2

The ultimate effect of the extensive and repetitive seismic research will only be realized seven to ten years from now when species finally would be reaching market size. There is no doubt that the petroleum industry will respond in the same fashion as in the past cases questioning the effects of black powder surveys. In the 1940's the State government, the public, and the fishing industry were misled and even lied to in an attempt to convince them that the surveys were doing no harm. The fisherman at that time exposed the fact that black powder seismic work was responsible for the needless destruction of hundreds of thousands of tons of fish in the Santa Barbara Channel. Older fishermen such as Forrest (Red) Allen describe the surface of the ocean blanketed with dead fish for miles in the late '40's. Divers then described dead fish waist deep on the ocean floor during that same time. These veteran fishermen describe days when there were more dead fish floating on the surface due to seismic activity than they had caught in a decade. During that period, the oil industry categorically denied that seismic work had any effect on the fishery resources.

The California Fish and Game Department has been monitoring catches and regulating the California fisheries for several decades and has developed programs to insure the preservation of our valuable offshore renewable resources.

70.6

As a representative of the commercial fishing industry in California, I am asking the Department of the Interior, the State Lands Commission, and the California Coastal Commission to also accept responsibility for the protection of the fishing resources. I ask the following:

1. There must be a moratorium on all seismic research until adequate independent studies have been done to determine the effect on the juvenile fishes and invertebrate larval stages, and also the effect on fish dispersal.

70.7

Any adverse effects must be mitigated by careful controls on the volume of seismic research and time frame of the research in regards to limiting the impact on the seasonal life cycles of the marine organisms.

70.8

2. The fishing industry opposes the dumping of drill muds in the ocean and ask that the Government take the same stand.

70.9

3. The fishing industry also asks for a fisheries preserve to be set aside from the 30 fathom curve, shoreward, this narrow band along the shore being the most resource-rich area in the ocean as well as being the breeding ground for numerous species. This preserve must exclude any future permits for oil drilling.

70.10

4. Traffic patterns in shallow water need to be established in order to reduce the conflict between the oil industry and the fisheries. The heaviest concentration of set fishing gear (traps and nets) is located inside the 30 fathom curve, and north of Point Arguello to 40 fathoms seasonally. Daily, supply boats,

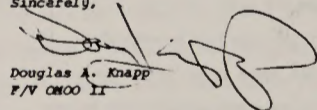
U.S. Dept. of the Interior, Minerals Management Service  
April 14, 1983  
Page 3

crew boats, and tug with barges run parallel to the coastline for long distances. The recent expansion of the oil industry on the OCS has resulted in extremely heavy traffic. The vessels run day and night and due to sea conditions and visibility factors, the skippers often are unable to avoid set fishing gear. We recommend that support boats all be directed seaward to 30 fathoms before proceeding to destinations, and should all travel outside the 30 fathom curve.

Even by accepting these proposals, the State will not be able to completely mitigate the impact on the fishing industry. The fishing industry and the State will suffer loss of revenue under any level of oil development.

70.11

Sincerely,

  
Douglas A. Knapp  
F/V OMOO II

DAK:kk

cc: Gordon Duffy  
Minerals Management Service  
Coastal Commission  
State Lands Commission

RECEIVED  
APR 25 12 20 PM '83  
MINERALS MANAGEMENT SERVICE  
PACIFIC OCEAN CONTINENTAL  
SHELL OFFICE  
LOS ANGELES, CALIFORNIA

Lae Ivy  
755 14th Avenue, Apt. 510  
Santa Cruz, CA 95062  
April 21, 1983

Regional Manager  
POCS Office-MMS  
1340 W. Sixth Street  
Los Angeles, CA 90017

Dear Sir:

The Draft Environmental Impact Statement (DEIS) for Lease Sale #73 has been released. Although I do not live in the area directly affected by this lease sale, offshore oil drilling is a subject that interests me a great deal. In this letter I will present my comments on the DEIS. Please record them as such.

I am not a biologist, so I cannot speak on this subject as an expert. I am a scientist, though, and I have studied the effects of offshore oil drilling, and I feel qualified to give a layperson's view.

I am glad to have this opportunity to comment on the DEIS, although I feel that the current "streamlined planning process" does not give the public enough opportunities to voice their opinions.

The Review Process

Congress has given the Interior Department has the authority to decide where to offer offshore areas for exploration by the oil industry. When they choose which areas to offer, they are required to try and consider the national interest. This means they should only offer an area for lease when the expected benefits exceed the expected costs.

This is, of course, a very tricky process. Certain critical facts (how much oil is out there? how many oil spills will there be?) are simply not available. The Interior Department must provide reasonable estimates for such unknown quantities.

That's not the only problem. Some kinds of costs and benefits are relatively easy to measure (i.e. the economic benefits derived from a producing rig); others are very difficult (i.e. the costs associated with a decrease in sea otter population). Once again, Interior is obligated to estimate these things.

The DEIS is loaded with facts - some very important, others not so



important. I have tried to sort out which ones I think are significant. I have a few comments to make on how I see the costs and benefits from my perspective.

#### Benefits

The benefits of oil exploration are well documented, thanks to the oil industry. How large would they be for lease sale 73?

Increased oil supply: The oil companies are looking for oil reserves that are large enough to produce marketable quantities of petroleum. In addition to the obvious financial benefits for the oil companies, the discovery of such reserves would benefit the general public since it would make the U.S. less dependent on imported oil.

How much oil is out there? Nobody knows for sure. Some estimates from reliable sources suggest that lease sale 73 is unlikely to generate enough oil to fuel the country's needs for more than a few days.

Although some surprising oil discoveries have been made recently in the neighboring Santa Barbara area, they are generally in the southern portion of the area.

Jobs: Oil exploration is expected to stimulate new jobs in the nearby area. But most of those jobs are taken by skilled oil workers who move into the area when exploration begins.

Revenue from leases: The federal government stands to make a lot of money if these tracts are auctioned. However, they will not make nearly as much now as they could sometime in the future, when oil supplies are tighter.

71.1

71.2

#### Costs

If lease sale 73 takes place, it will have a number of dramatic effects on the area. Some of these are unpredictable (i.e. oil spills); others are almost certain (i.e. air pollution caused by drilling operations).

When estimating the cost of something unpredictable like an oil spill, one must look at "expected values". If an event has a probability of 5%, and the cost of that event occurring is \$200 million, then the "expected cost" would be (\$200 million x 0.05) or \$10 million.

Water and air pollution: When people talk about the environmental costs associated with offshore oil drilling, they usually think first of oil spills. Vivid images of dead and dying seabirds and marine mammals come to mind, especially to anyone who witnessed the aftermath of the Santa Barbara Channel spill in 1969.

But what if no spills occur? We can still expect significant air and water pollution as a result of the everyday operations associated with drilling.

71.3

Small, chronic leakages of oil can be expected throughout the entire drilling period. Normal drilling operations discharge various materials consisting of spent drilling muds and the cuttings of rock from the hole being drilled. Some of these drilling muds contain diesel fuel, and virtually all of them

71.4

spills were highly unlikely.

One cannot infer from the above facts that the "expected cost" due to oil spills would be as high as \$517 million. But it is clear that damaging spills are likely, and that such spills have high costs associated with them.

Remember that if the amount of oil found in the leased area is not enough to justify the building of a pipeline, oil spills may become even more likely as oil is transported to and from tankers.

71.7

Also, new studies show that the oil found in the Santa Barbara area is of low quality and there is new concern that it may be too thick to be transported easily through pipelines.

Other economic effects: There are other subtler effects which were not mentioned much in the DEIS. They should all be considered when adding up the costs associated with offshore drilling.

Other areas have experienced a boom-bust phenomenon: When drilling starts, oil workers move into the area, creating a sudden demand for housing and an overall "boom" for the coastal towns. Then, a few years later, drilling is over, all the highly-paid oil workers move on to the next drilling site, and a "bust" occurs.

71.8

This effect could be particularly severe in the Lease Sale 73 area. There are few large towns along the coast, and nearly every town has strict controls on development. So it is likely that a severe housing shortage would occur for several years.

There are other little things: The scenic ocean views enjoyed by residents of coastal towns would be marred by oil rigs. Also, the sudden infusion of oil workers into small towns that are primarily tourist-oriented would dramatically alter their character.

71.9

Biological effects: It is very hard to calculate the "cost" associated with harm to the animal and plant life in the Lease Sale 73 area. While there is ample evidence that many species of animal and plant would be severely impacted by oil spills, it is difficult to determine the cost of a major fish kill or a drop in the seabird population.

The DEIS contains a number of startling facts. The following species could be affected significantly by an oil spill: California Sea Otter (a threatened species), grey whale, northern fur seal, many different species of seabirds, and of course many different species of fish.

71.10

Since I am not a biologist, I cannot say for sure what would happen if the population of one or more of these species declined drastically. But I do know that if the population of one species changes unexpectedly, other species above it in the food chain will also suffer. Man is near the top of the food chain; the fish we eat could be tainted by oil.

#### Conclusions

It is hard for me to evaluate whether the DEIS presents the pertinent facts in an accurate manner. There certainly is a lot of interesting data there, much of it alarming. In fact the projected effects are worse than I

contain a wide range of heavy metals.

Long exposure over time of sensitive portions of the ocean food chain to toxic and often cancer-causing hydrocarbon compounds creates sub-lethal but measurable effects on numerous marine organisms.

Recent changes in the EPA's waste dumping regulations make it nearly impossible to regulate drilling discharges in localized areas.

A production platform with 70 wells can result in a total discharge of 1,400,000 barrels of drilling muds, equivalent to 150,000 tons dry weight.

We are just beginning to learn about the long-term effects of such substances in the marine environment. Already we know enough to say that whatever damage is done will probably work its way up the food chain and into the foods eaten by humans.

The air quality of Santa Barbara County is already being degraded by hydrocarbon emissions from existing offshore drilling that are blown to shore by the prevailing winds. New drilling would obviously make things worse. San Luis Obispo County could expect similar effects.

Recent studies conducted off southern San Luis Obispo County showed that hydrocarbon pollution from offshore areas does not always dissipate when moving onshore. Pollutant clouds can move over surprising distances while remaining cohesive and concentrated.

In the urbanized areas near Lease Sale 73, increased pollution levels could cause communities to fail to meet federal air quality standards. This could lead to new restrictions on new industry in such areas.

71.5

Many of the rural coastal areas in that area currently enjoy good air quality, which is an important element in the quality of life for the people who live there (many may have moved from polluted areas like Los Angeles to escape the smog). This high-quality air is also one of the main reasons tourists visit these areas, and tourism is a major source of income along the coast.

Oil spills: The DEIS contains some rather dramatic figures:

"According to the oil spill model, there are expected 3 large oil spills from oil development and 5 additional large spills from tanker accidents. These spills increase the probability that at least one large spill will occur and contact an area of special concern."

"If an oil spill occurs and contacts the coastline for 30 days during the peak tourist season, it could cause a reduction in tourism large enough to cause a loss in tourist revenue of over \$205 million (California Office of Tourism, 1981; the Granville Corporation, 1981). When this value is incorporated into the local economy the total loss to the tourism in the area will be increased by the output multiplier (2.46 based on the Granville Corporation, 1982) and could result in a loss of over \$517 million to the regional economy. This would be a very high impact to the local communities and to the basin economy."

71.6

I must admit that I was shocked to see figures like these in the DEIS. I had generally believed the oil industry's assurances that offshore drilling was "safe" and that their technology had advanced to the point where damaging

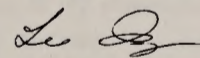
expected.

It appears obvious to me that the costs associated with drilling in this area are greater than the benefits. If I was running things, I would have to conclude that this lease sale should not take place.

If the offshore leasing frontier moves further north (as Interior obviously intends), I think the cost/benefit imbalance will become even greater -- places such as Big Sur are among our greatest national treasures, and the predicted oil reserves are smaller.

What upsets me is that the Interior Department obviously intends to proceed with Lease Sale 73. If they do proceed, it will be even more clear than before that the people who run the Interior Department are not truly concerned with serving the public interest.

Sincerely,



Lee Ivy

CC: Leon Panetta

Laurie Bevan  
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Regional Manager  
Pacific CCS Office--MMS  
Rm. 200  
1340 W Sixth St  
Los Angeles, Ca 90017

To the Manager:

I would like to submit the following comments on the Draft EIS for OCS Sale #73. Many of the specific points made are not isolated occurrences but are symptomatic of the entire document.

-- Oil Spills-Sandy Beach Intertidal pg. 4-95

In a single paragraph the DEIS states: "Impacts from a large spill are typically expected to be Low. However, if the wave energy is low...and oil is retained on a sandy intertidal beach for long periods, community members, such as clams, may suffer a high ecological loss. Indirect damage could result from the cleanup operations... resulting in the total destruction of local communities." (Emphasis added) 72.1

Since the wave energy at the time of a spill cannot be predicted, and since the DEIS defines a high impact as "the mortality or a biological alteration of a noticeable segment of the population, community or assemblage", the level of impact on sandy beach intertidal areas should be designated HIGH, not low.

-- Species Account--Oil Contact re: sea otters p. 4-111, 112

Statements in the conclusions contradict statements in the text, regarding expected impact levels.

TEXT: w/in southern Santa Maria Basin moderate to very high

w/in Santa Cruz and No. Santa Maria Basin moderate to high 72.2

CONCLUSIONS:  
w/in So. Santa Maria Basin low to moderate

w/in Santa Cruz and No. Santa Maria Basin very low

This is but one example of numerous inconsistencies in the document.

-- Potential Toxic Chemicals p. 4-116  
(insufficient scientific knowledge)

DEIS states, "Available data on the bio-accumulation of toxic materials in marine mammals and other marine vertebrates is inconclusive. No one really knows how drill effluents will affect the marine food chain. Therefore, the presence or absence of long-term chronic impacts is uncertain." 72.3

To proceed with OCS development despite the lack of any conclusive data on such critical issues is in clear violation of the OCS Lands Act (see p1-7 section "10"; p1-8 secs. "3,5"; p1-9 sec. "3"d.). No reasonable balancing of risks and benefits is possible when the effects of development are so utterly unknown.

--Impact on Seabirds p4-117

DEIS states, "Although a great deal of information is available, the behavior, physiology and life history of many seabirds is not well known. The number of birds and mechanisms of impacts from an oil spill are largely unpredictable or uncertain. Estimated impacts to seabirds, both short-term and long-term, from OCS hydrocarbon exploration and development are based on analysis and extrapolation from limited data." (Emphasis added)

Impacts on seabirds from spills are not unknown, but have been clearly and painfully demonstrated after most large spills (notably Santa Barbara Channel, 1969). The DEIS, in the very next paragraph, confirms the effects: "Oil from spills can impact seabirds (through ... 1) direct contact with floating oil, 2) toxic effects of oil, both short and long term, 3) habitat destruction, 4) food losses, 5) cleanup activities." 72.4

The two statements above (as well as the discrepancy between them) hardly inspire confidence in the reassurances that follow about the "assumed" low impacts of spills or drilling toxins on seabird populations. Clearly, more information is needed for an adequate assessment of potential damage.

In addition, no mention is made of shorebirds whose habitats surely would be affected by a spill contacting the coast, ie. black turnstones, sanderlings, sandpipers.

\* \* \* \*

The DEIS repeatedly hypothesizes that large spills are "not expected" to occur in sensitive areas; and if they do occur, oil is "not likely" to contact the shore; and that somehow toxins released from drilling platforms will be rendered harmless by "the dilution factor". The document also admits, however, that if the unexpected does occur, the effects on endangered species, habitats, ecosystem functioning, etc. would be disastrous.

This DEIS is rife with descriptions of ecological catastrophes that "are not expected" to occur. But considering the clear lack of sufficient scientific data to back up its claims, the Dept. of Interior's expectations amount to little more than wishes. And it will take not wishful thinking, but thorough baseline studies, environmental monitor-

ing of existing OCS development, and further research on the biological effects of oil and drilling effluents to make possible an accurate evaluation of the risks involved in the proposed OCS Lease Sale 73.

Thank you for the opportunity to comment on the Draft EIS.

Sincerely,

*Laurie Bevan*  
Laurie Bevan



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APR 25 12 21 PM '83

MINERALS MANAGEMENT SERVICE  
PACIFIC OCS OFFICE  
APRIL 21, 1983  
LOS ANGELES, CALIFORNIA

Manager  
Pacific CCS Office  
Minerals Management Service  
Room 200  
1340 West Sixth Street  
Los Angeles, CA 90017

Dear Sir:

This letter is to be filed as my comments on the DEIS for OCS Lease Sale No. 73. As a marine scientist with some 30 years' work on the central California coast, I wish to inject the following comments pertaining to a few of the shortcomings of this DEIS report. The following then are only the major highlights of the problems facing your organization.

- 1. BLM contracted out to Woodward and Clyde the general survey of the intertidal zone. In 1982 they reported to you that their aerial-general survey revealed that "the major dominant species and zonation of the rocky intertidal are essentially the same throughout central-northern California".

Using their information, you assigned sensitivity ratings for the entire coastline, involved with OCS Lease Sale No. 73. On pages 3-30 to 3-31, Table III.B.1-1, you have listed 14 sites as "sensitive".

My objections

Yes, these 14 sites are sensitive, but on what basis? What criteria was used to make this evaluation? Is the site valuable or sensitive because of the numbers and density of the species within the intertidal zone? If so, are the other areas not listed among the 14 sites categorized as "less sensitive" or "less valuable"? I maintain that the entire coastal intertidal zone, whether it be beach or rocky or massive platform reef, has organisms of similar magnitude or equal value in rating that would render your "sensitive" listing meaningless. In some areas, not among your 14 sites, exist uncommon species which, if suffocated by an oil spill, would probably be eliminated from that specific niche. 73.1

The general survey of "sameness" as described by Woodward and Clyde (1982) and the "sensitive and not so sensitive" rating in your Table III.B.1-1 are absurd.

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Pacific OCS Office  
Minerals Management Service

page 2

2. There are no listings of indigenous or endemic intertidal nor subtidal invertebrate species in your DEIS that are located in the coastal areas of OCS Lease Sale No. 73. 73.2

For example, if an oil spill were to occur and the oil suffocated a small, two-millimeter flatworm species, *Polychoreus carmelensis*, on Carmel Point, this catastrophe might totally destroy this species. In terms of evolutionary morphology, this kill may eliminate the world's most primitive bilateral organism. How does one place a value on such a loss?

In summary, my comments simply point out that this DEIS on OCS Lease Sale No. 73 is far too general and does not properly evaluate the coastal invertebrate nor vertebrate resources of the affected areas. Perhaps it would take too many years and involve greater cost to perform a thorough task, but then the stakes are high! 73.3

My post-oil studies of the long-term effects of the 1971 San Francisco oil spill on marine life reflected only the major species between the plus 3.4 to 5.0 high tide areas. I've always wondered what that Bunker-C oil would have done to the rare *Mesoglossus* hemichordate worm that lives in the minus 0.5 tide level of Duxbury Reef?

It is hoped that my comments would produce a constructive re-evaluation of our living marine resources.

Sincerely,

Gordon L. Chan, Ph.D.  
Biology Department

cc: To interested individuals/organizations

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APR 25 12 20 PM '83  
MINERALS MANAGEMENT SERVICE  
PACIFIC OCS OFFICE  
SEVENTH FLOOR  
LOS ANGELES, CALIFORNIA

LEE M. LAMBERT & ASSOCIATES  
2030 FRANKLIN STREET  
SEVENTH FLOOR  
OAKLAND, CALIFORNIA 94612  
(415) 465-8140

April 21, 1983

Regional Manager  
Pacific OCS Office  
MMS, Room 200  
1340 West Sixth Street  
Los Angeles, CA 90017

Dear Sir or Madam:

Please find the enclosed comments on the Draft Environmental Impact Statement for OCS Sale No. 73.

These comments pertain to the alternatives that consider leasing activities.

Respectfully submitted,

Lee M. Lambert

LML:ss  
Enclosure: comments

LEE M. LAMBERT & ASSOCIATES  
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OAKLAND, CALIFORNIA 94612  
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April 21, 1983

COMMENTS - DRAFT ENVIRONMENTAL IMPACT STATEMENT, OCS SALE NO. 73  
US MINERALS MANAGEMENT SERVICE

Lee M. Lambert, B.S., M.B.A.

INTRODUCTION

On page 1-1 of the DEIS, the following purpose statement is made:

The purpose of this environmental impact statement (EIS) is to aid in the fulfillment of Section 102(2)(B) and the requirements of the National Environmental Policy Act by making environmental information available to public officials and citizens before decisions are made with respect to Sale No. 73.

Section 102(2)(B) of the Outer Continental Shelf Lands Act (OCSLA), as amended, requires the Federal government "to balance orderly resource development with protection of the human, marine, and coastal environments." Section 102(2)(C) of OCSLA further requires the government "to insure the public a fair and equitable return on the resources of the Continental Shelf."

Although Section 1502.1 of the National Environmental Policy Act (NEPA) did not require a specific and sole focus upon Section 102(2)(B) of OCSLA, the DEIS has chosen to elucidate only descriptive environmental analyses and ignore the methods in which the information may be used for implementation within the OCS leasing process. For this reason, the DEIS is inadequate. A discussion of issues I believe to be relevant to the DEIS analysis follows.

COSTS AND BENEFITS

The adverse environmental impacts that will occur in the OCS Sale No. 73 lease area will, to a great degree, depend upon establishment of criteria to determine the available costs and benefits accruing from the offering of each tract. The DEIS does not address how these costs and benefits will be assessed to determine the minimum acceptable bid allowing the public to recoup its invested and future net costs. 74.1

In a sense, the leasing of OCS properties should be considered as an investment decision. The public has already invested substantial funds to define, secure and manage the OCS properties. Leasing would require the public to sustain further costs.

The oil exploration concern does not base its bid amounts on the public's costs and benefits. The oil exploration concern will bid based upon its judgement of revenues to be gained from oil and gas sales less costs of extraction and a profit compensating for oil exploration risks.

The costs accruing to the public are clearly of a different nature. The public bears the external costs of adverse environmental impacts, defined in the DEIS as a broad range of physical, biological and socioeconomic categories. These impacts are not factored into the oil exploration concern's equations, except to the extent that the concerns must carry out mitigating activities.

The public also recognizes a cost from its ir retrievable commitment of oil and gas resources, although the benefit of developing domestic reserves is recognized by some. A prudent investment policy would dictate that the public's assets should be

April 10, 1983

offered in a manner timed to maximize revenues. Thus, sale of a public asset in a market "glut" when the opportunity to hold it may be more valuable is also a cost to consider. Recent price trends in crude oil prices suggest this may be a substantial cost.

The tract bids for the OCS leases must, at a minimum, compensate the public for its investment in the OCS resource, its bearing of adverse environmental impacts, public costs of mitigation, public costs of lease management and the lost opportunity to offer the resources at a later date, less the benefits of bid revenues, tax receipts and other recognized factors. It should again be emphasized that the bid price will not necessarily reflect these factors.

The DEIS provides no discussion of the bidding process and how the recognized impacts within the document will be recognized therein. The value of the information presented should be explained, or it possesses little relevance. How will the data in the document be used to judge when a bid is adequate and when a bid is not adequate?

In addition, the document does not address the possibility that leases may be purchased for speculative purposes. What provisions exist that will not permit speculative purchases, and if regulations exist, what assurances exist that enforcement will be vigorous?

CONCLUSION

The DEIS presents environmental information in a vacuum. The document is inadequate without fully addressing the issues of how the recognized costs and benefits will be measured and treated in the implementation of the leasing process.

-3-

Mr. John Lane  
Mineral Management Service, Pacific OCS Office  
1340 West 6th Street  
Los Angeles, Ca. 90017

Dear Mr. Lane:

What will the impacts of oil depletion of Lease Sale 53 and Lease Sale 73 be upon the Hosgri and connecting faults in relation to the seismic safety of Diablo Canyon Nuclear Power Plant? This is not covered in the EIR.

It is a proven fact that depletion of oil deposits in southern California has caused the earth to shift and sink. Even though it is understood that water is to be injected to equalize pressures as oil is extracted, is it not probable that this process could cause shifting and slippage of already precarious and tenuous seismic plates of the Hosgri fault?

Further mapping of the Hosgri and connecting faults by undersea detonation scheduled to be done by a Scripps Institute ship in 1982 was blocked by fishing interests and the State Fish & Game. It was and is imperative that this be done in relation to Diablo Canyon.

On April 7, 1983 the Nuclear Regulatory Commission evaluated Pacific Gas and Electric's performance re Diablo Canyon. Ratings are from 1 to 3, 3 being 'minimally acceptable'. The NRC's evaluation of PG&E on the 'design, engineering, and construction' of Diablo Canyon was so poor that it was not rated.

San Luis Obispo is in jeopardy from Diablo Canyon. To allow depletion of oil deposits offshore near a known earthquake fault near a known nuclear time bomb with this evaluation standing would place our county in double jeopardy.

For this reason alone Lease Sale 73 should not be allowed. For this and the many other environmental and economic reasons we oppose Lease Sale 73.

Sincerely,

*Maui Cattolr*

Mr. & Mrs. Albert G. Cattolr  
P. O. Box 134  
Arroyo Grande, Ca. 93420

75.1

Phil Ashley  
1171 11th St.  
Los Osos, Ca. 93402  
(805)528-4800  
April 21, 1983

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APR 25 12 21 PM '83

Regional Manager  
Pacific OCS Office  
Minerals Management Service, Room 200  
1340 W. Sixth St.  
Los Angeles, Ca. 90017

Dear Regional Manager and MMS Staff:

This letter is my comments on the draft EIS for Lease Sale 73. Please make this letter a part of the EIS review and incorporate pertinent information herein into your EIS. My background and expertise as relates to this EIS is described in the following paragraph.

I am a biology technician at California State Polytechnic University (Cal Poly), San Luis Obispo. I have a B.S. from Cal Poly and an M.S. in fisheries from Humboldt State University, Arcate, Ca. I worked in Arizona as a fisheries biologist for the U.S. Fish and Wildlife Service (USF&WLS) in the Division of Ecological Services in Phoenix. My duties there were reviewing EIS's of other agencies and developers and writing biological portions of EIS's for our agency and closely aligned agencies as BLM. Immediately after working for the USF&WLS, I moved to Los Osos adjacent to Morro Bay and began working for Cal Poly. This time I resumed my science education taking nearly all of the courses in Cal Poly's Food Science Department. I specialized in processed food products from underutilized marine species as squid and mackerel. I have also done processing work with more popular marine species as tuna, sole, and rock fish.

My interests are strongly allied with the fishing and tourist industries of the California central coast. Although I was born and raised in the oil town of Oildale, California, I am not a spokesman for the oil industry. I thought I was moving away from major oil development when I settled in the coastal town of Los Osos. I do not belong to any environmental group. I have always felt that my comments as an individual on major projects as this have more impact if I remain independent. However, I support the main goal of all environmental groups--to maintain as much of our nation and world as possible in a clean, healthy, pleasing condition for humans, plants, and animals to live in. The elitist label these groups have unfairly been tagged with is an emotional smoke-screen used by some developers to cloud real issues. Many people in environmental groups are truly average citizens. Housewives of common households play a significant role in most environmental groups. Certainly they, as a group, cannot be labelled elitist. Environmental groups are made up of hard working people willing to perform the duty of maintaining our environment for us and future generations, while many of us are too busy, lazy, apathetic, or economically involved to perform this critical function for ourselves. In reality most of the true elitists in our country are highly paid corporate and government development oriented executives. I have found that many affluent developers are ambivalent in wanting to develop for profit certain areas while characteristically wanting their own exclusive natural vacation areas for hunting, fishing, camping or whatever. Most of us cannot often, if at all, afford the expensive types of vacations developer executives are accustomed to in some of the most pristine and exotic areas of our nation and world. These true elitists, some of whom are already involved with developing the OCS for oil, should thank the environmental groups for fighting to maintain natural or reasonably natural vacation lands of nearby end afar. No matter how pristine and expensive to get to a remote vacation spot is, there is always another major developer who wants to alter it for economic gain. So it often boils down to environmental groups doing the hard and frequently unappreciated work of keeping

one developer from developing or overdeveloping another developer's enjoyed natural vacation land. Think of the role environmental groups play in this manner, and the extreme polarization between the two groups diminishes. For all of our benefit, I ask you at the MMS to pay close attention to the comments the environmental groups make on this project. And please do not cast aside the comments I have just made possibly suggesting that they are not specific to your EIS. These comments speak to what the entire concept of EIS's, and yours in particular, is all about--protecting our environment in a development prone society.

Many of us who work, live, and vacation on the central coast enjoy this area because it is not encumbered by heavy industry. We are rightly concerned with the significant industrial changes the federal government and oil companies are seeking. We are stunned by the insensitive speed with which you are moving against legitimate local concerns. It is this insensitive speed with which you are moving that I address my comments regarding your EIS rather than specifics of the EIS.

When I left Phoenix and the USF&WLS, the BLM was to be the lead agency in west coast outer continental shelf (OCS) development. From a historical perspective this seemed strange to me. In retrospect I realize that they had the mixed discipline approach, as well as or better than any other federal agency, to tackle this enormous job. The manner in which BLM handled California's extremely complex desert management plan over the past 10 years has been exemplary and proved that they could do an excellent job for the OCS (whether or not they actually wanted the difficult task). BLM held multiple public meetings in various places over several years on the desert plan. They addressed the concerns of multiple resource user groups to arrive at a coordinated plan covering 100's of square miles of desert. Maybe no user group was completely satisfied, but they all had many chances to comment, and eventually a well coordinated, workable plan evolved.

Where is BLM now when we need them? What exactly is MMS? Is MMS an offshoot of BLM, USGS, BR or any agency I was once familiar with? Is it a new agency tailor-made for developing the OCS? Is it a new name for USGS? I do not know who or what you are.

You have done to me with Lease Sale 73 what you have done to California, various coastal counties and cities and numerous citizens. You have proceeded so fast that we do not know what is happening. I have not even had time to read your EIS. Obviously, if I would have had time to read the EIS, I would know who and what MMS is. Who the lead agency is and under what jurisdiction they operate is always one of the first things covered in an EIS. But under your new "streamlined" (President Reagan's word, not mine) review process, time is so limited that I am forced to comment on the EIS without reading it. In fact, I barely have time to send this letter before the April 25 dead-line. How many other people are in my situation? Many! Citizens have jobs, domestic responsibilities, and many other daily things to tend. You cannot expect us to always respond in the time frame your agency (or President Reagan) considers optimum.

When I was with the USF&WLS, I learned through personal experience and observation of coworkers that it would typically take a person at least 30 hours, excluding clerical time, to read and comment intelligently on a complex EIS. If research beyond the EIS is required, the 30 hours can easily double or triple. Apparently someone does not want intelligent comment on this EIS. For a person to devote 30 or more hours of spare time to an EIS, they might need to have the

76.1

76.2

report a month. Furthermore, it is fallacy to think one can read only those sections of an EIS dealing with their own interests or resource concerns. One must read an entire EIS to understand it or determine that it cannot be understood. There are no short cuts. I frequently found in my biological reviews of EIS's that pertinent or conflicting information to the biology sections would appear in other sections, while being omitted from the biology sections. Whether done by deceit or oversight, these lack-of-continuity problems tend to appear in nearly all complex draft EIS's. That is why the system was originally set up with levels of review to catch and correct problems and work out conflicts. These levels once included by the lead agency an in-house environmental report (ER) derived from extensive research and contacts (including contacts with local governmental environmental groups for courtesy and expertise) followed by hearings, multiple if necessary, a draft EIS (and sometimes a draft rewrite with more hearings, if too many unresolved problems prevailed), ending with a final EIS. Some very complex projects would even hold hearings before the final EIS was prepared. This obviously is expensive and time-consuming. Our environmental awareness as a nation, however, led us recently to rightly believe that such an approach was the only practical way to deal with developing, or alternatively choosing not to develop, resource areas as large and complex as the OCS. The MMS is to be denounced for this hasty approach to such a critical and complex national and local issue. Oil development of the OCS along the California central coast is not to be treated lightly from an environmental perspective. This coast is a magnificent place to live and visit. It has an outstanding temperate marine fishery and ecosystem unique in its blend of warm and cold water species. The MMS should take time to review the methods used by BLM on the California desert plan before proceeding further with Lease Sale 73.

76.3

What is the reckless hurry? I am insulted by your insensitivity to public input. I am disgusted that the one public hearing you held was on a work day, considerable distance from potential oil ports of Port San Luis and Morro Bay. I am outraged that members of the USFWS were panel members at the hearing. If MMS is the lead agency, then they alone should comprise the panel and face the music. The USFWS role should only have been as a hearing commenter, intervener, or observer. By having the USFWS help panel the hearing, the impression is given to the public that it is a lead agency and/or that concerns for the biological environment have been given the very highest priority by the federal government in Lease Sale 73. Is this the case?

76.4

I realize that many of you in the MMS are loyal government career employees. You must go along with current Washington philosophy, but some of you must be frustrated with the reckless pace of this project. Although my comments at this time are directed scathingly at your agency, I must sympathize with many of you as individuals. Federal workers are at times required to do things counter to personal beliefs. In this case, even if you agree with OCS oil development, some of you probably question the manner in which it is being done. For those of you in this situation, I believe you can ease your minds. This one-shot EIS is going to go smuck somewhere. I do not know where, but somewhere.

Maybe someone in Washington will explain persuasively to the current administration that too many voters are being aggravated by this administration's lack of concern for the environment. Somebody may actually convince our president that his oversimplified 1950's view of our nation and existence is inappropriate for the 1980's. In which case, the administration may abandon this new "streamlined" environmental review process for a more practical, cautious, and of necessity, slower process. Or maybe Congressmen Penetta, Cranston, and Kennedy's bill to put new OCS development into limbo will gain momentum and over-ride

anything this administration plans for OCS oil development. Or the embattled and beleaguered, but not defeated, environmental groups, possibly in this case acting as bedfellows with the state, towns and counties, will sue for a last minute injunction to delay Lease Sale 73. Or it is even possible that the same types of uncautious interests that caused the EPA debacle will surface here to slow or halt Lease Sale 73. Too many things seem askew here for this project to continue as unwisely scheduled.

I somehow believe, despite the way things now look, that I am going to get the proper opportunity to read and comment on your EIS. I cannot believe the administration will continue to ignore the outcries of the substantial electorate that has protested this unreasonably shortened review process.

So hopefully the next time that I write you people at MMS, I will be commenting on the EIS within an expanded period for hearing and comments. It would be unwise for me to address the biology of your EIS without reading it. When I do read and comment on it, I would expect it to cover all the issues local fisheries people and marine biologists are concerned with. It should cover impacts on spawning, breeding, nesting and nursery areas. It should cover impacts on in-place fisheries gear. Fisher people have already had significant gear losses due to oil exploration. Furthermore, to make room for development, they have had to give up considerable of their past freedom to fish the seas. The EIS should discuss how gear losses to fishers is going to be avoided or mitigated. It should discuss to what extent oil development will restrict fishing in long-time productive fishing areas. It should discuss how the fishing industry will be mitigated for lost fishing grounds. It should discuss how accidents between fishing boats and oil vessels are going to be prevented. It should discuss the impacts of drilling spoil on marine habitats of various types. It should discuss the collection of baseline biological data in potential drilling areas to compare quantitatively and qualitatively to the post drilling marine biology. It should discuss methods for mitigating potential adverse impacts on marine species whether or not it is now thought adverse impacts will occur. It should discuss catch-rate affects to the commercial and sport fisheries for pelagic and ground fish species and various shell fishes. It should discuss impacts of subsurface oil exploration explosions on marine life beyond Cal Fish and Game's tentative suggestion that there might not be adverse impacts. When people have apparently felt and heard these explosions from their on-shore homes, it is hard to believe serious damage is not occurring at least to localized populations of marine species. It should give a clear-cut picture of the benefits marine oil drilling rigs are professed by some people to provide to various types of fisheries. We know fishing boats fish around oil rigs in the Gulf, near Florida, and in Santa Barbara Channel. Do they fish around these rigs because the rigs happen to be in productive fish areas, or do the rigs provide enough new vertical substrate and shelter to provide an increase in marine productivity measurable by documented increased catch rates. We have heard enough heresay about the benefits of oil rigs to fishing. Give us some quantifiable data. There are other important interrelationships between oil development and affects on the marine environment that I would look for in the EIS. I have listed enough though, to show the kinds of concerns I have.

76.5

I know our government has historically treated our fishing industry lightly compared to other industries, as oil. However, past policy could change whereby our fisheries get the same high class treatment other nations (Japan, Canada, Norway, etc.) give their fishing industry. Whether or not this happens, I want to be convinced OCS oil development, if it is to occur beyond what now exists,

leaves our marine system in good shape for future generations to enjoy. The OCS should get the same multiple use planning approach by MMS that BLM gave the deserts. Right now that has not happened, so I and a lot of others are looking for any way possible to stop your Lease Sale 73, until you are willing to coordinate and bargain fairly.

Again, please incorporate this letter into your EIS review process. If comment letters are included in a supplement or appendix to the EIS, as has often been the case regarding other EIS's, please include my letter. If it is not possible to attach my letter to, or include it in, the EIS, please notify me in writing as soon as possible explaining why. Thank you.

Sincerely,

*Phil Ashley*  
Phil Ashley

PA:hn

P.S. In the third from the last paragraph in my comments, I listed things that I would expect you EIS to discuss. I did not mention oil spills believing that would be mentioning the obvious. Last night after finishing this letter, I read in Morro Bay's Sun-Bulletin newspaper that the oil spill section was "grossly understated." This is terribly disturbing. Of all the environmental concerns of the various marine resource users, this potential impact is probably feared most. I have heard and read numerous alleged statements by oil people indicating that with modern oil technology the type of oil spill holocaust that happened in the Santa Barbara Channel in the late 1960's is nearly impossible today. The section on oil spills must state exactly what specific technologies the oil industry and government have developed to prevent oil spills of all sizes and types. If oil spills occur, the EIS must list specific clean-up techniques that will be employed for the smallest to largest potential oil spills. The EIS must be specific about how the oil companies and government will mitigate the various marine resource user groups when adverse oil spill impacts occur. The EIS should list each marine resource user group and explain how it will be compensated. The EIS should list techniques that will be used to quantifiably and qualifiably monitor the adverse affects of oil spills on the environment. If your EIS does not have a strong section on oil spills adequately addressing the types of concerns I have listed, you do not have an EIS at all, as far as I am concerned. I will join with whatever private or public activities necessary to insure that your EIS adequately covers the entire oil spill issue. The stakes are too great to allow you to treat oil spills inadequately.

ATTACHMENT →  
(P. 6)

COPIES SENT TO:

- |  |  |
|--|--|
| U.S. Representative Leon Panetta         | Ca. Coastal Commission                       |
| U.S. Representative William Thomas       | Mr. Steve MacElvaine, Ca. Coastal Commission |
| U.S. Senator Pete Wilson                 | Local Chapter Sierra Club                    |
| U.S. Senator Alan Cranston               | Local Chapter Audubon Society                |
| U.S. Senator Ted Kennedy                 | SLO Board of Supervisors                     |
| President Ronald Reagan                  | County Council for Governments               |
| Secretary of Interior James Watt         | Mr. Ron Decarli, SLO County Planner          |
| (for whatever it is worth)               | SLO City Council                             |
| U.S. Fish & Wildlife Service, Wash. D.C. | SLO Mayor Melaine Billig                     |
| Ca. Assemblyman Eric Seastrand           | Morro Bay City Council                       |
| Ca. Senator Ken Maddy                    | Morro Bay Mayor Eugene Shelton               |
| Ca. Senator Henry J. Mello               | Pismo Beach City Council                     |
| Governor George Deukmejian               | Grover City Council                          |
| Director Ca. Dept. of Fish & Game        | Linus  |

Sandy Olliges  
1495 Parkway Drive  
Rohnert Park, CA 94928

April 20, 1983

Minerals Management Service  
Pacific Outer Continental Shelf  
1340 W. Sixth Street  
Los Angeles, CA 90017

As a tool to decision making the EIS should clearly delineate the tradeoff between short-term benefits and long-term costs of the proposed project. The Draft EIS for OCS Sale No. 73 is inadequate in this respect.

Based on the conditional mean resource estimate, benefits in the form of fuel resources will provide enough oil to meet U.S. needs for 65 days and enough natural gas for 1 day and 14 hours. If the most likely resource estimate is used, the length of time is reduced to 19.4 days worth of oil and 12 hrs. of natural gas. These figures are based on U.S. consumption rates of 15 million barrels of oil per day and 300 billion cubic feet of natural gas per day. 77.1

Several long-term impacts are possible from the proposed action. One, disturbance of the low level radioactive waste dump could result in radioactive isotopes moving into the food chain. Impacts on human well being in the form of cancer and birth defects could occur for thousands of years as the result of this contamination. 77.2

Two, oil spills could result in the extinction of sensitive intertidal species and the disturbance of surviving species for up to 10 years.

Third, chlorinated hydrocarbons stirred up in the sediment and dispersed in the ocean water may have long lasting effects on the marine and terrestrial food chains, resulting in negative impacts on endangered species such as the peregrine falcon and bald eagle. Human cancer may occur from ingestion of seafood contaminated with these toxic chemicals. In addition, the drilling apparatus is ugly and destroys the aesthetics of the coastal environment. 77.3

In contrast, conservation efforts and solar architecture provide net energy for the lifetime of the user. Photovoltaic cells and wind turbines provide electricity for a long time. Once a barrel of oil is burned, it's gone forever. Environmental degradation resulting from the exploitation of offshore oil fields is much longer lasting than the benefits of the fuel.

Another area of inadequacy of the Draft EIS for OCS Sale No. 73 is the consideration of alternatives. Besides the alternatives considered, I would add:

Alternative V - Modify the sale to protect the Channel Islands National Marine Sanctuary. Eliminate tracts most likely to result in spills that would impact the Channel Islands. Stipulate that activities that may result in a spill shall not commence during spring and summer pupping or breeding season of the northern fur seal. 77.4

Alternative VI - Modify the sale to eliminate tracts that coincide with the Point Arguello low level radioactive dump site.

Alternative VII - Modify the sale to eliminate risk of an oil spill contaminating Point Conception, which is the dividing line between the Oregonian and Californian Biogeographical Provinces. A large oil spill impacting this intertidal area could eliminate certain endemic species from existence.

Alternative VIII - Modify pipeline construction to avoid the Nipomo Dunes, which have a large number of endemic species.

Alternative IX - Combine Alternatives II, V, VI, VII, and VIII to protect particularly sensitive biological areas and to avoid contamination of the environment with ionizing radiation.

Sincerely,

Sandy Olliges  
Sandy Olliges

To the Minerals Management Service:

Dear Sirs/Madams,  
I have here some comments and questions concerning your draft EIR "OCS Sale No. 73."

(1) The proposed action is not consistent with its stated purpose and need as defined by Section 102(2) of the OCS Lands Act. Only "(A)" -- seemingly the least important part, as burning Americas' oil first will heavily contribute to our long term energy independence -- is clearly addressed. The EIR shows the concerns raised in "(B)" being breached, not met. The ~~proposed~~ proposal is in conflict with "(C)": holding a lease sale during a time of low oil prices is not in the best interests of the public. With regard to the above, any of the proposed alternatives would be preferable to the proposed action. 78.1

(2) The "Comparison of Alternatives" section is inadequate, being neither systematic nor clear. The calculation of opportunity costs for the various alternatives, and their incorporation into systematic method of cost/benefit comparison is needed. 78.2

(3) The discussion of Socio-Economic effects is generally restricted to the regional level, with the county level used in some cases. The level of detail used is misleading. Impacts will occur and be experienced on the community level, and the EIS should reflect that. At present the level of detail used is inadequate. 78.3

(4) The suggested mitigation measures aimed at reducing conflicts between the shipping activities connected with the proposed action should be made more comprehensive. Once platform sites have been chosen and approved sea lanes should be designated for tankers and service ships, and their use made mandatory. Use of existing coastal sea lanes should also be required. 78.4

(5) In general, considering the impacts of the proposed action and the cumulative impacts of the expected overall development, I believe that the "no sale" and the "delay of sale" alternatives are preferable. If the sale is to take place it should be under the conditions of alternative II with all suggested mitigation measures in place. 78.5

Sincerely,  
Daryl Goodison

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Apr 26 12 17 PM '83  
MINERALS MANAGEMENT SERVICE  
PACIFIC OCS REGION  
1340 WEST SIXTH STREET  
LOS ANGELES, CALIFORNIA

April 23, 1983

Minerals Management Service  
1340 West Sixth Street  
Los Angeles,  
California, 90017

Past and future lease sales off the coast of California may threaten more than 200 light-footed clapper rails and the El Estero estuary in Baja California due to the fabrication of oil drilling platforms. I have enclosed two articles on this subject for your information. Impact analyses need to discuss possible international ramifications of the sales. In particular, EISs for Lease Sales 73 and 80 need to discuss the impacts to rails, estuaries and possibly other resources such as fish.

*Barbara Massey*

Barbara Massey  
Biological Consultant  
1825 Knoxville Ave.  
Long Beach,  
California, 90815

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April 9, 1983

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John Lane  
Minerals Management Service  
Pacific OCS Region  
1340 West Sixth Street  
Los Angeles, CA 90017

Dear Mr Lane:

I would like to make the following comments on Lease Sale 73:

I am confused by the methods of determining the resources contained in the sale area. The conditional mean resource (high case) estimate is apparently devised by elaborate statistical procedures, which are not clearly explained, and by learning curves, which are not explained at all in the Draft Environmental Impact Statement (DEIS). This estimate projects resources that "... cannot reasonably be assumed to be discovered as a result of the specific sale being addressed in the EIS..." (page 2-3). As a result a "most likely" estimate of resources, a percentage of the conditional mean resource is made. This estimate appears to have been made subjectively, "... taking into account the knowledge of the particular area's geology, economic considerations, exploration history, and potential learning curve in conjunction with finding rates in other OCS areas world-wide." (page 2-3). What do economic considerations have to do with determining the amount of oil and gas in the area? What is a potential learning curve? How applicable are finding rates in other parts of the world to the Santa Maria Basin? I have a difficult time believing either estimate, high case or most likely, gives an accurate representation of the amount of oil and gas present in the sale area.

80.1

I am troubled by comments in the DEIS on oil dispersants. For example, "Chemical dispersant technology has been advanced significantly in the last few years, reducing toxic chemical effects from the dispersants themselves while increasing dispersant effectiveness." (page 4-53). I can find no substantiation for this claim in the DEIS. Further, "It appears now that last resort attitude toward dispersants is beginning to change. The EPA is considering streamlining the approval process... Dispersants are being considered on an equal level with other cleanup alternatives..." (page 4-54). Oil dispersants are hazardous materials in their own right. Their approval should be granted only after the most rigorous appraisal. I believe the Final Environmental Impact Statement (FEIS) should fully evaluate the consequences of oil dispersants upon the marine environment.

80.2

Information on the assessment of cumulative impacts is buried in isolated paragraphs and scattered throughout nearly 200 pages of the DEIS. I urge a change in format for the FEIS to bring together in a separate, clearly labelled section all the information on the assessment of cumulative impacts.

80.3

John Lane

Brumley, page 2

The DEIS does not address the potential adverse affects of substantial increases in air pollution to agriculture in northern Santa Barbara and San Luis Obispo counties. Avocados, lettuce, spinach and celery, all grown locally, are especially susceptible to air pollutants, I believe. Grape growing and wine making, an increasingly important part of central coast agriculture, are worthy of special attention in this regard.

In section II-C the DEIS records the amount of energy that would need to be produced from alternative sources to compensate for the loss of oil and gas resources should Lease Sale 73 not be developed. I would like to see in the FEIS an estimate of the amount of energy that could be saved through a modest, reasonable and practical conservation program.

To help the public more effectively evaluate the consequences of offshore oil development and more effectively balance the threats posed to the central coast against the benefits of Lease Sale 73, I believe the FEIS should include statistics on current daily consumption of oil and gas in the United States. Further, the resource estimates for Lease Sale 73 should be divided by the daily consumption figure to show how many days of oil use the country would gain from the sale. My own research indicates 17 days of oil use for the most likely resource estimate and 57 days for the high case scenario.

Sincerely,

*Richard Brumley*

Richard Brumley  
3116 Flora  
San Luis Obispo, CA 93401

Michael L. Hodgeson  
1037 Grand Ave.  
Arroyo Grande, CA 93420

April 7, 1983

Regional Manager  
Pacific OCS Office -- MMS  
Room 200  
1340 West Sixth Street  
Los Angeles, CA 90017

REG. CONS. DIV.  
APR 11 1983  
RECEIVED  
LOS ANGELES

Dear Sir:

I will be unable to attend the public hearing in Santa Maria on April 13 regarding the proposed offshore drilling Lease Sale #73. However, I feel compelled to voice my opinion on this matter, both as a resident of the affected coastal area and as a business owner, so I am sending this written comment in lieu of a personal appearance at the hearing.

In my opinion, the potential costs of this proposed lease sale greatly outweigh the potential benefits from drilling within the area of Lease Sale #73. I am, therefore, opposed to this sale, and I feel that all plans for oil exploration within this area should be abandoned for the present time.

The disproportionate costs to be incurred by drilling in this area will result almost exclusively from pollution, which as a general category can be broken down further into air, water, and visual pollution. Unfortunately, the damage which can be done by such pollution is difficult to put into hard monetary figures, yet when one views the overall area to be impacted by this, it becomes apparent that much of the threatened environment is priceless.

Pollution of the air around Lease Sale #73 will begin with the first exploratory drilling work, and the more drilling and extraction that occurs, the greater the pollution factor. This is especially true if floating refineries accompany the drilling and pumping operations. At present, the air quality along the Central Coast is extremely good, and any damage to this high quality will have negative impacts on the economy and on the quality of life, and in fact may lead to additional penalties to

81.1

present and future small industries in the coastal counties which will be required to adopt much stricter emission controls in order to keep air quality at an acceptable minimum.

Pollution of the water will occur at two levels. First, normal drilling operations result in certain pollution from drilling muds and tailings which are dumped into the sea around each drilling platform. Second, the possibilities of accidental oil spills and/or blowouts are high, and whereas this is not an ongoing pollution as from the periodic dumping, just one single massive oil leak could cause inestimable damage. The chances of oil blowouts are increased because this area already has been determined to be near the underwater Hosgri Fault. The fractures in the sea floor caused by this nearby fault simply make the odds favoring a blowout much greater.

81.2

Visual pollution of the entire area will result from increased levels of smog combined with the eyesore of huge drilling platforms sitting a scant few miles off the shore of this scenic coastline. In addition, any oil spills will have a strong adverse impact on the visual aesthetics of the beaches.

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As a general category, pollution will have two basic impacts on the area: economic and biological.

Although the primary industry of the Central Coast is tourism, there are also commercial and sport fishing industries that will suffer if offshore drilling is allowed in Lease Sale #73. The fishing industries will be affected by both the general pollution from normal operation and from spill pollution resulting in biological damage. Tourism will suffer from both the physical pollutions and from the visual pollutions, and these will probably lower the real property values of the area as well, resulting in losses to individuals and to businesses.

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Biological impacts of drilling pollution can be immeasurable. First of all, normal operation pollution and spill pollution can and probably will affect the ocean food chain, starting with the plankton, which will pass this pollution and/or its effects up the

81.5

chain all the way to the aquatic mammals, birds, and finally, man himself. As mentioned above, this biological damage will threaten not only the sport but commercial fishing industries in the area through both the potential closures of fishing grounds and through direct damage to the particular species of fish sought by both sport and commercial fishermen.

Among the aquatic animals, probably those most endangered by this offshore drilling are the California Grey Whale and the California Sea Otter. The otter is still listed as a threatened species, with less than 1200 adult individuals counted in a recent census. The habitat of the otter stretches from about Pismo Beach in the south to Santa Cruz in the north, placing its southern boundary directly in Lease Sale #73. However, surface ocean currents in the winter travel from south to north along the coast, so that pollution from the drilling could potentially affect the entire otter habitat. The sea otter is particularly susceptible to oil pollution because it has no blubber to insulate its body, relying instead on air pockets in its fur. Oil breaks down these air pockets, and with an exposure of oil on only 20 per cent of its body, the otter can freeze to death.

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Drilling effects on the California Grey Whale will come not only from pollutants in the water, but from the disruption of its life merely by the rigs being placed directly in its north-south migratory path. It is suspected that the loud underwater vibrations from the sonic seismic explorations will hurt the whales' communication and navigation systems, as well as forcing them out of their normal migratory paths. Oil lodged in the whales' blubber may affect their ability to feed on the organisms in the water.

81.7

One other possible effect from a major oil spill has not, to my knowledge, even been mentioned or discussed: That is the possible effect on the Diablo Canyon Nuclear Power Plant. Diablo Canyon will, despite all opposition, probably go into operation in this decade. The plant relies on sea water being pumped through it to cool the system, and I have yet to hear any mention of what

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massive accumulations of crude oil will do to this cooling system. To my knowledge, neither Pacific Gas & Electric, the Nuclear Regulatory Commission, nor the oil industry has made any mention of these possible effects, and I believe that this is something that should be investigated in connection with the study of Lease Sale #73.

The aforementioned potentials for damage to the local coastal environment are simply reinforced by the poor performance record of the oil industry. The industry has proven on previous occasions that it is incapable of preventing oil spills and blowouts from the ocean floor. Although the oil companies do use the latest technologies and apply strict control, it is impossible for them to guarantee that such spills will not take place. In fact, the odds of at least one major spill occurring in Lease Sale #73 are high.

81.9

In addition, the industry has shown itself incapable of quickly and efficiently controlling spills and/or blowouts once they occur. Such evidence may be found in the records of the 1969 blowout in the Dos Cuadras offshore oil field near Santa Barbara and the 1979 blowout of Ixtoc I in the Gulf of Mexico, just to name two, not to mention the numerous spills from tankers around the world.

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In fact, just this week, a drilling rig in Lease Sale #53 off the Central Coast was shut down for investigation of the possible improper handling of small oil spills. In this case, it is suspected that oil dispersants were improperly used to break down these minor spills. Such oil dispersants are as ecologically damaging as the oil spills themselves, and the improper use of such is a testimony to the poor performance of the drilling companies.

Finally, the benefits of drilling in the pristine waters off the Central Coast are questionable. Such drilling will have virtually no beneficial impact on the local economy. Few, if any, local laborers will be employed. In fact, the heavy use of local ports by crews of the drilling rigs could have an adverse impact

81.11

on local fishing and recreational uses of those ports.

Economic benefits from the drilling which are anticipated by the oil companies are based upon continual increases in both consumer demand and consumer prices for imported oil. Yet at present, consumer demand is showing a consistent decline, which in turn has resulted in a glut of oil in the Organization of Petroleum Exporting Countries, which in turn has resulted in lower prices. Although the current oil glut cannot be expected to continue forever, the steadily decreasing consumer demand will make it difficult for the supply/demand ratio to reach the point at which it was in the 1970s, at least for some years to come.

81.12

It has been said that America needs to tap these offshore oil reserves in order to free the nation from its dependence on foreign producers. Yet it would seem wiser to drain the foreign oil reserves now, leaving America's own reserves for such time as they may be needed more desperately. History has shown that when resources are readily available, they will be exploited, and I don't believe this will be any exception. Once this oil is located and tapped, it will be pumped out, refined, and burned up until it is gone. And if America burns up all her own reserves, then we will definitely be dependent on foreign producers. It is already a certainty that there is oil in this area, but I believe it should be left there until it becomes so necessary as to override the obviously disproportionate costs of extracting it that I have mentioned above.

Although I have touched only briefly on my chief concerns regarding Lease Sale #73, this document has become more lengthy than I had planned. I only hope that it has been read. Although I have omitted many statistical figures and direct sources for my beliefs, adequate documentation of these assertions can be found throughout oil industry and environmental agency records, as well as in the environmental impact report for the proposed sale.

One further comment I would like to make is that I feel that the new "streamlined planning process" for offshore lease sales



is not in the public interest, but rather in the interest of big oil and the Department of the Interior itself. It facilitates pushing through such lease sales as rapidly as possible while allowing the least amount of public input. Evidence of this is clearly visible in the fact that only one public hearing has been scheduled, for April 13, and even that is not being held in one of the coastal communities potentially affected by this lease sale. In the future, I would like to see such policy decisions taken out of the hands of the bureaucrats and placed more into the hands of the public which will have to suffer the consequences of the actions.

81.13

In closing, I would again like to state that I am strongly opposed to the sale of any tracts within Lease Sale #73. It is my sincere hope that this lease sale can be put off for as many years as possible, hopefully through the year 2000.

Sincerely,

*Michael L. Hodgson*  
Michael L. Hodgson  
Proprietor, Trucker's Camera  
Resident, Arroyo Grande

CC: File

Response to: Department of the Air Force  
Deputy for Installation Management

- 1.1 USDI is currently consulting with DOD at the national level concerning Department of the Air Force's Comments on the proposed sale. Prior to the proposed lease sale, this consultation will determine what appropriate mitigation measures, if any, need to be applied to tracts in military operating areas.

Response to: Department of the Air Force  
Vandenberg Air Force Base

- 2.1 Air quality impacts on Santa Barbara County were addressed in Section IV.E.1.c and are also applicable to Vandenberg Air Force Base.
- 2.2 See response to Comment 21.1
- 2.3 Your Comment is noted. Also see response to Comment No. 57 regarding comment period.
- 2a. See Response to Comment 1.1.
- 2a.1 See responses to Comments 23.1, 23.15, 23.18, and 24.1d.
- 2a.2 See response to Comment 2.1.
- 2a.3 See response to Comment 23.21.
- 2a.4 The ozone increments shown in Table III.A.8-2 are the maximum value calculated along a specific trajectory. The trajectory most appropriate for discussing O<sub>3</sub> impacts on Vandenberg AFB is the Santa Ynez trajectory as shown in Figure VI-2 of POCS Technical Paper No. 83-2. This resulted in a maximum O<sub>3</sub> increment of 1.2 pphm at Santa Ynez. The maximum O<sub>3</sub> increment at Vandenberg AFB would be equal to less than 1.2 pphm.

Worst-case meteorology was assumed in predicting short-term pollution levels. For inert pollutants, F stability and wind speeds of 2 m/sec were used (POCS Technical Paper No. 83-2). Photochemical modeling assumed mixing heights over offshore area of 50 to 100 meters in case of the Santa Ynez trajectory. According to meteorological data for the proposed sale area, the meteorological conditions are expected to occur no more than once per year (POCS Technical Paper No. 83-2 (FSI, 1983b.))

- 2a.5 The maximum O<sub>3</sub> increment of 5 pphm was predicted for Goleta. As was stated in response to Comment 2a.4. maximum O<sub>3</sub> levels in the Vandenberg AFB area would be no more than 1.2 pphm. It would appear then that based on the data presented in this Comment, the national O<sub>3</sub> standard would be approached but not exceeded. However, more detailed modeling would need to be performed when a lessee submits a detailed development/production plan prior to receiving permission to construct. For a detailed

performed when a lessee submits a detailed development/production plan prior to receiving permission to construct. For a detailed

discussion on requirements under DOI air quality regulations, please see Appendix H in the FEIS. Potential mitigating measures are presented in Appendix O in the FEIS.

2a.6 See response to Comment letter 24b.27 Santa Barbara County APCD.

2a.7 Impacts as predicted using the conditional mean resource estimate would have a low probability of occurring. Furthermore, DOI air quality regulations provide for the control of OCS emissions to the extent necessary to prevent violations of the ambient air quality standards (See Appendix H, FEIS).

2a.8 See response to Comment FEIS 21.1.

2a.9 The EIS has been changed to incorporate this information.

2a.10 Drilling mud disposal is briefly mentioned in Section IV.A.8.a.

2a.11 DOI regulations do provide adequate mitigation to prevent adverse impacts on onshore areas. Any costs of pollution controls or emission offsets would have to be borne by the industry directly involved with offshore oil and gas developments and onshore oil and gas processing and transport.

2a.12 The Comment on BACT is addressed in the responses to Comments 21.1. MMS requires data from the lessee on fuel consumption, power consumption, and production levels. MMS is also in the process of compiling an emission inventory of all existing OCS operations. Marine vessel emissions during transit are not controlled by DOI. DOI regulations apply only to vessels which are actually attached to a platform (See also Appendix H in FEIS). Cumulative impacts are discussed in Section IV.E.1.c. Emission controls on flaring or venting operations are not feasible. See also response to Comment 15d.1 California Air Resources Board.

2a.13 Comment noted.

Response to: Department of the Air Force  
Vandenberg Air Force Base  
Division of Safety

3.1 See response to Comment 1.1.

Response to: Department of the Army  
Long Beach District Corps of Engineers

4.1 Oilspills less than 1,000 bbl are considered to be small enough so that impacts would be minimal due to natural forces (evaporation,

natural dispersion) and due to the fact that clean-up efforts are most effective on small spills. Smaller spills also occur most often in or near bays/harbors, where clean-up capabilities are best. The spill rates for > 1,000 bbl includes spills > 10,000 bbl. The cumulative analysis in the EIS has been revised as appropriate.

- 4.2 We acknowledge the Corps of Engineers' permitting authority and the need to coordinate at an early date to expedite the permitting process.

Response to: Department of Commerce  
National Oceanic and Atmospheric Administration  
Ecology and Conservation Division

- 5.1 Your Comment is noted.
- 5.2 The EIS has been revised as suggested.
- 5.3 The FEIS includes a discussion of the harbor seal rookeries that are mentioned. In addition an Information to Lessees clause on wildlife protection in the Notice of Sale should inform bidders of these sanctuaries.
- 5.4-5 Thank you for the information. Also see Comment 5.3 above.
- 5.6 Your Comment is noted.
- 5.7 Your Comment is noted.
- 5.8 Your Comment is noted.

Response to: Department of the Interior  
Fish and Wildlife Service

- 6.1 The EIS has been revised as appropriate, see Section III.B.3., III.C.5.
- 6.2 While not specifically cited, information from other biological surveys both in the Santa Maria Basin and the Santa Barbara Channel have been used as part of the general background information gathering for this section. Information available does not permit us make large scale predictions of the type and occurrence of rocky outcrops in the Santa Maria Basin. As new information becomes available from biological surveys in the area, it will be added to our data base.
- 6.3 The EIS has been revised as suggested.
- 6.4 Thank you for the information. The EIS was perhaps unclear. The "shifts" discussed were meant to describe only the ends of the range. A comparison of the distribution data from Santa Cruz and that from Estes and Jameson will be made. If there is a significant difference for the purpose of impact analysis

the changes will be made. Also see response to Comment 6.17.

- 6.5 The oilspill model incorporates average monthly currents for the entire California coast. The currents are modeled by Dynalysis of Princeton, Inc. The data incorporated includes CALCOFI coast data, NODS data, and FNOC data, and includes information on the Davidson Current. This modeling effort has been able to simulate real events which are difficult to model (such as the complex density fields, and such phenomenon as the Davidson Current). The model is being further refined as techniques improve and more information is available. One recent development in this modeling effort is the implementation of an orthogonal curvilinear calculation grid, allowing for greater coastal resolution. The article on lumber spills by Van Blanicom and Jameson discussed a single, isolated occurrence. It speaks nowhere of how oil would move in comparison to lumber.
- 6.6 The sea otter is estimated to sustain low impacts. However, these impacts are not expected to result from contact with an oil spill since the likelihood of spills expected to occur and contact the sea otter range are relatively low (13% chance within 30 days). See response to Comments 12.8 and 12.21 for a discussion of expected impacts.
- 6.7 The EIS has been revised as suggested.
- 6.8 The EIS has been revised as suggested.
- 6.9 The EIS has been revised as suggested. The essential components of estuaries, including plankton, attached algae, eel grass beds and salt marshes are included in Table III.B.7-1. The importance of detritus, which includes decaying algae is mentioned on P. 3-52. These components of estuarine systems are discussed more fully in BLM (1980) and Jones and Stokes (1980).
- 6.10 Arroyo Laguna and San Luis Obispo Creek have been added to Table III.B.7-2. The latter had been included on the next Table (III. B.7-3). Certainly all estuaries are of ecological concern. However, we used Jones and Stokes (1980) for the estuaries included in Table III.B.7-2.
- 6.11 There is some disagreement among experts over the population growth or lack thereof, of the southern sea otter. However, we will change the document to more closely reflect USFWS opinion.
- 6.12 The EIS has been revised as suggested.
- 6.13 The EIS has been revised as suggested.
- 6.14 Data has been collected by both California Fish and Game and USFWS over the years. To the best of our knowledge, these data exist as

field notes or maps only, and have not been synthesized for public review, nor do they cover the entire coast on seasonal basis. Therefore, we felt the Santa Cruz data was the only data we should use. An attempt will be made to compare similar data from USFWS with the Santa Cruz data in order to indicate discrepancies.

- 6.15-18 The analysis in the EIS has been revised to state-the sea otter population has changed little in size over the last 10-15 years and contains something in excess of 1,300 animals.
- 6.19 The oil spill model does account for extreme weather states, as it incorporates long-term winds records and average currents. This year's data will be incorporated when it becomes part of the coastal hydrographic data set.
- 6.20 The cumulative analysis for water quality (Sections IV.E.1.a and IV.O.1.a) takes into consideration proposed development for Lease Sale No. 53. (See Sections IV.C.3 and IV.D.)
- 6.21 Section IV.B.1 discusses mitigating measures that are part of the proposal. The Fisheries Training Program is not part of the proposal, but a potential mitigating measure; thus, it is discussed in Section II.A.1.f.
- 6.22 The estimate of total mortality to the sea otter an oil spill does not take into account the physical factors of an oil spill with the oil spill occurring at least 3 miles from the site of contact. Because mixing and weathering will have occurred, MMS feels it is unlikely that a slick will cover the coast but rather the oil will be dispersed to some extent along the coast.

In consideration of FWS concern, MMS agrees with FWS that sea otter impacts could be very high from an oil spill. The EIS has been revised in Section IV.E.2.f.

The EIS assumes that if a large oil spill of 5,000 bbls covers 5 nautical miles of coastline, mortality could exceed 100 animals and result in a high impact (recovery time 10 to 20 years). A very large oil spill could cover much of the otter range and result in a very high impact (recovery requiring decades, if at all).

- 6.23 The Comment has been deleted.
- 6.24 Thank you for the information. The statement has been incorporated in the FEIS. See Section IV.E.2.f.
- 6.25 The EIS has been revised (Chapter IV E.2.f.). The EIS states that although the likelihood is low, peregrines could be oil fouled by capturing an oiled bird. One pair represents about 4 percent of the breeding population. Since the likelihood of peregrines being oiled by capturing an oil bird is low, the EIS does not consider that three separate peregrine pairs would be oiled through an oil spill.

- 6.26 Based upon the oil spill model, no spills are expected to occur and contact land segments north of the proposed sale area. The same methods would be effective for other estuaries of similar nature.
- 6.27 The EIS will be clarified.
- 6.28 The right whale is listed specifically in the Cumulative section as you mention.
- 6.29 Sections IV.E.3.f and g include discussions of impacts relating to pipelines and the expected impacts resulting from proposed Sale No. 73 to recreation and sportsfishing.
- 6a.1 Salt Marsh Birds Beak is one of the species listed in Table IV.E.2f-1. However, as this plant occurs south of the areas under discussion a Comment was added to the EIS to clarify this.
- 6a.2 We are not clear on which statements are unsupported. However, the FEIS has been significantly rewritten in regards to sea otters.
- 6a.3 The Final EIS includes discussion of two additional leasing deferred Alternatives. The potential impacts to sea otters is considered for each Alternative (see discussions of Alternatives in Section II and IV).
- 6a.4-8 In consideration of the appropriateness of the Santa Cruz data, the EIS has been revised. The phrase has "substantially recovered" has been corrected to say - the population has changed little in size over the past 10-15 years and contains something in excess of 1,300 animals.
- 6a.9 Due to the appropriateness of the Santa Cruz data, the EIS has been revised appropriately. However, MMS does have four sets of data. Each represents a different season and it is inappropriate to average the data when the oil spill model was compared to distribution seasonally for the most sensitive periods. See also comment 6.4.
- 6a.10 Comment noted. The EIS has been updated to reflect this concern.
- 6a.11 For purposes of the analysis we assume the maximum impact, that is they cannot avoid the oil.
- 6a.12 The information was not available in sufficient detail to discuss further.
- 6a.13 The toxic effects of oil have been described in Section IV. The

primary reason for the assumption of a low impact is that the amount of oil expected to be released into the environment as a result of this proposal is quite low. (See also the discussion on Water Quality in Section IV.)

Response to: Department of the Interior  
National Park Service

7.1 Section IV.E.3.h and i discusses the likely socioeconomic impacts to areas of national significance from proposed Sale No. 73. If units of the National Park Service are not specifically mentioned then no significant impacts on the resources associated with NPS units are expected from this proposal.

Response to: Department of Transportation  
U.S. Coast Guard

8.1 Your Comment is noted.

8a.1 This has been added to the EIS as an ITL.

Response to: Department of the Navy  
Pacific Missile Test Center

9.1 The EIS has been revised as suggested.

9.2 See response to Comment 1.1.

Response to: Department of the Navy  
Office of the Secretary

10.1 See response to Comment 1.1. The solution to the conflict is currently being coordinated with DOD.

Response to: Environmental Protection Agency  
Office of Federal Activities

11.0 The Comment regarding the status of counties' nonattainment plans is noted. However, the air quality analysis presented in the EIS does not predict any violations of the ambient air quality standards for any pollutant. Proposed lease sale activities should not affect the status of any of the SIP's.

The FEIS states more clearly the process used to carry out DOI's responsibility to assure that OCS activities do not significantly affect onshore air quality (see Appendix H in the FEIS).

11.1 Air quality modeling showed that projected concentrations of inert pollutants (NO<sub>x</sub>, SO<sub>2</sub>, CO, and TSP) would be below the DOI Significance Levels established under the DOI air quality regulations applicable to the OCS. It is the opinion of the DOI and EPA that concentrations within these limits would not have a significant effect on onshore air quality, or would not significantly affect the attainment status of an onshore area.



Photochemical modeling showed maximum O<sub>3</sub> increments ranging from 0.4 to 5.0 pphm, and one trajectory modeling run showed a maximum O<sub>3</sub> concentration of 14.0 pphm, which is a violation of the National Ambient Air Quality Standard. This would therefore constitute an adverse impact on onshore air quality. The DOI air quality regulations require a review procedure for each OCS source, and appropriate emission controls are imposed if needed to prevent adverse onshore air quality impacts. However, modeling is needed for site specific information which is contained in the lessee's development/production plans. If a significant air quality impact is determined through site specific air quality modeling, MMS will require emission controls. These controls would be designed to prevent adverse onshore air quality impacts. We believe impacts could be sufficiently mitigated so that no adverse impacts would occur to the air pollution control plans of onshore counties.

- 11.2 Present OCS orders, NTLs and regulations would successfully mitigate the adverse impacts. Alternative, considered in the FEIS, shows a relation of likely spill contacts to these resources.
- 11.3 The procedures required by the invocation of the terms of the biological stipulations are discussed within the lease terms. The discussion preceding the stipulation addresses the special concern regarding rocky out crops or hard bottoms. Tracts which may contain this type of substrata are listed in Section IV.e.3. However, this does not preclude the stipulation being invoked in other areas where there is reason to believe that a biological resource which needs protection exists.
- 11.4 The EIS must balance informational needs against the need for a readable sized document and CEQ guidelines on document size. The EIS describes the characteristics of species or groups of species and sites that are necessary for impact analysis. Since so many aspects of the Proposal are uncertain at the time of leasing, impacts are merely probabalistic. If and when development occurs, more site and species specificity is possible. The available data on these resources is contained in many large volumes available for review in our office or from National Technical Information Service. We will include at least a partial list of completed and ongoing studies.
- 11.5 If the decision to dispose of drilling fluids by an alternate method is made, the appropriate agencies will be contacted during the permitting process and appropriate analysis on costs, the suitability of disposal sites, and the safety aspects of barging will be determined.
- 11.6 The National Academy of Science (1975) addressed this concern and concluded that although information is limited, the effect of oil contamination on human health does not appear to be cause for alarm. Gallaway (1980) also addressed this specific issue in

his studies of the contaminants found in fish associated with the oil and gas operations at the Buccaneer Oil Field off Texas. He concluded that public consumption of fish caught in close association with normal oil and gas operations has little or no threat to human health. The MMS is currently supporting, under the environmental studies program, a major evaluation and synthesis of fates and effects study needs. See also Sections IV.A.8.b. and IV.E.2.c.

11.7 The EIS has been revised as suggested. See Sections IV.E.1.a and IV.0.1.a for a discussion of these impacts.

11.8 Refer to response to Comment 11.0.

11.9 MMS reviews each new OCS emission source to determine whether the source would significantly affect onshore air quality. It is

impossible to determine how likely it would be that emission controls would be required until production sites are known. The modeling performed for the DEIS was for certain hypothetical scenarios. Detailed modeling will be performed when specific development/production plans are submitted.

11.10 Your Comment is noted. The paragraph is modified in the FEIS.

Response to: Marine Mammal Commission  
Scientific Program Director

12.1 Page iii 15 is the summary of the impacts expected from the Proposal. The impacts you mention are possible but not expected as discussed in Section IV.E.2.d.

12.2-3 The EIS has been revised as appropriate.

12.4 See response to Comment 11.3.

12.5 The name has been changed to include all wildlife and will be extended to other activities as is possible.

12.6 The EIS has been corrected.

12.7 Section IV.E.2.d. contains a detailed discussion of potential impacts to marine mammals, including discussions on toxic effects of oil, effects of noise, habitat disruption and disruption of food sources. This discussion is based on numerous recent data sources. Conclusions regarding impacts are based on these sources and on the estimated activities and events resulting from this sale.

The sea otter discussion as well as the discussion on brown pelicans, have been moved to the threatened and endangered section.

12.8 The moderate to high impacts are the potential impacts in the event a spill should enter Morro Bay. However, since no spills

are expected to occur and contact this area, the expected impacts are very low. Two alternatives were added which address this issue. See Sections II and IV in the EIS.

- 12.9 The EIS has been revised as appropriate. Accurate Predictions regarding the recovery of the sea otter over the next 25 years are quite difficult to make until we understand why the population has apparently stopped increasing and is possibly decreasing. Your paragraph will be included in the EIS.
- 12.10 CEQ regulations do not require cost benefit analysis in an EIS. The impacts described under the "no sale" Alternative are an indication of the current state of the environment and are considered as part of the cumulative impacts in Chapter IV.
- 12.11 We have provided additional data as is appropriate.
- 12.12 We have corrected the Table.
- 12.13 An EIS is not intended to be an encyclopedia. The description of the environment in an EIS is to be focused on the aspects of the environment expected to sustain significant effects. The pertinent aspects of the marine mammals and their environment have been discussed to the extent determined appropriate by the expected significance of impacts to these animals. Although this Federally initiated project must, of course, be in compliance with any pertinent U.S. treaty obligations, this EIS focuses on environmental impacts of the project, not possible impacts on treaties. The Pribilof seal has been included in the discussion.
- 12.14 Correction made.
- 12.15 This section has been rewritten, and CDFG & FWS data incorporated where significantly different. See response to Comment 6.14. The sea otter is listed in the table of endangered species in Chapter III. The population status is discussed, a brief discussion of habitat will be added.
- 12.16 The change was made. Thank you.
- 12.17 MMS is in the process of modifying the Oil Spill Model to allow for this type of data but the data is not available for this EIS.
- 12.18 Comment noted. The EIS has been corrected.
- 12.19 Comment noted. The EIS has been corrected.
- 12.20 Comment noted. The EIS has been revised as appropriate.
- 12.21 The Alaska study will be incorporated. The table is being

deleted. The EIS was obviously confusing since several people or organizations made similar Comments. Impacts discussed in the text specifically were discussing potential impacts in the event an oil spill occurs and contacts the otter range.

However, no oil spills were expected to occur and contact the otter range as a result of the Proposal and therefore, the impacts that are expected due to the Proposal do not include those from an oil spill. The Summary and Conclusions discuss expected impacts only.

- 12.22 We agree and have done so.
- 12.23 One hundred per cent mortality is discussed in response to Comment 6.23. We have reevaluated mean density.
- 12.24 The statement has been deleted in response to a FWS Comment. Thank you.
- 12.25 We have clarified the discussion.
- 12.26 The EIS has been revised to show that the northern fur seals from Pribilof, Commander and Kuril Islands, Alaska, may winter off California.
- The EIS analysis used data from CCMS (1982), which showed peak abundance of less than one animal per square km surveyed for estimating oil spill impacts. This is shown in the EIS.
- 12.27 The statement has been added in Section IV.E.2.f.
- 12.28 Section IV.E.2.e. discusses impacts on fish. We feel at secondary impacts do not significantly affect the pinnipeds.
- 12.29 The changes have been incorporated.
- 12.30 The reason why the EIS states toxic effects of oil are estimated to be very low is because the activities from the proposal are expected to contribute very little to OCS hydrocarbon levels.
- This paragraph has been revised in the EIS.
- 12.31 We do not have information to expand this section significantly and would appreciate additional information that may be available. Section IV.E.2.e discusses impacts on fish. For example, a large oil spill is only expected to cause a small reduction in anchovies. We feel it is unlikely, therefore, that food resources will be significantly impacted.
- 12.32 The EIS has been corrected. Thank you.
- 12.33 The bowhead does not occur in California waters. The results of the gray whale study are very preliminary but we have included a brief description.

- 12.34 The paragraph has been clarified.
- 12.35 We have changed this part of the analysis but do not agree that we cannot predict with accuracy at any level.
- 12.36 The EIS has been revised as appropriate. See response to Comment 12.9. Studies will be included in an appendix.
- 12.37 Gray whales have been deleted from the table and we have added feeding areas for all sea otter areas.
- 12.38 Information has been provided in the EIS that shows gray whales may be impacted by noise. Although we have recent data that show the gray whale may avoid loud noise (IV.E.2.e.), MMS feels available information suggest that this noise may disrupt a preferred route. (IV.E.2.f.)
- 12.39 The proportion is less than 1 percent.
- 12.40 The section has been rewritten.
- 12.41 The purpose of the No Sale Section is to state what will happen to resources in the future, if the proposed action does not take place. This Section has been appropriately revised.
- 12.42 We agree that consultations should occur as early in the process as possible and should be closely coordinated with preparation of the EIS. We are currently coordinating with NMFS and FWS to improve this situation. Consultation was initiated with both FWS and NMFS on March 4, 1983. The Biological Opinion of FWS is included in Section IV.G. The Biological Opinion of NMFS had not yet been received.
- 12.43 At least some of the marine mammals experience natural events somewhat periodically. For example, El Ninos may influence anchovy resources. Severe reductions in the elephant seal population occurred this year due to a 20 year storm. Your criteria are interesting, however, and we will consider using them in future EISs.

Response to: U.S. Congressman Leon Panetta  
United States House of Representatives

- 13.1 Santa Maria was selected as the site for the public hearing due to its centralized location in relationship to the potentially affected coastal communities adjacent to the proposed sale area. Many of those who attended the hearing and presented testimony are residents of these coastal communities. The hearing thus provided the Secretary of the Interior with information and opinions from those who are potentially most directly affected by the proposed sale. Further opportunity to Comment on the proposal will be afforded to State and local governments upon release of the proposed Notice of Sale as requested by Section 19 of the OCS Lands Act, as amended.

The public hearing testimony has been summarized (see Section V.) and appropriate revisions have been made for the Final EIS. The public hearing record is available for review in the Pacific OCS Region office.

- 13.2 The FEIS contains discussions of additional alternatives (see Section II and IV).
- 13.3 The Comment period for the DEIS is in compliance with CEQ regulations. The DEIS was filed with EPA on March 4, 1983. Comment were requested to be submitted by April 26, 1983, thus providing a 53 day Comment period. A waiver to the 60 day requirement in the Departmental Manual was provided by the Office of Environmental Project Review. (See also response to the California Department of Justice, Attorney General 14.2.)

Response to: State of California  
Department of Justice, John K. Van De Kamp

- 14.1 As your Comments state, scoping is the process by which an agency seeks public input to aid in determining the issues to be addressed in an EIS. Scoping need not be defined solely, however, as the holding of public scoping meetings. In fact, public scoping meetings are not required by the Council on Environmental Quality's (CEQ) regulations. It is more appropriate to consider scoping in a broader sense, which would include a number of information gathering efforts leading up to the preparation of an EIS. The Call for Nominations and Comments for proposed Sale No. 73, the Minerals Management Service (MMS) environmental studies program, the EIS process for OCS Sale No. 53 and related public participation, as well as the request for scoping Comments on proposed Sale No. 73, all resulted in the collection of information which was considered in determining the scope of issues to be analyzed in the EIS. Thus, our scoping process has involved the public at numerous stages and has made use of other pertinent sources of information as well.
- 14.2 The Comment period established for this draft EIS is not in violation of the CEQ regulations or the Department of the Interior (DOI) regulations. The Departmental Manual (DM 5164.24) does, however, prescribe a 60-day Comment period, beginning on the date the draft EIS for proposed Sale No. 73 was filed with EPA on March 4, 1983, and was simultaneously mailed to Federal, State, and local agencies and the public. Comments were requested to be submitted by April 26, 1983, 53 days following the filing of the EIS. A waiver to the 60 day requirement in the DM was provided by the Office of Environmental Project Review. In light of the large number of Comments received and the substantive nature of most of those Comments, it appears that the 53-day Comment period afforded ample opportunity for a thorough review of the draft EIS.

- 14.3 Santa Maria, California was selected as the site for the public hearing because of its centralized location in relationship to a number of potentially effected coastal communities. By holding three sessions of the hearing simultaneously no one was precluded from participation. In fact, members of the public were free to move from one session to another at their option, and a number of participants presented testimony at more than one session. The primary purpose of the public hearing, to provide the Secretary with information from both public and private sectors to help evaluate fully the potential effects of the proposed sale, was fulfilled, as evidenced by the presentation of testimony by 185 individuals, representing themselves, local governments, environmental groups, and business organizations.
- 14.4 The DOI has complied with applicable regulations, and will continue to do so in the conduct of this proposed sale. Required procedures have been followed and will be followed to ensure a thorough environmental analysis, and the participation of State and local governments and the public at the appropriate points in the process.
- 14.5 Concern that a supplemental EIS will be published in the Fall, in an attempt to expand the proposed sale to include the area offshore northern California is unfounded. The proposal under consideration as Sale No. 73 is defined in the draft and final EIS's. The proposed sale includes approximately two million acres lying offshore, generally south of Morro Bay and north of Point Conception. No consideration is being given to the inclusion of tracts north of this area in this proposed sale.
- 14.6 The draft EIS focused on potential impacts within the proposed sale area, but also evaluated potential impacts outside the proposed sale area which might be attributed to activities resulting from the proposed sale. Substantive Comments on the draft EIS regarding specific issues or impacts have been considered, and revisions to the text, which improve the specificity of analysis, have been made.
- 14.7 Among the realistic alternatives evaluated in the final EIS are three nearshore leasing deferral alternatives (Sections II. and IV.). These alternatives to the proposal will evaluate the potential environmental impacts of deferring from this proposed sale the nearshore tracts offshore Morro Bay, the tracts under litigation following OCS Sale No. 53, and nearshore tracts offshore Point San Luis, Pismo Beach, and the mouth of the Santa Maria River. A comparison of the potential environmental impacts is also included in Section II. CEQ regulations do not require a cost/benefit analysis in the EIS.

14.8 We have contacted the EPA and the Department of the Navy (by personal communication and by letter) regarding information concerning the radioactive dumpsite in the proposed sale area. Pertinent available information regarding the dumpsite will be examined during the review of any exploration or development plans that may eventually be submitted should these tracts be leased. An analysis of potential conflicts or impacts is included in Section IV.E.1.b of the FEIS. In addition, we are considering the development of mitigating measures, including the development of a lease stipulation, which would mitigate these possible conflicts or impacts. The FEIS includes a discussion of such a lease stipulation or other appropriate mitigating measure. See response to Comment 14.10.

The dumpsite discussed on page 4-83 and 4-215 of the DEIS are one and the same. Appropriate clarifications have been made in the final EIS.

14.9 The final EIS includes a discussion of cumulative potential impacts from this proposed sale and all other major sources of impacts as specified in Chapter IV. The increment provided by this scale above is clearly stated preceding each cumulative analysis.

Oil and gas activities offshore southern California are among the other sources of cumulative impacts considered.

14.10 We do not share your view that "the regulations of [the] CEQ implementing NEPA clearly require a worst case analysis for this project". A worst case analysis would be required if 'the information relevant to adverse impacts is essential to a reasoned choice among [the] alternatives' (40 CFR 1502.22)." This is not the case in the draft EIS prepared for proposed Sale No. 73. Although we are continuing to gather data and update our information base, there is, at present, sufficient information to permit a reasoned choice among the alternatives and a worst case analysis would not contribute significantly to the decision process. In view of your further comment that "more than one worst case analysis is necessary," we are providing a further response to address that concern.

Several comments on the draft EIS requested that the final EIS include a "worst case analysis" to assess potential impacts of the proposed oil and gas lease offering. These comments typically alleged that insufficient data was available from MMS to analyze environmental impacts including: California air quality from offshore emissions; a major oil spill (particu-



larly one contacting sea otters and other endangered and threatened species); seismic activities and noise disturbance to endangered species; and a hazardous waste dumpsite. Several comments requested that the final EIS also address cumulative impacts and the "high case" development scenario in analyzing worst case impacts.

The legal obligation for a federal agency to conduct a worst case analysis under NEPA is contained in 40 C.F.R. § 1502.22(b) of the Council on Environmental Quality (CEQ) regulations. The CEQ regulations provide that an EIS shall contain a "worst case analysis" in certain circumstances:

(b) If (1) the information relevant to adverse impacts is essential to a reasoned choice among alternatives and is not known and the overall costs of obtaining it are exorbitant or (2) the information relevant to adverse impacts is important to the decision and the means to obtain it are not known (e.g., the means for obtaining it are beyond the state of the art) the agency shall weigh the need for the action against the risk and severity of possible adverse impacts were the action to proceed in the face of uncertainty. If the agency proceeds, it shall include a worst case analysis and an indication of the probability or improbability of its occurrence.

In recent litigation involving the CEQ regulation, a federal court of appeals held that the Army Corps of Engineers was required to prepare a worst case analysis to analyze the impacts of constructing a deep water port in Galveston Bay, Texas. Sierra Club v. Sigler, 695 F.2d 957 (5th Cir. 1983). The court found that the Army Corps had failed to examine the possible catastrophic environmental effects of a supertanker oil spill in Galveston Bay.

Citing Sigler, several comments to the draft EIS for proposed Sale 73 have argued that MMS must prepare a worst case analysis examining potentially catastrophic impacts that, in the commenter's opinion, could result. In reviewing these comments, we carefully examined the language and regulatory history of the CEQ's regulation and reviewed Sigler and the other recent

federal court cases involving the CEQ regulation. See, e.g., Village of False Pass v. Watt, No. A-83-176 Civil (D. Alaska, May 6, 1983); Southern Oregon Citizens Against Toxic Sprays, Inc. v. Watt, Civ. No. 79-1098 (D. Ore. Sept. 9, 1982), appeal pending, No. 83-3562 (9th Cir. filed May 1983); Save Our Ecosystems v. Watt, Civ. No. 83-6090-E (D. Ore. May 6, 1983); see also Merrell v. Block, Civ. No. 81-6138-E, (D. Ore. Apr. 8, 1983).

MMS has concluded that a worst case analysis does not need to be performed in connection with the final EIS for proposed Sale 73. The information that is "essential to a reasoned choice among alternatives" and "important to the decision" that will be made in the final notice of sale is available to MMS, as shown in the extensive body of accumulated studies and knowledge in the final EIS. In regard to air quality, for example, MMS discussed the studies and other sources of information that were used in its analysis. MMS clearly identified the assumptions incorporated in the analysis of the potential effects on California onshore air quality resulting from activities that could result from the proposed offering. MMS also has incorporated meteorological assumptions that, in effect, are "worst case" assumptions in its model examining potential air quality impacts.

In regard to potential oil spill impacts MMS has examined numerous studies regarding the effects of oil upon various biological resources, including endangered and threatened species. MMS also has examined studies that were conducted following the Santa Barbara oil spill in January 1969. Further, MMS developed and applied the oil spill risk analysis and the oil spill trajectory analysis model, which assess in detail both the possibility of an oil spill could occur and the likely dispersion of spilled oil from numerous points throughout the sale area. MMS also analyzed the impact of an oil spill on the environment. As expressly contemplated in the CEQ regulations, the assumptions and data upon which MMS relies also indicate that the possibility of a major oil spill (greater than 1,000 barrel) is extremely small. MMS further assessed potential effects of an oil spill under the "high case" development scenario.

In Village of False Pass v. Watt, a recent case involving OCS Lease Sale 70, the district court rejected the allegation that MMS must perform a worst case analysis to consider the impacts that could result from a "catastrophic spills or extraordinary large blowouts." Slip op. at 49. The court concluded

. . . that it was not necessary to discuss in this environmental impact statement either the environmental consequences or the persistence of oil in the marine environment after a catastrophic spill . . . the leasing stage environmental impact statement need not include speculative or uncertain information concerning potential or anticipated environmental consequences affecting only exploration or production stages of an oil lease. The catastrophic spill envisioned by the plaintiffs is such an event.

As to the potential impacts of seismic activities and the hazardous waste dumpsite, the final EIS shows that MMS has obtained sufficient information to make reasoned, well-supported analyses of the potential environmental impacts. MMS also has prepared stipulations that may be implemented as part of its regulatory program to mitigate otherwise environmentally adverse impacts.

Although the final EIS demonstrates that no legal obligation exists to prepare a formal "worst case analysis" under the CEQ regulation, we should emphasize that MMS in effect has examined the "worst case" impacts that could occur from various activities associated with the sale. By assuming that those events, no matter how speculative, remote, or unlikely, could occur, the type of analysis ordered in Sigler, Village of False Pass, and the Oregon herbicide spraying cases cited above has been performed. MMS also notes two recent U.S. Supreme Court cases examining federal agency obligations under NEPA. In Metropolitan Edison Co. v. People Against Nuclear Energy, the Supreme Court held that "the terms 'environmental effect' and 'environmental impact' in section 102 [of NEPA must] be read to include a requirement of a reasonably close causal relationship between a change in the physical environment and the effect at issue. . . . A risk of an accident is not an effect on the physical environment. A risk is by definition, unrealized in the physical world." 51 U.S.L.W. 4371, 4373 (U.S. Apr. 19, 1983) (No. 81-2399). Even more recently, in Baltimore Gas and Electric Co. v. Natural Resources Defense Counsel, Inc., the Supreme Court upheld a federal agency's use of an assumption, based upon the best available evidence, that certain adverse environmental effects were not likely to occur. 51 U.S.L.W. 4678 (U.S. June 6, 1983) (No. 82-524). The Court in that case noted that NEPA's principal concerns are to insure that the agency considers every significant aspect of the environmental impact of a proposed action and informs the public of its considerations. Id. at 4680. The Court emphasized, however, that the role of federal courts in reviewing an agency's

examination in an EIS, particularly one involving "the frontiers of science," is quite limited, and federal courts should defer to the agency's special expertise. Id. at 462.

In summary, the information contained in the final EIS is fully adequate to insure a reasoned analysis of the available alternatives. Obviously, as with any activity, some information always remains known. MMS continues to gather information regarding impacts of its leasing program and will continue to do so throughout the life of Sale 73 and all other OCS projects. Nevertheless, based upon the comments received in response to the draft EIS, MMS has not been presented with any detailed information that persuades MMS that it lacks the information essential to proceed with the offering. For these reasons, a worst case analysis is not required in this final EIS. We emphasize, however, that in order to provide a full and complete response to comments, we have examined the "high case" development scenario, cumulative impacts of other federal activities affecting the resources in question, and assumptions that are based upon a worst case methodology that is comparable to the approach that would be taken if a formal worst case analysis were to be performed.

Response to: State of California  
Gordon Duffy, Secretary of Environmental Affairs.

15. The Director of MMS replied to Mr. Duffy's cover letter which enclosed the State of California's comments by letter on May 16, 1983. Each of the concerns expressed in Mr. Duffy's letter is presented in more detail in the State agency comments which follow. For specific responses to his concerns, see the responses to Comments 15a-15h below and related revisions in the text of the FEIS.
- 15.1 See response to Air Resources Board letter, Comment 15d.
- 15.2 An all tankering transportation scenario has been included in the EIS, see Section IV. Impacts of moving all the oil

by pipeline to the Gulf Coast would be similar to the impacts to California discussed in the EIS prepared by the Bureau of Land Management for the SOHIO pipeline proposal and would be more thoroughly discussed in that document than would be possible in this EIS.

- 15.3 As indicated in response to Comment 14.6, the FEIS focuses on the proposed sale area south of Morro Bay and north of Point Conception.
- 15.4 Comment noted.
- 15.5 The FEIS contains discussion of three tract deferred Alternatives (Sections II and IV) including the Morro Bay Alternative. Each evaluates the deferred of tracts nearshore and the resulting environmental effects.
- 15.6 Tracts currently under litigation resulting from Sale 53 are included in Alternatives II and III (see Sections II and IV). The discussions on impacts to sea otters have been revised in response to comments from both Federal and State agencies, and the effect on sea otters of deferring tracts through the various Alternatives is also discussed.
- 15.7 This concern is being addressed as a proposed lease stipulation and is provided for Secretarial consideration in the decision process. Detailed surveying prior to potentially bottom disturbing activities would be required so that potential hazards would be avoided. See also response to Comment 14.8 and 15a.7.
- 15.8 See response to Comment 14.2 and 14.3.

Response to: State of California  
Department of Fish and Game

- 15a.1 The research specialists evaluated impacts "should a spill occur" independent of model results.
- 15a.2 The Oil Spill Risk Analysis Model was run to provide information on the number of spills predicted to occur from existing Federal leases, crude oil imports, as well as from the proposal. No oil spills are predicted to occur and contact the land segments north of the proposed sale area (IV.A.4). Cumulative impacts to San Francisco from increased tanker traffic are discussed in IV.E.1 (Marine Traffic) and IV.E.m (Refineries).
- 15a.3. The EIS has been clarified.
- 15a.4 Because there are divergent opinions regarding the chronic and sublethal effects of these materials, the DEIS specifically does not claim there will be no effects, but that the effects are localized and therefore not a moderate or high impact to the marine environment, except immediately around platforms. We would appreciate receiving any additional data to substantiate the effects of these materials.

- 15a.5 Your Comment is noted.
- 15a.6 The EIS has been clarified.
- 15a.7 We appreciate the cooperation of CDFG in providing us needed data. We did not use the updated data in the DEIS because CDFG (Long Beach Office) specifically asked us not to use it. We appreciate the opportunity to use the updated data in the FEIS even though it is preliminary.
- 15a.8 More complete descriptions of the habitats and communities were examined through literature and on-site visits. The literature was cited in the EIS. Although Allopora californica is not an intertidal organism, we will cite the information and mention the shallow water population of A. californica in the EIS. The EIS will be modified as appropriate.
- 15a.9. Results of studies conducted in Diablo Canyon have been consulted. We would like to point out that our principal concern for subtidal benthos is in OCS federal waters starting 3 miles from the coast and there a paucity of information does exist.
- 15a.10. The EIS has been revised as appropriate.
- 15a.11. The EIS has been revised as appropriate.
- 15a.12. See response to Comment 12.15.
- 15a.13 See response to Comment 12.15. Sea otter impacts have been reevaluated.
- 15a.14 Your concern is noted. The EIS addresses this issue.
- 15a.15 Comment noted. The EIS acknowledges possible water quality degradation from drilling muds, cuttings, and formative water on a local (generally within 1000 meters of discharge point) basis. See Section IV.E.1.a.
- 15a.16 Your concern is noted. The EIS addresses this issue.
- 15a.17 Research on the material dumped at the designated low level radioactive waste dump site showed that no radioactive material was dumped. However, the site was used by the military to dump toxic chemicals/munitions. An extensive survey of the area will be required by a dump site stipulation prior to any surface disturbing activity to ascertain that it would be safe to operate within the area if the tracts are leased. The dredge spoil sites pose no harm if contacted. Impacts of multiple platforms to biological resources will be addressed when site specific proposals are developed. Generalized impacts are discussed in the EIS. Pipelines must be designed so to minimize impacts to the fishing industry. Onshore impacts from pipeline installation would be addressed during the permit process where siting alternatives may be developed to protect sensitive areas.

15a.18 Total development increases spill risk because of the much higher resource volume assumed (though the total development including full leasing of the sale area is not expected). Total development does not affect the spill trajectories (based on winds and currents), which are first run independently of volume of oil and accident rates.

The resource specialists have discussed the potential impacts that could result if an oil spill occurred and contacted their resource. The impacts that you have cited have been taken into consideration during the analysis process and where appropriate the FEIS has been revised.

15a.19. Your Comment is noted.  
Response to: State of California  
State Lands Commission

15b.1 The 970 million barrels of oil is the conditional mean estimate for the "undiscovered oil and gas resources given hydrocarbons are present for unleased Federal OCS within the proposed sale area." The difference between estimates used for proposed Lease Sale 73 and prior to streamlining is discussed in Appendix I. There is no correlation between 5% probability level of reserves and the conditional mean estimate.

The resource estimates for leased lands within the proposal is based upon risks associated with exploration and development of oil and gas (Table IV.D.4-1). The reserves estimated to be between 1 and 10 billion barrels, as announced in the media, are not officially proven supplies of hydrocarbons.

15b.2 See response to Comments 14.10 and 15b.1. A worse cast analysis is required when ". . . information relevant to adverse impacts is essential to a reasoned choice among alternatives and is not known or information relevant to adverse impacts is important to the decision and the means to obtain it are not known . . ." (40 CFR 1502.22).

The resource estimates for the conditional mean and the most likely cases were not developed solely on the basis of identified prospects. The estimates included assessments of future field types and size distributions based upon information acquired during exploration. It also includes resources that may exist in structures which based upon present technology may be difficult to identify or which can reasonably be assumed to be developed in the near future.

The above information analysis was used to determine the conditional mean resource estimate for the proposed sale area. A most likely estimate of resources to be discovered and developed as a result of the sale was made based upon the knowledge of the area's particular geology, economic considerations, exploration history, and exploration trends in other OCS areas

worldwide. These resource estimates provide a reasonable estimate of the amount of hydrocarbons which may exist within the unleased tracts.

Impact analysis was provided based on the most likely resource estimate, Section IV.E, and the conditional mean, Section IV.0, to show the range of impacts which could occur.

- 15b.3 MMS does not expect new oil and gas processing plants or onshore transportation facilities as a result of this proposal (Yamasaki, 1983). The assumed infrastructure (as discussed in Section II.A.1.d) is expected to be in place as a result of development and production in the western Santa Barbara Channel (1968 Sale

and Sale Nos. 35, 48 and 68), and the Santa Maria Basin (Sale No. 53 and RS-2). For analytical purposes, specific facility locations and transportation of oil by onshore pipeline from the Channel to the Los Angeles Basin were selected, but their use in this scenario should not be considered or implied as a site selection recommendation. Impacts from previous Federal lease sales have been published (BLM 1975, 1979, and 1981), and are considered in the cumulative analysis in the present EIS.

- 15b.4 The EIS has been revised as appropriate. The cumulative impacts from the proposal are based upon the resource specialist's evaluation of the incremental impact of the proposed sale when added to other past, present, and reasonable foreseeable future actions (see Sections IV.C and IV.D for a list of these actions). See appropriate section for cumulative discussions.

- 15b.5 The resource specialist's analysis of potential and expected impacts within the EIS provides a range of impacts based upon analysis of data provided by the Oil Spill Risk Analysis Model, resource estimates and associated exploration, development and production estimates, and Transportation Scenario (Yamasaki, 1982). Only those mitigation measures that are within the scope of MMS authority to impose and to enforce are discussed.

Mitigating measures (OCS Orders, NTL's, etc.) presented in the EIS Section IV.B represent measures that have been specifically developed to reduce identified impacts that could result from OCS development. The stipulations in Chapter II.A.1.f provide additional mitigating measures which were developed as a result of the EIS process.

- 15b.6 It would be unrealistic to provide the entire regulatory framework for State and local agencies based upon the assumptions presented within the EIS. The regulatory framework of the state and local agencies is adequately listed elsewhere (e.g., Pacific Index). Listing in this document would not add to the analysis. The discussion of Federal laws and agencies is included to provide a brief overview of the Federal regulatory system affecting the OCS and thus, any development on the OCS.

- 15b.7 The resource estimates are developed based upon knowledge



- 15b.7 The resource estimates are developed based upon knowledge gained (learning curve) from previous exploration and development. Prior lease sales have been taken into consideration. The mostly resource estimate is that portion of the conditional mean that can reasonably be expected to be developed as a result of this sale (also, see responses to Comments 15b.1 and 15b.2).
- 15b.8 The production levels expected to occur from development of the resources is based upon existing OCS activity.
- 15b.9 It is assumed that any proposal related crude that is refined in California refineries would displace an equal amount of Alaskan North Slope crude (Yamasaki, 1983). Also refer to the expanded discussion of impacts on refineries in Section IV.E.3.m of the FEIS.
- 15b.10 We agree that for the proposed action, the cumulative impact analysis must evaluate all impacts including the increment added by this proposed sale. This was done under the No Sale Alternative, only a portion of the impacts that are occurring without the sale are included and are taken into consideration in the cumulative analysis. We do not agree, the point of a cumulative analysis is the increment added by the proposal.
- 15b.11 The information provided in the EIS was not meant to be a general discussion but to present the relationship of the proposed sale area to surrounding area. Information was presented north and south of the proposal due to possible impacts which would result due to tankering (Yamasaki, 1983). It is descriptive of the environmental conditions that exist relevant to the sale.
- 15b.12 The discussion of the geology was presented to provide the reader with the geomorphic history which led to the formation of the Santa Maria Basin, and which indicates its potential for hydrocarbon bearing formations. It also provides information on the basin's relationship to the other basins which are located on the continental shelf. The level of detail for the Santa Maria Basin is based upon the compilation of regional as well as site specific surveys (see response 15c.6). The information provides an adequate picture of the geology in the area. Additional high resolution surveys will be performed to provide more detailed information prior to exploration.
- 15b.13 Geologic hazards associated with Proposed Sale No. 73 was performed by D.S. McCulloch (McCulloch, D.S. 1982, Geohazards in OCS Lease Sale No. 73 on the Outer Continental Shelf and Slope). For a discussion on the hazards and their relationship to OCS development, see Section IV.A.10.

15b.14 The Geologic Hazard Graphic No. 3 was not prepared to substitute for the site specific surveys that are required prior to any approval of exploration and development.

A geologic hazard survey is performed by the lessee to provide MMS geophysicists with information to determine slope, faulting, possible pressure zones, old river channels and unconsolidated sediments and slope stability. The information based on this analysis is then provided to MMS engineers, who determine if the geologic conditions present are acceptable for the proposed exploration and development operations. See Section IV.A.10.

15b.15 The EIS has been revised, as suggested.

15b.16 Your Comment is noted. The proposal is situated in Central California. The data for any one site specific area are sparse and only general circulation patterns are known to any degree of accuracy. Thus, data for a larger region was presented because it was what was available. More specific data for the lease area will come MMS sponsored from oceanographic studies under contract this year and some studies in progress, and will be used when and if development plans touch upon that area.

15b.17-15b.18 See response to Comment 15b.16.

15b.19 The information within the water quality section was based upon a search of the existing literature which was adequate for describing regional water quality conditions. It seems specific information is lacking for Central California. Any literature which is available on this subject would be appreciated.

15b.20 This reference indicates the water quality which might be expected in the sale area given the limits of predicting water quality from a few data points along the coast. It is believed there is general agreement among scientists that water quality of the region is very good to high (see section IV.E.1.a.).

Doing biological surveys prior to a lease sale involved timing of sales with the studies program. Many rocky outcrops have been identified within the area. Some have been surveyed in connection with Lease Sale 53. Others have a high probability of being studied prior to development production. If the area is found to be unique or highly productive, drilling adjustments may be made at this time.

15b.21 Air quality modeling was based on all available meteorological data for the proposed sale area. It is recognized that the existing data base is very limited. MMS is augmenting the data base by deploying meteorological buoys (See Section III.A.8). Additional meteorological data are incorporated into the modeling efforts as that information becomes available.

- 15b.22 Literature reviews were made and some field work was conducted (i.e. intertidal). Other field work is planned to be conducted in the future through the Environmental Studies Program. It adequately presents the state of knowledge.
- 15b.23 Woodward and Clyde conducted field transects along the coast along with overflights. Published references were used at some locations where studies were conducted and discussed more fully in previous EIS (Sale 53). Several intertidal experts familiar with portions of the coast were consulted.
- 15b.24 Comment noted.
- 15b.25 Information presented in the EIS is a summary of available information. The references are cited.
- 15b.26 Many of the estuaries outside of the proposed sale area were listed due to impacts which would result from tankering. See response to Comment 15b.11.
- 15b.27 The EIS has been revised to reflect some of the major recreational areas within the proposed sale area.
- 15b.28 The Cultural Resource Stipulation is invoked on tracts which are believed to contain cultural resources (see Section II.A.1.f). This information is based upon data contained in the MMS shipwreck file.
- 15b.29 See response to Comments 15b.1 and 15b.2.
- 15b.30 Refer to the revised section in the EIS which discusses impacts to refineries as a result of Sale No. 73 (Section IV.E.3.m).
- 15b.31 The Transportation of Hydrocarbon Products Stipulation (see Section III.A.1.f.v) has been invoked on previous California Federal leases. The Secretary of the Interior will make a decision whether to include the stipulation on leases offered as a result of Sale No. 73. This stipulation is similar to Stipulation No. 2 - Pipeline Feasibility, which the California State Lands Commission has proposed for consideration and inclusion in the upcoming State Tidelands Lease Sale between Point Arguello and Point Conception.
- The EIS also includes an analysis of a 100 percent Tankering Scenario which includes the utilization of OS&Ts. Refer also to response to Comment 15b.2.
- 15b.32 Your Comment is noted. The EIS has been revised.
- 15b.33 The oilspill model is run for a large area because of the need to evaluate oilspill risks outside of the actual sale area. The oceanographic conditions are very complex and do not start

and end at the sale area. In order to properly evaluate these conditions, the forces driving the local currents must be considered. The wind data used were compared to local ship data records. As better wind and current data become available, they will be incorporated.

The launch areas include all the areas considered for possible leasing. Possible development schemes are included within the sale area by the Transportation Scenarios. The model simulates

spills along the tanker and pipeline routes possible from the proposal, as well as from the existing and foreign crude import routes. The volume of oil moved by all of these is estimated and incorporated into the risk analysis.

- 15b.34 The statement was made as a reminder that the analyses were made with the assumption of full leasing of the sale area. This has never happened in any sale, and is not likely to occur for Sale 73.
- 15b.35 Development scenarios are postulated and incorporated. The winds are long-term records and were compared with local ships' wind records. The surface currents were the result of a tremendous modeling effort by Dynalysis of Princeton, Inc. Dynalysis incorporated CALCOFI, NODC, and FNOC data. Additional data sets will be incorporated eventually, such as CODE.
- 15b.36 The oilspill response capabilities are discussed in Section IV.B.2. Cleanup capabilities are dynamic and the cooperatives are obligated to expand their area of coverage to maintain adequate levels of coastal protection. The cooperatives also review new equipment, as more research is done in a rapidly changing industry. The vessel, Mr. Clean II, is within several hours of the entire Lease No. Sale 73 area.
- 15b.37 Comment Noted. The reader is cautioned that the corals referred to are not Allopora or the reef forming type corals. They are soft corals, cup corals, and a variety of sea anemones. Biological stipulations are placed on tracts where there are known or suspected communities of sensitive species and depending on subsequent exploration and development plans, biological surveys may be required by the Regional Office.
- 15b.38 The reference to Shinn, et al, 1980, will be included in the Final EIS. Hydra is not a stony coral and therefore research on Scleractinian corals such as Montastrea would be more applicable to the solitary stony corals or cup corals found in the temperate Pacific. We would appreciate receiving the references cited regarding cooler water species.
- 15b.39 See analysis presented for the total development case, Section IV.0, on air quality. We do not agree that the analysis of the most likely case is an unrealistic evaluation. The emission summary is from a very careful examination of effects possible from these production levels and scenarios.

15b.40 The EIS has been revised to provide more specific information for the counties of Santa Barbara and San Luis Obispo.

15b.41 See response to Comment 15c.6.

15b.42 The EIS has been revised as suggested.

15b.43 See Section IV.B.2.

Personnel safety will be a key consideration during any clean-up operation. Jay Welch has indicated (1/83) that personnel safety is assured to approximately 5 foot seas and 20 knot winds. When weather on the open seas is too rough for clean-up operations, there are other strategies that may be considered, such as booming deflection or booming to close estuaries, to protect sensitive areas without actually containing or directly recovering the oil. Dispersants are an option if avoiding oil contacting the coast is the priority and booming is not possible. During rough weather the natural break-up of the oil will be enhanced by the great amount of energy in the sea surface, making the "no action" option possibly the best alternative. There has been work done to enable detection of spills at night, though fog conditions and nighttime still remain a problem in oilspill detection.

15b.44 The EIS has been revised as suggested.

15b.45 The EIS has been revised as suggested. See Table IV.D.4-1.

15b.46 The EIS has been revised as suggested. Information present in the State EIR has been utilized by the resource specialists in developing their analysis of cumulative impacts.

15b.47 See response to Comment 15b.4.

15b.48 See response to Comment 15a.4 and Section IV.0.1.a regarding drilling fluid.

15b.49 Formation fluids and their marine effects were discussed in the EIS. See Section IV.A.8.b.

15b.50 See response to Comments 15.b.1. and 15.b.2. Detailed information on emission sources, methodology, and cumulative analysis is given in POCs Technical Paper No. 83-2.

15b.51 The EIS has been revised as appropriate. See Section IV.A.4.

15b.52 The EIS has been revised as appropriate.

15b.53 The EIS has been revised as appropriate.

15b.54 The EIS has been revised as suggested.

15b.55 The EIS has been revised. This was based upon the comparison of undiscovered recoverable resources present in each area.

- 15b.56 Tankers used to transport oil produced as a result of the proposal will be subject to IMO standards that are implemented through Coast Guard regulations. The FEIS considers impacts from a 100 percent Tankering Scenario.
- 15b.57 No, impacts from OCS leasing activity to the Gulf Coast is contained in Regional EIS Gulf of Mexico, 1982.

Response to: California Coastal Commission

- 15c. Responses to the specific Comments follows the responses to the background and summary portion of the Coastal Commission's letter.
- 15c-a See responses to Comments 14.5, 14.6, and 15b.11.
- 15c-b See above.
- 15c-c The proposed Lease Sale 73 area includes all the area shown on the map that is within Federal jurisdiction to lease. Should any existing lease be turned back to the Federal government prior to the Notice of Sale or should existing problems currently in litigation be resolved, then these tracts may be offered. Refer also to Alternatives II, III, and IV in Chapters II and IV for a discussion of alternatives.
- 15c-d Refer to specific Comment responses below, but generally the EIS uses the Transportation Plan Scenario No. 1 to provide an examination of expected impacts from the logical development of facilities needed to support this specific lease sale. These are assumptions and cannot be assumed as actual events. Onshore development is conditioned by the amount of drilling activity and amount of oil produced, both of which can only be estimated at this stage. Environmental assessments associated with specific development plans is the place where many of these concerns should be addressed.
- 15c-e Comment noted.
- 15c-f The decision as to whether a sale will occur has not been made as yet. This EIS acts as part of the decision making documentation provided to the Secretary for his consideration. Stipulations are presented in the EIS for the Secretary's consideration which provide for protection of the unique biological values of the area. The exploration for, and development of, oil and gas resources is a long term project requiring considerable lead time. As noted in the document, exploration will begin in 1983 but the first development and production projects will not occur until 1988 or in five years. The world oil market can change considerably in that time, witness the abrupt changes in the 1970's.

- 15c-g See response to 15c-39 below.
- 15c-h Comment noted. As discussed in Sections IV.E.3.a and b and in supporting Technical Paper 83-3, a boom/bust cycle from this sale is not anticipated.
- 15c-i Because of the decision in California vs. Watt, the Department of the Interior undertakes an additional coordinating step by preparing a determination of consistency of the proposed action with the State's approved Coastal Management program. The consistency determination is sent to the State for concurrence 90 days prior to the Secretarial decision to conduct the lease sale.
- 15c-j The name change occurred when all lease sale numbers were changed to provide a clearer indication of where and when the lease sale or offering would occur. The name was returned to its previous designation when it was determined that all tract specific or numbered sales would remain a numbered sale and area wide, non-tract specific sales would use the new nomenclature. See also response to Comment 14.5.
- 15c-k See responses to Comments 14.1, 14.2, 14.3, 14.4, 14.6 and 14.10.
- 15c-l Comment noted.
- 15c-m See responses to Comments 14.6, 14.7, 14.9, 14.10, and 15c.39 below.
- 15c.1 See response to Comment 15b.11.
- 15c.2-5 See response to Comment 14.7. See Section V.F.3. Discussion of Alternatives recommended during the review of the DEIS.
- 15c.6 Geohazard Survey. The California Coastal Commission requested that MMS conduct a basin-wide geohazard survey prior to conducting the sale in order to identify area hazards which potentially affect specific tracts. Several regional surveys have been conducted in the Sale 73 area. These can be found as USGS Open File Report 81-318 (Richmond, Burdock, Phillips, and Norris) and, most recently in D.S. McCullock's work (McCullock, D.S., 1982, Geohazards in OCS Lease Sale 73 on the Outer Continental Shelf and Slope). Existing studies present an adequate picture of the regional geohazards on which MMS can base the requirement for additional high resolution geohazard surveys of an area (within and beyond the limits of a tract). Existing regulations and the geohazard NTL provide for complete surveying of all potential hazards by a lessee for the approval of a Plan of Exploration or Development, at the discretion of the Regional Manager.

- 15c.7 See Sections III.A.7 and IV.E.1.b for a discussion on the Ar-guello Dump Site. Also see response to Comment 15a.17.
- 15c.8 During the scoping process significant issues were identified. The draft EIS attempted to address the significant issues. Based upon the substantive written Comments received, the FEIS has been revised by refocusing on issues and improving the specificity of the analysis. In Chapter I.A. it is clearly stated that this document should not be used for planning purposes. The EIS is prepared to assess the potential impacts to the environment from oil and gas activities. The facilities and their locations are assumptions made for the purpose of analysis and identification of impacts to the environment.
- 15c.9 Your Comment is noted.
- 15c.10 MMS has many existing and proposed mitigation measures to minimize conflicts between the commercial fishing industry and the oil and gas industry. The Commenter would like additional mitigation at the lease sale stage or tract deletions to protect commercial fisheries, but the Commenter does not provide any specific suggestions.

Nevertheless, MMS analyzed previous actions by the Commenter, and determined that the Commenter has required or negotiated the following changes in one or more Plans of Exploration due to commercial fishing concerns:

- Operator must trawl well site to remove debris depending on the results of dragging Tract 0396.
- Operator must contract local fishermen to trawl well site to compensate fishermen for loss of fishing income while the rig is in the trawl area.
- Operator must use jack-up rig (shallow water area) or other non-anchored vessel since this type of vessel precludes less fishing space than anchored vessels.
- Operator must move the well site or alter the anchor pattern out of trawl grounds.
- Operator must limit the number of vessels during peak and non-peak fishing periods.
- Operator must restrict drilling to certain months (usually November 1 to March 31) to avoid drilling during peak fishing seasons.
- Operator must use an anchor boat to lift anchors to minimize the possibility of creating anchor scars.

All of these requirements were designed to minimize, avoid or compensate for conflicts with trawling.



One way suggested by the Commenter to avoid the need for these actions is to delete from the lease sale tracts that overlap important commercial fishing areas. Alternatives II, III, and IV analyze this option. However, since the fishing industry is highly seasonal and variable, areas currently important to the commercial fishing industry may not be important by the time exploration and development begin. The Secretary of the Interior will determine if tract deletion for commercial fishing concerns is appropriate.

Another way suggested by the Commenter to avoid the need for post sale analysis and conflict resolution is to add new lease stipulations. Although it is not clear from the Comment what stipulations the Commenter feels would be appropriate, MMS assumes that the Commenter is interested in stipulations similar to the requirements described above. However, MMS has considered these actions and determined that no new stipulations are warranted since existing and proposed mitigation measures adequately protect commercial fisheries. For example, MMS Pacific OCS Order No. 3 requires that when a well site is abandoned, the lessee must verify that the location has been cleared of all obstructions. MMS feels that this can be accomplished by several methods, and that high intensity trawling is often not a preferred method, particularly near sensitive biological communities. MMS also feels that it is inappropriate to require operators to contract local fishermen to trawl a well site to compensate fishermen for loss of fishing income while the rig is in a trawl area.

Tract specific measures to mitigate conflicts with commercial fisheries can best be formulated once it is known on which tracts exploration or development will take place. MMS recognizes that some conditions in Plans of Exploration or Development may be necessary or appropriate to adequately protect commercial fisheries. Thus, as part of our review process for these plans, MMS solicits Comments from Federal and State agencies on all Plans of Exploration and Development. Coastal Commission (which receives copies of the plans and accompanying environmental reports) and commercial fisheries interests to make their tract specific concerns known to MMS at this early point in the process in order to ensure thorough consideration of potential conflicts and to reduce unnecessary delays in permitting. MMS feels that this is the most appropriate way to consider and address the fishing concerns raised by the Commentor.

MMS would also like to indicate that we do not agree with the Commenter's statements that commercial fishing conflicts were unresolved by our review process and that we failed to adequately assess at the outset the need to resolve commercial fishing conflicts. MMS does consider commercial fishing concerns and mitigates these impacts to the maximum extent practicable. Compensation for nearly all losses to the commercial fishing industry is available through existing funds.

- 15c.11. The EIS cumulative impact discussion has been revised as appropriate. 1982 data was not available to us for the DEIS. CDFG (Morro Bay Office) did supply us with some 1981 data but CDFG (Long Beach Office) specifically requested we not use the 1981 data since it was too preliminary. Subsequent to release of the DEIS, CDFG (Long Beach Office) has given us permission to use the 1981 data, which is included in the FEIS. We have also included 1982 data from the Morro Bay Office, but analysis of the 1981 data indicate that this 1982 data may underestimate landings.
- 15c.12-14 The Biological Stipulation has been developed to offer protection to unique biological areas. Refer also to response to Comment 57.9 and the discussion of the Biological Stipulation in the EIS.
- 15c.15. See Sections IV.A.8. and IV.E.1.a. The EIS addresses these issues. It is not clear from the Comment that additional analysis is warranted.
- 15c.16 Your Comment is noted.
- 15c.17 The movement of metals bounded to sediments is very complex, depending upon the type of sediments, pH, pE (redox potential), oxygen content of overlying waters, competing ions, and presence of organic complexing agents. Under reducing environments (such as anoxic sediments), iron and manganese are released from the bound form while other metals show initial sharp decreases as a result of metallic sulphide formation with subsequent increases over long periods. The redissolution is a result of desorption from iron and manganese or clay minerals coupled with the slow kinetics of metal sulphide precipitation. In any event, "free" ions are not likely in this environment. It is true as indicated in the Comment that bacteria can affect the movement of some trace metals from relatively stable inorganic forms into reactive methylated forms. This has been shown for mercury (Jensen and Jernelov, 1969), arsenic (Johnson, 1972), and tin (Huey et al, 1974). Bioamplification and accumulation is discussed in Section IV.A.4b and 8b.
- 15c.18 See Section IV.E.1.a.
- 15c.19 See Section IV.A.1.c in the OCS Lease Sale No. 68 FEIS and see Section IV.E.1.a of this EIS.
- 15c.20 As you stated, there are very few data on long-term effects of "toxins" in the marine environment as indicated in the EIS on page 4-40 (as admitted by Commenter). Thus, the discussion of long-term effects remains that they are primarily unknown.
- 15c.21 The three spills (> 1,000 bbls) estimated for the proposal are for the conditional mean (full development) resource estimate which is considered not likely to occur. The model estimates one spill (> 1,000 bbls) for the most likely resource estimate. The wind data used for the model in Sale 73 uses five stations, including one at Vandenberg AFB.

- 15c.22 The model incorporates long-term current data (averaged on a seasonal basis), including information on the Davidson Current. The article on the lumber spill in no way speaks of how lumber and oil vary in their response to the environment, i.e., how winds/currents act on oil versus lumber, how oil is weathered, evaporated, sinks, dissipates, etc. Nor is one isolated event statistically acceptable.
- 15c.23 This may well be true, but one must remember that for many oils, 50% or more may evaporate within the first few hours, and may be dissipated by natural forces. Dispersants are also an option when booming may not be feasible.
- 15c.24. New alternatives to protect sensitive areas have been developed. Refer to Section IV.F., G., and H. Comment noted. The EIS does not present a judgement on the acceptable level of risk. Rather the Secretary and FWS must decide what level of impact will imperil the sea otter.
- 15c.25 See response to Comment 6.14.
- 15c.26 Comment noted. WOGA and MMS are funding studies of cleanup capabilities for sea otters. The probability of an oil spill contacting the otter range is 11 percent. We do not feel this low percentage justifies a drilling ban. However, CFR 250.12 gives MMS the power to stop OCS activities should wildlife be in danger. If new information becomes available the ban could be invoked. Deferring areas are being considered as alternatives.
- 15c.27 The equipment inventories of Clean Seas (and the other co-ops) are listed in the Appendix. The co-ops have the obligation to expand through equipment purchases and manpower to maintain an adequate level of response capability. The oil companies that are members respond financially; dependent upon their level of offshore activity. Vans containing boom and other equipment are located at various locations, in addition to the clean-up vessels. The oil spill contingency plan submitted with each POE or POD is the appropriate place for site specific information regarding equipment locations and proposed response activities. These documents are available for review at the Pacific OCS office. The rate at which oil will travel depends upon numerous variables as described in the Oil Spill Risk Model. If a spill occurred at the 3-mile line, the response time may not allow for containment prior to contact with sea otters. Three nearshore tract deferral options have been included which evaluate the effect of a larger response time provided by the greater distance from shore of leased tracts.
- 15c.28 See response to Comment 15c.27.

The oilspills estimated for Lease Sale No. 53 were with the assumption that all the tracts were leased, as is the case for Sale No. 73.

15c.29 The oil spill model numbers are statistical, probabilistic data, and as such are not additive. The oil spill model runs include information for all existing federal leases (including Sale 53 leased lands). This information is presented in Table IV.A.4-2, and Appendix F, and is used for the cumulative impact analysis.

The oil spill accident rates (Table IV.A.4-1) have been updated since Sale 53. The new rates are based on a much broader and up-to-date data base. As a result, the Sale 53 oil spill results would necessarily be different if run today. The 3.00 spills cited represents the total number of spills expected from the Proposal for the Full Development (Conditional Mean) volume scenario. One is reminded that Full Development is considered very unlikely. Oil spill occurrences for the Most Likely cases are estimated to be 1 (> 1,000 bbls). To reiterate, the cumulative impact analyses for the FEIS have been improved. All impact sources which were considered in the cumulative sense have been specified. Included among the impact sources, in addition to this proposal, are the existing leases which resulted from Sale 53, and RS-2 and the projected number of spills likely to occur from those leases. A more careful reading of the DEIS would have revealed to the reviewer that these existing leases were considered in the cumulative analysis in that document also.

15c.30 Potential impacts resulting from Sale 73, including San Luis Port, are analyzed as uncertain future events and not meant to be construed as, or used as, a planning document. There are alternative options to siting of land-based facilities, such as helicoptering supplies and workers, longer worker tours, etc., which are common industry practices. The Plans of Exploration and Development, which are submitted to the MMS prior to any OCS actions, detail the options chosen and must be in accordance with the consistency provisions of coastal management plans and all local, State and Federal regulations and permitting procedures.

15c.31 Siting of facilities must be in compliance with local jurisdiction planning and zoning policies. If local planning or zoning does not provide for a particular use, that is a point of negotiation between the requesting company and the local jurisdiction.

15c.32 Your Comment is noted. Also see response to Comment 15c.30.

15c.33 The analysis for the transportation of hydrocarbons was based upon Yamasaki (1983). The transportation by the particular pipeline route was determined to be a reasonable hypothetical scenario by consultation with industry, State and local agencies. Transporting the oil to sites other than Los Angeles for refining may reduce the air quality impacts to Los Angeles but has the potential for increasing air quality problems in the Central Valley or San Francisco. The FEIS describes more clearly the rationale for this hypothetical scenario. Additionally, a 100%

tankering scenario has been evaluated in the FEIS. The reviewer is reminded that this EIS is for the proposed lease sale decision and is designed to identify likely impacts resulting from the sale. A decision on pipeline routing will not be made at the time of the lease sale decision. Pipeline routing decisions will be made months or years following the lease sale, once development plans are known, and will be subject to numerous Federal, State, and local permitting authorities. It would be of little use to fill this lease sale EIS with numerous hypothetical pipeline scenarios which would make the document more complex and speculative. Instead, we have chosen a reasonable scenario for the purposes of analysis, will acknowledging that other reasonable pipeline routes do exist and may eventually be chosen at the appropriate decision point.

- 15c.34 An onshore pipeline from Gaviota to Los Angeles is assumed to be in existence for the purposes of analysis as described in the Transportation Scenario (Yamasaki, 1983). In addition the question of an onshore pipeline from the western channel area to Los Angeles is being addressed by the Pipeline Transportation Committee (PTC). The economic feasibility of the construction of a pipeline is not a foregone conclusion, considerable debate still continues.
- 15c.35 The cumulative discussions in the EIS have been revised and Sale 53 and RS-2 have always been included in the analysis.
- 15c.36 See response to 15b.1 and Appendix I.
- 15c.37 The MMS studies contracts are designed to answer more generic questions than those for any specific lease sale. Thus, completion of studies prior to a lease sale is not a prerequisite for a sale and study results are considered as they become available. In addition, study results are designed for and used in post-lease sale decisions as well as pre-lease sale.
- 15c.38 See response to Comment 15b.2. An all-tankering scenario is being evaluated. Lease Sale No. 53 and RS-2 are considered in the oil spill model.
- 15c.39 The mitigating measures that are presented (lease stipulations) have been developed during the course of analysis of this proposal. These stipulations would effectively mitigate certain potential adverse environmental impacts. These additional mitigating measures are, of course, not requirement, since a decision on the lease sale and additional lease terms to be imposed has not been made. The lease stipulations, if adopted, would apply to appropriate leases which are eventually offered for sale. Also, see response to Congressman Leon Panetta, Comment 13.1.

1) The stipulation regarding transportation of hydrocarbon products appropriately would require a careful evaluation of environmental, technological, and economic aspects of product transportation prior to the decision on means of transportation. This stipulation in addition, to the California Coastal Commission's Policy 30261b which states consolidation with existing facilities is highly encouraged, would require the lessee to consider the utilization of an area and prevent the piecemeal development.

2) The discussion which proceeds the biological stipulation addresses the special concern regarding rocky outcrops or hard bottoms. The introduction may have given a false impression, the biological stipulation refers to all biological resources which may need protection. Governed by regulation and OCS orders, geological hazard surveys are required on all leases. During these surveys sensitive biological area may be identified. Cumulative effects of multiple drill sites on biological area may be identified. Additionally cumulative impacts would be assessed during the preparation of the environmental assessment for the exploration or development plan.

3) Comment noted. The EIS discusses the Fisheries Training Program. The Secretary of the Interior will decide whether to adopt this stipulation prior to the sale. MMS has considered a fund for hatcheries and determined that there is not sufficient justification for including this requirement in the proposed sale. Impacts to fish resources and commercial fisheries have been minimized to the maximum extent practicable by existing and proposed mitigation measures. In the event of impacts to fish resources or commercial fisheries from oil spills, the Oil Spill Pollution Fund is available to compensate for losses. Also, the Fishermen's Contingency Fund is available to compensate fishermen for economic losses due to obstructions.

4) Subsea completion systems are feasible primarily for shallow, low maintenance reservoirs. The crude in this area is expected to be low gravity and require high maintenance. Subsea completions systems are not currently considered appropriate for this type of crude.

5) If air quality modeling at the time site specific development plans are submitted and evaluated indicate potential exceedance of DOI Significance levels, then BACT will be required. See all responses to California Air Resource Board Comment 15d.

6) The Federal Code of Regulations CFR 250.12 allows for cessation of activities to protect wildlife. A stipulation would not provide additional protection. If ongoing studies determine that special protective measures are required to prevent impacts to cetaceans, then preventive measures would have to be addressed for all offshore development through existing regulations.

7) As the USCG proposed safety fairways and Traffic Separation Scheme (TSS) for the area beyond the Santa Barbara Channel are proposals and there is a potential (however slight) that they will not be established as proposed and published in the Federal Register, a Information to Lessees (ITL) has been determined as the most appropriate manner in which to respond to this concern. The USCG proposals are being submitted to the International Maritime Organization for adoption and implementation of some type of routing scheme is expected to be in place by December 1984. The Information to Lessee will contain information regarding the proposed safety fairways and TSS and the possible restrictions that may result from their adoption and implementation.

15c-I Your Comment is noted.

15c-II Your Comment is noted.

15c-III Comments set forth in this resolution have been responded to under the substantive Comments in this Section.

15c-IV This document was reviewed by the staff. Information presented which was pertinent to the EIS was taken into consideration in the analysis. These Comments have been responded to in the Final EIS Lease Sale No. 53.

15c-V Thank you for your information.

15c-VI Your Comment is noted.

15c-VII See responses to Comment Letter 22.

Response to: State of California  
Air Resource Board

15d.1 The DOI air quality rules (30 CFR 250.57) were written to prevent any OCS facility from significantly affecting the onshore air quality of any State. The EIS states this fact. The rules will be applied to prevent any OCS facility associated with Proposed Lease Sale No. 73 from significantly affecting the onshore air quality of California, as defined in the rules. The rules do provide for the review and possible regulation of facilities which either individually, or in combination with other facilities in the area, significantly affect the air quality of an onshore area (30 CFR 250.57-1(j)).

The exemption levels are based on air quality modeling and are determined such that for any given distance from shore, maximum onshore concentrations do not exceed the DOI significance levels. For an attainment area, the pollution increments allowed are equivalent to those allowed under the EPA PSD rules. For a nonattainment area, DOI regulations require controls more stringent than BACT, if necessary, to prevent adverse impacts

on air quality. As part of the permitting process, a review is required even if individual sources fall below the exemption level if it can be demonstrated that significant adverse effects on air quality may result (30 CFR 250.57-1[i]).

15d.2 The statement on page 4-65 of the DEIS concerning the 10 to 16 exploratory wells drilled per year refers to activities from all past lease sales. The analysis for Proposed Lease Sale No. 73 assumes that during the peak exploration year seven exploratory/delineation wells would be drilled. The emission figures in Table IV.A.8-1 are based on that assumption. It was further assumed that 175,000 gallons of diesel fuel are consumed per well drilled, with an NO<sub>x</sub> emission factor of 551.5 lb/1000 gallons diesel fuel. We do not know the basis of the 200 to 300 tons per year of NO<sub>x</sub> emissions for each support vessel. The emission estimate in the DEIS assumed 8.6 tons of NO<sub>x</sub> per well, based on one crew boat trip every other day for each well for a period of 60 days. Please see POCS Technical Paper 83-2 for more details.

15d.3 The DEIS assumes seven exploratory/delineation wells will be drilled in the peak exploratory year. Since one well may require between 45 and 90 days of drilling, at least two drillships operating continuously may be required. However, it is not possible to predict how many vessels could be operating at one time. The number of wells to be drilled in a given region is influenced by the number of available drilling vessels. It is also true that if drilling vessels are easily available, then more wells could be drilled. Unfortunately, the supply of drilling vessels cannot be projected beyond 3-6 months. The lessees do not own drilling vessels and must contract with drilling companies. These drilling companies supply vessels worldwide, consequently the supply of these vessels in POCS are directly influenced by global demand. It is not known what will be the demand in 1 to 2 years from now.

The MMS will require Best Available Control Technology (BACT) if the DOI Significance Levels set forth in 30 CFR 250.57 are exceeded. Also in those regulations the MMS has the option of requiring Best Available Control Technology if the situation requires it as in the case of cumulative impacts.

15d.4 See Section IV.E.3.m. for a discussion of impacts on refineries.

15d.5 MMS is aware of the various mitigating measures that can potentially be used to reduce impacts from OCS activities. Mitigating measures are imposed by MMS on a case by case basis when modeling of proposed sources shows that adverse onshore air quality may occur. This can only be done once a specific Plan of Exploration or Plan of Development and Production is reviewed by MMS prior to issuing a permit. Potential mitigating measures are discussed in POCS Technical Paper 83-2 and in Appendix O of the FEIS.



The mitigating measures agreed upon by the oil companies (as mentioned in the Comment) were required in order to obtain a permit from the California Coastal Commission. They were not required under DOI air quality rules.

- 15d.6 The impacts of an all-tankering scenario have been analyzed and presented in the FEIS.
- 15d.7 See Section IV.E.3.m. for a discussion on impacts on refineries.
- 15d.8 Detailed information on the method used to estimate emission rates is presented in POCs Technical Paper No. 83-2. Emissions from drilling rigs were based on typical fuel consumption rates observed on the OCS. Annual emissions were based on total fuel consumption per well drilled. Maximum hourly emission rates were determined by using maximum observed fuel consumption rates. Therefore, emission rates should not depend upon the number of drilling rigs per platform. Intermittent sources such as crane engines were not considered. These emissions are judged to be small, and would not change the emission inventory substantially.

Production phase emissions were not included, as an existing facility was assumed to be in place. Emissions would be regulated by the Santa Barbara Air Pollution Control District. The level of required air pollution control is not known at this time, so emission rates cannot be estimated with any reasonable certainty.

- 15d.9 Estimated emissions from previous OCS lease sales were included in the cumulative air quality modeling. Cumulative impacts caused by various other projects such as the proposed LNG terminal were not modeled. It was judged that the various point sources would be sufficiently far apart that combined air quality increments would not lead to significantly higher concentrations (see Section IV.E.1.c. for further discussion of assumptions used in the cumulative air quality analysis).
- 15d.10 Detailed technical data regarding the air quality modeling are presented in POCs Technical Paper No. 83-2 (FSI, 1983 b.).
- 15d.11 Ozone modeling for exploratory operations was not done for reasons presented in response to Comment 47.4.

We are not familiar with the type of model used by ARB in estimating ozone impacts from exploratory drilling operations in the Santa Barbara Channel. We question whether the use of a 1 km x 1 km grid is appropriate for a case where there are just isolated point sources. The RAPT model applied by MMS indicated that in certain cases  $\text{NO}_x$  sources associated with drilling operations did cause increases in ozone levels, even when hydrocarbon emissions were minimal. This situation where the ratio of  $\text{NO}_x$  to hydrocarbons was high would correspond reasonably well to emissions associated with exploratory

drilling operations. Maximum ozone increments of 1 to 2 pphm were found. However, these increments are considerably lower than the increments of 1 to 6 pphm calculated by CARB. We do not know the reason for this other than the fact that a different photochemical model and different input parameters were used.

15d.12 Comment is noted, but we disagree. The DOI Significance Levels are based on EPA's Emission Offset Interpretive Ruling (44 FR 32B3, January 16, 1979). This ruling provides a basis for what constitutes a significant impact on a nonattainment area, and is consistent with the criteria used in onshore areas.

The Outer Continental Shelf Lands Act Amendments of 1978 directs the DOI to protect the national ambient air quality standards. It does not require protection of the State ambient standards. National ambient air quality standards are designed to protect public health and welfare with an adequate margin of safety, and because of that should be sufficient to prevent adverse air quality effects.

15d.13 The ozone modeling performed in the Proposed Lease Sale No. 73 analysis does indicate that OCS developments associated with the sale could cause slight increases in O<sub>3</sub> levels over onshore areas. MMS will perform more detailed photochemical modeling for each exploration and development plan submitted by an oil company as a result of this lease sale. If the modeling shows an adverse onshore air quality impact, MMS will impose emission controls.

15d.14 The information in the DEIS on frequency of supply vessel trips was in error, but this information was not used in the air quality analysis. The air quality analysis was based on the following frequency of supply vessel round trips per well or platform.

	<u>Crew Boat</u>	<u>Supply Boat</u>
Exploration	1 trip/day	1 trip/2 days
Development	1 trip/day	1 trip/day
Production	1 trip/2 days	1 trip/2 days

The FEIS has been revised to incorporate these figures.

15d.15 The level of impact as defined in Appendix A was not found to be different from that determined for the most likely scenario. The air quality analysis for the conditional mean resource estimate did result in higher increments of air pollutant concentrations. However, the change was not sufficient to cause a change in impact levels as defined in Appendix A.

Response to: State of California  
Department of Conservation

15e.1 Your Comment is noted. See response to Comment 15b.14.

15e.2-3 Your Comment is noted.

Response to: State of California  
California Energy Commission

15f.1 The EIS has been revised to consider cumulative oil production. See Section IV.E.3.m. The numbers in Table II.A.1.c-1 are correct, they represent the yearly production peaks. The daily peak production rate is 84,383 bcd in 1993.

Of the total peak production, 21,075 bcd would be tankered to San Francisco Bay refineries, 21,075 bcd would be tankered to the Gulf of Mexico refineries, and 42,150 bcd would be transported via an assumed to be existing onshore pipeline to L.A. area refineries. Refer to Sections II.A.1.d and IV.E.3.m for details.

15f.2 The estimated characteristics of Sale No. 73 crude oil were presented in Table 1 of Yamasaki, 1983. The data also appears in the FEIS, Section II.A.1.b. The data represents estimates of the quality of the crude. At the pre-leasing stage it is not possible to provide more refined data. Information on cumulative impacts is presented in Section IV.E.3.m.

The most currently available published information on costs of refinery retrofits is found in Bechtel (1982). This information is presented in Section IV.E.3.m. The range of costs that were presented in the DEIS were based on modifications that were made at the Union Oil refinery in Los Angeles and Shell's West Coast refining system (Oil and Gas Journal, September 13, 1982).

Response to: State of California  
Department of Parks and Recreation

15g.1 Your Comment is noted.

15g.2 It would be unrealistic to provide detailed pipeline routes based upon the assumptions presented within the EIS. It would be far more appropriate to provide this information at the time OCS development (Plans of Operations) would affect a particular section of the coast.

Response to: State of California  
Office of Historic Preservation

15h.1 See Appendix M for a list of cultural sites within the potential impact area, which are listed in or eligible for inclusion in the National Register of Historic Places.

Response to: California Coastal Commission  
16 See response to Comment letter 15c under State of California.

Response to: County of Del Norte  
Board of Supervisors

- 17.1 Comment noted.
- 17.2 See responses to Comments 14.6 and 15b.11.
- 17a.1 The Comments set forth in this resolution have been addressed in the substantive Comments elsewhere. Refer also to the response to Comments from State of California, Attorney General (14) County of San Luis Obispo Air Quality Pollution Control District (21), League of Women Voters (54) and Natural Resource Defense Council (57).

Response to: County of Marin

- 18. Comment Noted.
- 18a Comments set forth in this resolution have been addressed in the substantive Comments below. See also response to Comment 17a.1.
- 18b.1 See response to Comment 20.3.
- 18b.2 See responses to Comments 20.3, 15b.3, and 14.5.
- 18b.3 See responses to Comments 14.10, and 15b.11.
- 18b.4 Cumulative impacts to the San Francisco Bay area are addressed in the appropriate Sections (see Sections IV.E and IV.0). Also refer to responses to Comments 15b.4.
- 18b.5 Comment noted. See responses to Comment 15b.33.
- 18b.6 The oil spill model incorporates long-term wind and current data (including CALCOFI cast data), for the trajectories. Additionally, it incorporates the accident spill rates and the resource estimates, to come up with final model numbers. San Francisco Bay, as with the other estuaries, is considered to be impacted to its furthest point if a spill enters the Bay at all. See response to Comment 15b.33.
- 18b.7 The oilspill rates are the result of a major effort by the Future's Group (see reference) and are not based on U.S.C.G. records (although these are incorporated). As stated in Section IV.A.4, spills  $\geq$  1,000 bbls are considered "large".

Theoretically, the potential amount of oil that could enter the environment is the total resource estimate. The oilspill model results are statistical estimates, and are therefore fractional. The results are separated by spill size as well as being listed

by the "probability of one or more spills". It is necessary that a probabilistic event, such as an oilspill, be dealt with in a statistical way. One should also keep in mind that a probabilistic event is not "inevitable", even if it is "likely".

- 18b.8 Noted and already considered in cumulative analysis. Also the "Bay" is not really germane to impacts as far south as this sale except as an example of water quality problems. See also the decision in the FEIS for the Total Tankering Section (IV.L.).
- 18b.9 Impacts on the San Francisco Bay and Bay area are addressed in areas outside of the proposed sale area under the particular resource affected. See also decision in Section IV.L.b.
- 18b.10 Clean Seas, the cleanup co-op responsible for the Proposed Lease Sale 73 area, claims cleanup capabilities in up to 8-10 ft. seas, and 20 knot winds. Equipment is deployable in 5-6' seas. This is a MMS/Coast Guard requirement. Morro Bay does have extreme currents making booming difficult. Cmdr. Skip Onstad, Chief, Environment Protection, 11th Coast Guard District, believes booming strategies are possible for the entrance to Morro Bay. Of course, there will be many times that severe weather and sea states make this very difficult.
- The oilspill model numbers are for the 25-year anticipated life of the project (not 1 year). Eight spills are expected from existing activities. One spill is expected from the Proposed Sale 73 "most likely" case, and 3 spills from the high case ("conditional mean").
- 18b.11 Comment noted. The EIS has been revised.
- 18b.12 The impact on fish populations is not the same as the impact on commercial fishing. Thus, these impacts are discussed separately in the EIS. Refer to Sections IV.2.c and IV.3.e.
- 18b.13 Comment noted. These impacts are discussed in the EIS as appropriate.
- 18b.14 The EIS has been revised as appropriate.
- 18b.15 Comment noted. This issue is addressed in the cumulative impact section of the EIS.
- 18b.16 We cannot agree that a good faith reasonable effort at cumulative impact assessment has been avoided by the EIS. Every major impact under every major alternative addresses the analysis.
- 18b.17 The EIS has been revised as appropriate.

- 18b.18 The statements regarding localized effects of muds and cuttings are based on situ studies of the benthic communities, toxicity data, and numerical computer models of dispersion of these materials. Based upon these considerations (referenced studies) only localized effects could be concluded. See response to Comments 18b.6 and 6.6.
- 18b.19 The Comment is correct in that the short-term fate of drilling muds is much further than 1,000 m from the discharge point. However, the statement on page 4-99 of the DEIS is about effects not solely fate and this radius of 1,000 m is supported by the data to date.
- 18b.20 Your Comment is noted
- 18b.21 The Comment states "if a major spill or chronic effect shifted the plankton community". It is not clear that any chronic effect would or could do this over the entire spawning area, larval feeding area, or other critical growth area of the anchovy. Also, a spill would not persist long enough or probably not be large enough to measurably affect the plankton community upon which the anchovy feed. This is not to say that there will be no local effects. In fact, the MMS funded study of oil toxicity to the northern anchovy (report to be released in mid-1983) indicates oil can directly affect anchovy larvae at low (5 ppb) concentrations causing retardation of growth and subsequently hinder critical feeding stages.
- 18b.22 See Final EIS for OCS Lease Sale 68 (page 4-17) which was referenced in this Draft EIS. This incorporates by reference work in photosynthesis inhibition.
- 18b.23 The EIS has been revised as appropriate.
- 18b.24 An estimation of areas impacted by rigs and related drilling activities could be made by the 1,000 m impact distance from platform impact mentioned in the EIS. Even with this conservative factor the highest impacts are within 100 m of the platform. Further, this does not answer the impact question. In the first place, it is over simplistic. Areas on soft bottoms, especially, would tend to become more productive and have a higher standing crop biomass than before. Greater number of fish would be attracted to the platform area. To be accurate one would have to subtract the area of benthic biomass from the added biomass created by three dimensional platform and its surrounding increased bottom biomass. From these results, there would be a net increase in benthic biomass and productivity to the area.

Further, the more important question would be what are the number of platforms that would cause a major alteration of the subtidal benthic ecology for the sale area or a major portion of it? When do platforms affect the benthic ecological relationships

of the predominantly soft bottom area? We do not know the answer to this question. It apparently has not happened in the delta region of the Gulf of Mexico, which has far more platforms. Also, it has not occurred in the Santa Barbara Channel.

Because of their limited number and areal occupation, the impacts on hard bottoms remains more critical. Although we do not know the exact area of hard bottoms because more are discovered with each hazard survey and most of the rocky areas shown on Graphic No. 2 are not continuous, the percentage of area impacted by platforms to the entire rocky bottom habitat would still remain quite small. This is so even if every platform was located on a rocky bottom, which it isn't. Again, with hard bottoms, the important question is not the area impacted, but what is the number of platforms that causes an impact to the entire area that would require a long period to recover or would be unrecoverable. Multiple platforms on a localized hard bottom could start to have additive impacts to the entire hard bottom of that localized area. For hard bottoms, therefore, it is not the number of platforms, but their distribution on them that is more important.

We have not even discussed the distribution of sensitive or rare species and platform numbers in this response. This is another variable that causes the area disrupted by platforms is oversimplistic.

The cumulative impact sections will be altered in the EIS.

- 18b.25 The cumulative impacts have been revised as appropriate.
- 18b.26 Information is not available to sufficiently map principal benthic communities within the proposed sale area, although the known hard bottom areas are shown in Graphic No. 2.
- 18b.27 Comment noted.
- 18b.28 It is unclear where the numbers of quoted were derived. Table IV.D.4.1 has been revised to include past, present and reasonably future development, within the area of the proposal.
- 18b.29 The EIS has been corrected.
- 18b.30 The table is based on what is expected the most likely resources.
- 18b.31 Comment noted.
- 18b.32 Weathering of oil and the resulting decrease in toxicity is discussed in the EIS.
- 18b.33 Thank you for the information. It was reviewed by the staff and revisions were made where appropriate.

18c.1 The resource specialists take into consideration the "assumed" spills as well as the cumulative effects of medium or small spills. We refer you to Sections IV.E and IV.O for a more detailed analysis than is presented in the summary. Definitions of impact levels are presented throughout the analysis within Chapter IV as well as Chapter IX. The description of emission control is presented in Chapter IX.

Again we refer you to the analysis presented in Sections IV.E and IV.O. Refer to the decision in Section IV.E for an analysis of impacts to water supply from the proposal. Refer to the decision in Section II.A and IV.E for a description and analysis of impacts to Port San Luis.

18c.2 Although the Comment period was not provided in the DEIS ample notification was provided by publication of deadline dates in the Federal Register Notice and Current Events Newsletter.

18c.3 See responses to Comments 14.1, 13.3, 14.3 and 14.7.

18c.4 A Section 7 consultation has been initiated for this proposed Lease Sale as required by the Endangered Species Act, as amended. See Section I.

18c.5 The texts of relevant laws are available in Laws Related to Mineral Resource Activities on the OCS USGS and BLM 1981. See also response to Comment 15b.5.

18c.6 See response to Comment 15.c-i.

18c.7 See responses to Comments 14.1 and 37.1.

18c.8-9 As your statement indicates, we are continuing to gather data in order to improve our information base. At present, sufficient information is available to make a reasonable choice among the alternatives.

18c.10 The EIS has been revised as appropriate.

18c.11 These issues are discussed under the main subject headings.

18c.12 For a discussion of impacts to planktonic larvae of certain species see Section IV.E.2.c. The decision to Plankton references the FEIS for Sale 53.

18c.13 See response to Comment 14.7.

18c.14 The description of Alternative I has been clarified.

18c.15 Values for leased lands and state waters is presented in Table IV.D.4-1

18c.16 See Appendix I.



- 18c.17 The number of exploratory wells are based upon what would be reasonably needed to develop the Most Likely Resource Estimates.
- 18c.18 A summary of Yamasaki, 1983 is presented in Section II.A.1.d.
- 18c.19 We refer you to the transportation scenario prepared for Proposed Sale No. 73. Yamasaki (1983).
- 18c.20 The information derived from the studies performed in areas of Lease Sale 53 have been taken into consideration in the preparation of the Biological Stipulation and the analysis presented in the proposed Lease Sale 73 EIS.
- 18c.21 The EIS has been revised as appropriate.
- 18c.22-23 The impact levels have been included in the main analysis presented in the Environmental Consequences Section (Chapter IV).
- 18c.24 Your Comment is noted. Also see response to Comment 18c.22-23.
- 18c.25-26 We refer you to the main analysis presented in the Environmental Consequences Section II.E for Public Services & Facilities and for Commercial Fishing.
- 18c.27 The impact section on Visual Resources from the proposed has been revised and the basis for our assessment of insignificant impacts is clearly documented.
- 18c.28 See response to Comment 38.5.
- 18c.29 This has been corrected.
- 18c.30 The EIS has been appropriately revised.
- 18c.31 The impacts associated with the possible conflicts with new structures from past and future lease sales is discussed in the cumulative impact section.
- 18c.32 The EIS has been revised to clarify this statement.
- 18c.33 This section presents the impacts to the various resources from existing and reasonable foreseeable projects and proposals.
- 18c.34 The cumulative impacts will be analysed and hydrocarbons discussion has been included.
- 18c.35 Rails are discussed in Section IV.E.2.f for more detail.
- 18c.36 Impact to Point Reyes Marine Sanctuary are considered in the cumulative analysis presented in Section IV.E.2.i.
- 18c.37 See response to Comment 14.7.

- 18c.38 The "visual" is incorporated by reference to work by Williams et al, (1980)
- 18c.39 The EIS has been revised as appropriate.
- 18c.40 The EIS has been revised as appropriate.
- 18c.41 Additional information has been included on the radioactive dump site. In addition a stipulation to mitigate impacts from OCS development has been proposed in the FEIS.
- 18c.42 The EIS has been corrected.
- 18c.43-46 The figures or visuals have been revised where appropriate.
- 18c.47 We have revised Section III.C.8 and specifically note these tourism centers.
- 18c.48 We have revised the descriptive section on Tourism and are more specific in identifying important tourist resources within the sale area subject to impacts from the proposal.
- 18c.49 The value of tourism as reported in this EIS is derived from the report by the Granville Corporation which made a spacial study on the value of California's coastal recreation and tourism.
- 18c.50 The revised impact section on Tourism indicates the proposed sale is not a serious threat to tourism in Central California and mitigation measures in place, such as the Oil Pollution Contingency Fund, will assure that individual business' temporarily affected by oil spills do not go bankrupt.
- 18c.51 We concur that the communities you have identified are the most vulnerable to the 73 proposal and we have revised our analysis to focus on these specific areas.
- 18c.52 See response to Comment 15c.39(7).
- 18c.53 See response to Comments 15b.1 and 15b.2.
- 18c.54-55 The EIS has been revised to focus more on a community-by-community basis.
- 18c.56 See response to Comment 18c.52.
- 18c.57 See response to Comment 18c.53.
- 18c.58 Your Comment is noted.
- 18c.59 The EIS has been revised as appropriate.
- 18c.60 See Section IV.A.4b for a discussion of toxicity date.

- 18c.61-63 These impacts to Fisheries are discussed in Section IV.E.3e.
- 18c.64 See response to Comment letter 39.
- 18c.65 Discussion on oil spill clean up and containment is contained in Section IV.A.4
- 18c.66 Figure IV.C.2-1 has been revised to reflect new data.
- 18c.67 The evidence for this statement is presented in the EIS.
- 18c.68 It is impossible to predict any cumulative levels because the concentration would be that resulting from the metals from several platforms combining in one area. In order to calculate the cumulative concentrations one would have to specify the distances between cumulative platform sources, the exact oceanographic conditions at the time of discharge, the forms of the metals (complexed ligands, free ions etc). and a host of other factors. In the final analysis one would find that cumulative effects in the water column are negligible due to the extremely large amounts of ocean relative to the discharge volumes and subsequently the rapid dilution of metal concentrations to near ambient levels.
- 18c.69 The oilspill model predicts 1 spill (>1,000 bbls). This is based on the estimated volume (most likely) of .29 BBO, and one spill per billion barrels produced as transported (platforms), 1.6 (pipelines), and 1.3 (tankers). The rates are combined in the relative proportions estimated (i.e. how much carried by pipelines and tankers).
- 18c.70 It is agreed that the numbers used represent large quantities; however, it is difficult to relate them in more relative terms the standard cubic yards and barrels.
- 18c.71 The EIS has been revised as suggested.
- 18c.72 A hazardous waste stipulation has been included in the EIS (See Section IV.A.1.f).
- 18c.73 All presently known information on the tracer studies have been reviewed and was incorporated in the analysis where applicable.
- 18c.74-75 The disturbance of the structure of the intertidal zone is incorporated by reference.
- 18c.76 Based upon the Oil Spill Risk Analysis Model multiple spills as a result of this proposal are not expected. See Section IV.E.2.a, and b for a discussion of these impacts.
- 18c.77 The EIS has been revised as appropriate. The no spill contact is based upon the Oil Spill Risk Analysis Model (See Section IV.A).

- 18c.78 The assemblage alteration could be caused by species attached to the platform dropping as well as being burried by muds and cutting. It is unclear what was detected at 6km due to discharges.
- 18c.79 The EIS has been revised as appropriate.
- 18c.80 Due to rapid dilutions of these substances and their location relative to the spawning areas of concern, no impact is expected to occur.
- 18c.81 A range of sea otter impacts will be discussed, however, an oil spill is very unlikely to cause only one dense rafting site so our data more accurately represents what would happen in the event of a spill.
- 18c.82 We are not aware of serious impacts from startling of pelagic birds and mammals. These events should be infrequent.
- 18c.83 The potential effects of discharged muds and cuttings is discussed in Section IV.A.8.
- 18c.84 Thank you for your Comment, however it is difficult to respond without more specific information.
- 18c.85-86 This subject is discussed further forward in the generic section. Nest site contamination could increase impacts however we still feel the primary mortality will be adults. The loss of breeding adults has far longer implications than loss of the years juveniles or eggs.
- 18c.87 Cumulative impact as included exploration and development of hydrocarbon resources from past, present and reasonably foreseeable future actions.
- This is a generalized statement to reflex that all threatened and Endangered Species may not survive.
- 18c.88 The cumulative section has been revised.
- 18c.89 The EIS has been revised as appropriate.
- 18c.90 Pickle weed is above the high tide line except on the highest tides and is therefore considered reasonably immune from oil spills.
- 18c.91 Commander Ship Onstad (11th Coast Guard District) believes that booming strategies for Morro Bay may be feasible.
- 18c.92 No spill contacts for any specific land segments.
- 18c.93 The statement in the EIS says recovery required less than two years, not one year. The oil that impacted Duxbury Reef was from Bunker C oil (refined oil) which is reported to be more toxic than crude.
- 18c.94 Your Comment is noted.

18c.95 The oil spill model predicts that less than a 25% probability of an oil spill reaching the sanctuary from the proposal. Only in the cumulative sections are these impacts increased.

18c.96 These factors are unknown, and are discussed only as a possible impact, not as a certainty.

18c.97 This type of information will be addressed in the environmental document at the time specific development plans are submitted by the oil company.

18c.98 Refer to SLD Board of Supervisor, approved LUP Port San Luis may be considered as a potential crew boat base if other criteria are met.

18c.99 Too many variables to assess this, impact will come mostly from the need to supply water to the general population. This is a county problem.

18c.100 All facilities must be in compliance with local jurisdiction planning and zoning policies. If local planning or zoning does not provide for a particular use, that is a point of negotiation between the requesting company and the local jurisdiction.

Quantification is not possible, because of the number of variable involved.

18c.101 Definetly by local planning documents. Premise is incorrect, no action occurs as a result of leasing.

18c.102 Any use or development of Port San Luis must be in compliance with local jurisdiction policies and zoning.

The board of Supervisor's approved LCP allows for Port San Luis to be used as a crew boat base if certain prior criteria are met and complied with.

If a crew base is not allowed in San Luis Obispo County, the oil companies may exercise options of helicoptering crew members, using supply boats to transport crew members, using long work tours, etc. The specific company option choosen will be identified as part of the Plan of Exploration or Plan of Development submitted prior to drilling or development activity.

18c.103 Potential sites for fabrication sites are being reviewed along the Pacific Coast. It would therefore be difficult to address all these locations.

18c.104 The EIS has been revised as appropriate.

18c.105 Data is not available to this level of detail but can be obtained if needed along proposed pipeline routes prior to commencent of development activities.

- 18c.106 Yes as stated in the sentence following the sentence quoted.
- 18c.107 The analysis for this statement is provided in Section IV.E.3.e also see Centaur Association (1981).
- 18c.108 See Centaur Association (1981).
- 18c.109 "small" is defined as "measurably less in size, number, quantity, magnitude or extent."
- 18c.110 Site specific detailed environmental analysis for pipeline installation will be analyzed as part of the ER process on POD's.
- 18c.111 We have identified this potential impact in Sec. IV.E.3.f. but do not believe this is a major problem.
- 18c.112 That is always a possibility and should it occur, a major impact can occur.
- 18c.113 Noise impacts on wildlife are discussed in Section.
- 18c.114 Information is presented in its most readily available form which is on a county-by-county basis.
- 18c.115 This section has been revised.
- 18c.116 We would appreciate examples but will try to clarify the section.
- 18c.117 See response to Comment 14.7
- 18c.118 Information was based upon the Grandville Study (1981)
- 18c.119 See response 18c.72
- 18c.120 The cumulative section has been revised.
- 18c.121 The EIS has been revised as appropriate.
- 18c.122 See response to substantive Comments from San Luis Obispo Harbor District Comment Letter 38.
- 18c.123 The EIS makes that distinction.
- 18c.124 The assumption is that the proposal is backing out an equal amount of Alaskan Crude.
- 18c.125 Unavoidable impacts discuss only those impacts that are expected to occur due to the Proposal. Since no oil spills are expected to contact the other range, extinction is not discussed.
- 18c.126 The EIS has been revised as appropriate
- 18c.127 See response to Comment 18c.3.
- 18d. See response to Comment 25. County of Santa Cruz.

Response to: County of Mendocino  
Board of Supervisors

- 19.1. See response to Comment 14.1, and 14.4.
- 19.2. No spills are expected to occur and contact any land segments north of the proposed sale area. Also see responses to Comments 15b.11 and 15b.33.
- 19.3. See response to Comment 19.2. See also Section IV.L for a decision of the impacts for a Total Tankering scenario.
- 19.4. See responses to Comments 15b.11 and 14.5.
- 19.5. Prior to the time of exploration and development on any lease site, specific surveys will be performed to provide a more detailed analysis on the presence and any probable effect of the Hosgri Fault. Also see response 15c.6.
- 19.6. a) The subjects you mention are discussed. The oil spill model considers the seasonal changes due to the Davidson Current; b) recovery of the otter is difficult to discuss since we are unsure what the leveling effect is due to. There are several opinions, one is that the sea otter is at carrying capacity, another is that gill netting and shooting are causes for the lack of population growth. Recovery times are impossible to predict under these circumstances.
- 19.7. The EIS has been revised as appropriate. See also nearshore Alternative deferrals, Section II and IV.
- 19.8. See response to Comment 57.4.
- 19.9. See response to Comment 14.2, 3, and 4.
- 19a Comments set forth in this resolution have been addressed in the substantive Comments elsewhere. Refer to also to the responses to Comments from the State of California, Attorney General (14), County of San Luis Obispo Air Quality Pollution Control District (21), League of Women Voters (54), and Natural Resources Defense Council (57).
- 19b.1 See responses to comments 14.1, 14.2, 14.3.
- 19b.2 See response to comment 14.10.
- 19b.3 The analysis of cumulative impacts is contained in Sections IV.E and IV.F for each resource. Also see response to comment 14.9.
- 19b.4 See response to comment 57.4.
- 19b.5 New Alternatives have been added to Section IV.G and IV.H. Among the alternatives analyzed in the FEIS are three nearshore leasing deferral alternatives. See response to comment 57.5.

19b.6 The EIS has been revised as appropriate.

19b.7 When economically feasible, onshore support facilities are located as close to the activity area as oil companies can locate them given the constraints of local planning and zoning or existing capacities can also be utilized. All facilities must be in compliance with local jurisdiction planning and zoning policies. If local planning or zoning does not provide for a particular use, that is a point of negotiation between the requesting company and the local jurisdiction. We agree that tankering of oil does have its associated impacts.

See responses to comment letter 24 and Sections IV.E.3.d,e,g,k, and l.

19b.8 The EIS has been revised as appropriate. Also see response to comment 61.7.

19b.9 See responses to comment letter 21.

Retrofitting of refineries is expected to take place to process (past and future) low quality crude production. These modifications would take place pending permit approval by the appropriate state and local agencies.

19b.10 The EIS has been revised as appropriate.

19b.11 Sections III.C.7 and 8 includes county by county estimates on the values of recreation and tourism. A major spill is likely to cause a temporary loss of some tourism employment in the area directly impacted. The precise estimate of tourism related job losses is not realistic as variables such as timing, seasonality, publicity, effectiveness of containment and cleanup, etc., will all effect the severity and extent of employment impacts.

19b.12 The EIS considers information which is available at the time of writing. Information is provided in the document on the Coast Guard recommendations for routing traffic in the Sale 73 area. It is thought these recommendations will take up to 22 months before they are enacted. The DOI is considering the use of an Information to Lessees (ITL) (see Section II.A.1.f) in the Final Notice of Sale which would make potential bidders aware that the Coast Guard and Corps of Engineers may prohibit surface hydrocarbon activities in Port Access Routes, Traffic Separation Schemes, Precautionary Areas and/or Safety Fairways.

19b.13 The FEIS discusses potential mitigation by the use of subsea pipelines has been expanded (see Section II.A.1.f.v). Also see response to comment 25b.1.

19b.14 Comment noted. The EIS addresses this issue.



- 19b.15 The EIS addresses these issues. It is not clear from the comment what additional analysis is warranted.
- 19b.16 The EIS addresses the limitations of this fund. MMS recommends that the commentor also review the Fishermen's Contingency Fund. Recent revisions to the latter fund have substantially improve it, and this fund probably now has less limitations than the Fishing Vessel and Gear Damage Compensation Fund. Also see response 58.6.
- 19b.17 The EIS addresses these issues. It is not clear from the comment what additional analysis is warranted.
- 19b.18 The EIS has been revised as appropriate.
- 19b.19 The EIS has been revised as appropriate.
- 19b.20 The EIS addresses these issues.
- 19b.21 As indicated in the EIS, the Oil Spill Pollution Fund is available to compensate fishermen for losses due to oil spills (see Section IV.B.9). Damages from discharges are not expected. Also see Sections II.A.1.e, II.A.1.f and IV.B.
- 19b.22 The EIS has been revised as appropriate.
- 19b.23 The EIS addresses this issue. It is not clear from the comment what additional analysis is warranted. See Sections IV.A.8.b and IV.E.2.c.
- 19b.24 The EIS addresses these issues. It is not clear from the comment what additional analysis is warranted. See Section IV.E.2.c.
- 19b.25 The EIS has been revised as appropriate.
- 19b.26 The EIS addresses this issue. It is not clear from the comment what additional analysis is warranted. See Sections IV.A.4.b and IV.E.2.c.
- 19b.27 See response to comment 25.9.

Response: County of Monterey  
Board of Supervisors

- 20.1 A worst case analysis is required when ". . . information relevant to adverse impacts is essential to a reasoned choice among alternatives is not known or information relevant to adverse are not known . . ." (40 CFR 1502.22). This is not the case for the EIS prepared for Proposed Sale No. 73. See response to Comment 14.10. Although we are continuing to gather data we have adequate information to assess possible impacts of the alternatives. Where appropriate, we have assumed that impacts could be high. See IV.E.2.f (sea otters). See all responses to Comments 14.1, 14.2, and 14.3.

- 20.2 See response to Comment 14.7.
- 20.3 The Oil Spill Risk Analysis Model was run for areas outside of the proposal. The model predicted no oil spills occurring or contacting land segments north of the proposed sale area as a result of this sale.
- 20.4 The EIS has been revised as appropriate.
- 20.5 If the No Sale Alternative is chosen, it would not preclude leasing within the sale area from future lease offerings. The No Sale Alternative would only prevent the current proposed sale from occurring.
- 20.6 See response to Comment 15b.4.
- 20.7 MMS has an ongoing program of performing studies to provide information needed for prediction, assessment, and management of impacts on human, marine, and coastal environments of the OCS and nearshore areas which may be affected by oil and gas activities (43 FR 3893, January 27, 1978). Information provided by these studies are used by the resource specialists to aid in their analysis of impacts from OCS development.
- 20.8 Your Comment is noted.
- 20.9 Your Comment is noted.
- 20.10 Graphic No. 1, Leasing History will be corrected by an errata sheet.
- 20.11 Map presented in the EIS is still current (1980). USC currently has a very active program in upwelling research.
- 20.12 The EIS has been revised as appropriate.
- 20.13 A new visual has been prepared for the comparison of the dump site locations to other resources.
- 20.14 Dynalysis of Princeton, Inc., is the MMS contractor modeling the currents on the California OCS (and entire West Coast). They have been very successful in simulating real events, such as the mean density fields and subsequently the current patterns, including the California current and countercurrent (Davidson Current). See also response to Comment 20.3.
- 20.15 Foreign and Alaskan import tankering into California refineries is modeled, as well as the tankering estimated to result from the proposal. See Section IV.L for an analysis of the environmental impacts of a Total Tankering Scenario.
- 20.16 See response to Comment 15b.4.
- 20.17 See Section I on the relationship of the proposal to the national energy plan and other programmatic decision documents.

- 20.18. The EIS addresses these issues. (See Section IV.E.3.c and 3.e.)
- 20.19. The Commenter has misinterpreted the EIS by mixing oil spills expected as a result of the proposal with oil spills expected from foreign and Alaskan crude oil imports. Impacts expected as a result of the proposal are correctly assessed in the analysis of cumulative impacts.
- 20.20 As no oil spills are expected to contact the coast north of the sale area, and as loss of income is related to loss of tourism resulting from an oil spill, no potential income loss figures were calculated for areas north of the proposed sale area.
- 20.21 See responses to Comment 51, Friends of the Sea Otter.
- 20.22 The information presented under the No Sale Alternative assumes that any benefit from this proposal would be a forgone conclusion. It has been noted that alternative sources of energy would need to be developed to bridge the energy gap. See Section II.C.

Response: County of San Luis Obispo  
Air Pollution Control District

- 21.1 We believe that compliance with DOI's OCS air quality regulations will not significantly offset onshore air quality, as discussed in the EIS. The DOI requires an air quality analysis of those proposed facilities listed in the Plan of Development and Production (PDP) or Plan of Exploration (POE) submitted by the lessee. There is an analysis in the Environmental Report (ER) submitted by the lessee along with the PDP. The lessee must follow the requirements stated in 30 CFR 250.34-3. In addition, the MMS produces an Environmental Assessment (EA) that includes a discussion of air emissions and impacts from the facilities presented in the PDP.

It is the policy of the MMS regional office of the Pacific OCS to conduct a joint Environmental Impact Report (EIR)/EA of a PDP with the appropriate state or local agency. In the past the City of Oxnard, Santa Barbara County and the California State Lands Commission have been lead agencies. For PDP's of facilities offshore of San Luis Obispo County, it is probable that the State Lands Commission or San Luis Obispo County will be the lead agency supporting the EIR portion of the joint effort.

- 21.2 See response to Comment 21.15.
- 21.3 See Response 21.18.
- 21.4 See Responses 21.20 and 20.21.

21.5 An expanded discussion of the cumulative impact analysis is presented in Section IV.E.1.c of the FEIS.

21.6 The following are responses to specific stipulation requests.

- a)
  - 1) The MMS does not have jurisdiction in California coastal waters, the region within three nautical miles of the California shoreline. MMS will require emission controls if an OCS source may cause pollutant concentrations in excess of the DOI Significance Levels (30CFR 250.57-1(g)). MMS would consider the Drill Ship Emission Task Force Recommendations in such case to determine whether they would be appropriate.
  - 2) The MMS has been designated as the Federal agency to regulate oil and gas in the Federal OCS. The California Coastal Commission is not a regulatory agency that has jurisdiction over these activities. It can only decide whether or not a POE or PDP is consistent with the California Coastal Management Plan. The California Air Resources Board does not have jurisdiction of activities in Federal waters; however, there are mechanisms which allow them to comment and give advice on specific POE's and PDP's. Upon receipt they are considered and if they point out justifiable significant onshore impacts outlined by the Ambient National Air Quality Standards, then they will be acted upon.
- b)
  - 1) When the Best Available Control Technology is required on a facility in the POCS, the MMS will consider the comments and advice from the California Air Resources Board on specific POE's and PDP's. The procedure for requiring the Best Available Control Technology is contained in 30 CFR 250.57.
  - 2) If a facility is expected to significantly affect onshore air quality in a nonattainment area (i.e. air quality modeling shows the maximum onshore pollutant concentration exceeding the DOI Significance Levels), emissions shall be fully reduced. Emission offsets would be required if needed to fully reduce emissions (30 CFR 250.57-1 (g)(1) and 1(g)(3)(i)).
- c)
  - 1) It is the policy of the MMS to have oil and gas transported to shore via pipelines whenever feasible. The pipeline for transporting oil out of the Central Coast onshore area is not under the MMS jurisdiction. If a tanker is physically connected to a facility in OCS waters then its air emissions are regulated by 30 CFR 250.57. If its emissions exceed the

guidelines set forth in 30 CFR 250.57, the Best Available Control Technology would be required.

- 2) The only tanker emissions that can be considered by the MMS are when the tanker is physically attached to a facility in OCS waters. These emissions are discussed in the Environmental Reports of the PDP of concern. Regulating tanker activity when not attached to an OCS facility is not under MMS jurisdiction (see Appendix H of the FEIS for additional discussions on a the type of facilities covered by SOI air quality regulations).

21.7 See response to Comment 21.15.

21.8 See responses to Comments 21.6, 21.17 and 15d.5.

21.9 See response to Comment 21.5.

21.10 See responses to Comments 21.20-21.

21.11 See responses to Comments 15d.1 and 21.20-21.

21.12 Air quality impacts were analyzed for the conditional mean oil and gas resource and the results are presented in Section IV.0.1.c. of the DEIS. An all-tankering scenario will also be analyzed and presented in the Section IV.N.1.c of the FEIS on Proposed Lease Sale 73.

21.13. The formulae that are used to calculate air emission exemption levels for OCS facilities were designed to be conservative by assuming extreme and unfavorable weather conditions. They are based on computer modeling which is used to determine at what distance from shore a source would cause significant pollutant concentrations. For detailed discussions on this matter, see Federal Register notices 44 FR 27449, 45 FR 15128 and 47 FR 16349.

DOI first addresses cumulative air quality impacts in EISs prepared for proposed OCS lease sales. However, these modeling studies performed for EISs are limited by the many uncertainties of projected activities.

Better information is obtained when lessees submit their Plans of Development and Production. It is here that the DOI, through the MMS, can better assess cumulative impacts. If a Plan of Development encompasses a large region, then the lessee will address cumulative impacts in the accompanying Environmental Report. An example of this is Exxon's modeling efforts for their future project in the Santa Ynez Unit. (See Environmental Report for the Santa Ynez Unit Development by Exxon Company, U.S.A., copies for review are available in the Public Information Room, MMS Pacific Region). Further cumulative analysis will be done in the joint EIR/EIS on this project. This document will allow input from California and Santa Barbara County.

Before any development and production is done in the Point Conception-Point Arguello OCS area, an area wide EIS is being considered. It is hoped that this document will be a joint effort with California and Santa Barbara County. This document will address cumulative impacts for the next 5 to 10 years in that area.

These EISs provide the opportunity for the State of California to provide information affecting its onshore air quality (30 CFR 250.57-2). The State of California can obtain basic emission data of the concerned facilities through the MMS and cause the MMS to evaluate the situation. If the MMS determines that no significant impact would occur the MMS must explain its reasons. On the other hand, if the MMS determines, or California submits information, that demonstrates significant cumulative impacts are occurring, then the lessee or lessees will be required to install the appropriate emission controls. If a local air pollution control agency wants to start these proceedings, it must do so through the State of California.

21.14 The time allotted to public review is based upon CEQ regulations, Comment period for draft environmental statements shall not be less than 45 days (43 CFR 1506.10(c)). See response to Comment 13.3.

21.15 Photochemical modeling performed to predict effects from proposed Lease Sale No. 73 on San Luis Obispo County is discussed in Section IV.A of POCs Technical Paper No. 83-2. The trajectory modeling runs were performed for a number of OCS facilities along a trajectory. In case of the Nipomo trajectory, the maximum onshore ozone increment was 1 pphm for one platform and 2 pphm for two platforms along the trajectory. Each platform was assumed to have a production rate of 18,000 BCD (barrels of oil per day). The maximum calculated onshore ozone concentration was 14 pphm, which constitutes a violation of the National Ambient Air Quality Standard for ozone.

However, The Commenter's concerns that the proposed project would result in San Luis Obispo County becoming nonattainment for ozone is not justified. The results presented in the DEIS were based on a worst-case analysis included the following assumptions:

- 1) The highest ozone increments were based on more than one platform or OCS emission source located along a single trajectory. The probability of this occurrence is small.

- 2) In the case where two platforms were included in the trajectory, they were assumed to be located at the same point. This is expected to maximize impacts.
- 3) Modeling runs were performed for facilities at various locations offshore to determine which location would result in the highest onshore ozone increments. In the modeling runs presented in the technical report and DEIS, the facilities are located at the point causing maximum onshore ozone increments.
- 4) Worst-case meteorology was used. The inversion height over the offshore area was 100 meters, and the wind speeds were very low (5 mph or less along a large segment of the trajectory). This meteorological condition is expected to occur no more than one day per year based on meteorological data (FSI, 1983b).
- 5) A future baseline concentration of 12 pphm was assumed for Nipomo at the request of the San Luis Obispo County APCD. A review of historical monitoring data shows this concentration occurs very infrequently. A maximum 1-hour ozone concentration of 14 pphm was recorded in 1978. In the years 1978 through 1981 the maximum 1-hour ozone concentration in San Luis Obispo did not exceed 10 pphm. A maximum 1-hour concentration of 10 pphm was reached once in 1979, three times in 1980, and once in 1981. In San Luis Obispo the maximum 1-hour ozone concentration reached 10 pphm only once during the time period from 1978 through 1981.

Based on the above considerations, the maximum onshore increments for San Luis Obispo County would be small, probably less than 2pphm and it is unlikely that ozone concentrations would exceed the National Ambient Air Quality Standards.

DOI will also analyze air quality impacts from proposed OCS sources, and apply mitigating measures if modeling shows that adverse impacts may occur. San Luis Obispo County will also have the opportunity to participate in any environmental impact reports submitted to MMS.

21.16 See response to Comment 21.15.

21.17 Potential mitigating measures are discussed in Chapter VII of POCS Technical Paper No. 83-2. Mitigation requirements are presented in Appendix H of the FEIS.

21.18 Proposed Lease Sale No. 73 would not be expected to cause San Luis Obispo County to become nonattainment for ozone for reasons outlined in response to Comment 21.15. If a violation of the standard were to occur, the review procedures under the DOI air quality measures would be sufficient to prevent violations of the air quality standards.

21.19 The statement found on page 3-23 of the DEIS, "while horizontal dispersion tended to be larger over sea than over land" is incorrect. Review of data from the BLM tracer studies conducted near Ventura does show horizontal dispersion to be equal to or less than horizontal dispersion predicted for similar onshore conditions. The PG algorithm was selected in the air quality study because it was found to reflect most accurately conditions based on experimental data in coastal environments (FSI, 1983b).

The results from the MMS tracer studies conducted near Santa Maria were not used in this EIS. The results and analysis are still under review with the final report due to be published in late summer 1983.

21.20-21 It was assumed that a new onshore oil and gas treatment facility would be in existence in San Luis Obispo County or Santa Barbara County by the time production from proposed Lease Sale No. 73 would begin. MMS found it reasonable to assume that such a facility would be needed to process oil and gas from Lease Sale No. 53 tracts. A discussion of potential air quality impacts is given in the FEIS for OCS Lease Sale No. 53 (BLM, 1980). No additional oil and gas treatment facilities are assumed to be required for proposed OCS Lease Sale No. 73. For a discussion of impacts on refineries, refer to Section IV..3.m of the FEIS.

21.22 Sulfur in oil and gas can be in the form of dissolved H<sub>2</sub>S or sulfur hydrocarbon compounds. The removal of sulfur hydrocarbons cannot be accomplished at a regular oil and gas treatment facility, but has to be done at a refinery.

The air quality impact analysis for proposed Lease Sale No. 73 did not include SO<sub>2</sub> emissions due to H<sub>2</sub>S removal from natural gas, if this is required to make the gas suitable for use in the gas powered turbines on the platform. The H<sub>2</sub>S content of OCS gas varies greatly from one field to another, and no reliable data are available for the proposed Lease Sale No. 73 area. For this reason, the emissions generated by H<sub>2</sub>S removal equipment were not calculated. However, some estimates of emissions can be made. The natural gas consumption for one Lease Sale 73 platform is estimated to be about  $6.6 \times 10^8$  ft<sup>3</sup>/yr. This is based on the power requirement given in Table A-4 of POCS Technical Paper No. 83-2, a BTU content of 1,000 BTU/ft<sup>3</sup> and a 30% fuel efficiency. If one assumes an H<sub>2</sub>S concentration



of 2.5%, which is the percentage found in the Monterey formation in the Hondo field, the SO<sub>2</sub> emission rate for directly incinerated acid gas would be 1350 tons/year or 308 lb/hr. This would result in a maximum onshore 3-hour average SO<sub>2</sub> concentration of 150 ug/m<sup>3</sup> by using the California OCS Air Quality Handbook (FSI, 1983a). Since the DOI Significance level is 25 ug/m<sup>3</sup>, BACT would be required. The emission rate could be reduced to 60 tons/year or 13.7 lb/hr if a Stratford or Amine sulfur recovery system is used. This would reduce the maximum onshore 3-hour average SO<sub>2</sub> concentration to 7 ug/m<sup>3</sup> which is below the DOI Significance Level.

21.23 Air pollutant concentrations for the cumulative scenarios were found to be greater than those predicted for OCS Lease Sale No. 73 alone. However, the differences were not large enough to cause any damages in impact levels as defined in Appendix A. Whereas total emissions tend to increase proportionally with increasing production rates, pollutant concentrations tend to increase not by the same factor. This is because emission sources are spread over an area and the degree of cumulative interaction depends on the relative proximity of individual point sources.

21.24 The statement on page 4-216 of the DEIS refers to total emissions from Lease Sale No. 73 for the conditional mean resource (total development scenario). Cumulative impacts were addressed in Section IV.E.1.c in the EIS.

Response to: County of San Luis Obispo  
Board of Supervisors.

22.1 During the scoping process, the issues and concerns were reviewed and considered. The Draft EIS attempted to address the significant issues that were submitted based upon the substantive written Comments received. The FEIS has been revised by refocusing on the issues and improving the specificity of the analysis. The final EIS refocused on the following in relationship to the proposal: Coastal Economy III.C.1 and IV.E.3.a, Demography III. C.4 and IV.E.3.d. Fish Resources III.B.3 and IV.E.2.c, Commerical Fisheries III.C.5 and IV.E.3.e, Tourism III.C.8 and IV.E.3.h, Sportfishing III.C.6 and IV.E.3.f and Recreation III.C.7 and IV.E.3.g.

22.2 The contention that the scope of the Draft EIS was determined wholly without public involvement, in direct contravention of NEPA and CEQ regulations is incorrect. See also response to Comment 57.1.

- 22.3 Of the 725 written Comments received, 666 were postcards which stated the identical issues and concerns. The Comment period for the Draft EIS is in compliance with CEQ regulations. See responses to Comments 14.2 and 14.3.
- 22.4 The format of the EIS was prepared to assure that the main emphasis on the analysis was based on the most likely resource estimates. The most likely resource estimate is a reasonable estimate of what is expected to be leased as a result of this sale. The conditional mean (Total Development) discussion was provided to show a range of impacts in the unlikely case that all the resources are leased.
- 22.5 The mitigation measures section has been revised. The mitigation measures that are presented in the EIS have been developed during the course of the analyses of the proposal. The purpose in placing these measures in one section was to prevent the need to refer back and forth to review all the measures proposed.
- 22.6 The EIS has been revised as suggested.
- 22.7 See response to Comment 57.4 on the specificity of the EIS.
- 22.8 Graphics were provided to represent the area under consideration in the Call for Nominations and Comment. The visuals are to show the proposed sale area in relationship to the planning area. Also see Response 15b.11.
- 22.9 See responses to Comments 57.4.
- 22.10 The EIS has been revised to incorporate only Santa Barbara and San Luis Obispo Counties.
- 22.11 The EIS has been revised as appropriate.
- 22.12 The EIS has been revised as appropriate.
- 22.12 The EIS has been revised as appropriate.
- 22.13 The data on the value of tourism was on a page which was inadvertently omitted from the Draft EIS.
- 22.14 The FEIS has been appropriately revised to correct the omission.
- 22.15 See responses to Comments 15b.1-14.
- 22.16 All presently available nearshore data was used in the analysis.
- 22.17 This table is an example of tract metal levels in a degraded water quality area, and is not intended to show metal levels in any one specific area of the proposed lease sale.
- 22.18 The EIS has been revised as appropriate.

- 22.19 The EIS addresses salmon resources since transportation of oil to San Francisco may affect these resources.
- 22.20 The Santa Cruz report was incorporated. All important rookeries are listed in IV.E.2.d. There are no large rookeries in the proposed sale area.
- 22.21 Same for Seabirds, Table IV.E.2.e-2.
- 22.22 Santa Ynez River is shown in Tables III.B.7-2 and 3. It is not discussed specifically in the impact Section IV.E.2.g because 1) there is no expected impact from an oil spill, 2) its opening is very small, and often closed to the ocean.

The most detailed coastal study we know is the Coastal Characterization of the Central and Northern California Coastal Region done by Jones and Stokes (1981) for the U.S. Fish & Wildlife Service and BLM. They do not report Pismo Creek or Villa Creek as having exceptional values to wildlife or as an estuary or ecological concern. Pismo Lake, however, is an important waterfowl area but is fresh water and, therefore, not connected to the Sale area. Oil spills would not reach the lake.

The estuaries of Humboldt County in the DEIS appear in Graphic 4. The Graphics were produced to represent the area which was under consideration during the Call for Nominations and Comments.

- 22.23 See response to Comment 57.4.
- 22.24 The final EIS contains three tract deferral alternatives (Section II and IV) which, in combination closely corresponds to concerns raised in the comment. See also the response to Comment 22.37, and Comment 57.5.
- 22.25 See responses to Comments below.
- 22.26 See responses to Comments 24.7 and 24.5.
- 22.27 Refer to sections II and IV of the EIS for discussion of the nearshore deferral alternatives.
- 22.28 Refer to responses to Comment 21.6.
- 22.29 Refer to response to Comment 15c.6.
- 22.30 Refer to response to Comment 15c.39(2)
- 22.31 This jurisdiction rest with the U.S. Coast Guard and they have not required the use of a 24-hour automatic radar alarm system on exploratory rigs in the Santa Maria Basin and Santa Barbara Channel. This is due to the fact that the expolratory rig itself serves as an adequate radar reflector.

- 22.32 MMS is considering the use of an "Information to Lessee" (ITL) clause in the Final Notice of sale. Use of this ITL, which is described in Section II.A.1.f., would make potential bidders and lessees aware of possible restrictions on surface activities within future safety fairways, traffic lanes, or precautionary areas.
- 22.33 The funds mentioned were established by act of Congress to compensate for losses specifically associated with OCS development. MMS does not have the authority to establish funds for for the purposes specified in the comment. While OCS development may cause impacts to marine mammals, commercial fishing or public services and facilities, it would be but one of several natural and man induced contributing causes. Thus requiring OCS developers to provide funds to support remedial activities for which they are not the sale cause would place an unfair burden on one segment of the possible contributors to the problem. Also see response to Comment 15c.39.
- 22.34 See response to Comment 14.8
- 22.35 An Information to Lessees clause is proposed for inclusion in the Notice of Sale regarding wildlife disturbance from overflights and boats. The FAA is the regulatory agency for overflight lines.
- 22.36 The environmental consequences of each alternative method would need to be analyzed at the time of development for the most environmentally safest method.
- 22.37 a,b) The schedule for leasing OCS lands for oil and gas exploration and development was determined in the context of the 5 Year OCS Leasing Schedule, approved in July 1982. For responses to concerns raised regarding the leasing schedule the reader is referred to the Final Supplemental to the FEIS on the 5 Year Lease Sale Schedule.

Prior to a lease sale, it is difficult to predict accurately the number of location of development activities that may result from a sale. Therefore it is impossible prior to a lease sale to determine whether reducing or extending peak year development activities is a necessary or appropriate means of mitigating specific adverse impacts. However specific conditions can be imposed on lessees through existing authorities following a lease sale and exploration activities are known and development plans have been submitted.

c,d) The commenter does not indicate specifically the perceived benefits of these proposals. However, cost and safety considerations will in the large part govern the number and frequency

of supply boat, crew boat trips offshore. These craft will also comply, of course, with existing applicable safety, air quality, and navigational regulations which should adequately mitigate potential problems.

22.38 The California Oil and Gas Sanctuary adjacent to the Sale area, would have integrity maintained to the extent that they do not have common hydrocarbon pods with the Federal OCS. Alternatives 2, 3, and 4, if adopted would reduce the number of tracts likely to have common pods between the Sanctuaries and the Federal OCS. In the event that alternatives 2, 3, and 4 are not adopted and common pods exist, the Secretary of Interior will offer the Governor a fair and equitable means of sharing revenues from areas of common pods. The distribution of revenues does not maintain the integrity of the Sanctuary, however, the State could establish a trust fund and withdraw funds at the time and note which would be expected from the production of hydrocarbon in the sanctuary.

22.39 See responses to Comment 15c.10.

22.40 See responses to Comment 15c.39 (6).

22.41 The Clean Seas Cleanup Cooperative is an organization into which the oil companies have pooled their resources to maintain adequate levels of cleanup and response capabilities. Clean Seas is based in Santa Barbara, and is responsible for protecting the Santa Maria Basin and Santa Barbara Channel areas. Two vessels dedicated to oil spill response are maintained: Mr. Clean I in Santa Barbara Harbor and Mr. Clean II in Avila (Port San Luis). One of the strategies used by Clean Seas is localized protection capabilities. This is accomplished by maintaining several containers with cleanup equipment stored on-site at critical locations. These containers allow faster deployment of boom, etc., and is in addition to the main yards of cleanup equipment. (See Appendix D).

As more oil activities are undertaken Clean Seas budget may be expanded to meet the growing need of cleanup capabilities in the Santa Maria Basin area. The oil companies contribute funding to Clean Seas based on their level of activity.

22.42 MMS can require operators to collect environmental data if it is needed to assess possible adverse environmental impacts. Meteorological data is being collected at Exxon's platform Hondo. MMS is also initiating a study program in the Santa Barbara Channel to characterize ocean currents and circulation patterns. The program includes the collection of meteorological and oceanographic data from buoys and platforms.

22.38 The California Oil and Gas Survey adjacent to the Salt Lake would have a nearly identical to the extent that they do not have common boundaries with the Salt Lake. The California Oil and Gas Survey would have a nearly identical to the extent that they do not have common boundaries with the Salt Lake. The California Oil and Gas Survey would have a nearly identical to the extent that they do not have common boundaries with the Salt Lake.

22.39 See response to comment 22.38.

22.40 See response to comment 22.38.

22.41 The Clean Water Agency (CWA) is an organization that has been established to provide a coordinated response to the various levels of clean water and wastewater treatment. The CWA is a public agency and is not a private organization. The CWA is a public agency and is not a private organization. The CWA is a public agency and is not a private organization.

22.42 The CWA is a public agency and is not a private organization. The CWA is a public agency and is not a private organization. The CWA is a public agency and is not a private organization. The CWA is a public agency and is not a private organization. The CWA is a public agency and is not a private organization.

22.43 See response to Comment 15b.2.

22.44 See responses to Comments 15b.4 and 14.9.

22.45 The description of the transportation scenario has been clarified in the EIS (see Section II.A.1.d). The transportation scenario is based upon logical assumptions about oil industry practices as demonstrated by current offshore Central and Southern California uses. Certain facilities, are assumed to be in existence as a result of development from prior lease sales.

Development of all facilities, at any time, will be in compliance with local plans and policies (LCP's, General Plans). If changes to local plans are required to accommodate development, the affected industry company (oil, gas or pipeline) will have to apply for an amendment to any existing plans to which the proposed facility is in conflict. This will require negotiations between the involved industry and local government jurisdiction.

Thus local concerns regarding water supply, port facilities, onshore oil related facilities, space use conflicts, and coastal land use will be addressed at the local level at the time facility developments are proposed by industry.

If facilities are proposed in places other than those considered in the hypothetical transportation scenario a similar process of amending existing plans and local government-industry negotiations would ensure.

22.46 See section IV.L. for an analysis of the impacts from an all tankering scenario. See response to Comment 15c.39(7).

22.47 The model does incorporate the latest resource estimates from the Sale No. 53 tracts and the number of spills expected from existing Federal leases including Lease Sale 53 (see Section IV.A.4.b). As mentioned spills that occur most often are the smallest in size. As a result they are also the smallest in impact and are most easily cleaned up and or dissipated by natural forces. The oilspill model does not look at spills less than 1000 bbls.

The probabilities of 40-89 percent for contact to the sea otter range are "conditional probabilities", or the probability that if a spill occurs it will contact a particular area. This does not account for the probability of an oil spill occurring

or the resource (oil) volume expected which the final probability include. The conditional probabilities are based solely in the oil spill simulation trajectories resulting from the wind and current information.

22.48 Under extreme weather when mechanical cleanup is least effective, the natural forces of wave/wind energy is greatest and would naturally dissipate the spill. Containment or diversion methods are possible for Morro Bay according to Cdr. Ship Onstad (11th District, U.S. Coast Guard) (See Section IV.B.2). See also response to Comment 15b.24.

22.49 Tanker loading operations would be subject to Santa Barbara County APCD Rule 327, which is effective July 1, 1985 requires BACT for the loading of organic liquid cargo into any organic liquid cargo vessel. Since this operation was assumed to take place at a marine terminal in Santa Barbara County, this mitigation was assumed in the analysis.

The 10 percent reduction in VOC emissions mentioned in POCs Technical Paper No. 53-5 refers to the emission reduction needed to bring emissions to within the appropriate exemption level. This reduction was assumed in the analysis presented in that document. However, if a project would be suspected of causing an adverse air quality effect, DOI air quality regulations specify that as a minimum, BACT would be required. In that case, the emission reduction would be much larger, and in the case of VOC emissions from oil loading into tankers, emission reductions of over 90 percent would likely be achieved.

22.50 Resources located nearshore, in the vicinity of Leased Tracts, and deepwater tracts have been taken into consideration although not broken out in the analysis presented in Sections IV.E. and IV.O.

22b The substantive comments presented were reevaluated by the staff and revisions have been made where appropriate. Also refer to San Luis Obispo County Air Pollution Control District Comment Letter (21).

Response to: County of San Mateo  
Board of Supervisors

23.1 See responses to Comment 14.1, 14.2, 14.4, 14.10.



- 23.2. See responses to Comments 15b.11 and 57.4.
- 23.3. Based upon the inclusion of unidentified prospects and a information from early exploration in the generation of these estimates it can not be reasonably assumed that all the undiscovered resources expected within the proposed sale area to be developed. The Total Development Case was presented to provide a range of impacts that could possibly occur if all these resources were leased.
- 23.4. Tanker collisions and tanker platform collisions are discussed in the Total Development Scenario in Section IV.0.e.1. In addition a 100% tankering scenario has been included (see Section IV.L.). Refer also to response to Comment 14.10.
- 23.5. Two new alternatives were included in the EIS to provide a protective buffer for sensitive areas (see Section IV.F., G., and H).
- 23.6. See response to Comment 14.9.
- 23.7. The EIS has been revised as appropriate. See response to Comment 57.9.
- 23.8. A major oil spill contacting the Santa Mateo County shorefront would cause a very serious, short term impact on recreation and tourism. Such an event is not expected to occur as a result of Sale No. 73, but even if it did, as is reflected in the cumulative analysis, it should not detract from the long-term tourism potential of the area.
- 23.9 The EIS has been revised, as appropriate.
- 23.10 Refer to responses to Comments 39.1 and 21.13.
- 23.11 The EIS has been revised, as appropriate.
- 23.12 See response to Comment 15c-i for a discussion of consistency. Also, any pipeline activity which affects the State of California must be consistent with the provisions of the State and local jurisdictions policies on pipelines.
- 23.13 Comment noted and see responses to Comment 29.7 and 29.11.
- 23.14 No impacts were anticipated, as no oil spill is anticipated to occur and contact the coast north of the Sale area.
- 23.15 Risk of an oil spill potential and the trajectory of a spill are based on the Oil Spill Model (See IV A.4.a). No spill is expected to contact areas north of the proposed Sale area.
- 23.16 Comment noted.

- 23.17 The air quality associated with a processing plant or refinery could have a detrimental effect on recreation. Processing plants are expected to be constructed within the sale area, along with other plants if they are needed, as a result of previous lease sales. No new refineries are expected to be needed. The air quality is not expected to cause any adverse impacts on recreation.
- 23.18 Impacts on recreation and tourism are not expected to occur as a result of the proposed action north of San Luis Obispo County. Other than the remote possibility of a major spill affecting the Central California coast north of San Luis Obispo County, hydrocarbon smells are not expected to affect recreation and tourism within the proposed sale area.
- 23.19 The EIS has been revised as appropriate.
- 23.20 See revised analysis Section IV.E.3.1 in the EIS.
- 23.a Comments set forth in the resolution are addressed under other substantive elsewhere. Refer also to the responses to Comments from State of California, Attorney General (14), County of San Luis Obispo Air Quality Pollution Control District (21), League of Women Voters (54), and Natural Resources Defense Council (57).

Response to: County of Santa Barbara

- 24.1a Any facilities which would result from this lease sale must be in compliance with local jurisdiction planning and zoning policies. If local planning or zoning does not provide for a particular use, that is a point of negotiation between the requesting company and the local jurisdiction.
- 24.1b The demand for freshwater resulting from OCS activity or related population will be less than 1% of the demand expected from the general population growth and is considered an insignificant overall impact. The EIS has been revised as appropriate.
- 24.1c The impact associated with OCS related population from this sale in terms of water demand and housing will be less than 1% of the demand from general population growth. The EIS has been revised as appropriate.
- 24.1d Modeling calculations show that proposed Lease Sale No. 73 would not significantly exacerbate violations of the ambient air quality standard for CO and TSP in Santa Barbara County. Predicted increments for these pollutants were below the DOI Significance Levels. Moreover, monitoring data for CO is only available for one location Santa Barbara - State St. Platform emissions would be too far away to add significantly to CO levels there. The ambient standard for TSP is exceeded at many locations in Santa Barbara County. However, we believe that

the contribution from Proposed Lease Sale No. 73 sources would be insignificant. Existing violations of the TSP standard are attributed primarily to particulates with large (greater than 10 microns in diameter) particle size. TSP emissions from typical sources on the OCS could consist primarily of fine particles (less than 2.5 microns in diameter). California recently amended its standards for particulates to include only particles with a diameter less than or equal to 10 microns. Future monitoring using dishonous samplers will give a better indication of the regulatory status of particulate pollutants in Santa Barbara County.

The air quality modeling for proposed Lease Sale No. 73 does indicate the potential for increase O<sub>3</sub> levels. This is discussed in Section IV.E.1.c.

Modeling calculations showed that facilities associated with proposed Lease Sale No. 73 could result in increased onshore O<sub>3</sub> concentrations. However, more detailed modeling using information from the lessee's Exploration/Development Plan is required before the DOI can ascertain whether a particular facility would adversely affect onshore air quality so as to require mitigation. If it is determined that adverse onshore air quality effects would be expected, DOI would require BACT, or if BACT would not be sufficient, emission offsets may be required. It cannot be known at this time whether emission offsets would be required.

- 24.1e The text in Section IV.E.I has been clarified to indicate that the potential impacts associated with the proposed lease sale would be also delayed for the period of the delay and until the sale is reinstated.
- 24.2 Establishing a buffer zone to 6 miles is likely to minimally decrease the severity of expected impacts on recreation and tourism but not eliminate them. Based on comments received additional alternatives are analyzed in the FEIS which considers additional buffer zones around important recreation and tourist resources (Refer to Section IV.F., G. and H for further analysis of the alternatives).
- 24.3 The five platforms are the numbers deemed necessary to facilitate development of the Most Likely Resources. Refer to responses to Comments 15b.1 and 15b.2.
- 24.4 We are aware that other marine terminal facilities are currently under consideration by the local government and this information is briefly discussed in the FEIS (Section II.A.1.d), and more completely in the PTC Phase I Final Report. It has been a topic of discussion at many past PTC meetings.

The assumption regarding transportation was to develop a scenario as an analytical tool and to provide a commonality for discussion of potential impacts. The Las Flores Canyon application for expanded marine terminal facility, as well as other possible sites, may be used for future production. MMS personnel have attended meetings of the Santa Barbara County Petroleum Transportation Committee since its inception.

- 24.5 The Regional Supervisor will invoke the requirements for the cultural resource survey based on the probability of the existence of important submerged cultural resources that are within the capability of the state of the art technology to detect. The occurrence of rocky outcrops will be one of the reasons for invocation of the biological stipulation.
- 24.6 Comment noted. The DOI maintains its position as outlined in the 15c.39 stipulation. All Plans of Development will be subject to state and local review at the time of their submittal.
- 24.7 The purpose of this EIS is to discuss the anticipated environmental impacts should be proposed action (Lease Sale 73) occur. This document should not be construed as, or used for, a local planning document. Mitigation measures discussed as a part of this document are those that are within the realm of authority of the Minerals Management Service to request and to enforce. If no mitigation measures exist for a particular anticipated impact within that authority, then none is discussed. Mitigation of impacts is undertaken at the time when definite plans are submitted by the industry and when specific impacts can be determined and specific mitigation proposed. See also response to Comment 24.15.
- 24.8 The information in Table III.A.4-2 is the best available to date. As new information becomes available it is used in the appropriate model. MMS is funding meteorological buoy studies offshore California to increase and update our information base.
- 24.9 The EPA is the agency responsible for designation of dump sites.
- 24.10 No platform were assumed to be located on any of these tracts. Platform locations are shown in POCS Technical Paper No. 83-2 (FSI 1983b)
- 24.11 Your Comment is noted.
- 24.12 The potential to be impacted by an oil spill was the major criteria for listing of the ASBS. Refer to the discussion of the oil spill model and the impacts to ASBS in section IV.
- 24.13 Table III.c.5-1 in the FEIS has been revised as appropriate.

- 24.14 As noted in the EIS, impacts to military operating areas will be adequately mitigated prior to the sale through negotiations between the Departments of the Interior and Defense. These negotiations will result in either the elimination of tracts from leasing considerations, or the inclusion of the military stipulations to the lease terms where joint-use conditions are acceptable.
- 24.15 Mitigating measures for onshore facilities are not under the jurisdiction of the Department of the Interior. They are the responsibility of the appropriate state or local agency at the time the construction permit is reviewed. An impact analysis was not performed for a potential onshore facility since it is expected that available plant capacity would be utilized in lieu of new construction. In addition, information with respect to the location of the facility, its capacity, and any emissions is not known at this time. See response to Comments 24.7 and 24.16.
- 24.16 The FEIS has been appropriately revised. MMS does not have authority to decide possible marine terminal sites. MMS does not expect new oil and gas processing plants or onshore transportation facilities to be needed as a result of this proposal (Lease Sale 73) (Yamasaki 1983). As discussed in Section II.A.1.d, it is assumed that the infrastructure will be in place as a result of development and production in the western Santa Barbara Channel (Sale Nos. 1968, 35, 48, and 68) and the Santa Maria Basin (Sale No. 53 and RS-2). For analytical purposes, specific facility locations and transportation of oil by onshore pipeline from the Channel to the Los Angeles Basin were selected, but their use in this scenario shall not be considered or implied as a site or transportation recommendation. Impacts from previous Federal lease sales have been published elsewhere (BLM 1975, 1979 and 1981) and are considered in the cumulative analysis in the present EIS.
- 24.17 It is assumed that 25 percent (about 21,075 bcd) of the total crude production from the proposal would be of such quality that it would need to be tankered to and refined in existing Gulf of Mexico refineries. The other 75 percent of the total production (about 63,309 bcd) is assumed to be transported to and refined in existing California refineries. These refineries will need to be retrofitted to handle low quality crude oil.
- 24.18 See response to Comment 15c.39(1).
- 24.19 The 2,000 spill simulations are first run, independent of resource volume and spill rates to determine the route of a spill based on the winds and currents. The simulations therefore don't make any assumptions initially on spill size. After the probabilities of locations of spills, contacts are determined, the resource volumes and accident (spill) rates are incorporated to determine the likelihood of the occurrence and spill contact by spill size range. The accident spill rates are broken down by spill volume. The oil spill model does not assume the same volume of oil from

each launch area, but bases the launch area oil volume on the number of tracts in the particular launch area. The assumption is not made that the same number of spills will occur on transportation routes as a launch areas. The number of spill simulations is the same in order to be able to compare them statistically. The number of spills occurring and contacting is determined by the wind and currents (driving the trajectories), and the accident rates and resource estimates.

The launch areas were made as uniformly as possible, with generally about 18-22 tracts each. The platform and pipelines locations were fairly hypothetical, with limitations based on operations restrictions. Current information used by the model was based on Dynalysis of Princeton, whose work is listed in the refineries.

Small spills are not expected to add significantly to the impacts.

A probabilistic event such as an oil spill is not an "expected" event. It may or may not happen. As such, it is hard to say how much oil is expected to be spilled. The MMS estimates that 1 spill ( $> 1,000$  bbls.) takes place from platforms for every billion barrels produced (on the U.S. OCS). The most likely resource estimate for Proposed Sale No. 73 is .29 billion bbls. of oil (BBO). Therefore, for spill  $> 1,000$  bbls,  $1 \text{ spill/BBO} \times .29 \text{ BBO} = .29 \text{ spills, } > 1,000 \text{ bbls}$ , from platforms from Proposed Sale No. 73, most likely case.

Small oil spills are most quickly dissipated by natural forces and cleanup most easily. They are, therefore, not expected to contribute significantly to the cumulative impacts. "Probabilistic" events, like oil spills, cannot be predicted with 100% certainty. At best, the estimated number of spills can be quantified. One spill ( $> 1,000$  bbls) is estimated to occur over the 25 year expected life of any fields discovered as a result of the proposal.

- 24.20 The Coast Guard requires that fixed structures display lights and other signals for the protection of maritime navigation (regulations under 33 CFR 66). These structures provide reference points under good weather conditions, night or day.
- 24.21 Air emissions from vessel traffic was included in the air quality analysis. Please see POCs Technical Paper No. 83-2 for more details on how vessel traffic was included in the analysis.
- 24.22 These types of impacts are discussed in Section IV.E.2.d under "Human Activity and Noise".
- 24.23 The fate and effects of drilling muds are being studied. Refer to the MMS Environmental Studies in the Appendix.
- 24.24 Comments noted. Refer to references cited in Section IV.A.8.b.

- 24.25 An oil processing facility was assumed to exist as a result of Lease Sale No. 53 activities. No offshore treatment of oil and gas was assumed for proposed Lease Sale No. 73.
- 24.26 Information on emission notes and other technical assumptions are given in POCS Technical Paper No. 83-2.
- 24.27 The number of tankers in transit at one time is irrelevant to the air quality analysis on emissions from offshore tanker traffic are expected to cause insignificant onshore pollutant concentrations. Emissions from tanker in port is based on one tanker docked at one time. For the expected number of tanker trips, the probability of more than one tanker unloading at port is very small, both in Proposed Sale No. 73 and cumulatively.
- 24.28 The oil spill cleanup co-op, Clean Seas, as responsible for the Lease Sale 73 area. The dedicated vessel, Mr. Clean II has been in service since the Spring of 1982, and is in Avila Beach (in the Sale 73 area). Santa Barbara is not the Sale 73 area. It is not yet known what quality crude will be found in the LS 73 area.

Absorbents are available, as they may indeed be needed for the recovery of heavier crudes. There are no known impacts from absorbents (straw, form pads, etc.) These materials would be recovered by hand - i.e., pitchfork, shovel, etc. See Section IV.B.2.

- 24.29 The MOU is still valid and is expected to continue indefinitely.
- 24.30 MMS does not have timely access to the EPA PLUME model which could be used to generate the graph of dilution (not toxicity directly) with distance for incorporation into this document before it is printed. The exact size of a spill greater than 1000 bbl cannot be predicted. This is only a class of spills.
- 24.31 The area referred to is the proposed lease sale area. Impacts on water quality would cause no violations of the standards.
- 24.32 Comment noted and the EIS will be modified to clarify this concern.
- 24.33 This information is provided in POCS Technical Paper No. 83-2.
- 24.34 Comment is noted. Footnote 2 should state that production phase concentrations would be lower than those for the development phase.
- 24.35 This information is provided in POCS Technical Paper No. 83-2.
- 24.36 Comment is noted. The statement should read "...incremental increase in concentrations for OCS emissions would be less than one percent of existing concentration".

- 24.37 Emission controls to mitigate O<sub>3</sub> impacts would be required by DOI if detailed modeling shows an adverse impact. The effect of emission controls cannot be determined without specific data on type of source, source location, and other factors. DOI can require emission controls on existing facilities if it can be demonstrated that they contribute to adverse onshore air quality impacts. Technical Paper No. 83-2.
- 24.38 See response to Comment 24.37 above.
- 24.39 No emission controls were assumed. The water injection on page 4.42 of the DEIS refers to the process of injecting water into wells after the crude oil is extracted.
- Comment is noted. The cumulative impacts discussion for Section IV.E.1.c has been revised to more clearly illustrate the difference between cumulative impacts and impacts from Lease Sale No. 73 only.
- 24.40 The EIS has been revised. The probabilities for an oil spill occurring and contacting land segments for the entire proposed sale area is presented in Appendix F. Shorebirds are not considered part of the community. Shorebirds are discussed in IV.E.2.e.
- 24.41 This comment is a misstatement of the conclusion reached by Burge and Schultz. They claimed repopulation for the area between Spooner Cove and Point San Luis comes from within this segment of the coast. The discussion was not of the entire proposed sale area. Impacts were analyzed as moderate based upon the unlikely event that a large spill would contact the entire segment of the coast. Repopulation could come from within the sale area.
- 24.42 Wolfson, et al., 1979 full citation will be in Section VI.
- 24.43 The analysis for the moderate impacts is presented in Section IV.E.
- 24.44 It is unknown at present. OCS activities do not use the very large tankers that would be of concern.
- 24.45 The Marine Mammals Protection Act and the Endangered Species Act as well as the National Sanctuaries provide this protection to some extent. It is not within MMS jurisdiction to regulate air traffic but an Information to Lessee regarding wildlife will be included in the Proposed Notice of Sale.
- 24.46 We do not expect shorebirds to experience high impacts.
- 24.47 True. We were looking at recovery time for the entire term subspecies not one colony.



- 24.48 We were attempting to provide the reader with our best estimates based upon effects of oil tendency to congregate, avoidance, etc. However, in trying to give the reader our concepts we overstated the accuracy with which we are able to estimate. The percentages are being removed from the EIS.
- 24.49 The cumulative discussion will be expanded in the FEIS.
- 24.50 The EIS has been revised as appropriate.
- 24.51 We are unaware of any studies reports which would indicate that marine terminals or associated onshore support facilities have caused major impacts to park and recreation facilities. Few severe impacts are likely to occur. It will be assumed, that based on specific information provided in plans of exploration and production during the permitting process, mitigation for these specific facilities will be required.
- 24.52 FEIS has been appropriately revised to incorporate the information.
- 24.53 Platform location and the installation schedule are given in POCs Technical Paper No. 83-2.
- 24.54 Cumulative air quality impacts are discussed in Section IV.E.1.c.
- 24.55 The figure of 61,986 bcd represents 25 percent of the total daily peak production (Conditional Mean) for Sale 73. Table II.A.1.c-1 shows that the peak annual production (Conditional Mean) is 90,500,000 bbls. When divided by 365, the peak annual production provides a barrels per calendar day figure of 247,945. Twenty-five percent of 247,945 bcd is 61,986 bcd.

Response to: Air Pollution Control District

Responses to Comment Letter 24b were done according to its numbering system.

1. The method used in obtaining the most likely resource estimate is given in Section III.A.1. in the FEIS.
2. The Gaviota terminal is assumed to be existing as a result of previous Federal lease sales (e.g., Sale 1968 and 48). It is expected that the Gaviota terminal (or the Las Flores Canyon terminal), which is presently being considered by state and local government, would be used to support development and production as a result of the proposal. A new marine terminal is not expected to be needed as a result of Proposed Lease Sale 73.

Air quality impacts from the Gaviota terminal site are described in Section IV.E.1.c of the DEIS and in POCs Technical Paper No. 83-2.

- 3-8. Meteorological parameters used in the air quality analysis for proposed Lease Sale No. 73 are described in POCS Technical Paper No. 83-2.
9. Except for very limited measurements by research vessels, no offshore air quality data are available.
10. Air quality data presented in POCS Technical Paper No. 83-2 are for the years 1979 through 1981.
11. Emission rates were calculated for the annual average, maximum 24 hour average, and maximum hourly average. Emissions during emergency or upset conditions were not included. Details are provided in POCS Technical Paper No. 83-2.
12. This information is given in POCS Technical Paper No. 83-2.
13. The sulfur content of crude oil from proposed Lease Sale No. 73 is expected to range from 2 to 6 percent (POCS Technical Paper No. 83-1).
14. The FEIS has been appropriately revised in Section IV.E.3.m.
15. Information on gas processing facilities and pipelines are given in POCS Technical Paper No. 83-2.
16. Information on the figuring of various wave heights are given in Section III.A.4 in the FEIS.
17. Accuracy of the RAPT model is discussed in POCS Technical Paper No. 83-2.
18. Air quality modeling did not include terrain adjustments. It was judged that use of a terrain-adjusted model would not significantly change results. Plume rise is not very large. Emissions would tend to be confined within the mixing layer, and as the onshore flow encounters rough terrain, the enhanced turbulence would tend to lead to mixing of pollutants down to ground level. Maximum ground level pollutant levels would therefore be expected to occur before the plume reaches elevated terrain.
19. Emissions of all phases of the proposed project are given in POCS Technical Paper No. 83-2.
20. Stack heights are given in POCS Technical Paper No. 83-2.
21. Locations of maximum modeled onshore concentrations are shown in Appendix C of POCS Technical Paper No. 83-2.
22. Short-term concentrations from tankering activities at Gaviota can be calculated by using the OCS air quality handbook (Form & Substance, 1983a).

23. Queuing of tankers was not assumed. See also response to Comment 24.27.
24. A sensitivity analysis of inert modeling is presented in the OCS air quality handbook (Form & Substance, 1983a).
25. Baseline monitoring data for 1981 are presented in the Proposed Lease Sale No. 73 DEIS. In most cases it is inappropriate to add maximum calculated increments from OCS activities to maximum observed onshore air quality levels. However, the calculated concentrations are compared with the monitored onshore concentrations in the FEIS.
26. The DOI Significance levels do not apply to the marine terminal at Gaviota. They apply to offshore OCS sources only.
27. A review of meteorological data for days with high ozone reading at Goleta indicated that no air flow from OCS areas occurred on those days. Rather, it was found that meteorological conditions favorable for trajectories passing over OCS Lease Sale No. 73 areas corresponded to days with low ozone reading at Goleta. This is understandable in view of the fact that any trajectory originating at the proposed Lease Sale No. 73 area and terminating at Goleta would have to follow a long over-water fetch and therefore should have low ozone concentrations. More information regarding the rationale for choosing certain trajectories for the ozone modeling is presented in POCS Technical Paper No. 83-2.
28. This statement has been deleted in the FEIS on Proposed OCS Lease Sale No. 73. Modeling tends to show that ozone generation usually decreases if hydrocarbon emissions are decreased. Therefore, control of fugitive hydrocarbon emissions is generally regarded as essential to control ozone levels.
29. Visibility modeling is described in POCS Technical Paper No. 83-2. Short-term emission rates were used in the screening model.
30. Increments for inert pollutants in the coastal areas adjacent to the Santa Barbara Channel from OCS sources located in the Proposed Lease Sale No. 73 area would be smaller because of the longer travel distance involved. For example, Gaviota would be more than 25 miles from the nearest Sale No. 73 platform. Some coastal areas north of Point Conception would be within 10 miles of a Proposed Sale No. 73 platform.
31. Ozone concentrations would be similar to those assumed in the Goleta trajectory described in the response to Comment No. 27 above.
32. The meteorological conditions are described in Section IV.A.5 of POCS Technical Paper No. 83-2.

33. Cumulative impacts are described in Section IV.B of POCS Technical Paper No. 83-2.
34. Emission factors are given in Section V of POCS Technical Paper No. 83-2.
35. For modeling averaging periods of 24 hours or less it was assumed that the maximum 1-hour emission rate would persist throughout the period.
36. Detail on cumulative ozone impacts are given in Section IV.A.5 of POCS Technical Paper No. 83-2.
37. Information was based on a hypothetical development plan prepared by MMS, Pacific OCS Region.
38. The emission figures in Table 2 or page 8 are the correct ones (POCS Technical Paper No. 83-2).
39. Tankering emissions at the marine terminal and duration of various activities are given in Table A-17 (POCS Technical Paper No. 83-2).
40. Emission rates, initial conditions travel time, and time of day were different, causing different results. See air quality handbook (Form & Substance, 1983) for additional information on individual photochemical modeling runs.
41. Simultaneous installation of platforms A and B was judged to be very unlikely.
42. Cumulative ozone impacts was determined (for up to 4 platforms located on a single trajectory (pages C-1 through C-3)). These graphs represent worst-case conditions with all platforms located at one point so as to maximize impacts. One can assume a number of platforms in state waters to be included in this scenario.
43. Terrain impingement was not considered for reasons given in response to Comment No. 18 above. Fumigation was considered in the analysis. However, it resulted in lower concentrations than those predicted for light winds and stable atmosphere.
44. Two of the trajectory runs (Nipomo and Santa Ynez) assumed baseline levels equivalent to the ambient standard, while one trajectory run (Goleta) assumed low background levels. The first two were chosen to determine whether OCS emissions could increase ozone to levels above the ambient standard. It was shown that the Goleta trajectory resulted in maximum ozone increments. However, it did not result in a violation. We wanted to study these situations where existing ozone levels were only marginally within standards and determine whether OCS emission sources could result in ozone levels being pushed to levels exceeding the standard.

45. CARB recommended that ozone modeling be done using a range of various input parameters (such as NO<sub>x</sub> initial concentration, HC initial concentration, HC/NO<sub>x</sub> initial ratio). The results of a sensitivity study are given in Appendix C of the OCS air quality handbook (Form & Substance, 1983a).
46. Meteorological parameters were selected that were judged to be reasonable worst-cases, that would result in maximum ozone impacts. The effect of varying meteorological parameters are described in Appendix C of the OCS air quality handbook (Form & Substance, 1983).
47. This information is being modified to include data to better represent meteorological conditions in the Santa Maria area. This information will be included in POCs Technical Page No. 83-2.
48. Power supply by submarine electric cable was not considered in the analysis.
49. Additional SO<sub>x</sub> emissions from combustion of tail gas in the sulfur recovery unit was not considered in calculating short-term emission rates. Removal of H<sub>2</sub>S gas may be required in some fields; however, the amount of H<sub>2</sub>S gas present would vary widely from one field to another. For this reasons, emissions from sulfur removal from natural gas was not considered in the calculations. These types of emissions would, of course, be considered by MMS when reviewing specific plans of development and production. See also response to Comment 21.22.
50. No information on natural gas venting and flaring losses was available for California offshore operations.
51. The H<sub>2</sub>S content of natural gas in the California OCS varies greatly from one well to another. No data exist for the Santa Maria Basin. It is believed H<sub>2</sub>S content will vary over a wide range. The H<sub>2</sub>S content assumed was obtained from data from a chemical analysis of gas from a well offshore California. 52. It was assumed that tankers would burn fuel with a sulfur content of 0.5 percent while in port (Table A-17 and A-18 in POCs Technical Paper No. 83-2).
53. Modeling was performed for tankers and boats operating in port. Modeling was performed for each source individually. Where significant interactions were thought to occur, maximum calculated onshore concentration were added together even though locations of maximum concentrations did not necessarily coincide.

24c See response to Comment Letter 24.

Response to: County of Santa Cruz  
Board of Supervisors

25.1 Your comment is noted.

- 25.2 See response to comment 14.1 on scoping. Although over 725 written comments were received during the scoping period, 666 of these comments were postcards. These cards, as well as the letters received were reviewed for substantive issues and concerns the significant issues were identified (see Section V) and the DEIS attempted to address the significant issues.
- 25.3 The EIS has been clarified.
- 25.4 See response to comment 14.5.
- 25.5 Comment noted. See response to the substantive comments presented in 25b.
- 25.6 Your comment is noted.
- 25.7 The concern for lack of opportunity for public involvement is unjustified. The issues and concerns which were attempted to be addressed in the DEIS were a result of not just scoping. The issues and concerns for Proposed Sale No. 73 were submitted by Federal, State and local agencies and interested groups and individuals (see Section V), during the Request for Resource Information, the Call for Nomination and Comments.
- 25.8 See response to comment 14.6 on the inclusion of information outside this proposal. Also see response comment 15b.11.
- 25.9 The resource estimates from which the conditional mean and most likely cases were developed based upon the assessment of future field types and size distribution based upon information acquired during exploration. Exploration has been conducted along the Northern and Central California Coast. Twenty exploratory wells were drilled as a result of the 1963 Sale (see Section I). The potential impacts of an oil spill will be considered in decisions on the proposed sale.
- 25.10 Although we are continuing to gather data and update our information base, there is at present, sufficient information to permit a reasoned choice among alternatives.
- 25a The comments set forth in this resolution have been addressed in the substantive comments.
- 25b.1 In response to the U.S. Appeals Court decision in California v. Watt, 683 F.2d 1253 (9th Cir. 1982), cert. granted, 52 U.S.L.W. 3818 (U.S. May 16, 1983) (No. 1326), the Department of the Interior undertakes an additional coordinating step by preparing a determination of the consistency of the proposed project with the State's approved coastal management plan. The consistency determination is sent to the State for concurrence 90 days prior to the Secretarial decision to conduct the lease offering (Notice of Lease Offering, previously Notice of Sale). The concerns raised in the Comment

will be considered in the consistency determination. It is not appropriate to address the question of consistency within the EIS document, as the information in the EIS is but one source of the information to be used in the consistency determination. Other sources of information may include the Secretarial Issue Document (an internal decision document), State and local plans relating to CZM, etc.

- 25b.2 See response to comment 14.3, 14.1, 14.2.
- 25b.3 See response to comment 14.10 on worst case analysis.
- 25b.4 The analysis on cumulative impacts is contained in Sections IV.E. and IV.O. for each resource. Also see response 14.9.
- 25b.5 The lack of specificity to the sale has been responded to for comment 57.4.
- 25b.6 New Alternatives have been added to Sections IV.G. and H. Among the alternatives analyzed in the FEIS on three nearshore leasing deferral alternatives. See as indicated in response to comment 57.5.
- 25b.7 The EIS has been revised as appropriate.
- 25b.8 The statement on p. 4-5 "unknown spills..." are spills not the result of the proposed action. The analysts considered impacts should a spill occur-independent of the model (potential impacts).
- 25b.9 Land segments were designated for the entire California (and Oregon) coast(s) including Monterey Bay, to be able to specifically assess risk to different parts of the coast. Natural currents are incorporated by the model (long-term currents averaged seasonally were used as input).
- 25b.10 As more wind and current data become available it is incorporated. The current information used by the oil spill model are the result of a major modeling effort by Dynalysis of Princeton. This current information includes the northward flowing Davidson Current. The coastal areas for all of California (as well as Oregon) have been designated as land segments for the model. The model includes the anticipated tanker transportation of Sale 73 oil as well as all existing activities including tanker transportation of Alaskan and foreign crude. The coastal areas of California (including the central California coast along the tanker route from the sale area to San Francisco) do have a risk of oil spills from tanker spills, but this is not increased with the Sale. It is assumed that the amount of Sale 73 oil going to California refineries (75% of the total sale oil) will displace an equal amount of Alaskan crude.
- 25b.11 Oil spill assessment is "probabilistic" not "deterministic". This means that an oil spill is not a certain event, and must be dealt with in terms of probabilities, as are the weather conditions

at the time of the spill. If a spill occurs and trajectories are sought, this is a realtime or deterministic situation. Trajectories can now be predicted with much more certainty, as the specific type of oil coal related. The lumber spill cited makes no mention of how oil moves in water in relation to lumber, nor does it consider the fact that oil weathers, sinks, evaporates, dissipates, etc.

- 25b.12 See the responses above relating to the oil spill model. The model is only analytical tool to aid the decision maker in assessing the potential impacts which may result from the proposed action; and is not a predictive tool of what will occur.

The EIS address both expected and unlikely (low probability) impacts.

The model is a tool used simply to evaluate risk of oil spills associated with offshore petroleum exploration, production and transportation and the potential for oil contacting certain resources (trajectory). Impact, apart from risk, is an assessment of consequences assuming there is an interaction between an oil spill and sensitive resources. Severity of impact is related to spatial, temporal, and material variables likely to be associated with any real oil spill.

- 25b.13 Emissions from tanker transit from the proposed lease area north to San Francisco and from tanker operations in the San Francisco Bay area, were calculated and presented in Tables V-14 and V-15 in POCs Technical Paper No. 83-2. No significant impacts would occur from tanker transit emissions due to the mobile nature of the emissions. No impacts were analyzed for the San Francisco Bay area. It can be assumed that hydrocarbon emissions would be strictly controlled and local impacts would be negligible. Air quality impacts caused by refineries are presented in Section IV.A.8.c and IV.E.1.c.

- 25b.14 We could not locate the statement you refer to.

- 25b.15 We agree that shoreline bird species could be impacted by an oil spill and will amend the EIS. Thank you for your list of sensitive areas. We will incorporate them in our resource data. For the most part, however they are more detailed than we feel is appropriate to include in the EIS. Our reference for the sensitive estuaries is Jones and Stokes (1980).

- 25b.16 The EIS has been revised.

- 25b.17 The EIS has been revised.

- 25b.18 The EIS has been revised, as suggested.



25b.19-20 The EIS addresses economic loss to the fishing industry. MMS feels this is more appropriate than number of fishermen since many people with commercial fishing licenses would not be affected since they do relatively little fishing. The EIS uses multipliers as appropriate. The EIS has been revised to include available log book data. MMS realizes the limitations of CDFG Catch by origin data, but it is the best data available for most fisheries. Please note that this data does correspond reasonably well to the available log book data.

Based upon the staffs recommendation the Regional Supervisor, Offshore Field Operation may require the lessee to relocate or present evidence that adverse impacts will not occur. See response 27.5 for discussion on pipeline transport.

25b.21 The commenter has misinterpreted the EIS. The EIS discusses effects. It does not assume no effect. However, it is important for the reader to know that effects may not be detected. For example, no impacts to fish population were found during the Santa Barbara oil spill. MMS wants the reader to know that this does not necessarily mean no effects occurred, but may mean it was not possible to detect the effects. Research is being conducted by several groups to learn what effects may occur and how to detect these effects.

25b.22 The commentor has misinterpreted the EIS. Loss of one month of fishing (e.g. from port closure) is considered to be a very high impact. However, port closure is not expected as a result of the proposal.

25c Thank you for the information. It was reviewed by the staff and revisions were made where appropriate.

Response to: County of Santa Cruz  
Fish & Game Commission

26.1 The EIS has been revised its include the biological resources that would be impacted by this proposal. Also see response to Comment Letter 56.

Response to: County of Sonoma  
Board of Supervisors

27.1 See response to Comment 57.4.

27.2 Although we are continuing to gather data and update our information base there is at present sufficient information to allow for a realistic and environmentally sound set of alternatives.

27.3 See response to Comment 14.9.

27.4 See response to Comment 15b.1. See response to Comment 14.10 on worst case analysis.

27.5 See response to Comment 15b.2.

- 27.6 The biological stipulation is invoked based upon the criteria set forth in the stipulation. The criteria for the site specific survey was written jointly by BLM (MMS), USGS, USFWS, and NPS. The MMS staff reviews the data present, this data is also supplemented from information from literature, studies reports and consultation with scientists of California.
- 27.7 See response to comment 57.5.
- 27.8 The EIS has been revised, as suggested.
- 27.9 The analysis provided in the visual resources section assumed the existence of platforms and support facilities (see Section IV.E.3) as presented in Transportation Scenario No. 1 (Yamasaki, 1983). This analysis assumed impacts to the coastal areas based upon the Granville Corporation study (1981).
- 27.10 See response to Comment 25b.1
- 27a The comments set forth in this resolution have been addressed in the substantive comments, within the comment in this section.
- 27b This resolution was reviewed by the resource specialist and responses were provided in the FEIS for Lease Sale No. 53.
- 27c. This resolution was reviewed by the resource specialist and responses were provided in the FEIS for the Five Year OCS Lease Sale Schedule.
- 27d. The comments submitted on the draft Five Year OCS Lease Sale Schedule have been reviewed by the resource specialist. Responses are provided in the FEIS.
- 27e. Thank you for the information from the Sonoma County Local Coastal Plan. The information will be incorporated where applicable.
- Response to: County of Ventura  
Resource Management Agency
- 28.1 See responses to comments 13.1 and 57.1 on public and local government participation.

Response to: Association of Monterey Bay Area Governments

- 29.1 See response to Comment 57.1 on public involvement.
- 29.2 See response to Comment 13.1 on the location of the public hearing.
- 29.3 See response to Comment 13.3 on the Comment period.
- 29.4 The concern that a supplemental EIS will be published was responded to for Comment 14.5.
- 29.5 See response to Comment 57.4 on the areal scope of the EIS.
- 29.6 See response to Comment 29.5.
- 29.7 In addition to analyzing results from the oil spill model ("expected" impacts), analysts evaluated impacts "should a spill occur" ("potential" impacts) independent of the model. An oil spill is a "probabilistic" event, not a certain event, as are many of the factors that go into the risk assessment. The expected impacts could never be certain to 100% probability, and so judgment must be made to do any impact assessment. Land segments were designated for the entire California (and Oregon) coasts, including Monterey Bay, to be able to specifically assess risks to different parts of the coast. Northward currents are incorporated by the model (long-term currents averaged seasonally were used as input).
- 29.8 See responses to the substantive Comments provided below.
- 29.9 The EIS has been revised as appropriate.
- 29.10 See responses to the substantive Comments provided below.
- 29.11 Careful analysis was performed in producing the models used in this EIS. These models provide reasonable assumptions for the specialists to base their impact analysis upon. Resource estimates provide the amounts of hydrocarbons which may exist within the proposed sale area, as well as those expected to be leased and developed as a result of this proposal. (See responses to Comments 15b.1 and 15b.2). The oil spill model is able to simulate actual events (see response to Comment 6.5). The purpose of the potential and expected impacts provides a range of possible impact levels, but the major analysis is based upon the expected impacts as a result of this modeling. The models used by the resource specialists provide reasonable assumptions for the specialists to base their analysis upon.
- 29.12 New alternatives have been considered. See Sections IV.G and H and response to Comment 57.5
- 29.13 See response to Comment 14.9.

- 29.14 The cumulative impact analysis was included with the appropriate resource analysis to allow the reader to compare the incremental change in impact levels resulting from the proposal to the existing and reasonably foreseeable future environment.
- 29.15 See response to Comment 14.10 on "worst case" analysis.
- 29.16 No consideration is being given to the inclusion of tracts north of this area in this proposed sale. Comment is noted and will be considered if future proposed lease sale for central and northern California.
- 29.17-18 Based upon the oil spill model no spills are expected to occur and contact land segments north of the proposed sale area as a result of this proposal.
- 29.19 Impacts on air quality on refineries are presented in Sections IV.A.8.c and IV.E.1.c.
- 29.20 See response to Comments 29.11 and 14.10.
- 29.21 To the maximum extent practicable, support for expected impacts are provided in the EIS. Also see response to Comment 29.20.
- 29.22 See response to Comment 29.21.
- 29.23 Comment noted and the sections have been revised as appropriate.
- 29.24 Comment noted and the sections have been revised as appropriate.
- 29.25 See response to Comment 29.11.
- 29.26 The EIS has been revised as appropriate.
- 29.27 We are concerned with the economic effects of recreation and tourism impacts. Mitigating measures as discussed in Section IV.B are designed to avoid and compensate for economic impacts.
- 29.28 We believe it is very unlikely that the proposal will lead to a major oil spill in the Monterey Bay region associated with our transportation scenario. Should a spill occur, impacts to tourism are likely to be temporarily severe.
- 29.29 The recommendations provided in this Comment were considered by the resource specialists and were incorporated where appropriate to the impacts expected as a result of this proposal.
- 29.30 Your Comment is noted.
- 29a.1 The primary assumption is the east-west running mainland coastline and additional shelf areas of the Channel Islands create a larger potential habitat within a relatively short latitudinal direction in Southern California.

- 29a.2 The EIS has been revised as appropriate. The sections on marine mammals and sea otters have been extensively revised.
- 29a.3 The EIS has been revised as suggested.
- 29a.4 Five (not four) weather stations are used. Northward currents are incorporated into the model. Also see response to Comment 6.5.
- 29a.5 The conclusions cited were those given in the original research papers and were intended as a data presentation without judgment on the part of the writer, acknowledging in the EIS that "there remains some question . . ."
- 29a.6 See response to Comment 6.22.
- 29a.7 Refer to the letter from the Marine Mammal Commission and Comment 12.28.
- 29a.8 Your Comment is noted.
- 29a.9 Your Comment is noted.
- 29a.10 See responses to Comments 14.6 and 15b.11. The EIS has been revised as appropriate.
- 29a.11 See response to Comment 6.14.
- 29a.12 This data has been updated. However, 1200 was the actual count, not the population estimate which must be considerably higher.
- 29a.13 See response to Comment 57.4.
- 29a.14 The final EIS will include a discussion of cumulative potential impacts from this proposed sale and other sources of impacts, as well as the data provided in this Comment. The cumulative impact discussion will evaluate the total cumulative effect, including the increment added by this proposal. See response to Comment 14.10 on worst case analysis.
- 29a.15 Analyses were done for impacts should a spill occur - regardless of spill source. There have been no spills (>1,000 bbls) on the U.S. OCS due to seismic activity. Since the oil spill rates are based on past experiences, there is no spill data of seismic origin to incorporate.
- 29a.16 See response to Comment 29.11.
- 29a.17 Spills of any cause are incorporated into the spill rates and by the model. World-wide accident rates for tankering are used. Also a discussion of tanker collisions is presented in Section IV.E.3.1.

- 29a.19 Your Comment is noted.
- 29a.20 Your Comment is noted.
- 29a.21 When mechanical cleanup is not feasible due to harsh weather, dispersants are an option that may be considered.
- 29a.22 Your Comment is noted.
- 29a.23 Your Comment is noted.
- 29a.24 The impacts expected to occur under Total Development represent an unlikely event. These impacts are related to full development of all the expected resources within the proposed sale area as a result of this sale.
- 29a.25 As more data is available, it will be incorporated. Currently the circulation (currents) is modeled for the entire coast by Dynalysis of Princeton, Inc. They have been successful in simulating real phenomenon such as the Davidson current and oceanic density fields.
- 29a.26 Although we are continuing to gather data and update our information base, there is, at present, sufficient information to permit analysis.
- 29a.27 See response to Comment 29a.26.
- 29a.28 Oil spills are "probabilistic" events and, therefore, cannot be predicted with 100% certainty, as they are NOT certain to occur. The weather conditions (winds and currents) cannot be predicted for any specific future time, only the probability of their occurrence. The resource estimates are also not "certain". At best, in areas that have not been drilled, estimates of potential can be made based on knowledge of formations and their likelihood of containing oil. The whole process is one of uncertainty and deals in probabilities, not absolutes.
- 29a.29 This statement has been reevaluated. While it is true there are holes in the data base, a great deal of information does exist on which to base conclusions.
- 29a.30 Comment noted, see response to Comment 29a.29.
- 29a.31 Comment noted, see response to Comment 29a.29.
- 29b The Comments set forth in this resolution have been addressed in the substantive Comments elsewhere. Refer also to the response to Comments from State of California, Attorney General (14), County of San Luis Obispo Air Quality Pollution Control District (21), League of Women Voters (54), and Natural Resources Defense Council (57).
- 29c Comment noted.
- 29d Comment noted.

Response to: City of Arroyo Grande

- 30. Comments set forth in this resolution have been addressed in the substantive Comments elsewhere. Refer to response to Comment 29b.

Response to: City of Atascadero

- 31. Comments set forth in this resolution have been addressed in the substantive Comments elsewhere. Refer to response to Comment 29b.

Response to: City of Lompoc, Councilman John Bullock.

- 32.1 It is true that the region to the west of Point Conception experiences foul weather; however, maximum wind speeds and wave heights are lower than what has been measured in the North Atlantic (see pages 3-10 through 3-22 of the Draft EIS for Lease Sale #73, pages 3-25 through 3-28 of the Final EIS for Lease Sale #53, pages IV-1 through IV-20 of the Technical Paper #53-5 supporting the Final EIS for Lease Sale #53, and the Final EIS for Lease Sale #52, North Atlantic).
- 32.2 Ozone modeling results are presented in Section IV.E.1.c.
- 32.3 No decisions have been made as to whether Alaskan crude oil would be sent to Japan. Several other options exist for the ultimate domestic destination for the Alaskan crude, including: tankering to west coast refineries, tankering to the Gulf of Mexico refineries, tankering to Southern California with onshore pipeline transport from Long Beach to Texas, etc. In addition, resources from this sale are not likely to be produced for several years.

Response to: City of Palo Alto, Councilwomen Emily M. Renzel

- 33.1 Your Comment is noted.

Response to: City of Pismo Beach

- 34.1 Air quality impacts were analyzed by county (see Section IV.E.1.c of DEIS). Tables IV.E.1.c-1 and IV.E.1.c-2 reflect maximum impact levels on San Luis Obispo County and Santa Barbara County. It was neither practical nor necessary to analyze impacts for each community. Air quality impacts on Pismo Beach would be comparable to those described in San Luis Obispo County.
- 34.2 See response to Comment 57.5.
- 34a. Comment noted.

- 34b. The specific environmental impacts you listed are evaluated in Section IV of the EIS. Additionally, an alternative (Alternative IV) to defer leasing of tracts offshore Pismo Beach is evaluated in the Final EIS.

Response to: City of Santa Barbara

- 35.1 See responses to Comments 57.1 and 14.1.
- 35.2 See response to Comment 14.3.
- 35.3 Your Comment is noted, refer also to response to Comment 25b.1.
- 35.4 Comment noted.
- 35.5 Cumulative Impacts are addressed in Section IV.E.1.c of the EIS. Also see response to Comment 21.24.
- 35.6 Ample evidence for the conclusions in the EIS is provided. The EIS addresses mitigation. Refer also to response to Comment 15c.10.
- 35.7 Quantification is provided in a relative sense (see standards provided in Chapter IX for recreation and tourism). A more precise definition of expected impacts prior to knowledge of the many real life variables affecting degree of impact would be unrealistic. We have revised our assessment as appropriate of the impact of the proposed action with specific evaluations on the expected impacts to the recreation and tourism associated with Santa Barbara County (Section IV.E.3.g and h).
- 35.8 The EIS has been revised as appropriate.
- 35.9 The EIS utilizes scenarios regarding support facilities which may result from the proposed action or are assumed to be existing as an analytical tool and makes no recommendations or forecasts of actual numbers or locations. The actual number of support facilities ultimately required depend on many factors including, economic feasibility, existing plant capacities, consistency with local, State and Federal regulations and permitting procedures, etc. If facilities are permitted and constructed, they will include employment of local and outside workers. The limitations on the number and location of support facilities will be the result of negotiation between the requesting companies and the permitting agencies.
- Analysis of impacts (e.g., jobs occurring from the proposal, public services and facilities, and coastal land use) is given in Section IV.E.3.a,c and d. Proposal-related impacts are discussed in these sections. Impacts resulting from other actions are considered in the cumulative analysis.
- 35.10 Your Comment is noted.



- 35a. The Comments set forth in this resolution have been addressed under substantive Comments elsewhere. Refer also to the response to Comments from State of California, Attorney General (14), County of San Luis Obispo Air Quality Pollution Control District (21), League of Women Voters (54), and Natural Resources Defense Council (57).

Response to: City of San Francisco

36. The Comments set forth in this resolution have been addressed under substantive Comments elsewhere. Refer to response to Comment 35a.

Response to: City of San Luis Obispo

- 37.1 See responses to Comments 14.1, 14.2, and 14.3.
- 37.2 See responses to Comments 15b.11 and 14.6.
- 37.3 Substantive Comments on the draft EIS regarding specific issues or impacts have been considered, and revisions to the text which improve the specificity of analysis have been made.
- 37.4 The EIS has refocused on these issues.
- 37.5 The EIS has refocused on these issues. See Sections IV.E.3.c and d.
- 37.6 The EIS has refocused on these issues. See Sections IV.E.3.g and h.
- 37.7 See response to Comment 21.15. We disagree with the statement that Lease Sale No. 73 activities would possibly result in San Luis Obispo County being reclassified to non-attainment.
- 37.8 Air quality impacts associated with conditional mean resource development (the high resource estimate) is presented in Section IV.0 of the FEIS. The conditional mean scenario was presented to provide a range of impacts. It presents those impact which may result if all the undiscovered resource within the proposed sale area were developed. See response to Comment 14.10 on worst case analysis.
- 37.9 Based upon the considerations present in response to Comment 21.16, the maximum onshore increments for San Luis Obispo County would be small, and it is unlikely that ozone concentrations would exceed National Ambient Air Quality Standards. Also see response to Comment 21.18.
- 37.10 Assumptions regarding meteorological conditions are presented in POCs Technical Paper No. 83-2. Meteorological factors were based on worst-case estimates based on long-term data on atmospheric stability and inversions.

- 37.11 See response to Comment 21.22.
- 37.12 See response to Comment No. 214.1. A summary of DOI air quality regulations is given in Appendix H of the FEIS.
- 37.13 Impacts from 100% tankering have been included in the EIS. Refer to Section IV.L.
- 37.14 See response to Comment 21.16.
- 37.15 See responses to Comments 21.13 and 21.16.
- 37.16 See response to Comment 37.11.
- 37.17 No adverse health impacts would be expected. DOI air quality regulations require that all projects meet ambient air quality standards. These standards are designed to protect human health and welfare with an adequate margin of safety.
- 37.18 The data used to evaluate the potential geological hazards within the proposed sale area are based upon cruises run for the past twelve years with the bulk of the data collected aboard USGS research vessels. The statement refers to the variation of spacing between survey lines. This would cause the geological interpretations and maps to vary in texture and detail. Where tracks are closely spaced, small structures and faults may be correlated, but as spacing increases correlations become certain only for large structures and faults.
- These surveys over the past 12 years present an adequate picture of the regional geohazards on which MMS can pose the requirement for additional high resolution geohazard surveys of an area (within and beyond the limits of a tract). Existing regulations and the geohazard NTL provide for complete surveying of all potential hazards by a lessee prior to the approval of a Plan of Exploration or Development at the discretion of the Regional Supervisor.
- 37.19 At the time of site-specific surveys the faults that are present are analyzed to determine if they are active. See Section IV.A.10 for a discussion of the physical environment on Oil and Gas Development.
- 37.20 See Section IV.A.4. on the Oil Spill Model. No seismicity caused on the U.S. OCS. Platforms and bottom-resting drilling rigs are required to pass verification as to their ability to withstand severe storm conditions and seismic activity. The required oil spill containment plan contains a list of conditions under which all activity will cease. Much of the oil spill equipment is containerized and located in open areas. Thus it would be available for use even during the aftermath of a major seismic episode.

- 37.21 Compensation for various types of losses from an oil spill are available under the Oil Spill Pollution Fund established by the OCSLAA. The FEIS includes a discussion of mitigation measures in Section II.A.1.e.
- 37.22 Projected population increase as a result of this proposal is less than 1%. Analysis for this increase and associated effects on housing and services is presented in IV.E.3.c and d.
- 37.23 The EIS has been revised as appropriate.
- 37.24 The discussion on Alternatives II, III, IV, V and VI has been revised.
- 37.25 Your Comment is noted. The EIS has been revised as appropriate.
- 37.26 Your Comment is noted. The EIS has been revised as appropriate.
- 37.27 Your Comment is noted. The EIS has been revised as appropriate.
- 37.28 Your Comment is noted. Refer to response to Comment 57.5.

Response to: Port San Luis Harbor District

- 38.1 Among the alternatives evaluated in the FEIS are three near-shore leasing deferral alternatives (Section II and IV).
- 38.2 Air quality modeling showed that cumulative emissions from proposed Lease Sale 73 could cause no adverse impacts on San Luis Obispo County (see Section IV.E.1.c of the DEIS). Air pollutant levels would cause no adverse effects on tourism and agriculture. Refer also to response to Comment 38.1.
- 38.3 We agree that Port San Luis is by no means a "sure thing". It was chosen and analyzed as a potential site, but with the understanding that any sitings must be approved by local and State permitting agencies.
- 38.4 The EIS has been revised to include only Santa Barbara and San Luis Obispo Counties. With this reevaluation the impact levels are still expected to be very low.
- 38.5 Potential impacts resulting from Sale 73, including impacts to San Luis Port, are analyzed as uncertain future events and not meant to be construed as, or used for, planning purposes. There are alternative options to siting of land-based facilities, such as helicoptering supplies and workers, longer worker tours, etc., which are common industry practices. The Plans of Exploration and Development which are submitted to the MMS prior to any OCS actions detail the options chosen and must be in accordance with the consistency provisions of coastal management plans and all local, State and Federal regulations and permitting procedures.

- 38.6 Your Comment is noted.
- 38.7 Mitigation is discussed in the EIS (see Sections II.A.1.e, II.A.1.f and IV.B). Compensation for impacts to commercial fisheries is available through the compensation funds discussed under mitigation. Refer also to response to Comments 15c.10 and 15c.39.
- 38a.1 The five platforms represent what would be required to develop the most likely resource estimates for proposed Sale 73. The number is based upon the estimated size and type of field, and water depth.
- 38a.2 See response to Comment 37.10.
- 38a.3 No supply base is discussed for San Luis Obispo or Santa Maria Basin since none is anticipated; however, in the event a temporary or permanent base is established, it is estimated that there could be 45 and 60 workers, respectively. Also see response to Comment 38.3.
- 38a.4 The EIS has been revised as appropriate.
- 38a.5 MMS agrees that a 10 percent economic loss is not a low impact and classifies such an impact as moderate (see Appendix A). However, a low impact (less than a 10 percent economic loss) is expected. Several types of mitigation exist or are proposed (see Section II.A.1.e, II.A.1.f, and IV.B). Also see responses to comments 15c.10 and 15c.39.
- 38a.6 The Transportation Scenario (Yamasaki, 1983) clearly states that Port San Luis is the site of a crew base and the supply boats would be serviced out of the assumed existing facility at Gaviota or the existing facilities at Port Hueneme. Designation of the Port San Luis for a crew base was based upon the Board of Supervisor approved LVP (1981) which would allow such use dependent upon various stated conditions. As any use or development of the Port must be in compliance with local plans and policies, any requirements for Port improvement would be negotiated between the local authorities and the company(s) involved. Consolidation of facilities is also a negotiation point between local jurisdiction and the company. Industry, historically, has paid for the facilities required to support their development.
- 38b.1 Among the alternatives evaluated in the FEIS are three near-shore leasing deferral alternatives (Section II and IV).
- 38b.2 While it is true the species mentioned inhabit your area, the EIS can only discuss areas with significant concentrations of species. We are not aware of Port San Luis being significant at a population level or any of the species mentioned except the peregrin.

California Fish and Game does not agree with the evaluation of the threat to the falcons and we feel their analysis is accurate. See Section II.E.2.f.

- 38b.3 The EIS has been revised as appropriate.
- 38b.4 The Clean Seas cleanup cooperative has over 6 miles of containment boom. Although they are not all compatible (may not be connectable), the best cleanup strategy would probably involve a tiering effect, where the booms would be in a series, parallel to each other, so that any oil lost by the boom, due to washover, etc., could be contained by the next boom coastward, and so on. A total encirclement of the oil with booms may not be necessary to protect sensitive areas.
- 38b.5 Refer to response to Comments 38.3 and 38.5.
- 38b.6 The Biological Stipulation, if adopted, would apply to appropriate leases offered as a result of this Sale. The stipulation would be invoked where there is reason to believe that a biological resource needs protection.
- 38b.7 See response to Comment 38.1.
- 38b.8 See response to Comment 38.5.
- 38b.9-11 See response to Comment 38.5.
- 38b.12 See response to Comment 38.1.

Response to: Monterey Bay Unified Air Pollution Control District

39.1 Emissions from tanker transit from the proposed lease area north to San Francisco and from tanker operations in the San Francisco Bay Area, were calculated and presented in Tables V-14 and V-15 in POCs Technical Paper No. 83-2. No significant impacts would occur from tanker transit to any land segment due to the mobile nature of the emissions. No impacts were analyzed for the San Francisco Bay area. It can be assumed that hydrocarbon emissions would be strictly controlled and local impacts would be negligible.

39.a The points raised in Resolution No. 83-25 have been addressed in responses to other Comments. Refer to the responses Comments of State of California, Attorney General (14), League of Women Voters (58), County of San Luis Obispo, Air Pollution Control District (21).

39.b Thank you for the information.

Response to: San Luis Obispo County and Cities  
Area Planning and Coordinating Council

40 See responses to substantive Comments in Comment letter 22.

40-I,II,III See responses to substantive Comments in Comment letter 22.

Response to: Exxon Company, U.S.A.

41.1 The conditional mean resource estimates represent the amount of hydrocarbon that may exist within the proposed sale area. The conditional mean scenario has been retitled "Total Development". The worst case would be development if this resource was without regulatory safeguards and a major environmental disaster, such as an uncontrolled oil spill were to occur. We do not believe a worst case scenario is needed. As required by CEQ regulations a worst case would be required any if "... the information is essential to a reasoned choice among alternatives is not known...". See response to Comment 14.10.

41.2 The EIS has been revised to clarify the definitions of Conditional Mean and Most Likely Resource Estimates (see Section II.A.1.b).

41.3 See response to Comment 41.19.

41.4 The discussion of the hypothetical Transportation Scenario has been expanded to include other possible facilities. (See section II.A.1.d.)

- 41.5 The information provided was used to update the material presented in Sections IV.C.3 and II.A.1.d.
- 41.6 Other potential alternatives for the treatment of crude oil have been addressed in Section II.A.1.d.
- 41.7 The major analysis and emphasis presented in the EIS is based upon the Most Likely Case. The resource specialists present potential impacts in the unlikely event that an impacting agent (such as an oil spill) will occur. The discussion on cleanup capabilities has been revised (see Section IV.B.).
- 41.8 The EIS has been revised as suggested (see Summary in FEIS).
- 41.9 This "devastation" is "expected" due to the Proposal under the definition of "expected" time used in the EIS. As noted in Section IV.A.4.a, the probability this will occur is indeed only 0.26. The analysis of size and area is also made in Section IV.E.2.d. The section referred to is merely a summary.
- 41.10-15 The EIS has been revised as suggested (see Section I in FEIS).
- 41.16-17 See response to Comment 41.2.
- 41.18 1) A detailed discussion on the methodology of the calculation of resource estimates is contained in Estimates of Undiscovered Recoverable Conventional Resources of Oil and Gas in the United States (USGS, Circular 860).
- 2) See Figures II.A.1.a-1 and 2.
- 3) & 4) No, there is no difference in calculation methodology.
- 5) See Figures II.A.1.a-1 and 2.
- 41.19-20 All assumptions are based upon previous experiences within the OCS program. If a structure from a previously leased tract extends onto a tract that is leased from the proposal, the time required to begin exploration may be reduced depending upon the permitting and the environmental analysis performed on the previously leased tract. These assumptions also assumed no delays within the scheduling or permitting process.
- 41.21 The EIS has been revised as appropriate (see Section II.A.1.d).
- 41.22 See Section IV.E.3.m for an expanded discussion of impacts on refineries. Also see Section II.A.1.d.
- 41.23 The EIS has been revised as suggested.

- 41.24 The causes of impacts from drilling operations are discussed more fully in Section IV.E.2.b. The impacts are expected to be caused by physical not toxic effects and this will be added to the above section (toxicity is also discussed in Section IV, A.8). "Moderate to high impacts" remains our best estimate. However, many of the impacts from permanent platforms comes from the community on the platform itself. The reference is Wolfson, A., Van Blaricon, G. Davis, N. Lewbel, G.S. 1979. The marine life in an offshore oil platform. Marine Ecology, 1:81-89.
- 41.25 Use of the 1000 meter distance ensures consistency of invocation of the biological stipulation. Exxon's observation is accurate, but less conservative than the approach proposed.
- 41.26 The quotation of P. 2-8 (a) is from the actual biological stipulation, which is used throughout the OCS. In practice in the Pacific OCS, the areas of concern have been small enough that relocation has been feasible. However, should the lessee even find relocation infeasible, the stipulation does not preclude modification of the proposed operation to avoid significant biological impact by other means.
- 41.27 Comment noted.
- 41.28 Economics are a component of net social loss, and the economics of an operation are, of course, increased by existing facilities and their capacities.
- 41.29 See response to Comment 41.28.
- 41.30 The EIS has been revised as appropriate.
- 41.31 See Section IV.E.3.m. for an expanded discussion of impacts on refineries.
- 41.32. In some cases the definition for very low is not identical to insignificant. Insignificant impacts are those impacts that are not measureable and are not found to exceed present conditions.
- 41.33 The EIS has been revised as appropriate.
- 41.34 The No Sale Alternative would not indefinitely postpone the production of hydrocarbons within the sale area. These resources could be developed as a result of future sales or lease offerings.
- 41.35 The EIS has been revised as appropriate.
- 41.36 Your Comment is noted.
- 41.37 The EIS has been revised.



- 41.38 The EIS has been revised.
- 41.39 Agreed. The statement in the EIS is referring to the refineries situated within the Gulf of Mexico Area (e.g. Galveston).
- 41.40-43 The EIS has been revised, as suggested.
- 41.44 The discussion of the hypothetical Transportation Scenario has been expanded to include other possible facilities. The information is also included in Table IV.D.4-1.
- 41.45 The EIS has been revised as appropriate. See Section II.A.1.d and IV.C.3.
- 41.46-47 The EIS has been revised as appropriate.
- 41.48 Your Comment is noted.
- 41.49 The statement indeed refers to a very improbable event, which presumes a lack of dispersion as well as a rapid conversion to biologically available forms (such as methylmercury). However given such extreme assumptions the statement is true. The risks associated with mercury in the sewage discharge from coastal cities are probably far higher than this oil related risk.
- 41.50 The EIS has been revised as suggested.
- 41.51 The emission level is not the only criterion used to determine whether emission controls would be required. In some cases a facility may be subject to emission controls even if emissions are below the exemption level (Section 250.57-1(j) of the DOI Air Quality Regulations). For more detail, see Appendix H in the FEIS.
- 41.52 Comment noted. The referenced discussion is indeed a conservative analysis since spills within the sea otter range resulting from Sale 73 are highly unlikely.
- 41.53 We will clarify the paragraph in question.
- 41.54 We do not believe the Proposal jeopardizes the sea otter and so state in the EIS. However, jeopardy may exist from foreign or Alaskan tankering.
- 41.55 The Tetra Tech study was reviewed as part of the revision process for the final EIS. The EIS was revised as appropriate.
- 41.56 See responses to Comments 41.1 and 41.52.
- 41.57 See response to Comment 41.2.

41.58 The EIS has been revised as appropriate.

Response to: Western Oil and Gas Association

42.1 The accident spill data were examined for improving trends. Trends were detected and incorporated for production (platforms), but were not evidenced for pipelines.

There is no reason to believe that smaller anchors are not potential sources of damage to pipelines (off California or elsewhere). Most of the pipelines go ashore and therefore are in shallow (as well as moderate) depths, although the percentage of the line in shallow water is probably much lower than in the Gulf. In addition, pipelines are on occasion not installed exactly as specified i.e., flotation buoys are sometimes still attached to the pipeline after being lowered to the bottom, and pipeline position is sometimes over 1,000 feet away from where intended (Gilda pipeline). Improving pipeline technology will result in reduced oilspill frequency. This will be reflected in the accident rate (as more oil is carried by pipeline with no incidents). Obviously, it will take years before all the "old" pipeline systems are no longer used.

42.2 The pipeline oilspill rate is greater than the tanker rate. There will still be non-U.S. flag vessels carrying oil into and through California. Also the spill rates cited refer to spills from offshore pipelines. Risks of marine spills are obviously less if overland pipelines are used rather than tankers for transport out of the region. We concede that the text can be confusing due to a failure to explicitly state whether one is discussing movement of oil to onshore facilities within the region, or whether one is discussing transport out of the region. However, a careful reading should resolve apparent discrepancies.

42.3 Different ways of separating the tanker spill rates (port versus at sea) are being evaluated by MMS. One of the difficulties involves the fact that although 4% of a tanker route may be in a study area, if that area is heavily trafficked a much greater than 4% level of risk would be involved.

42.4 Oil spills are distributed along the transportation routes, however, as noted in response to Comment 42.3 this is conservative. MMS assumes 50% of the tanker spills will occur in the study area if one port call is made in the study area. Foreign tankers are accounted for because of the importation of foreign crude.

42.5 The conditional mean resource estimate is the amount of hydrocarbons expected to exist in the unleased tracts in the proposed sale area. The oil spill model was run for the number

of spills to occur as a result of the proposal, based upon the conditional mean. The most likely resource estimate is a portion of the conditional mean that is expected to be leased as a result of the proposal. This number is based upon the particular area's geology, economic considerations, exploration history, and exploration success rates in other OCS areas worldwide.

- 42.6 The Comment is true, but it is also true that the grid size is perhaps too fine, considering the detail (resolution) of the wind and current data available.
- 42.7 The northern and southern limits of the sea otter range are dynamic and the most current available information of the migratory front are used. The range used in Sale 53 was incorrect. The at-sea limit (1-2 nm) is the lower resolving limit of the model, since it is recognized that otters tend to stay very close to shore.
- 42.8 If the Sale 53 analysis were done with the same resource estimates again, the risk would obviously be lower because of the reduced accident rates. However, the Sale 53 analysis used resource estimates made before the recent series of five major oil finds. The cumulative effects of Sale 53 and Sale 73 is what must be considered, not merely a comparison of the two. By increasing oil activity in the vicinity of the sea otter range, the risk of impacts to the sea otter necessarily are increased, not decreased.
- 42.9 Land-based winds were compared to ship wind records. As MMS offshore wind-buoy records are extended they will be used. Wind data from ships would have many biases in it i.e., fair weather, seasonal, locational, etc. The onshore wind stations were compared to ship wind records to decide the appropriate wind regions divisions of the study area. As offshore wind data is available on a long-term basis, it will be incorporated.
- 42.10 Evaporation and spreading is currently being considered for incorporation into the model. A major problem in doing this, of course, is the necessity of making assumptions of the chemical specifications or type of oil expected to be found. In California, neighboring oil fields have shown extremely differing characteristics. The risk of oilspills to the sea otter range is real. This risk is increased if oil activity in close proximity to the range is increased. Although a sea otter may never have been killed by oil in California, they are subject to hyperthermia and subsequent death if they are oiled. There have been instances of sea otters dying from hyperthermia from being oiled in Russia. There is experimental data indicating that if an otter is unable to avoid a massive oil spill, contamination of 20% or more of its body would cause death from hyperthermia (Sinoff, et al., 1982; USFW, 1981). These reports are cited in the Tetra Tech report, "An Overview of Sea Otter Oil Spill Risk Analysis," 1983.

42.11 While the relative risk to sea otters from Sale 73 may be less than Sale 53, the overall risk is now estimated to be higher, as more cumulative activity to the area is expected. The 89% figure is not incorrect as used. It represents the conditional probability a spill will contact the sea otter range should a spill occur in the fall from a Sale 73 transportation route segment.

Response to: Action for Animals' Rights

43.1 Comment noted.

Response to: The California Native Plant Society

44.1 Comment noted. Oil spill cleanup technology has been advanced tremendously since the 1969 spill, partly as a result of that spill. There is currently over \$15 million invested by the oil industry (largely through the cleanup co-ops) in cleanup equipment. The requirements for contingency planning and cleanup capabilities are listed in the Appendix (see MOU between MMS and the Coast Guard). These requirements include cleanup equipment capable of operating in 8-10 ft seas, and capable of deployment in 5-6 ft seas and 20 knot winds. The cleanup co-ops have this capability. Refer to Comment 14.6 and Sections IV.E, 0 in the Final EIS.

Response to: California State Park Rangers Association

45.1 Although one large spill is expected from Sale 73 (where expected means a probability of greater than 0.25), there is only a small probability that state parks will be directly impacted according to our trajectory analysis (Appendix F). The state parks in the vicinity of Morro Bay are most vulnerable (7% probability of impact) to oil spill impacts from proposed Lease Sale 73, and should they be affected it will cause a temporary disruption of public use. Documented damages from OCS oil spills are compensable. The country as a whole stands to benefit from the energy and revenue derived from Proposed Lease Sale 73.

45.2 Effects on marine life were discussed in the FEIS for Sale 68 and have been expanded in this document under Section IV.A.4.b. Topics discussed were micro- and macrofauna, microflora, fish, mammals and birds.

45.3 The cumulative analysis has been expanded. See response to Comment 14.9.

Response to: Center for Environmental Education

- 46.1 We are continuing to gather data and update our information base. We refer you to Section I for the discussion of the studies program and the current ongoing studies.
- The studies listed presented information on the benthic organism in the area. The data in some cases is quantitative while in others it is qualitative. Interrelating the two cases to provide a quantitative analysis for the entire area would not be accurate. Additional data would need to be acquired. Also see response to Comment 46a.1.
- 46.2 CEQ regulations do not require a comparison of the economic value of the hydrocarbons versus the economic value of the resources. However, the Department of the Interior is attempting to find objective ways to estimate the economic values of these non-market resources.
- 46.3 See response to Comment 15b.11.
- 46.4 Several regional surveys have been conducted in the sale area. These can be found as USGS Open File Report 81-318 (Richmond, Burdick, Phillips and Norris) and most recently in D. S. McCullock's work (McCullock, D.S., 1982, Geohazards in OCS Lease Sale 73 on the Outer Continental Shelf and Slope). Existing studies present an adequate picture of the regional geohazards on which MMS can base the requirement for additional high resolution geohazard surveys of the area.
- 46.5 The FEIS lists the Federal Register Notice and the State of California At The Crossroads (1980) as sources of this information.
- 46.6 There is concern about all estuaries present along the California coast. The classification of ecological concern was based on Jones and Stokes, 1981. The Coastal Characterization of the Central and Northern California Coastal Region funded by USFWS and BLM. The reference to Mugu Lagoon could not be readily located in the absence of a page citation. However, either the text must be in error or must have been misread.
- 46.7 There is a discussion of the impacts based upon the conditional mean resource estimates (See Section IV.0). Also see responses to Comments 15b.1 and 15b.2.
- 46.8 We will incorporate harbor seal information.
- 46.9 The majority of organisms located on rocky outcrops are sessile while the majority of organisms on soft substrata are mobile. Therefore, these organisms can unearth themselves after burial.

There are national primary and secondary standards for TSP designed to protect human health and welfare. The air quality analysis in Section IV.E.1.c addresses those standards. The EPA is considering a health standards for fire particulates. However, it has not been adopted yet. Increases in TSP as a result of proposed Sale No. 73 were found to be well below the DOI Significance Levels (see Tables IV.E.1.c-1 and IV.E.c-2.

Impacts on visibility were addressed in Section IV.E.1.c. The maximum reduction in visual range was 3.3 percent. This reduction in visibility would not be national. The visibility models will be upgraded on a more information on secondary particulates becomes available.

- 47.5 Photochemical modeling was not performed for exploratory activities because emissions would not be most favorable for producing ozone. Photochemical modeling for the proposal indicated that ozone impacts were greatest for activities where relatively high emissions of volatile organic compounds (VOC) would occur. For activities where VOC emissions were small, ozone generation was usually less. During exploratory operations only small amounts of VOC would be emitted, and conditions would not be most favorable for ozone formation.
- 47.6 It is true that air quality modeling gives results that have a range of uncertainty. However, we believe actual concentrations would most likely be no greater than predicted values, because of a variety of conservative assumptions used in the modeling analysis. For detailed information on the assumptions, see Section IV.E.1.c or POCS Technical Paper No. 83-2. Also see response to Comment 47.5.
- 47.7 The inert modeling assumes constant wind direction and speed. It does not allow changes in wind direction associated with diurnal wind patterns. It can be shown that varying the wind direction results in lower concentrations because the plume would be spread over a larger area. The so called "sloshing" effect can be considered in the photochemical modeling. It was not used in this analysis because this pattern was not found in the high ozone days studied.
- 47.8 See responses to Comments 21.20 and 21.21.
- 47.9 The 21 exploration and development wells are a reasonable estimate of the number of wells expected based on the most likely resource estimate. See also responses 15b.1 and 2.
- 47.10 The method of projecting the NO<sub>x</sub> emission rate for exploratory drilling has been documented in the Technical Reference Paper No. 83-2, "Air Quality Impact of the Proposed OCS Lease Sale

73." No reference was given for the California Air Resources Board estimate of exploratory drillship emission rates. It is possible that the California Air Resources Board had assumed deeper well depths, longer drilling and testing periods, and different diesel power supplies. The assumptions made by the MMS were based on the drilling conditions expected in the Lease Sale 73 region.

47.11-12 See responses to Comment 21.13.

47.13-14 See response to Comment 21.1.

Response to: Coastwatch

48.1 Production platforms to date have an average of 54 wells per platform, not 60. The total estimated volumes of muds and cuttings are based on resource estimates of numbers of wells, depths of wells, etc. Historically the estimates in the EIS have been high for the numbers of wells.

48.2 The Comment is noted as regards the estimate of cuttings per well. An arithmetic error was made and the estimate of 1400 bbl has been increased to 1950 bbl.

48.3 The numbers in the Table IV.A.8.a-3 are not lower than the values given in the references cited in the Comment. The figures in parentheses are generally even higher than the high figures in those papers cited. There are two exceptions: Crippen and Hood found higher arsenic levels (23.6 ppm) than the table figure and mercury was higher (13 ppm). The table will be corrected to reflect these figures. The metal concentrations in this table correspond to the NPDES permit because we asked the same source of data as the EPA. The difference in Ayers (1983) and EG&G (1982) metal figures are due to different muds and/or mud samples being analyzed. Only one mud analyzed was from the same study and the samples of this mud were taken at different times (Ted Sauer, personal communication). Lastly, the numbers used in the DEIS are not inappropriate in that the ECOMAR mud characteristics are within the ranges specified.

48.4 The analysis is almost correct. The actual figure should be somewhat higher, 90,000 bbl per platform.

48.5 Comment noted.

48.6 We agree that these metals, being elements, will remain in the area of release for long periods. However, we disagree with the implication that this constitutes a hazard since these metals are present primarily in insoluble forms (often as contaminants of barite) As such they represent a very small addition to the biologically available resources of these elements in the muds and water column.

Your Comment regarding mobilization of barium is noted. Again, we note that a toxic substance must be present in a sufficiently available form and in sufficient quantities and must be taken up by organisms sufficiently rapidly in order to harm that organism. The quantities of the metals released in drill muds and their availabilities are too low to pose a threat to marine life. Most of these references were cited in previous EIS's for other Pacific Lease Sales.

The reference to Postgate does not substantiate the claim that bacteria are capable of releasing barium ions. He cites other references in his review that show bacteria mobilizing metals in mineral formations, but not direct references or evidence for bacteria freeing barium ions.

The reference to the EPA (1978) is dated because much of the research on barium toxicity/bioaccumulation in marine organisms was brought together at the 1980 Symposium on Drilling Fluids. The consensus of most scientists there was that barium as barite or  $BaSO_4$  did not constitute a significant potential problem.

- 48.7 The Comment that chromium is added to mud in the hexavalent (more toxic) form is true for the sodium chromate and dichromate added during drilling. The bulk of chromium added is in the organically complexed form of chrome-lignosulfonate in which chromium exists in a trivalent (less toxic) state covalently bonded to lignin molecules. Furthermore, the sodium chromate/dichromate when added as inorganic salts to the mud reacts powerfully with any organics present to form the organically complexed metals (trivalent state). As Mosely (1980) points out, the dichromate ion is an extremely powerful oxidizing agent and it is almost impossible to reverse the reaction back to dichromate (hexavalent chromium). According to thermodynamic considerations hexavalent chromium should predominate in sea water (due to the oxidation of chromic hydroxide to chromate (not dichromate) ion under slightly alkaline conditions such as the normal pH of sea water). This has not been observed to be the case, however, and trivalent chromium predominates. It has been suggested (Jenkins, 1982) that bacterial reduction was responsible for conversion of hexavalent chromium to trivalent. The dynamics of this bacterial mediated conversion of chromium valency are tied directly to reduction of sulfates to sulphides in the production of sulphides in anoxic sediments. Thus, the contention by Spiller and Reiser (1981) would seem to be contradicted by most sediment conditions near shore.

"Once again bacteria in the sediment are capable of releasing dissolved lead into the substrate and water column." Please provide a reference to substantiate this Comment. We know of no basis for this specific claim.

This was mentioned briefly in regard to mercury in California crude oil. See Section IV.E.1.a.



We recognize that certain additives, such as diesel fuel and chrome lignosulfonate, which are occasionally added to muds for specialized uses are troublesome and consequently require a detailed listing of spill mud components prior to drilling to allow for appropriate disposal (ref. OCS Order No. 7).

The effects of the anti-flocculants is rapidly offset in marine waters by the flocculating effects of the salts in seawater. Thus the fine clays released from platforms can be expected to be aggregated into larger particles before reaching the ocean floor.

48.8 Presence of toxic compounds in muds was adequately discussed in the EIS. They were considered in detail as per response to Comment 48.7.

48.9 Although each mud, like each person is unique, there are generic muds in the sense that the major metals and organics (which are of primary concern as far as toxic effects) fall into ranges. The extremes of these ranges may then be tested with an appropriate mud and some inference made about the toxicity of a mud type (e.g., high weight lignosulfonate).

The wide range of toxic values for muds encountered in the literature are really not so wide when of the 400 bioassays conducted to date, 363 have resulted in LC<sub>50</sub> values of 1000 ppm or greater of mud. This would tend to argue that most muds, although different in composition, demonstrate a range of toxicity far higher than other pollutants.

48.10 Specific information on oceanographic conditions which will exist at the time of discharge from platforms is impossible to predict. As the Comment notes the data base for small scale and nearshore circulation is very sparse and even probabilistic currents are at this time impossible to predict with accuracy.

48.11 The greatest concentrations of settled mud are repeatedly shown to be nearest the point of discharge and decrease with distance. This is not to say that some mud (the lighter fraction of the plume) does not extend well beyond 1000 meters nor does it indicate that months or years after cessation of mud dumping that all the mud remains in the place it was originally deposited. The distinction has to be made between the impact and impacting agent.

48.12 It is primarily "physical toxicity" with which the benthic biota must deal. Any chemical toxicity appears to be minimal. See response to Comment 48.11.

48.13 The EPA, who controls the NPDES permits for discharges, disagrees with this interpretation of the data, as evidenced by the permits they have issued.

- 48.14 It is not within the scope of this EIS to deal fully with onshore dump site problems. However, we agree with present policy which uses source hazardous waste dump sites for only highly toxic substances.
- 48.15 EPA has granted an area wide general permit for muds and cuttings disposal for OCS sales up to 53. As noted above, barging to shore for disposal is only warranted for exceptional muds, such as those with diesel fuel as an additive.
- 48.16 MMS is beginning a long-term monitoring program in the Santa Maria Basin this year.
- 48.17 This suggestion is noted. It is anticipated that contractors' proposals will generally contain such procedures in their study designs.

Response to: Defenders of Wildlife, Marine Issues Project

- 49.1 The EIS has been revised as suggested.
- 49.2-4 The sea otter sections are being revised. See also responses to Comments 29a.12 6.23 and 6a.11.
- 49.5 Your Comment has been included in the EIS.
- 49.6 Your Comment is noted. There is at present \$15 million invested in oil spill clean up equipment which has tremendously improved response capabilities over those available at the time of the 1969 Santa Barbara Spill. Much effort has been made in contingency planning, field drills and training. Cleanup in rough weather and along inaccessible rocky shores is very difficult, but research continues in evaluating the best cleanup strategies for the varying environments found on the California shore.
- 49.7 Your Comment is noted. All information on the status of the Marine Sanctuaries program is forwarded to this office.
- 49.8 Your Comment on Morro Bay has been incorporated in the Alternative analysis.

Response to: Ecology Center of Southern California

- 50.1 Your Comment is noted. Among the Alternatives analyzed in the final EIS are three nearshore leasing deferral alternatives. See response to Comment 57.5.

Response to: Friends of the Sea Otter

- 51.1 See response to Comment 57.5.
- 51.2 The sea otter section is being rewritten. See also response to Comment 61.21.

- 51.3 The expected impacts have been changed from very low to low due to minor perturbations in the otter range. However, since no spills are expected to occur and contact the range, oil spill impacts are expected to be low to very low.
- 51.4 The southern front moves north some time in the fall and for the most part the sea otter doesn't show up in any significant numbers south of Port San Luis until sometime in late January or February. Even then maximum numbers counted by California Fish and Game over the last five years between Point San Luis and Point Sal are 104 animals or 2.6 per nautical mile. In count by Suzanne Benech (1973-78) between Point Buchon and Point San Luis the date when the maximum number are present varies from January to May. More recent counts by California Fish and Game indicate peaks may be as late as July or August.
- 51.5 The FEIS will discuss other data.
- 51.6 The 74 percent chance of contacting the otter range is if a spill occurs, the probability of a spill occurring and contacting the entire otter range from any origin is 11 percent. This is for all oil spills of 1,000 bbl or greater. It does not seem necessary to discuss an even more unlikely event. Additionally, the "Pismo Beach/Morro Bay area" is a 40 nmi stretch of coast, which would require a very large spill (greater than 10,000 bbl) to even consider coverage.
- If 15 miles of the 40 miles of 10-inch pipeline ruptured, a very unlikely event, the spill would be about 9,000 bbl.
- We cannot confirm your 25 percent of the population figure.
- USFWS (Estes and Jameson, 1983) Table 5 shows 19, 15 and 19 percent of the population between Purisima Point and Point Estero (75 nmi) in February of 1982. Santa Cruz data (Table 4 same report) shows 21, 16 and 16 percent for May of 1980 and 81 and 24 percent for September of 1981.
- 51.7 The 24 percent probability you mention is for total development scenario. If the total sale area is leased and produced, the probability of an oil contact would be 24 percent. We received this oil spill data after the 25 percent "estimated to occur" decision was made and we felt including events with a 25 percent probability is a conservative approach and did not want to lower it for a single case.
- 51.8 The analysis does not verify that the Proposal adds a "significant" threat to the otter. Therefore, the No Sale Alternative does not change the risk significantly.
- 51.9 A statement has been added.
- 51.10 The EIS has been revised as appropriate. Also see response to Comment 6a.11 and 6.23.

- 51.11-12 The EIS states mortality will be high. The reasons, i.e., kelp beds, cleaning, capture, etc., are not necessary for the analysis.
- 51.13 The statement will be omitted. Jeopardy will not be discussed.
- 51.14 The majority of OCS activities are at least 3 miles offshore and noise should not be a problem.
- 51.15 As you mention, legislation prohibits overflights below 1000 ft. However, we have increased the impact levels from very low to low due to some possible mortality due to factors other than oil.
- 51.16 The seasonal aspects of the oil spill risk assessment model take the Davidson current into account.
- 51.17 The Florida spill that severely impacted an estuarine environment in West Falmouth, Massachusetts involved No. 2 fuel oil, not crude oil. Refined oil has been found to be far more toxic than crude oil. Further, estuarine communities appear to be sensitive to oil spill particularly when a significant portion is covered with oil. This is discussed in the DEIS (Section IV.E.2.g). Recovery time for important communities of estuaries was stated in the DEIS to be over 10 years. An oil spill along the sea otter range would not have similar effects as documented by the 1969 Santa Barbara spill. We are unaware of other applicable studies on "sublethal effects and ecosystem dynamics" in relation to oil spills.
- 51.18 The discussion of uptake of hydrocarbons by fish and their availability in the food chain is included in the FEIS for OCS Lease Sale No. 68 which was referenced in the DEIS (p. 4-24, paragraph 4).
- 51.19 Literature concerning recovery time for severely impacted rocky intertidal communities indicates 5-10 years would be required for recovery some segments of the community (p.4-94 of DEIS).
- 51.20 The DEIS is more concerned with benthic communities within federal waters further offshore than in the State waters where the Chambers study concentrated. A summary of the Chambers study was added to the FEIS and the study was already used to illustrate the uniqueness of the intertidal areas of the area in the DEIS. A list of the possible new benthic species collected in federal waters in recent studies was added to the FEIS. The 1979 reference which had been included in the referenced Sale 68 EIS Newman paper, was added to the FEIS.

The Southward paper notwithstanding, we still feel that because of the great water depth of most of the sale area and high energy typical of shallow depths, the amount of oil that would reach and remain in these communities is limited and a low impact is the most likely on subtidal benthic areas.

- 51.21 The referenced section addresses the biological environment. The Comment refers to socio-economic considerations. See Sections III.C.5 and III.C.6 for discussions of these subjects. Very little commercial kelp harvesting occurs in the proposed sale area (Emel Smith, DFG, 1983, personal communication) and it is not expected to be impacted by the proposal. Therefore, this subject is not discussed in the EIS.
- 51.22 Squid is included in the fish resources section (even though it is not a fish) since it is an active swimmer. The other species referred to in the Comment are benthic species and population impacts are discussed under intertidal and subtidal benthos. The financial impact to fishing due to decreases in fish and shellfish resources are discussed in the commercial and sport-fishing sections. Refer to Sections IV.E.1 and 2.
- 51.23 The paragraph has been reworded and expanded slightly.
- 51.24 True. The U.S. has the highest reporting rate for oil spills, probably in the world, due to enforcement. However, the 200 spills you mention include spills of 1 cup and 1 gallon of oil in many instances. The total volume spillage is low.
- 51.25 See above. The tanker spill off the U.S.S.R. coast was carrying kerosene and refined diesel fuel, the fumes from both are very toxic and cause lung damage. To the best of our knowledge the cause of death was not ascertained, i.e. lung damage or hypothermia due to oiling. California crude oil would probably lose most of its volatile fractions before reaching shore.
- 51.26 See responses to Comments 11.5, 22.20, 22.21, 57.4, 15b.11, 14.6.
- 51.27 See responses to Comments 14.10 and 15b.1 and 15b.2 for the relationship between resource estimates for the proposed sale area and a worst case analysis.
- Cumulative impacts are discussed for the Conditional Mean Case as well as the Most Likely Case, see Sections IV.0 and E, respectively.
- 51.28 The biological stipulation has been developed during the course of analysis of this proposal and would effectively anticipate certain potential adverse environmental impacts. Although use of this stipulation on existing leases has been restricted to benthic surveys, it could be more broadly applied if necessary. Surveys are conducted prior to drilling. Also see responses to Comments 57.6 and 15c.39.
- Information presented to the Regional Supervisor (RS) must allow the RS to determine if the operation will have a significant adverse effect on the resource.
- 51.29 See response to Comments 57.6 and 15c.39.

51.30 The State Tidelands extend from the coastline to a distance three miles seaward. The Federal OCS begins at three miles from the coast and extends beyond that. The time in which to respond to a spill before oil contacts land from the Federal OCS is therefore greater than the time available in which to respond from a spill in State Tidelands.

1) Mr. Clean II is a dedicated vessel maintained in Avila (Port San Luis) by the Clean Seas Cleanup Co-op. It is available to respond to all spills (by member as well as non-member companies) in the Santa Maria Basin and can reach all parts of the Basin within several hours (depending on weather conditions).

2) Mr. Clean II is available and has been in service since the spring of 1982. It is not necessary for each lessee to maintain such a vessel in order to maintain sufficient cleanup capabilities.

3) Clean Seas Co-op conducts cleanup response training twice a month, with major drills at least twice a year. These exercises involve Clean Seas personnel as well as industry personnel assigned to the rigs.

4) Clean Seas maintains several open-ocean booms and skimming devices (see Appendix D).

51.31-32 The FEIS has been revised as appropriate.

Response to: League of Women Voters  
California

52.1 See responses to Comments 13.3 and 14.1

52.2 See response to Comment 15b.11 and 5.4 on the focus of the EIS. Response to Comment 14.10 on worst case analysis.

52.3 See responses to substantive Comments San Luis Obispo County Air Pollution Control District (Comment 21).

Response to: League of Women Voters  
Monterey Peninsula

53.1 The statements in the EIS refer to impacts in the unlikely event that a large oil spill occurs. Based upon the Oil Spill Risk Analysis Model no spills are expected to occur or contact land segments north of the proposed sale area from this proposal.

53.1-3 No onshore residential impacts are expected in Monterey County due to Lease Sale 73.

Response To: League of Women Voters  
San Luis Obispo

54.1 See/description of Alternative I in Section II.

- 54.2 See response to Comments 15b.1 and 15b.2.
- 54.3 Since your initial Comments were subsequently addressed throughout your letter specifically by page number, we have responded to them at those reference points. (Comments 54.4 - 54.106).
- 54.4 See response to Comment 57.1.
- 54.5 See response to Comment 14.6.
- 54.6 A six mile buffer zone would not significantly reduce onshore air quality impacts. Predicted concentrations of pollutants were already below DOI Significance Levels. The primary air quality impact would be due to potential increases in ozone levels. A buffer zone would not necessarily reduce these impacts as ozone is a secondary pollutant which is generated over a period of time as pollutants travel downwind of the source.
- Protection of other biologically sensitive areas has been analyzed and discussed as new alternatives in Sections IV.G. and H. Also see response to 14.7.
- 54.7 See response to Comments 156.1 and 156.2.
- 54.8 See Figure IIA.1a-1, the resource estimates for leased tracts in Central California are provided in Table IV.D.4-1. See response to Comment 15b.1. See response to Comment 57.7 on cumulative impact.
- 54.9 Additional analysis on a 100% tankering scenario is included in the EIS (Section IV.L.).
- The information used for a cumulative impact analysis (including currently available information for Sale 53) is given in Section IV.D.4. of the FEIS.
- The hypothetical platform locations and length of subsea pipelines are given in Table II.A.1.d-1. of the FEIS. Also refer to the map depicted in Figure II.A.1.a-1. The distance between the hypothetical platform locations and shore is not reasonable.
- 54.10 Retrofitting of refineries will be needed to process OCS production in California refineries. The requirement will result from the low quality crude from past and presumably future (Federal and state) OCS lease sales. Any modifications to refineries would be reviewed by the appropriate state and local agencies and would be subject to all existing laws and regulations.
- The hypothetical transportation scenario for this EIS anticipates that 25 percent of the total production would be tankered to the Gulf of Mexico for refining. Since the exact quality of proposal-related crude oil is not known at this time, it was assumed that 25 percent of the total production would be low quality, and

would be tankered to the Gulf for refining. Also see Section II.A.1.d. and IV.E.3.1. In the unlikely event that California refineries are not permitted for retrofitting, the Sale 73 production, production from previous Federal lease sales and production from the proposed State Tidelands (Point Arguello to Point Conception) lease sale would need to be tankered to the Gulf of Mexico for refining.

- 54.11 See Response 22.27-42 to San Luis Obispo County. See Response 57.6 regarding the biological stipulation. A listing of tracts on which the biological stipulation may be invoked is contained in Section IV.E.
- 54.12 If this stipulation is applied to leases from the sale, decisions will be based on the submission of a Plan of Development by an oil company, and a justification to transport oil by means other than pipelines. Additionally, MMS will consider all available information at the time of the decision. The use of the term "emergency" would apply to a situation in the oil processing plant that the company was using were partially destroyed. In that case, the company would need to consider tankering of the oil until the processing plant were restored. At the time the plant was repaired, the oil company would be required to reinitiate oil transportation via subsea pipeline.
- 54.13 See Response 40.42.
- 54.14 See Response 21.1.
- 54.15 The summary presented in Section II.A. is based upon the impacts associated with the most likely resource estimates and alternative I. The most likely resource estimates are what is most reasonable to assume to be developed as a result of the proposal. Therefore the main emphasis on the analysis should be based upon this data.

Also see response to Comment 21.15.

- 54.16 See Sections IV.F., G., H., I., and J. for a discussion of alternatives.

- 54.17 EIS has been revised as suggested.

- 54.18 The analysis provided in this section reflects the environment within the proposed sale area without the proposal. It does include impacts from existing leased tracts.

Further increases in fish harvests may occur but experience suggests declines of established fisheries are more likely.



A shortage of gasoline in an area will tend to decrease automobile driving and a lesser amount of discretionary income will tend to reduce an individual's ability to take a vacation. Some people will continue to travel, but closer, less expensive areas will look more attractive, however, an overall reduction in travel would be most likely to occur.

The changes in sea otter counts thus far probably represent increased accuracy of inventorying rather than actual declines.

Your Comment on Port San Luis was noted, see response to Comment 94.2.

54.19 The EIS has been adjusted to consider conservation as an alternative energy action.

54.20 See response to Comment 15b.11.

54.21 In addition to using the oil spill model results, the analysts evaluated impacts "should a spill occur", which is independent of the spill occurrences and probabilities estimated by the model and represents the potential impact analysis, regardless of the spill cause/origin. The model was run as far north as the Oregon/Washington State line because of requests to specifically do so (by the State of Oregon).

The model input for currents was seasonally averaged. The winds were not averaged (the EIS has been corrected), but actual winds, with probability of occurrence associated with them in transitioning to the next wind state on a monthly basis (input).

No oil spills > 1,000 bbls. have occurred on the U.S. OCS as a result of seismic activity. The individual resource analysts considered both the "expected" and "potential" impacts from the sale. The potential impacts were analyses of what would result in the event of a spill, regardless of the cause of the spill.

See response to Comment 15b.14. on Graphic No. 3. and response to Comments 46.6.

54.22 The lumber spill reference is misleading when applied to oil spills and therefore, was not included.

54.23 Bioamplification is considered in Section IV.A.8.b. The EIS will be modified to include the relationship of the upwelling regions to the proposed tracts.

54.24 The data are fairly representative of the worst conditions which are likely to be encountered. Exceptions will occur in very nearshore areas where waves might be refracted or shoaling occurs.

54.25. Data are included as illustrative examples and rely on the more thoroughly studied areas of the Central coast.

54.26. See response to Comment 15a.17.

- 54.27. This information was included because there would be tanker traffic from the Santa Maria Basin to San Francisco.
- 54.28. See response to Comment 21.19.
- 54.29. See response to Comment 21.1.
- 54.30. Comment is noted. The statement has been modified in the FEIS.
- 54.31. Comment is noted. The tables have been modified in the FIES.
- 54.32. The helicopter flight included ground truthing. It presented a picture of the overall idea of the dominant assemblages of the coast. It did not identify unusual species or habitats, although several unusual areas were identified in a similar study performed in Southern California. From these overflights various areas were identified as more sensitive. These sensitive area were identified not only by the helicopter survey, but included consultation with scientist in this field as well as information available in literature.
- 54.33. Gray whales can be seen over the entire Proposed Sale Area. The sea otter analysis has been updated.
- 54.34. The Santa Cruz data are included by reference and has been used where they contribute to the analysis. See also response 11.5. The sea otter analysis has been updated.
- 54.35. The sea otter analysis has been updated.
- 54.36. See response to Comment 15b.11.
- 54.37. See the revised discussion of Table III.B.7-4 in the text.
- 54.38. Figure III.B.8-1. presented the areas of special concern within the proposal as well as with its relationship to the coast of California and other areas of special concern.
- 54.39. The EIS has been revised as appropriate.
- 54.40. The EIS has been revised to reflect Santa Barbara and San Luis Obispo County demographic figures.
- 54.41. Discussion on tourism and fishing is contained in Sections IV.E.3.h. and e, respectively.
- 54.42. The EIS has been revised as appropriate.
- 54.43. Please see Comment Letter 24. The sea otter analysis has been updated.
- 54.44. Please see Comment Letter 24. The sea otter analysis has been updated.

- 54.45. A major airport is one with regularly scheduled passenger service. Check with the Coastal Commission. Chevron was permitted to use the pier on a one time basis. The EIS has been revised as suggested.
- 54.46. See response to Comment 15b.11.
- 54.47. Section IV.E.3.f. has been revised to focus our analysis regarding sportfishing in the area most directly associated with proposed Sale 73, including Port San Luis. The description and impact sections on recreation and tourism have also been revised and the focus of our impact analyses are the important recreation and tourism resources most directly associated with the proposed lease tracts. Section IV.F., G. and H provide an analysis of the proposed sale without the tracts most closely associated with the recreation and tourism attractions of the San Luis Obispo coastline.
- 54.48. Due to the complex economic basis of tourism only lodging receipts were used as these are tangible values which can be used as a basis for estimating tourist value using appropriate multipliers.
- 54.49. U.S. Coast Guard has conducted studies on vessel routing in the proposed sale area (see Section III.C.12, FEIS). The Coast Guard is currently in the process of designating routing measures. This process could take about two years. Also see response to Comment letter 22.
- 54.50. An expanded discussion is presented in the FEIS (Section IV.E.3.m.). The hypothetical transportation scenario (Yamasaki, 1983) used for this EIS anticipates that 25 percent of the total expected production would be refined at Gulf of Mexico refineries. Refineries are expected to make needed retrofits to handle low quality crude oil from past (Sale 48, 53, 68, RS-2) and future (Sale 73 and southern California Lease Offering; State Tidelands Sale - Point Arguello to Point Conception) offshore lease sales. It is assumed that refineries will be capable of refining Sale 73 crude when the first production comes on line (1988).
- If retrofitting of the refineries is not done or permitted, the alternative would be tankering to the Gulf of Mexico. This scenario as with all scenarios, would be reviewed by state, local and Federal government at the time of submittal of the Plans of Development.
- 54.51. A 100 percent tankering scenario with OS&Ts is analyzed in the FEIS. Analysis on conditional mean is discussed in Section IV.0.
- 54.52. Impact analysis in the EIS is based upon the Transportation Scenario (Yamasaki 1983). The Transportation Scenario is in turn, based upon logical assumptions about oil industry practices as demonstrated by current offshore Central and Southern California uses. Certain facilities are assumed to be in existence as a result of development from prior lease sales.

Development of all offshore facilities, at any time, will be in compliance with local plans and policies (LCP's, General Plans). If changes to local plans are required to accommodate development, the affected industry company (oil, gas, or pipeline) will have to apply for an amendment to any existing plans to which the proposed facility is in conflict. This will require negotiations between the involved industry and the local government with jurisdiction. Also see response to Comment 54.2. Offshore facilities will require consistency determinations by the appropriate state agency unless current court rulings are reversed.

The local concerns port facilities, onshore oil related facilities, space use conflicts, and coastal land use will be addressed detail at the local level at the time facility developments are proposed by industry.

If facilities are proposed in places other than those considered in the hypothetical Transportation Scenario a similar process and of amending existing plans and local government-industry negotiations would ensue.

The FEIS has been appropriately revised (see Section IV.E.3.n.).

- 54.53. See response to Comments 20.14 and 6.6 on oil spills.
- 54.54. The oil spill model was run from Oregon to the Mexican border to provide information on spill occurrences due to both existing and proposed tankering (foreign and Alaskan).
- 54.55. A 100% tankering scenario has been included in the FEIS, see Section IV.L. See response to Comment 54.53.
- 54.56. The criterion was simply that Piedras Blancos is near the center of the range and is where many of the FWS data were obtained. Studies have tended to be north or south of this area. The division was made only to have a better idea of where contacts were occurring (see response to Comment 15b.11).
- 54.57. See response to Comment 18c.91.
- 54.58. See response to Comment 42.4.
- 54.59. See response to Comment 54.21.
- 54.60. Existing Federal leases include leases currently active, from all previous sales, in all OCS regions off California including the Santa Barbara Channel. The description of the proposed action has been clarified.
- 54.61. Analysis is provided in each resource section as to the various coastal resources that could be contacted by an oil spill.

- 54.62. See responses to Comments 22.47 and 54.61
- 54.63. The EIS states mortality will be high if a spill comes to shore within their range. This statement will be clarified. However, since this conclusion is not controversial, more details are not necessary for analysis.
- 54.64. The FEIS has been appropriately revised, see Section IV.A.5. These impacts are discussed in more detail in Section IV.E.3.e.
- 54.65. These impacts associated with tankering are discussed in more detail in Section IV.E.3.e.

The FEIS has been appropriately revised to expand discussions of crew boat operations, noise and socioeconomic impacts.

See also the response to Comment 54.64.

- 54.66. The predicted levels of effluents and discharges from existing leased tracts have been taken into consideration in the cumulative analysis. See Appendix N for a list of studies. A further study by the National Academy of Science has been circulated for Federal agency review and should soon be available also.
- 54.67. Table IV.A.8-1 has been modified in the FEIS to give total emissions for each phase. For information on emissions from exploratory drilling, see response to Comment No. 15d.2.
- 54.68. The EIS has been revised as suggested.
- 54.69. See responses to Comments 15b.14. and 15c.6.
- 54.70. Comment is noted and Section IV.10.c has been modified to indicate that dense fog would not restrict supply vessel operations significantly. Fog is not expected to significantly hinder oil spill cleanup and containment.

For a response to the Comment on anomalous weather conditions, refer to response to Comment 67.3.

- 54.71. These spills were small and of a scale to disperse rapidly. About twenty-five percent of the spills were observed by our in and reported by the operator. The actions taken by MMS following discovery of the unreported spills were adequate to insure that such incidents will not be taken lightly in the future. The rig was shut down for two days of thorough inspections and oil drills, a very costly step for the operator (the cost in this case could easily have been \$200,000 and may have been higher). Further civil actions are being discussed with the Coast Guard. The effect, we believe, will be strict self-policy by the operator.

- 54.72 Penalties for illegal use of dispersants are currently being considered by MMS/Coast Guard Criminal and civil penalties are being considered. See response to Comments 54.71 and 15b.43. Cleanup crews would not work in conditions considered unsafe.
- 54.73 There is at present \$15 million invested in oil spill cleanup equipment which tremendously improves response capabilities over those available at the time of the 1969 Santa Barbara Spill. See response to Comment 15c.27. See response to Comment 57.5.
- 54.74 National Marine Fisheries Service administers the Fishermen's Contingency Fund. Comments on regulations for this Fund should be directed to:
- Chief, Financial Service Division  
National Marine Fisheries Service  
3300 Whitehaven Streets, N.W.  
Washington, D.C. 20235
- The Commentor's concern about the Fishing Vessel and Gear Damage Fund is noted. Recent revisions to the Fishermen's Contingency Fund now probably make this the preferable fund for all OCS related damages.
- 54.75. The EIS has been revised as appropriate.
- 54.76. The OCSLA includes provisions to protect the states by providing for sharing of resources.
- 54.77. See Response 57.7 on cumulative impacts and Sections IV.C. and IV.D.
- 54.78. Table IV.D.4-1. has been revised to reflect some of your concerns. Also see response to Comments 15b.1. and 15b.2.
- 54.79. See response to Coastal Commission Comment Letter 15c.17-20.
- 54.80. See Discussion in IV.E.2.g.
- 54.81 See response to Comment 14.9 on cumulative impacts.
- 54.82. See response to Comment 15.a.17 on Ocean Dumping.
- 54.83. For a response to these issues, please see the responses to Comment letter 21 (from San Luis Obispo County).
- 54.84. A discussion of oil spill data used for the cumulative impacts associated with existing leases and import tanker traffic is contained in Section IV.A.4. See responses to Comments 6.6 and 20.14.
- 54.85. See response to Comment 57.6 on the Biological stipulation.

54.86. The EIS has been clarified.

54.87-88 The sea otter population and distribution data is being revised. However, 1200 is the number of animals counted, not a population estimate. See also Comments 6.14.

54.89. The section has been revised. We will include a brief discussion of sea otter food supply.

54.90. The 24 percent is for Conditional Mean Scenario.

a) 24 percent is a conservative figure. Many analyses use 50 percent as the cut off point for what is expected to occur. The 25 percent figure was selected before numbers for the sea otter range were available and since the number was conservative to begin with, we did not elevate the 24 percent to the "expected" category.

b) All pinniped colonies containing 5 percent or more of the California population are listed. Since the only truly oil sensitive species, the northern fur seal, occurs only on San Miguel; it is not considered necessary to list smaller colonies.

54.91. Cumulative impacts are being reanalyzed.

54.92. See responses to Comments 14.6, 54.72 and 54.73.

54.93. The EIS has been revised as appropriate.

Changes were made to note regional differences.

Too many variables exist, e.g., the amount of resource recovered, location resource, company finding resource, company needs, etc., to make such a determination.

There are none for San Luis Obispo other than general population growth. And expansion of Vandenburg and the LNG plant do have implications for San Luis Obispo and thus it is appropriate to discuss them together.

As no new onshore facilities are anticipated, the population increase from Sale 73 will be less than 1% that of the general

population to house requiring 50 units out of 28,770 with peak year land use impacts from Sale 73 are indeed low.

54.94. These services will have to be expanded to provide for general population growth. If these facilities and services are not available then industry will have to seek alternative locations. There are no mitigation measures within the scope of authority of MMS.

Impacts to specific communities will depend upon the size of the discovery, location of the base, landfall, etc., location of the road, processing decision, local jurisdiction rules, regulations, planning and zoning and a host of other variables. All of these will be addressed by the company when specific plans are submitted for permit approval by the local jurisdiction.

The purpose of this EIS is to discuss the anticipated environmental impacts should the proposed action (Lease Sale 73) occur. This document should not be construed as, or used for, a local planning document. Mitigation measures discussed as a part of this document as those that are within the realm of authority of the Minerals Management Service to request and to enforce. If no mitigation measures exist for a particular anticipated impact within that authority, then none are discussed. Mitigation of impacts is undertaken at the time when definite plans are submitted by the industry, when specific impacts can be determined, and specific mitigation proposed.

54.95 See response to Comment 54.94.

Unless the County Board of Supervisors have retracted their approval of the LCP, then the interpretation presented is accurate.

Any use or development of Port San Luis must be in compliance with local jurisdiction policies and zoning.

The Board of Supervisor's approved LCP allows for Port San Luis to be used as a crew boat base if certain prior criteria are met and complied with.

If a crew base is not allowed in San Luis Obispo County, the oil companies must transport crew members, using long work tours, etc. The specific company option chosen will be identified as part of the Plan of Exploration or Plan of Development submitted prior to drilling or development activity.

All onshore facilities must be in compliance with local jurisdiction planning and zoning policies. If local planning or zoning does not provide for a particular use, that is a point of negotiation between the requesting company and the local jurisdiction.

54.96 The EIS addresses the questions raised by the Commentor to the maximum extent practicable. Experience has shown that a number of fishing-oil industry conflicts can occur but Comments from fishermen imply that mitigation will not be simple due to conflicting assessments of the impacts of specific environment changes. For example, some claim the light from platforms improve fishing, others claim damage from the same source. The



relatively deep waters in the Sale 73 area will, however, necessitate use of relatively few platforms and political measures will ensure consolidated onshore facilities. Both should substantially help to reduce the magnitude of conflicts relative to those experienced in the Santa Barbara Channel.

Crew boat trips have been revised upwards.

54.97 Oil spill containment or cleanup is not 100% effective in all conditions, however, some lessening of the effect of a spill could result from the use of the equipment. The oil retention determined by Woodward and Clyde (1982), assumes no cleanup by man.

We have revised the impact section to indicate that chronic pollution would be a nuisance to recreational use of beaches, will spoil the enjoyment of those directly impacted but is unlikely to affect the level of recreational use even in the high use summer months.

Sources of known natural seep exist north and south but not within the project area for proposed Sale 73. The precise source of seeps that might affect the shoreline within the project area are unknown.

Odors may be noticeable in the immediate vicinity of an onshore oil and gas processing facility. The impacts were not analyzed since no additional facility would be needed for proposed Lease Sale No. 73 activities; however, should a facility nevertheless be necessary, we do not believe, that recreational resources or activities within the proposed sale will be chroncially affected by foul odors as a result of Sale 73.

Surely the value of any specific recreational resource will be temporarily diminished if acutely impacted by a major oil spill however, the recreational industry most directly associated with proposed Sale 73 can expect a low impact, if any, from the proposal.

We have revised our impact section on recreation and tourism to focus our analysis on specific resources and communities as you and others have suggested. The conclusions at the end of each impact discussion takes into account all impacting factors previously discussed.

54.98 Our analysis on the impact of the proposal on visual resources and aesthetics has been revised. Consideration of possible State Tidelands in San Luis Obispo County are included in an oil and gas sanctuary so we assumed no state leasing in this area for the present. Section IV.F., G., and H includes alternatives that would delete tracts closed to the shoreline of San Luis Obispo County (Morro Bay/Pismo Beach).

54.99 The FEIS has been appropriately revised.

54.100 A 100 percent tankering alternative has been analyzed for the FEIS. It is not likely that tankering would take place from Estero Bay or Avilo Beach.

It is agreed that local planning efforts will be used to determine whether or not a crew boat base is built in Port San Luis.

Your Comment on the Appendix is noted.

54.101 Comment noted. Adoption of the Coast Guard routing schemes could take about two years. Also see Response to 146.28.

54.102 See response to Comment 57.5 on alternatives.

54.103 See response to Comments 15b.1 and 15b.2 on resource estimates.

54.104 Table IV.D.4-1 has been clarified.

54.105 See response to Comment 54.1.

54.106 Concerns regarding the document's organization have been noted.

The definition for levels of impacts for air quality were modified slightly in the FEIS. However, the definitions as presented in the DEIS were applied properly. For more discussion on application to San Luis Obispo County, see Response to Comments 191.15 and PH-A.4b.15.

Based on the estimated timetable of development, the first installation of platforms is not expected until 1988. At this time it is thought the proposed Coast Guard routing measures for this area will be adopted in about two years (by 1985). Therefore, the vessel routing measures should be in effect before platforms are placed.

54.107 Concern on impact definitious is noted. It is inherently difficult to rate impacts on intangibles, such as aesthetics, where subjective judgements are a component of the impact. Use of updated fishery data and value of losses should clarify conclusions reached in the EIS regarding this resource.

MMS and DOI feel use of these levels of impacts aids the reader in understanding impacts expected as a result of the proposed and alternatives to the proposal, although we acknowledge it can be difficult to keep track of definitions as one shifts from one resource area to another.

Response to: Marine Conservation League

- 55 See responses to Comments 57.1, 14.1 and 13.1 on scoping.
- 55-I This document was reviewed by the staff for substantive Comments. The EIS has been revised where appropriate.
- 55-II See response to substantive Comment from the County of Santa Cruz Comment letter 25.
- 55-III This document was reviewed by the staff. Information presented which was pertinent to the EIS was taken into consideration in the analyses.
- 55-IV See Response to 55-III.
- 55-V Response to Thomas E. Ragland

Para. 3. The criticism that the "DEIS-73" is full of misspelled words, typographical errors, etc. is noted. It is a draft and we are trying to correct all these mistakes we find.

Question 1. This is a vaguely stated question. Scientifically adequate and sufficient is not defined and the desired accuracy of prediction is not stated or even vaguely indicated. If, the toxicity studies are required to be useful in the sense of exactly predicting the impact of one factor in a naturally fluctuating variable environment, then the person requiring this has an inadequate understanding of the uses of toxicity data.

The descriptions of "the only biological studies approved for funding "in FY 83 are not accurate.

1. Rig monitoring: platform discharge model and validation. The Comment that this study is computer modeling and therefore of little "real-world" biological significance runs counter to the critique of the fish toxicity study and ignores the value of the discovery of fundamental principles which are generalizations of specific cases. Modeling is aimed exactly toward this goal. Failure to use models leads to examination and treatment of each case individually with no real gain in knowledge, and no increase in predictive capability.

4. Rig monitoring: long-term assessment.... This "after-the-fact" study may be used in future decision making processes and should contribute to the basic understanding of several marine ecosystems in addition to any managerial uses of study results. Such studies are the most reliable means of assessing actual impacts. Laboratory studies are no substitute for field data.

6. California fish oil toxicity study.

The draft report is still not finished and not delivered to this office (as of May 3, 1983). Nonetheless, Commenter cites and discusses it as if it was a final report, not an interim report. It was specifically indicated as a draft and not for citation.

Page 2, Para. 3 (after No. 6).

This paragraph demonstrates a lack of understanding of the process of selecting and funding studies. Regional and national priorities often differ and analysis of regional priorities alone are insufficient.

Page 2. listed studies 1-4.

The use of such phrases as "primarily simply" (study 2), "after-the-fact" (study 3) are not clear in their intent. They imply a belief that these studies are not worth doing since they address the component of hazard assessments which interests the author (toxicity).

Page 4., study 6.

Dr Ragland is correct. This study is "similar" to those of Dr. Spies because it is intended to continue his work. Please read page 56 of the FY 84 studies plan (November 1982).

Para. 2.

The last sentence that 50 pph is a level of oil which might be generated locally in or near a spill is not referenced. Actual measured values only a few meters away or below a spill indicate oil concentrations are less than 50 pph in the water. Sediment levels are much higher.

Page 6., Para 2.

The analysis is confused. The concentration of metals in crude oil diluted to 1:1000 by sea water is compared to the EPA levels. This is not the analysis of formation water which is the subject on the pages in DEIS-73 cited. These are the levels of metals that would occur at 1:000 dilution of a crude oil spill, not discharge of formation water.

Page 6., last para.

The estimate of the total volume of the oceans is incorrect. It should be  $1.37 \times 10^{21}$  liters (Riley & Chester 1971 pg. 37). Given the Commenter's figures for oil input at 20 megatons annually and the correct volume of the world's oceans, the figure for the amount of oil added is 15 parts per trillion not 100 pp trillion. This is an overestimate if one considers only hydrocarbons from offshore production and transportation.

These two sources combined are estimated to add 2.213 million tons annually to the oceans (NAS, 1973 pg 6). Therefore, the figure of 15 pp trillion would be reduced to 1.8 pp trillion. The statement is correct, however, in that the concentrations of these inputs are higher in the coastal areas and enclosed bays and seas of the world.

Page. 11, Para. 1.

Primary productivity studies and the effects of oil toxicants studied by the light-versus-dark bottle method would not give us new knowledge. Also, there are many problems with the simple light-dark bottle methods (e.g. zooplankton metabolism, zooplankton-oil interactions, substrate (wall) effects, etc.) and limitations as to the data being useful for elucidating any biochemical mechanisms of oil effects.

Page 11., para. 4&5.

Metabolic studies are not "few and far between." See work by Malins, MacLeod, Varaneise at the NMFS laboratory in Seattle for a larger body of literature.

55-VI See response to Comment 46a.1

Response to: Natural History Association  
of San Luis Obispo Coast, Inc.

56 Your recommendation has been voiced by other groups as well. We are unaware of marine mammals, other than otters that would be stranded due to a small amount of oil. Except as discussed below, we feel a rehabilitation center is not appropriate at a population level.

MMS will be funding studies of sea otters including an evaluation of cleaning capabilities. Western Oil and Gas Association is also looking into this matter. We feel cleaning and recovery of other marine mammals and birds is probably inappropriate. With the exception of Northern fur seals, oiled pinnipeds have not shown any increase in mortality. The 1969 Santa Barbara spill was an example of oiled pups with no apparent consequences. If Northern fur seals are oiled the numbers and size of the animals preclude cleaning on any meaningful population basis.

The number of birds that can be cleaned is also not meaningful on a population basis. An exception might be species such as the peregrin falcon or bald eagle and facilities and personnel are available in Berkely for cleaning. The Royal Society for the Protection of Birds in Britain, an agency with many years of experience with oiled birds, feels that euthanasia for most oiled birds is a more humane treatment than cleaning (Clard, in Press).

All revenue from the leasing of OCS lands goes to the general fund, and can only be appropriated by Congress. The MMS does

not have authority to support your proposed facility. Additionally, it is not necessarily "fair" that facilities be funded that may never be needed due to their activities and that would do little to maintain the populations should a spill occur.

56.1a Your Comment is noted. Also see response to Comment letter 56.

Response to: Natural Resources Defense Council

57.1. The contention that the scope of the draft EIS was determined wholly without public involvement, in direct controversion of NEPA and the CEQ regulations is incorrect. Rather than considering scoping in the very narrow sense of holding public meetings prior to the preparation of the draft EIS as suggested by this Comment, it is more appropriate to consider scoping in a broader sense, making use of information gathered at all appropriate steps during the planning stages of a proposal to determine the issues and alternatives to be evaluated in the draft EIS. Scoping in this broader sense was conducted for this EIS (see Comment 14.1, response to the Attorney General, State of California). Information and opinions from the public and from other Federal agencies and state and local governments obtained at various stages in the planning process for this proposal, including the request for written scoping Comments, were used by the MMS to determine the scope of the draft EIS. The description of the scoping process in the draft EIS clearly indicates that a wide range of issues regarding the proposal were examined and were then evaluated. Appropriate revisions in the analysis have been made for the final EIS in response to public review.

57.2 See response to the Attorney General, State of California (14.2.).

57.3 See response to the Attorney General, State of California (14.3.).

57.4 The analysis in the Final EIS, as it was in the draft, is focused on the potential environmental impacts of leasing and subsequent exploration and development in the proposed sale area which lies offshore, generally south of Morro Bay and north of Point Conception. However, as in any OCS sale, there is a potential for environmental impacts to occur outside the sale area resulting from activities or events within the area. Therefore, the FEIS while focusing on the proposed sale area, address potential impacts within the nearby region to the extent they may be attributed to the proposed lease sale. Substantive Comments on the DEIS have been considered and appropriate revisions to the text which improve the specificity of analysis have been made.

57.5 Alternatives analyzed in the final EIS are three among the nearshore leasing deferral alternatives. These alternatives to the proposal evaluate the potential environmental impacts of deferring from this proposal, the nearshore tracts offshore Morro Bay, the tracts under litigation following OCS Lease Sale No. 53,

and nearshore tracts offshore Port San Luis, Pismo Beach, and the mouth of the Santa Maria River. The potential mitigative effect on environmental impacts of each of these alternatives is discussed and a comparison of the impacts of the various alternatives is provided.

- 57.6 The EIS discussed, as does the final EIS, mitigating measures that are in place in the form of existing laws, regulations, OCS Orders, and Notices to Lessees, and additional mitigating measures that have been developed (lease stipulations) during the course of analysis of this proposal that would effectively anticipate certain potential adverse environmental impacts. These additional mitigating measures are, of course, not yet committed, since a decision on the lease sale and additional terms to be imposed on lessees has not been made. The leases stipulations, if adopted, in prior lease sales, would apply to appropriate leases which are eventually offered for sale, regardless of which if any, of the leasing deferral alternatives is selected.

The procedures required by the invocation of the terms of the biological stipulation are clearly spelled out in the text of the stipulation.

The discussion preceding the stipulation addresses the special concern regarding rocky outcrops or hard bottoms. However, this does not preclude the stipulation being involved in other areas where there is reason to believe that a biological resource exists which needs protection exists.

The stipulation regarding transportation of hydrocarbon products appropriately requires a careful evaluation of the environmental, technological, and economic aspects of product transportation prior to a decision on the means of transportation. Of course, all pertinent Federal, state, and local requirements must be met prior to the granting of pipeline rights-of-way for pipelines coming ashore from the OCS.

Comments have been received suggesting that a stipulation requiring BACT be attached to leases resulting from this sale in order to mitigate potential air quality impacts. Such a stipulation is unnecessary since DOI air quality regulations require that BACT be used as a means of reducing emissions on sources that are determined to cause a significant pollution concentrations. (See also response to Comment 15.)

- 57.7 Other sources of impacts, including state tidelands leasing, which have been considered in the evaluation of cumulative impacts are discussed in Section IV.C.4. and IV.D. Revisions in the final EIS have been made to clarify sources of impacts considered in these analyses.

Appropriate revisions to the text have been made to clarify that cumulative impacts are impacts of the proposal in conjunction with impacts from other sources. However, in order to convey the

significance of potential impacts expected from the proposal it is useful to describe the context in which these impacts may occur, e.g., the existing damage to intertidal areas from visitor use, or the likely decrease in fish populations through other pressures.

57.8

A worst case analysis regarding oil spills is not required. See response to Comment 14.10. The oil spill model provides a thorough examination of spill probabilities and trajectories. It is based upon the best available wind and current data and resource estimates, a rigorous examination of spill rates, and a technically sound simulation of oil spill movement. The conditional probabilities provided by the model indicate the probabilities of a spill striking a resource assuming a spill occurs. The impact analyses in Chapter IV go further, and discuss both the potential impact to resources should a spill occur, the likelihood of impact. Given the thorough analysis of oil spills provided by the model and impact analyses, further speculation as to what a "worst case" may be is not required. See Village of False Pass v. Watt, No. A 83-176 Civil, slip op. at 49 (D. Alaska May 6, 1983).

The Department of the Navy and EPA have been requested by MMS to provide all available pertinent data regarding the designated low-level radioactive waste dumpsite in the proposed sale area. Appropriate revisions to the text have been made to clarify the location of the site and describe the potential hazard. Additionally, a lease stipulation has been developed and included in the EIS which would effectively mitigate potential conflicts or hazards associated with the dumpsite, even though no hazards materials are known to have been dumped other than one scuttled ship containing munitions.

57.9

The MMS is aware of the Chambers study and has referred to it in the final EIS. Additionally, new and rare species have also been reported in studies conducted as a result of the biological lease stipulation imposed on OCS leases in the area. The MMS will continue to evaluate the results of pertinent biological studies being conducted in the area. All pertinent information will of course, be used at appropriate decision points which follow a lease sale (approved of exploration or development plans, involving of biological stipulations). A list of studies currently underway is included in Appendix N of the final EIS.

57.10

MMS has initiated consultation with FWS and NMFS as required by the Endangered Species Act, regarding the leasing and exploration phases of the proposed sale. The consultation will be based on the best available data, and the biological opinion will be available prior to a decision on the proposed sale. Regarding the studies cited by NRDC in this Comment, progress reports on these studies have been made available to MMS during the course of these studies. The draft final report on the Marine Mammal and Seabird Study is due in August 1983 and the final report is due in October 1983. The draft final report on the Commercial and Sport Fishery Oil Toxicity Study became available in May 1983. The final report on the Risk Assessment study became



available in January 1983. During the course of consultation pursuant to the ESA for this proposed sale, FWS and NMFS were notified of the availability of all the pertinent information available to MMS. Final results of all these studies will be available prior to any further consultation that may be conducted prior to development which may result from this proposal.

Response to: Pacific Coast Federation of Fisherman

- 58.1 Comment noted. This EIS addresses this issue.
- 58.2 The EIS has been revised as appropriate.
- 58.3 The EIS has been revised as suggested.
- 58.4 The EIS has been revised as suggested.
- 58.5 The EIS addresses issues. It is not clear from the Comment what additional analysis is needed. Efforts are being made to establish a fisheries-oil industry clearing house to handle matters such as traffic problems, but progress is slow due to difficulty in obtaining the fishing industry's half of the funding.
- 58.6 The Fishermen's Contingency Fund was recently improved and probably is the best fund to apply to for lost of gear and vessel damage. The fund will pay for essentially all costs including repair or replacement of gear, and lost fishing time. Unlike the Fishing Vessel and Gear Damage Fund, the Fishermen's Contingency Fund pays replacement of the gear, not depreciated cost of replacement, if the gear cannot be repaired. Both funds pay for lost fishing time based on 25% of the gross income (for ease in accounting). This should cover lost profits. And finally, if fishermen apply to the Fund within 15 days of returning to port and if the damage occurred in an area where there are OCS activities, fishermen do not have to show OCS activities caused the damage; the fund assumes OCS activities caused the damage.
- 58.7 The EIS addresses these issues. It is not clear from the Comment what additional analysis is needed.
- Also see Centaur Associates Inc. (1981), a study funded by DOI, which addresses port conflicts at several central and northern California ports.
- 58.8 The EIS has been revised as appropriate.
- 58.9 The EIS has been revised as appropriate. See Section II.A.1.e and IV.B.
- 58.10 As indicated in the EIS, the oil Spill Pollution Fund is available to compensate fishermen for losses due to oil spills (see Section IV.B.9). Damages from discharges are not expected. Also see Sections II.A.1.e, II.A.1.f and IV.B.

58.11 The EIS addresses the limitations of this fund. MMS recommends that the Commentor also review the Fishermen's Contingency Fund. Recent revisions to the latter fund have substantially improved it, and this fund probably now has fewer limitations than the Fishing Vessel and Gear Damage Compensation Fund, see response to Comment 58.6.

58.12 The EIS addresses this issue. It is not clear from the Comment what additional analysis is needed. See Section IV.A.8b and IV.E.2.c.

58.13 The EIS addresses these issues. It is not clear from the Comment what additional analysis is needed. See Section IV.E.2.c.

58.14 The EIS has been revised as appropriate.

Response to: Pacific Seafood Industry, Inc.

59.1 See response to Comment letter 15.b on the toxic effect of muds and cuttings and Section IV.A.8.

Response to: Salmon Trollers Marketing Association, Incorporated

60.1 Your Comment is noted.

Response to: Save Our Shores

61.1 See response to Comment 57.1.

61.2 See response to Comment 14.2.

61.3 See response to Comment 13.1.

61.4 See responses to Comments 13.1 and 57.1.

61.5 See response to Comment 14.4.

61.6 The proposed sale includes approximately two million acres lying offshore, generally south of Morro Bay and north of Point Conception. It is not realistic to include alternative for a proposed action outside of the proposed sale area.

See response to Comment 15c.6.

61.7 We agree it is important to understand the significance of the mortality. However, the DEIS states that in the case of the sea otter this determination is impossible until it is determined if the population stable. If the population were still growing at 5 percent per year, recovery would be expected within 20 years. However, the population appears to no longer be growing, but whether it is at carrying capacity is still not clear. Many other species have similar limitations. We were unable to locate the statement indicated on p. 1-182 and 4-243.

61.8 The discussion presented in the No Sale Alternative provides the impacts associated with the future of the environment without the proposal. These impacts are taken into consideration in the cumulative sections for the various resources see Section IV.E and IV.0.

61.9 The final EIS will include further discussion of cumulative impacts. See responses to Comments 14.9 and 57.7.

61.10 The loss of jobs as a result of an oil spill is not likely to occur, because the impact of oil spills are temporary in nature. It is also important to recognize that no one expects an oil spill but rather that there exists a probability of an oil spill occurring. The language in the EIS is admittedly misleading if one doesn't read the portion which defines "expected".

Although the descriptive section on recreation and tourism covers central California in a somewhat general fashion the impact section has been revised (to be more specific in addressing probable impacts both within then the proposed sale area

(Pt. Conception and Morro Bay) and the areas outside the proposed sale area potentially affected.

- 61.11 According to the oil spill model results, which include our transportation and development scenarios, the risk of a major oil spill affecting Southern California did not warrant equal emphasis of assessed spill impacts in that vicinity. Should a major spill occur and contact the coastline of Southern California as a result of Sale 73 the impact on the recreation and tourism industries is likely to be temporarily severe. However, the probability of such an occurrence is extremely low.
- 61.12 We have revised the section on impacts to Visual Resources from the proposal and tried to be less simplistic in describing off-shore viewshed impacts from structures.
- 61.13-14 We agree that recreation and tourism are interrelated. We have revised our descriptive and impact sections on both these topics in an attempt to clarify differences and recognize similarities.
- 61.15 It's an attempt to describe the range of impacts likely to recreation and tourism along a coastline intermittently affected by a large oil spill. As is evident at several popular beaches along the Central California coast, tar balls are a nuisance but not a deterrent to beach use.
- 61.16 Your Comment is noted.
- 61.17-18 The landscape is expected to be altered only slightly if recreational areas are affected by pipeline construction. You are correct in noting that our assessments are opinions. However, these are based on reference to and study of similar situations.
- 61.19 In a recent U.S. Supreme Court unanimous ruling regarding the restarting of an undamaged 3 Mile Island nuclear-generator, the Court held that Metropolitan Edison Co. v. People Against Nuclear Energy, 51 U.S.L.W. 4371 (U.S. April 19, 1983) (No. 81-2399), psychological impacts or personal anxiety were beyond the scope of NEPA requirements. Nonetheless, if the media continually expands on perceived changes caused by OCS exploration and development, it is likely to become a self fulfilling prophecy, i.e., tourists are more likely to avoid an area if they are told its likely to be ugly when they get there.
- 61.20 Woodward and Clyde conducted field transects along the coast along with the overflights. Published references were used at some locations where studies had been conducted and discussed more fully in a previous EIS (Sale 53). Several intertidal experts familiar with portions of the coast were consulted.

- 61.21 The statement of possible toxic related mortality is primarily due to the fact that the toxic components of oil weather quite rapidly in an open sea oil slick. Spills reaching shore after a few hours probably would have little toxicity remaining. Woods Hole investigators and other groups have studied toxicity of petroleum hydrocarbons. However, the Comment didn't indicate which Woods Hole work they were referring to. Since the most noted work conducted at Woods Hole involved refined No. 2 fuel oil, we assume this is the work the Commentator is referring to. We should note that refined oil is far more toxic than crude oil, although crude oil has been also found to be toxic.
- 61.22 This is not contradictory. We believe that the sensitive areas of Table III.B.1.1 have a higher potential impact than other intertidal areas not listed. The estuaries are listed in Table III.B.7-2 & 3. The EIS, however, has been changed on p. 4-93 to more strongly indicate that we are discussing intertidal areas, not estuaries.
- 61.23 No numerical estimate of production to, or economic value of, Morro Bay will be made. On page 4-130, the fact is that estuaries, including Morro Bay, are important to coastal ecology. Potential impacts to estuaries north of the sale area are discussed in Section IV.E.2.g and San Francisco specifically on page 4-136.
- 61.24 The statement that "Multiple spills are not expected" means that only one spill greater than 1,000 bbls is expected for the proposal. Therefore, impacts associated with multiple spills of this magnitude are not expected to occur. Multiple spills a few (1-10) gallons or even a few barrels can be expected, but should have no significant impacts.
- 61.25 We concur that 1982 and 1983 demonstrated abnormal not average weather conditions. Until the scientific bases for determining major future weather patterns becomes more absolute, the best method of predicting average conditions is relying on past recorded history. Oil and gas structures installed offshore are designed to withstand abnormal, not average weather conditions. The impact of the dumping of permitted effluents from OCS operations on water quality is discussed in Section IV.E.1.a. (EPA Monitoring Study results.)
- The data are still good measures of potential future storm waves (in the extreme) even though the data are 30 yrs. old. We have more recent data from the MMS funded meteorological Buoy Network. The largest single wave in the record in 1981 and 1982 is 30 feet. The vast majority of waves (>90%) are 10 feet or less in height.
- 61.26 We agree the CCMS data are necessary for analysis but feel they are too detailed to be included in the EIS and so refer readers to the original report.

- 61.27 Thank you for the references. Since the analysis of the effects of potential imparting agents on cetaceans (See Section IV.E.2d) indicate the impacts on cetaceans are expected to be low, it seems unnecessary to document the ecology in detail but rather than reference other works.
- 61.28 We are aware of the MMS-funded study on industrial disturbance as discussed here. The Beaufort sea portion of study is not discussed in our EIS since bowheads do not occur in California waters. Only preliminary verbal reports of the gray whale analyses were available as of this writing. We believe these data support our statements, and do not feel that further Comment is appropriate until the investigation is complete.
- While it is true limited information is available on whales, the EIS does not indicate that those studies referenced are the only ones available. Rather those references that seem to be representative of the literature are used even though they may not be the most recent references.
- 61.29 We are still trying to understand how industrialization disrupts or enhances human social interactions and the knowledge of these interactions on cetaceans is minute by comparison. We feel at this time there is no evidence the level of OCS hydrocarbon activities expected off the coast will disrupt the social structure or habitat utilization of cetaceans species with the possible exception of those discussed for the gray whale. However, we will evaluate usage of this type of information in the future.
- 61.30-31 The impression is correct. The Geraci and St Aubins study indicates contact effects of oil are minimal and apparently transient.
- The reference on avoidance will be included.
- 61.32 There is only one large spill (1000-10,000 bbl) estimated to occur as a result of the Proposal. A spill this size might cover 10 miles of coastline, and cover the water for a fraction of the migratory period. Consequently, given the response to 61.30/31, we believe there is no significant impact.
- 61.33 Thank you. The analysis is misleading. We will attempt to rewrite this issue.
- 61.34 Whales do not depend on kelp beds to the same extent as otters and tend to move offshore when disturbance occurs. It is true, however, that the nearshore preference of gray whales may lead to a slightly higher mortality for calves. See also response to Comment 61.24 above.

We agree that all of the marine vertebrates are dependent on these patchy resources. However, little if any mortality of these resources are predicted.

- 61.35-37 Boat traffic and other noise apparently has less affect offshore than in lagoons, especially breeding lagoons. If OCS activities were expected to significantly change utilization of harbors or areas that are heavily used by whales impacts would be different. Although considerable traffic occurs in Los Angeles harbor and offshore areas in Southern California, gray whales still utilize these areas. Platform noises are thought to be less significant than much of the boat traffic. The effects of seismic vessels is uncertain. Preliminary results of the Bolt, Bernack & Newman study funded by MMS are cited in Chapter IV.E.2.d. However, over all, in spite of tremendous increases in oceanic disturbances caused by humans and the fact that seismic activity has been ongoing for over a decade, the gray whale population has continued to increase.
- 61.38 Additional spills will be discussed in the cumulative impacts portion of section IV.E.2d.
- 61.39 Turbidity around platforms extends for a relatively short distance. See section IV.A.8a (water quality) for more details.
- 61.40 Considering the small number of sightings of right whales, the probability of one spill in 25 years contacting a right whale is extremely unlikely. In addition, very few species have a natural mortality to young as low as 10 percent, and although theoretical population curves are as you describe, these are not acheived under "natural" circumstances. Biologically, one right whale death is still estimated to be very low.
- 61.41 The EIS must balance informational needs set up by NEPA against page limitations. Since the DEIS describes the characteristics of groups, such as the alcids, that are necessary for impact analysis, and since details of most life histories are available in any library, it seems inappropriate to include these types of data in the EIS.
- 61.42 The major bird feeding areas in the Santa Maria Basin are off Point Conception and north of San Miguel and Anacapa Islands. These areas are included in the oil spill model by including the 6 mile boundary around the northern Channel Islands. In the southern California EIS, major offshore feeding areas are included because they cannot be otherwise defined and the continental shelf is much broader.
- 61.43 We were aware of data on the concentrations of brown pelicans, and are aware their major feeding ares are within the Sanctuary which is a target for the oil spill model. Consequently we discussed them and do not believe our conclusions are misleading or premature.
- 61.44 The DEIS does address potential tanker spills from tankering to San Francisco. This information is included in the most likely and mean conditional oil spill scenarios.

61.45 Feeding areas are included indirectly in several cases because a buffer zone around an area such as Anacapa is considered. This represents approximately the 10 km feeding areas described by U.C. Santa Cruz. In northern and central California coastal areas approximate shallow feeding areas because the continental shelf drops off much more rapidly than in southern California.

In the next EIS (southern California) coastal and offshore feeding areas are considered in more detail. However, in many instances these areas are not static (example, anchovies) and cannot be accurately predicted.

61.46 The resolution of the OSRAM model is about 2 miles and therefore coastal feeders are considered. See Comment above also.

61.47 We will consider the possibility of open sea spills in the FEIS

61.48 We agree and will expand the discussion.

61.49 Your statement has been added to the EIS. Feeding areas and coastal useage for brown pelicans are now discussed in the endangered species Section IV.E.2.f under pelicans.

61.50 See response to Comment 61.49 above. Also, brown pelicans are a highly mobile resource and areas of concentration may vary from year to year.

These paragraphs have been rewritten for clarity, although we think they were accurate.

We know of no specific references of oil spills impacting estuaries within the sale area. A lot of work has been done in San Francisco Bay on pollution, some of which are petroleum hydrocarbons. Some of these studies were included in the estuary section of Sale 48. The bay, however, has so many pollution sources that separation of impacts caused by individual sources is difficult.

61.51 The EIS has been revised as appropriate.

61.52 Although when the amount of oil as compared to our yearly imports may be insignificant, the local market which this proposal will supply would back out an equal portion of import oil, thereby reducing our dependence on oil.

61.53 The total number of predicted spills as a result of the proposal when added to those from existing activities or the reasonably foreseeable future sale, is presented in Section VI.A.

61.54 See response to Comment 14.9.

61.55 See response to Comment 61.50b.



- 61.56 The 0.2 spills estimated for Oregon land segments are considered as "no spills" and were merely cited in response to specific request from the State of Oregon.
- 61.57 Table IV.E.2.e-2. tabulates species and their relative importance on San Miguel.
- 61.58 This table is taken from another report. Brown pelicans are discussed separately in the Section, but are not particularly vulnerable to oil since they tend not to feed in oil covered waters. Xantus murrelets nest on Santa Barbara Island, considerably south of any areas likely to be contacted by an oil spill and so are not discussed.
- 61.59 In fact some estimation is involved but it is very important to try and place OCS impacts in context with impacts that occur regularly under "natural" conditions, and we do have a great deal of information. Huge rafts of birds killed off the French Coast in a storm; no murie reproduction on the Farallons in an El Nino Year; fifty percent less pelican reproduction than usual due to loss of the anchovies early in the season, loss of the season's elephant seal pups due to a 20 year storm. All this information tells us the kinds and levels of losses that these populations withstand at varying intervals.

Response to: Sierra Club--Loma Prieta Chapter

- 62.1 Comment noted.
- 62.2 See response to Comment 14.1.
- 62.3 See response to Comments 14.2 and 14.3.

Response to: Sierra Club  
San Francisco

- 63.1 See response to Comment 57.1.
- 63.2 See response to Comment 14.6.
- 63.3 See response to Comment 14.4.
- 63.4 See responses to Comments 57.8, and 14.10.
- 63.5 See response to Comment 15b.11.
- 63.6 Your Comment is noted. All data for Lease Sale 53 has been included.
- 63.7 The EIS has been revised as appropriate.
- 63.8-9 See responses to Comments 61.6 and 57.5.

- 63.10 See response to Comments 15c.6 on the geohazard stipulation.
- 63.11 See response to Comment 57.6 on the biological stipulation.
- 63.12 See Sections IV.A.4.b, IV.A.8.b and references in these sections to prior EIS's.
- 63.13 Interior is currently considering incorporating evaporation, spreading, and other factors. As the techniques for more sophisticated modeling are developed, they are evaluated and incorporated if appropriate. The model and its inputs have been upgraded significantly and are constantly being evaluated and modified. The Davidson Current is incorporated into the model.
- 63.14 Small spills cause the least impacts, are lost most readily to the environment through natural forces, and occur most often in areas where cleanup capabilities are best. They are therefore not considered significant impact producing agents.
- 63.15-16 Oil spill containment ability will be limited tremendously by rough weather - i.e., seas greater than 6-8 feet, winds greater than 20 knots, and very large spills will be difficult to contain, making chemical dispersants an option necessary for consideration. The location of inventory of equipment is listed in the Appendix.
- 63.17 The amount of land required for onshore facilities is a function of the size and location of discoveries. The average acreage of a facility can be determined, but the actual number of facilities to be located in California at this time can not be determined. All facilities will have to be approved by local jurisdictions and receive the necessary permits required under local laws.
- 63.18 See responses to Comments 14.9 and 57.7.
- 63.19 The EIS has considered in its analysis a 100% tankering scenario. See Section N. See responses to Comments 14.10 and 57.8 on worst case analysis.
- 63.20 See response to substantive Comments in Comment Letter 58 and Sections IV.E.3.e and IV.E.2.g.
- 63.21 See response to substantive Comments in Comment Letter 21.
- Response to: Sierra Club  
San Francisco Bay Chapter
- 64.1 See responses to Comments 57.1 and 14.2.
- 64.2/3 See response to Comment 14.6.

- 64.4 The currents used were the result of a tremendous modeling effort by Dynalysis of Princeton, Inc. The current data incorporated by this model were CALCOFI, NODC, FNOC. "Code" data will be incorporated in the near future. The modeling effort has had good results, simulating difficult phenomenon to model, such as eddy patterns, the density patterns, and semi-permanent and permanent currents (i.e., Davidson and California currents).
- 64.5 Average seasonal currents were used by the Dynalysis model. Areas where spills are simulated from, each launch area and transportation areas, are assigned a particular monthly current value. For Sale 73 there were 17 launch areas (proposed for leasing) in addition to 23 already leased launch areas, 34 different tanker segments and 13 different pipeline segments anticipated from the proposal, existing leased tracts, as well as from imported crude. Thus, many more than 4 currents were used.
- 64.6 These features are accounted for by the model, and will be continually improved upon as more data become available (CODE, SUPERCODE projects). One feature recently (spring 1983) incorporated into the model is the adoption of a spatially variable grid system. This allows for a greater resolution of currents nearshore.
- 64.7 The Dynalysis model was used to generate the currents used by the OSRAM model. The Dynalysis model is an adaptation of a 3-dimensional, timedependent numerical model. The model incorporates turbulent mixing, wind and density forcing, and simulates tidal and storm surge processes. Thus, while the OSRAM model may not be numerical, the Dynalysis model generating the currents used by the OSRAM model is.
- 64.8 The EIS has been revised as suggested.
- 64.9 Table II-37 (Granville Study) give the California per capita expenditures for tourist. Table II-36 gives the summary of recommended visitor days values for coastal recreation. This is the value used in the EIS.
- 64.10 Cumulative impacts to areas outside of the proposal have been addressed in the appropriate sections.
- 64.11 The proposal will back out an equal amount of Alaskan North Slope Crude Oil. Tankering to San Francisco is a hypothetical assumption (Yamasaki, 1983). The increased tankering will be contingent upon the crude type.
- 64.12 a) See response to Comment 6.6.  
b) Methodologies for the economic impacts are described in the Granville Study (1981). Also see responses to Comments 57.4 and 64.11.

- c) See responses to Comments 64.10 and 64.11.

Response to: Sierra Club--Santa Cruz Regional Group

- 65 See Responses to Comment Letters 62, 63, 64, 66 and 67.  
Santa Barbara Chapter

- 65.a The Comments set forth in this resolution have been addressed in substantive Comments in this section.

Response to: Sierra Club

- 66.1
  - a) Only unencumbered tracts will be considered for leasing at the time of the proposed Notice of Sale.
  - b) As stated in CEQ regulations comment period for draft environmental impact statements shall not be less than 45 days (40 CFR 1506.10(c)).
  - c) Over 2,000 copies of the DEIS were mailed to interested groups, individuals, and agencies. Copies were also mailed to over 90 public access locations throughout the State. These locations were listed in the Federal Register Notice which announced the availability of the draft.
  - d) It was determined that Santa Maria was a centralized location for the Counties of San Luis Obispo and Santa Barbara. This would allow individuals from each area to attend the public hearing.
  - e) See response to Comment 14.3.
  - f) See response to Comment 256.1. It is our contention that State and local governments, the private sector, environmental groups and the public have an equal voice in the scoping process. All issues and concerns were reviewed and those identified as significant were addressed in the EIS.
- 66.2
  - a) See responses to Comments 15b.11 and 14.6
  - b) The economic section was revised to reflect economic figures for San Luis Obispo and Santa Barbara Counties. The basis for the reliability of these models is contained in the POCs Technical Paper 83-2 (Air Quality Impact Proposed OCS Lease Sale No. 73 Offshore Central California) and POCs Technical Paper 83-4 (An Oil Spill Risk Analysis for the Central and Northern California (Proposed Sale 73) Outer Continental Shelf Lease Area).
  - c) Consultation and coordination with Federal, State and local governments agencies, environmental groups, industry, and individual citizens is an ongoing process. Public input for

Proposed Sale No. 73 began with resource inventories of Central and Northern California, call for nominations and Comments, request for resource information, and the scoping process (See Section V).

- d) See Section III.C.4.
- e) See response to Comment 14.7.

66.3 a) See response to Comment 15a.17

b) Studies are presently being conducted.

c) Comments on NPDES permit is correct. Water quality was analyzed in Section IV.A.4.b and IV.A.8.

d-f) Your Comment is Noted

Cleanup capabilities are indeed controversial. There is at present \$15 million invested in oilspill cleanup equipment, tremendously improving response capabilities over those available at the time of the 1969 Santa Barbara Spill. Much effort is made in contingency planning, field drills, and training. Cleanup in rough weather and along inaccessible rocky shores is very difficult. Research continues in evaluating the best cleanup strategies for the varying environments found on the California shore. See response to Comment #53 on chemical dispersants.

g) Water quality was analyzed in Sections A.4.b and IV.A.8.

h) The EIS has been revised.

i) Your Comment is noted.

66.4 The EIS has been revised where appropriate, see response to Comment 38.13.b. Cumulative impacts are being reevaluated.

66.5 See response to substantive Comments San Luis Obispo County Air Pollution Control District and Comment Letter 21 on air quality.

66.6 These economic factors have been reviewed and the EIS has been revised where appropriate.

66.7 Comment Noted. See Sections III.C.9 and IV.E.3.i.

response to: Sierra Club  
Ventana Chapter

67.1 See Response 6.6

67.2 As these studies show we are continuing to update our data base all available information from these studies has been reviewed by the staff and has been taken into consideration by the resource specialist during their analysis.

67.3 The EIS is based on long-term weather data in order to present a representative analysis. Short-term anomalies do occur periodically. However, extremes observed over a long time period will tend to reflect anomalous events. It is true that a climatic change may take place, but we do not know whether it is a short-term or a long-term phenomenon. Since it is highly speculative to predict major climatic changes, we can rely only on long-term historical data to give us a reasonable representation of expected climatic conditions.

Response to: State Park Peace Officers Association

68.1 Your Comment is noted.

68.2 The sublethal effects of increased hydrocarbons are discussed in Chapter IV.A.8. See Response 20.7 IV.

Response to: Whale Center

69.1 Avoidance was not a significant factor in evaluating impacts. However, impacts to cetaceans are being reevaluated. We appreciate your Comments on the study.

69.2 The statement on baleen fouling has been amended and the analysis reevaluated.

69.3 The discrepancy is noted and will be corrected.

Response to: Douglas A. Knapp

- 70.1 Comments noted.
- 70.2 Concerns noted. Lost fishing space is discussed in the EIS.
- 70.3 Concerns noted. These impacts are discussed in the EIS as appropriate.
- 70.4 MMS realizes that drill cuttings and muds will have some effect on biological resources, but we do not feel there is sufficient justification for disallowing the dumping of drill muds except where unique species may be impacted.
- 70.5 MMS realizes that geophysical research may have some impact on biological resources. However, geophysical research has been conducted since the mid 1960's in California and there is no indication that biological resources have been harmed to our knowledge. Thus, MMS does not feel there is sufficient justification for a moratorium on geophysical operations at this time. However, MMS will work with the fishermen and the oil companies to study this issue (also see Response PHA 14.7).
- 70.6 Although some impact to fisheries resources may occur, we will continue our efforts to keep these impacts to a minimum.
- 70.7 See Response 105.5
- 70.8 See Response 105.4
- 70.9 The 30-fathom curve area of concern to fishermen is almost entirely inside state waters, and MMS has no permit authority over oil drilling in this area. The portions of the 30-fathom curve area of concern to fishermen in federal waters are addressed in Alternative IV or have already been leased.
- 70.10 See response to Comment No. 58.5 and 58.6.
- 70.11 Comment noted.

Response to: Lee Ivy

- 71.1 Comment noted. The presently expected resource estimated are given in Table II.A.1.c-1.
- 71.2 Sections IV.E.3.a, and b present an analysis of the increase to coastal economy and demography from this proposal. Also see Tables IV.E.3a-1 and IV.E.a-2 in the FEIS.

- 71.3 Air quality and water quality impacts as a result of the proposal are presented in Sections IV.E.1.a. and c.
- 71.4 Your comment is noted. The effect of oil spills and muds and cuttings are presented in Sections IV.A.4.
- 71.5 See response to Comment 21.15.
- 71.6 The oil industry and government have made tremendous progress in improving the safety record of offshore drilling and production. This is probably due to the improving technology, tougher regulations, and the higher drilling costs and value of oil and gas. Where the human element is involved there will, however, always be the risk of accidents/mishaps, but the industry continues to make every effort to reduce this possibility. The estimate occurrences and contacts to the land segments, special target areas, and the sale area on the whole, are included in the Appendix, and the text.
- 71.7 Section IV.A.4. These values are not the expected impact values but are potential, what could happen if a spill did occur.

The accident spill rate (oil spill per billion bbls) is lower for tankers than for the combined use of platforms and subsea pipelines (Table IV.A.4-1).

The hypothetical transportation scenario developed for this lease sale considers tankering 25 percent of the total prediction to the Gulf for refining. This would be necessary due to the low quality of the crude. Also, refer to the discussion of impacts for the 100 percent tankering scenario in the FEIS (IV.N.)

#### Response to Laurie Bevan

- 72.1 As the reader has stated, impact levels to sandy intertidal beaches could be high if the spill remained for several tidal cycles. Based on the oil spill risk analysis model, the land segments which correlates the sandy intertidal areas are not expected to be contacted by an oil spill (see Appendix F). Therefore, these impacts would be designated as low.
- 72.2 These contradictions have been corrected.
- 72.3 A discussion of bioaccumulations is presented in Section IV.A. We are continuing to update our data base and gather new information (see Section I.G.). At present sufficient information exist to permit a reasoned choice among alternatives.
- 72.4 We are continuing to update our data base, but sufficient information at present exists to make a reasoned choice among alternatives. No oil spills are predicted to contact any land segment (see Appendix F), therefore the main analysis is on seabirds.



72.5 Your comment is noted. Additional studies are being considered see Section I.G.

Response to: Gordon L. Chan

73.1 These sites are considered sensitive based upon literature reviews, and field work as well as the Woodward and Clyde study. In addition several intertidal experts familiar with portions of the coast were consulted. Topography and isolation were additional criteria used. There is also a good correlation between these areas and areas identified as ASBS.

73.2 Intertidal species have incorporated by reference. We refer you to the FEIS for Lease Sale No. 48, and 53.

73.3 The EIS has been revised include these species.

Response to: Lee M. Lambert

74.1 As you are aware, the CEQ regulations do not require a cost benefit analysis to be included in an EIS. Neither is the EIS the only document available to the Secretary in making his decision. The Secretary will, of course, consider the balancing of the National interest with the well-being of the citizens of the State, as required by Section 19 of the OCS Lands Act, as amended, prior to making a final decision on the sale. Additionally, the EIS for the proposed lease sale will be considered by the Secretary in making his decision on whether to offer for lease tracts considered in the proposal. It will not be the basis for the decision whether to accept bids that may be received on tracts which are eventually offered for lease.

Response to: Albert C. Cattoir

75.1 As the reader has stated withdrawal of fluids can cause reservoir compaction. Most of the observed cases of subsidence (Wilmington and Inglewood Fields) are where oil was withdrawn close to the surface. The particular hydrocarbon bearing formations present in the Diablo Canyon area are far more resistant to compaction. To date, withdrawal of fluids from this formation in other locations has shown no evidence of subsidence. Also see Section IV.A.10 on reinjection of fluids to mitigate subsidence.

Response to: Phil Ashley

76.1 MMS is the reorganization of the OCS Divisions of BLM and USGS Conservation Division.

76.2 See response to Comment 14.2.

76.3 See response to Comment 14.1.

- 76.4 See reponses to Comments 13.1 and 14.3. USFWS was present at the public hearing to hear the concerns and comments raised on the biological environment for this proposal.
- 76.5 The concerns that were raised are addressed in the EIS see Sections IV.E.2.c and IV.E.3.e and f.
- 76.6 See responses to Comments 15c.27, 15c.28, and 15c.29.

Response to: Sandy Olliges

- 77.1 The resources within the proposal will provide the local markets with oil and gas (see Section II.A.1.d). Also see response to Comment 80.6.
- 77.2 See response to Comment 15a.17.
- 77.3 Your comment is noted.
- 77.4 See response to Comment 14.7, and Section V.F.3.

Response to: David Goodison

- 78.1 Your comment is noted.
- 78.2 The EIS has been revised see Section II.B.
- 78.3 The EIS has been revised see Section IV.E.3.a,b,c, and d.
- 78.4 See response to Comment 22.32.
- 78.5 Your comment is noted.

Response to: Barbara Massey

- 79.1 The impacts to these species from the construction of the El Estero fabrication yard is discussed under cumulative impacts.

Response to: Richard Brumley

- 80.1 See response to Comments 15b.1 and 15b.2.
- 80.2 Chemical treatment of oilspills is still very tightly controlled (Smith and Pavia, 1983). In the past several years much research has been initiated. As we learn more about oil spills, conventional cleanup techniques, chemical dispersants, and their relative impacts and efectiveness, a larger range of cleanup options can be considered. The ultimate goal, of course, is minimizing environmental impacts in the event of a spill. MacKay et al., (1983), have done work determining the effectiveness, behavior, and toxicity, of dispersants, Equations have been proposed describing the processes undergone by dispersed slicks, dispersant efectiveness, and the toxicity of dispersants. The purpose is to establish a "predictive framework"

to be able to identify the overall impacts of using dispersants, and the best strategies of removing spilled oil. Bilfillan et al., (1983), compared the effects of dispersed and non-dispersed oil on intertidal infaunal community structure. The conclusions of their work were that: 1) no evidence of any adverse effects was observed using dispersed oil under real spill conditions; 2) there was clear evidence that the undispersed oil treatment resulted in the mortality of commercially important bivalves, allowing increased densities of opportunistic polychaete worms; and 3) the consequences of untreated-oil areas were consistent with real-world spills. Page, et al., 1983 studied the long-term effects of dispersed and undispersed oil in nearshore environments (less than 4 m deep). The conclusion was that incorporation of dispersed oil into the intertidal benthos is small compared with shoreline oil impacts followed by conventional cleanup procedures.

80.3 Your comment is noted.

80.4 All ambient air quality standard would be met in this proposal see Section IV.E.1.c.

80.5 The EIS has been revised see Section IV.C.

80.6 Daily imports to the US were about 6 million barrels/day in March 1981. The US imports approximately 40 percent of its crude oil which is about 22 percent of the total energy demand of the US. (World Energy Outlook, 1980)

Response to: Michael L. Hodgson

81.1 Air quality impacts are described in Section IV.E.1.c.

81.2 Impacts from muds and cuttings are addressed in Section IV.A.

81.3 Due to the individual subjectivity regarding visual aesthetics, our impact analysis was based on a study (The Granville Corporation, 1981) which used an objective rating system based on landscape architectural standards to classify each part of the California Coast. The impacts are given in Section IV.E.3.i and the study criteria is fully explained in Technical Paper POCS 81-5.

81.4 The potential impacts to tourism from the introduction of offshore structures and from the onshore physical sources associated with oil and gas development are given in Section IV.E.3.h. Unfortunately the page which gives this information was accidentally omitted from the DEIS.

81.5 Studies have not provided evidence to date for biomagnification of hydrocarbons through the food chain but bioaccumulation does occur. Metals from muds may be taken up by some benthic invertebrates (not all) but these animals appear to rid themselves of metals naturally (subsequent to drilling). For a more complete discussion, refer to

81.6-7 These issues are addressed in Section IV.E.2.d.

81.8 If a spill did occur, Diablo Canyon Nuclear Power Plant would be able to shut down prior to a spill contacting the plant.

81.9-10 While it is true that the oil industry cannot guarantee no oil spills (whenever there is the human element involved, there is the risk of a mistake), every effort is made to avoid them. The technology of drilling and producing oil and gas offshore has improved tremendously over the past 10 years or so. This is in part due to the tremendous public outcry for environmental protection and the resultant strict environmental regulations and monitoring of operations, and in part due to the necessity to search for resources in increasingly difficult environments as more accessible sources are depleted. The oil industry in fact has an excellent record. For every billion barrels of oil produced from platforms on the U.S. OCS 1 spill ( $> 1,000$  bbls) occurs (see Table IV.A.4-1). As a result of this Proposal, 291 million bbls of oil are to be developed (most likely resource estimate). Yes, one large spill is statistically estimated to occur over the 25-year anticipated life of activities resulting from this proposal, but this one spill is not thought to contact any land segments or resource targets (see Section IV.A.4.a.), with the possible exception of the northern Channel Islands.

At the time of the 1969 Santa Barbara spill, virtually none of today's regulations and safeguards existed. In fact these safeguards, such as blowout preventors, make a repeat of the '69 spill highly unlikely today. In addition, largely as a result of the '69 spill, the oil industry has set up clean-up cooperatives which have large amounts of oilspill cleanup equipment (\$15 million worth), frequent training exercises and drills, and large operating budgets (see Section IV.B.2.).

The 1979 Ixtoc Spill took place in Mexican waters, not subject to U.S. regulations for drilling operations.

For dispersants, see response to Comment 53.2 and Section IV.B.2.

There is currently an investigation underway by the MMS and the U.S. Coast Guard of an oil company not properly reporting several small spills, and for misusing dispersants.

81.11 Local labor is expected to be employed in 222 of the 487 permanent jobs. The other jobs are expected to be filled by immigrants. The total increase in local economic activity is expected to be in excess of \$90 million. In the event marginal economic activities exist, they could be removed, but only by more economically viable activities.

81.12 While the popular conception is that oil can be recovered instantly, it requires 5 to 10 years to bring a platform's full production, thus, an abundance of oil today does not permit a lapse if oil is to

be brought on stream when needed. As to the economic benefits to oil companies, the preference of any company is to have stable prices and cost. Investment in exploration and development is based primarily on current cost and prices.

81.13 See responses to Comments 14.2 and 14.3.

## 2. Public Hearing Comments

A public hearing was held on April 13, 1982 in Santa Maria, to receive comments on the DEIS. All testimony was recorded and transcribed and transcripts are open to public inspection in the MMS - Pacific OCS Region, 1340 West Sixth Street, Los Angeles, California 90017, (contact John Lane at 213/688-6741), for Lease Sale No. 73 EIS files.

Approximately 189 people gave testimony at the public hearing. Speakers at the hearing indicated either their support or opposition to the proposed action. The testimony was reviewed by the EIS staff to identify the pertinent issues concerning the adequacy of the document. Issues which were identified are listed below. These issues have been responded to by either revisions in the FEIS as appropriate or under written responses in this Section.

### HEARING ROOM A

Steven Stanley  
Kurt Kupper  
Jerry Belair  
Julia A. Bott  
Reverent Clarke Wells  
Bruce Risley  
Charles Arkins  
Cheryl Ward  
Laurie Rubenstein  
Effie McDermott  
Steven Paige  
Thomas L. Richards  
Thomas Burns  
Gordon Cota  
Kelly Daniels  
Anne A. Jenkins  
Donald W. Bailey  
Geoffery Palmer  
M'May Diffley  
Rick Hoffman  
Lois Sidenberg  
Robert Lane  
John Ledbetter  
Connie Parris  
Joan Kerns  
Susan L. Miller  
John Luther Mohr  
(Delivered by Fred Eisler)  
Jack O'Connell  
(Delivered by Carla Frisk)  
Catherine Morton  
Alan Hur  
Doug Knapp  
David Nelson

Bob Shriner  
Amie Shore  
Charles Varni  
Mitchell Azus  
Willie Galvin  
Diane Kopeck  
Richard Robbins  
Donald Smith  
Jackie Marcus  
Ruth Brackett  
Katy Ryan  
Hershey Julien  
Fred Eissler  
Joan Leon  
Bill Coy  
Paul Crawford  
Travis Evans  
Jody Giannini  
Janice Clucas  
Anna Alexander  
Scott Busby  
Bill Couch  
John Morgan  
Debby Hair  
Rosa Wyglendowski  
Lorna Moffat  
Don Coleman  
LeRoy Crew  
Jim May  
Gloria Jameson  
Susan Case  
David Werner  
Clark L. Moore  
Rod Calderhead

HEARING ROOM B

Senator Henry J. Mello  
(Delivered by Kevin L. LaGraff)

Bill Wallace  
Nathaniel Bingham  
Fred Eissler  
Patrick Mason  
Tom L. Wright  
Rita Com  
Esthen Kaplan  
Dr. Zelpha M. Bates  
Congressman Lagomarsino  
(Delivered by Ned Bedwell)

Arthur O. Spaulding  
Dr. Nell Langford  
Richard Brumley  
Althea Cook  
Rev. Clark Wells  
Steve Vidal  
Scott Marshall  
Stella James  
Robert S. Wolf  
John Rosenthal  
William G. Martin  
Tony Krause  
Kenneth Morton  
G.C. Tunnell  
Raymond Routree  
Trent W. Orr  
Edith Schrader  
G. Nelson Wolfe  
Phoebe Jean Cartwright  
Garnell Atkins Dove  
John Hunt  
Mary Lou Biggs  
Catherine Fox  
John Murray  
Marvin Wanetick  
Beryl Reichenberg

George C. Smith  
William Denneen  
Frank Donahue  
Richard Torbik  
Franklin Baer  
Karen Worchester  
Mavis Griffith  
Ed Griffith  
Edward Brenneman  
Jeanne Chizek  
Carol Fulton  
Juanita Cuallie  
Beverly Haynes  
Effie McDermott  
Kathleen Goddard Jones  
Michael Orians  
John C. Hartman  
Manuel Magana  
John Ashbaugh  
Bonnie McKrill  
Lorna Moffat  
Sue McKechnie  
Nancy Bast  
Nelson Sullivan  
Stewart Jenkins  
H. W. Meyer  
Warren Kirkwook  
Gene Shelton  
Evelyn Delany  
Lois Barber  
George Crane  
Tom Ashbrook  
David Rhiner  
Clyde Tograssini  
Kent Maul  
Patrick McGibney  
Lindi Doud  
Arthur Sandusky

## HEARING ROOM C

Jeff Jorgensen  
(Testifying in place of Ron Di Carli)  
Warner Chabot  
Steve Devencenyi  
(Testifying in place of Robert Carr)  
Jane Wiley  
Kay Lewis  
Terry Leftgoff  
(on behalf of Senator Gary Hart)  
Ruthann Corwin  
Toru Miyoshi  
Hal Conklin  
(on behalf of Lyle G. Reynolds)  
Tom Rogers  
Arnold Dowdy  
John Kopeck  
Helen Carr  
Richard Steel  
(on behalf of Mike and Carol Stalder,  
Morro Avian Rehabilitation Center)  
Jean Buckner  
Paul Golis  
Brian Murphy  
Lou McGonagill  
Michael Feeney

Ralph Troy Hicks  
Richard Kranzdorf  
Reverend Clark Wells  
Henry Horwege  
Tom Murray  
GleenaDeane Dovey  
Robley Levy  
Lillian Kiskaddon  
Marilyn Hanson  
George L. Taylor  
Kenneth Haggard  
Roman Gankin  
Lorna Moffatt  
Rosa Wyglendowski  
David Werner  
David Ekbohm  
Frank Bush  
Forrest Doud  
Bill Richardson  
Effie McDermott  
Scovil Hubbard  
Don Funk  
Marian Mellow  
Bill Marvin

Summary of Public Hearing Comments: A summary of the public hearing comments are provided below. Responses to these summaries are provided under the substantive written comments or have been provided below.

### Public Participation

Concerns were expressed on the efforts to obtain and consider public comments on the proposal. This was based upon the lack of scoping meetings and that the request for written scoping comments was only published in the Federal Register. It was also pointed out that the period for review and comment on the DEIS was reduced from 60 days to 45 days. It was also noted that there was only one public hearing scheduled with three simultaneous sessions.

Response: See response to Comment Letters 14, 15, and 57.

### Geologic Hazards

Concerns were voiced that with the removal of oil and gas subsidence may result. It was noted that the Hosgri Fault on which the Diablo Canyon Nuclear Power Plant is located would possibly experience some movement due to subsidence.



Response: Subsidence is caused by the presence of certain geologic conditions (i.e., a thick, shallow, unconsolidated sand section, high porosities, interbedded fine-grain soils). The formations which are potential hydrocarbon bearing within the area of Diablo Canyon are more resistant to compaction and have shown no evidence of subsidence in other oil and gas producing location.

### Alternative Energy Sources

It was pointed out that conservation as alternative source was not discussed in the DEIS. Other sources include wave motion energy, solar and wind energy.

Response: See response to Comment Letter 20.

### Oil Spill, Risk Analysis, and Cleanup Equipment

Widespread concern for the adequacy of cleanup/containment capabilities with state-of-the-art equipment, in light of typical expressed cleanup capabilities cited in the EIS were rebutted. The ability to protect sensitive coastal areas, such as Morro Bay, was challenged. Continuing daily leakage of the 1969 oil spill cited as an indication of inability to control leaks.

The Oil Spill Risk Analysis Model's predictive capabilities were questioned with too much emphasis placed on its results. The model inputs of ocean currents and winds were repeatedly challenged as inadequate. Lack of nearshore current information including tidal influence, and the use of only 5 wind stations (4 onshore), were cited as examples inadequacy. Concern was expressed that the model did not account for the Davidson Current and seasonal circulation patterns. The use of Gulf of Mexico data was cited as inappropriate for California. Other issues cited as inadequately addressed include small spills, tankering impacts, refinery spills, a reported lumber spill.

Response: See response to Comment Letters 15, 22, and 24.

### Water Quality

Comments received during the public hearing on Proposed OCS Lease Offering No. 73 regarding water quality were focused on four main issues. The first concern was that drilling muds and cuttings would add toxic materials to the marine environment with subsequent deleterious impact on water quality and marine life. The second issue was that the amounts of trace metals and petroleum hydrocarbons which might move into solution in the ocean as a result of OCS oil and gas activities was not fully addressed and were underestimated. The third issue was the lack of knowledge of the long-term effects of trace metals and oil on the marine environment. The fourth issue was the lack of ocean current data for much of the area being offered for lease.

Response: See response to Comment Letter 18.

### Point Arguello Dumpsite

The cumulative interaction of all oil and radioactive impacts upon the marine environment inside and outside of the 1125 sq. miles of the Point Arguello

Dumpsite should be studied. This includes cumulative impacts of platform and pipeline construction disturbances of bottom sediments, interaction of radiological impacts of related ocean dumping, such as drilling muds and formation waters. One commentor suggested a stipulation requiring bottom surveys of lands overlying radioactive and military dumpsites.

These same concerns regarding cumulative impacts of oil and gas industry activities on the marine environment were related to other ocean areas besides the Point Arguello site.

Response: See response to Comment Letters 15, and 57.

### Air Quality

Increased OCS development could cause National Clean Air Standards to be exceeded in affected communities and could pose problems maintaining or improving their air quality.

Concerns were indicated about the impacts associated with offshore emissions and their effect on public health, agriculture, tourism, acid fog, state and federal grants and loans, and local economies. In addition, the cumulative impacts should be developed more extensively. Several commentors suggested mitigation measures, stipulation amendments, and stipulations covering drill ships, platforms and tankers. The OCS regulations were not considered stringent enough.

Response: See response to Comment Letters 15, 22, and 24.

### Fish Resources

Most of the comments addressed a need for greater specificity regarding the potential impacts on commercial and non-commercial Fish resources. Concern was expressed for impacts on fish resources and their food resources from oil, drilling muds and cuttings, seismic activity and manmade structures. Concern was also expressed for cumulative impacts.

Recommendations were made: 1) for a moratorium on seismic activities until further studies are done on the impact of this activity on biological resources, 2) for a prohibition of the dumping of drill muds, and 3) not to grant any new drilling permits inside the 30 fathom curve shoreward.

Response: See response to Comment Letters 15, 18, 19, 22, 58, and 70.

### Seabirds, Marine Mammals and Threatened and Endangered Species

Serious concerns were expressed over the potential impacts to bird and mammal populations and habitats. Mentioned most often were gray whales and sea otters. It was felt that not enough scientific data exist to adequately determine effects on the migration patterns of gray whales, and the impacts on sea otters. Also, of concern are large concentrations of seabirds, including migratory birds, which could be greatly impacted should an oil spill occur.

Response: See reponse to Comment Letters 12 and 51.

### Sensitive Biological Habitat Areas

Comments received indicated that biological habitats and potential pollution impacts which could affect its viability should have received more extensive analysis. Also, that there should be a delineation between offshore areas and onshore estuaries and wetlands. The analysis should be specific to the proposed area of lease offering in lieu of discussing generalized impacts relating to the entire California Coastline. It was recommended that studies be conducted prior to a lease offering in order to determine sensitive biological areas soft bottom as well as hard bottm areas.

Response: See response to Comment Letter 15, and 18.

### Coastal Economy - Demography

It was pointed out that four counties were used as a data base instead of the two encompassing the lease offering area. Because of this questions were raised regarding the validity of the demographic statistics cited in the EIS.

Other matters of concern included the effects of the oil industry on local economies; the number of potential employees resulting from development versus the number of recreation-and service-related industries; economic costs of an oil spill; indirect, as well as direct, costs should be considered; impact of facility sitings; economics of the fishing industry; and a deficiency of cumulative impact analysis.

Response: See response to Comment Letter 23.

### Community Infrastructure and Land Use

The DEIS requires a more in-depth analysis of oil and gas exploration and development impacts upon the community, and the community's ability to handle increases in direct and indirect population and concomitant demand for housing and services. Areas of greatest impact will be N. Santa Barbara County and the coastal areas of San Luis Obispo County-Land use policies and plans have not considered the unanticipated growth-and-conflicts may result-in industry-related infrastructure and related land use. Some mechanism is necessary to eliminate or reduce potential conflict.

Response: See response to Comment Letters 22 and 38.

### Availability of Water

Parts of California are affected by droughts and potential scarcity of water. The EIS projects the need for large quantities but do not state the source. Tourism is a major business and dependent on water resources. The discussion of groundwater resources should specify the counties and basins which will be affected by industry activities.

Response: See reponse to Comment Letters 22 and 24.

### Commercial Fisheries

Most of the comments addressed a need for specificity regarding various potential impacts to the commercial fishing industry, such as impacts caused by oil, debris, rigs and other structures additional dockage requirements, seismic activity and boat traffic. Fishery data should be relevant to a specific area of concern.

Other commentors indicated that the overall impacts to commercial fishermen should not be considered insignificant and more current economic data and multipliers should be used. Cumulative impacts should consider existing oil and gas activities and increased coast of fuel.

Several commentors questioned the adequacy of existing funds and regulations designed to mitigate impacts to fishermen.

Recommendations were made: 1) not to grant any new drilling permits inside the 30 fathom curve shoreward, 2) not to lease tracts offshore from Avila since this would lead to leasing of adjacent State tracts and increase impacts on commercial fishing, and 3) to delay the sale so that problems fishermen are experience now can be worked out before they are compounded with new activity.

Stipulations were suggested to require a Fisheries Training Program and an Industry Observer Program. Funds should be provided to determine ways to enhance commercial fishing and to study the effects of seismic activity on fish dispersal. Traffic patterns inside 30 fathoms should be estimated for supply boats, crew boats, tug and barges. The EIS should suggest mitigation measures to offset adverse effects on fishing such as bottom dragging to pick up debris and directional drilling to eliminate drilling through important fishing areas or sensitive biological areas. MMS should consider establishing a committee of Federal, State, fishing and petroleum interests which would work together to mitigate conflicts.

Response: Except for the following issues, commercial fisheries issues raise in the public hearings are addressed in the EIS or in the responses to Comment Letters 15, 18, 19, 22, 58, or 70.

1) Industry Observer Program: MMS Pacific OCS region currently has eight full time inspectors. This allows us to deal with any problems unique to this area. MMS feels our current inspection program is adequate and that non-compliance with regulations is rare.

2) Funds to Study Seismic Impacts: MMS knows that fishermen are concerned about this issue and that fishermen are working with the geophysical companies to design a study. We are presently funding seismic studies on the effects of seismic activity on whales. Regulations do not generally allow us to accept unsolicited proposals from companies wanting to do the work, but we are happy to look at study ideas or plans from independent groups such as the fishing industry. If we decide and are able to fund this study Federal regulations require that it go out for competitive bidding.

### Recreation and Tourism

Recreation and tourism are intricately tied to the economy of coastal counties, including San Luis Obispo County. Because many of cities' budgets depend on revenues derived from these sources to provide city services, concern was expressed regarding impacts which might occur if recreation and tourism declined as a direct result of oil and gas development. Additional analysis was requested for specific locations, such as Morro Bay, Pismo, Avila and Shell Beach, and the Nipomo Dunes Complex. One commentor requested that analysis be extended to San Mateo County, beyond the proposed lease offering area.

Response: See reponse to Comment Letters 23, and 34.

### Visual Degradation

Several comments indicated that oil rigs were an unacceptable visual degradation of the natural and aesthetic background.

Response: See response to Comment Letter 26.

### Industry Infrastructure

Existing facilities do not have sufficient capacity available to refine the production estimated for the most likely scenario and cannot accommodate it without upgrading or retrofiting facilities at a cost of \$2+ billion. The future availability of dock space and support facilities should be considered and a discussion given about locating a marine terminal which would receive production for transshipment. The high scenario will significantly stress existing facilities and result in incompatible and conflicting land uses. No mitigation was discussed as an aid to alleviation of this potential situation.

Response: See reponse to Comment Letter 40.

### Vessel Traffic and Transportation System

Concerns were expressed about navigational hazards, vessel traffic conflicts and potential collisions, the number of estimated boat trips per platform, and the lack of a plan for detailed transportation system. since the transportation mode has not been resolved the assumption cannot be made that production will occur under terms of federal, state and local policy. Neither can assurance be given that the Coast Guard's Vessel Traffic Separation scheme will be in effect. A recommendation was made to require a 24-hour automatic radar alarm system as a mitigation against vessel collisions. Onshore transportation associated with the high scenario would cause significant problems for some areas which are presently near capacity and have limited room for expansion.

Response: See response to Comment Letter 40.

### 3. Alternatives Requested During the Review of the DEIS

The following alternatives were submitted during the comment period for the DEIS.

a. Alternative creating a buffer zone to reduce air pollution impacts on adjacent counties.

Response: The DOI air quality rules (30 CFR 250.57) were written to prevent any OCS facility from significantly affecting the onshore air quality of any State. The rules will be applied to prevent any OCS facility associated with Proposed Lease Sale No. 73 from significantly affecting the onshore air quality of California as defined in the rules. The rules do provide for the review and possible regulation of facilities which either individually, or in combination with other facilities in the area, significantly affect the air quality of an onshore area (30 CFR 250.57-1(j)).

Alternative II, III and IV address any reduction in air quality impacts that could be expected from deferred or leasing of nearshore tracts.

b. Alternative to require limited or serial leasing which releases blocks of tracts at different time intervals for exploration drilling to reduce peak lease sale exploration and development activity.

Response: The schedule for leasing OCS lands for oil and gas exploration and development was determined in the context of the 5-Year OCS Leasing Schedule, approved in July 1982. For responses to concerns raised regarding the leasing schedule the reader is referred to the Final Supplemental to the Final EIS on the 5-Year Lease Sale Schedule.

Prior to a lease sale, it is difficult to predict accurately the number or location of development activities that may result from a sale. Therefore it is impossible prior to a lease sale to determine whether reducing or extending peak year development activities is a necessary or appropriate means of mitigating specific adverse impacts. However, specific conditions can be imposed on lessees through existing authorities following a lease sale and exploration and the location and nature of development activities are known and development plans have been submitted.

The commenter does not indicate specifically, the perceived benefits of these proposals. However, cost and safety considerations will in large part govern the number and frequency of supply boat, crew boat trips offshore. These craft will also comply, of course, with existing applicable safety, air quality, and navigational regulations which should adequately mitigate potential problems.

c. Alternative deferring all areas north of the line between Row N808 and Row N809 of the Universal Transverse Mercator Grid System (approximately the Santa Maria River).

Response: The benefit of deferring the tracts from Row N809 north would be accomplished by Alternatives II, III, and IV. (See Section F, G, and H.)

d. Alternative deferring tracts for potential geologic hazards (seismic activity, existing faults and fissures).

Response: Existing regulations and geohazard NTL provide for complete surveying of all potential geologic hazards by a lessee prior to the approval of a Plan of Exploration or Development.

e. Alternative to defer tracts which coincide and are within five miles of the Point Arguello low level radioactive dump site.

Response: A hazardous waste stipulation has been incorporated in the FEIS (see Section II.A.1.f) to mitigate any potential dangers.

f. Alternative deferring tracts for military hazards which coincide with Sectors 5c, 5d, and 6c of warning area 532.

Response: USDI is currently consulting with DOD at the National level concerning the Department of the Air Force's comments on the proposed sale. Prior to the proposed sale, this consultation will determine what appropriate measures, if any, need to be applied to tracts in military operating areas.

g. Alternative deferring tracts located within prime fishing grounds based on existing fish block data and other available information to minimize conflicts with commercial fishing.

Response: The deferring of tracts located within prime fishing grounds will be accomplished by Alternative II, III, and IV (see Section F, G, H).

h. Alternative deferring tracts to protect sensitive areas of biological or recreational significance between Morro Bay and Santa Maria River.

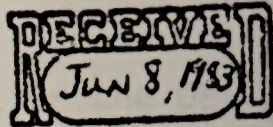
Response: Request for various alternatives to protect sensitive areas of recreational or biological significance between Morro Bay and the Santa Maria River were analyzed. Three additional alternatives were evaluated. These alternatives to the proposal evaluated the potential environmental impacts of deferring from the proposed sale the nearshore tracts offshore Morro Bay, the tracts under litigation following OCS Lease Sale No. 53, and the nearshore tracts offshore Point San Luis, Pismo Beach and the mouth of the Santa Maria River.



G. Biological Opinion From U.S. Fish and Wildlife Service  
United States Department of the Interior

ADDRESS ONLY THE DIRECTOR,  
FISH AND WILDLIFE SERVICE

FISH AND WILDLIFE SERVICE  
WASHINGTON, D.C. 20240



In Reply Refer To:  
FWS/OES MMS 83-2

JUN 8 1983

Memorandum

To: Director, Minerals Management Service  
Acting Associate  
From: Director

Subject: Biological Opinion Regarding Outer Continental Shelf Leasing and  
Exploration Offshore Central and Northern California (OCS Sale No. 73)

Consultation under Section 7 of the Endangered Species Act (ESA) of 1973, as amended, was formally requested by the Minerals Management Service (MMS) on March 4, 1983, (see attached memo). This consultation request included Outer Continental Shelf (OCS) oil and gas leasing and exploration activities offshore California in the Sale No. 73 area.

Project Description

The subject proposal provides only for the lease sale and exploration of select submerged Federal lands offshore central California from Point Conception, Santa Barbara County, north to and including Morro Bay, San Luis Obispo County (Row N 816 UTM Grid System - see Figures 1 and 2). The proposed action, designated Proposed OCS Oil and Gas Lease Sale No. 73, Central California, is scheduled for initiation in October 1983. Approximately 360 tracts (2 million acres) located from 3 to 66 miles offshore in waters ranging in depth from 50 meters to greater than 1000 meters constitute the lease sale area. Leased tracts from OCS Sales No. 53 and RS-2 are located within the current OCS Lease Sale 73 area. The total undiscovered recoverable hydrocarbons present within the proposed sale area is estimated at 970 million barrels of oil and 950 billion cubic feet of gas (Conditional Mean Resource Estimate). The Most Likely Resource Estimate (a percentage of the Conditional Mean Resource Estimate) expected to be discovered and developed as a result of Proposed Sale No. 73 is 291 million barrels of oil and 285 billion cubic feet of gas.

Exploration is expected to begin in 1983 and continue for a period spanning 4 years. During this exploration phase a variety of drilling rigs will be used, i.e., jack-ups, drillships, and submersible and semi-submersible rigs. Approximately 12 exploratory wells will be drilled. If commercial quantities of oil or gas are discovered the development phase will begin. It is estimated that five platforms will be installed in the Santa Maria Basin during the development phase (calculated to be from the years 1988 to 1990). Oil and gas production will begin in 1988 and continue through 2007.

This Section 7 consultation includes all leasing and exploration activities relative to the Proposed OCS Sale No. 73 as described in the DEIS, Proposed 1983



Outer Continental Shelf Oil and Gas Lease Sale Offshore Central California,  
March 1983.

Associated facilities needed for the exploration, development, and production phases of oil operations include docking space, onshore equipment storage, service facilities, helicopter operations and attendant facilities, offshore and onshore hydrocarbon storage, processing facilities, pipelines, and deepwater tanker ports. The refineries in California may need minor modifications to accommodate the additional oil from Santa Maria Basin.

Considering only the exploration phase of OCS Sale No. 73, essentially no additional support facilities beyond those existing for OCS Sale No. 53 will be required. Exploratory drilling will probably involve floating drilling rigs (as previously mentioned), rather than permanent drill platforms.

Following are four alternatives that have been analyzed by the MMS (DEIS, 1983):

1. Leasing and exploration of the entire Sale No. 73 area offshore from central California comprising approximately 360 tracts.
2. Delete three tracts and those portions of four tracts which coincide with a 10-mile zone centered on Morro Bay. The area represents 23,000 acres. Eliminating these tracts would reduce the potential for impacts by ensuring time for containment, weathering, and cleanup.
3. No sale alternative. All activities anticipated under the proposed action would not occur.
4. Delay the sale for a variable period of time to allow the acquisition of additional environmental information, and the possible development of technological innovations that might alleviate environmental impacts resulting from eventual sale of the tracts.

Your request for consultation includes the following species: American peregrine falcon (Falco peregrinus anatum), bald eagle (Haliaeetus leucocephalus), brown pelican (Pelecanus occidentalis), California least tern (Sterna albifrons browni), California clapper rail (Rallus longirostris obsoletus), light-footed clapper rail (Rallus longirostris levipes), Morro Bay kangaroo rat (Dipodomys heermanni morroensis), salt marsh harvest mouse (Reithrodontomys raviventris), southern sea otter (Enhydra lutris nereis), San Francisco garter snake (Thamnophis sirtalis tetrataenia), Santa Cruz long-toed salamander (Ambystoma macrodactylum croceum), Smith's blue butterfly (Euphilotes (=Shijimiaeoides) enoptes smithi), unarmored threespine stickleback (Gasterosteus aculeatus williamsoni), and salt marsh bird's beak (Cordylanthus maritimus ssp. maritimus); and the critical habitat of the American peregrine falcon and the Morro Bay kangaroo rat.

Threatened or endangered marine mammals which may be affected by the project, excluding the sea otter, are under the jurisdiction of the National Marine Fisheries Service (NMFS) and, therefore, are not included in the above list or considered in this consultation.

### Oilspill Risk Analysis

There is a possibility of oilspills occurring during the exploratory phase of OCS activities. Spills may be from two sources: 1) small spills which occur during the handling of fuel oil and 2) blowouts of exploratory wells during the first 60 to 90 days (R. C. Erickson, Chevron USA Inc., June 1, 1981). The first source is minor and is not expected to result in any noticeable increase in oil pollution. Therefore, this impact is considered negligible. A blowout, however, can cause the release of significant amounts of hydrocarbons into the marine environment and may affect listed species. The Campeche, Mexico, oilspill is a dramatic example of an exploration blowout. While the exact causes of the Campeche blowout are likely to remain unknown, it appears that operational procedures, rather than technology, were at the root of the accident. It is thought that this spill could have been avoided had operational procedures used in the United States been employed.

In the United States, OCS Operating Orders require that a number of safety devices and procedures be employed to prevent such an accident. These include the use of blowout preventers, strict drilling procedures, regular testing of safety equipment, training of personnel, regular inspection by MMS personnel, and approval of all drilling plans and modifications. The probability of a blowout occurring during exploration in the offshore waters of the United States is remote (Biological Opinion BLM/GS 80-1).

### Conclusion

To reduce impacts of an oilspill to biologically sensitive areas, rapid deployment of oil containment devices (to block, divert, and/or contain spilled oil) is mandatory. Cleanup efforts are very disruptive and damaging in themselves (bulldozing beaches, steam hosing, burning, chemical cleansers). Therefore, prevention of oil contact may be the only practical way of saving biologically sensitive areas. Organizations such as Clean Seas, Inc. (CSI), Santa Barbara and Southern California Petroleum Contingency Organization (SCPCO), Long Beach have developed methods and response manuals to be put into action in the case of an oilspill. To achieve success (containing oil and preventing oil impacts), it is necessary to identify the sensitive areas ahead of time, and to facilitate rapid response in an emergency by storing oil containment devices (booms, boats, skimmers, etc.) near these sensitive areas. Rapid response is essential if oil is to be prevented from contacting sensitive areas.

## Biological Opinion

After reviewing the material provided by MMS along with information contained in our files and information from various experts on the listed species, it is my biological opinion that the subject OCS Sale No. 73 and subsequent exploration activities are not likely to jeopardize the continued existence of the southern sea otter, the American peregrine falcon, the bald eagle, the brown pelican, the California least tern, the salt marsh harvest mouse, the California clapper rail, the light-footed clapper rail, the Morro Bay kangaroo rat, the Santa Cruz long-toed salamander, the unarmored threespine stickleback, the San Francisco garter snake, the salt marsh bird's beak, the Smith's blue butterfly, or result in the destruction or adverse modification of the critical habitat of the American peregrine falcon or the Morro Bay kangaroo rat.

In an effort to conserve candidate species we have included a list (see appendix) of candidate plants and animals that are found within the project area. MMS is not legally bound by the Endangered Species Act (ESA) to protect candidate species; however, plans to conserve these species can be developed by contacting the Sacramento Field Office of the U.S. Fish and Wildlife Service (phone FTS 916-448-2791). If during the life of the project a species is proposed for listing under the ESA, then MMS must carefully consider the impacts of the project on the proposed species. If it is determined that the project is likely to jeopardize the continued existence of the proposed species or destroy or adversely modify its critical habitat, then MMS is required to confer with the Fish and Wildlife Service.

Even though the probability of a blowout is remote, we are concerned because if a blowout should occur there are certain areas that are highly susceptible to oil damage. Using the Oilspill Risk Analysis for the Central and Northern California (Proposed Sale No. 73) Outer Continental Shelf Lease Area (LaBelle, Lanfear, Karpas, 1983) (OSRA) as a guide, we have identified certain portions of the lease area which are highly vulnerable to oilspills. Stringent conservation measures designed by MMS in cooperation with the Fish and Wildlife Service would reduce the possibility of oilspills impacting the range of the southern sea otter as well as the coastal habitats of other listed species. The areas of concern are identified in the OSRA as P8 and P14 (nearshore tracts - 112, 113, 114, 132, 133, 134, 153, 154, 173, 174, 193, 194, 233, and 234. See Figs. 3-7). Oilspill Contingency Plans should include provisions for rapid deployment of oilspill containment equipment to the habitats of sensitive listed species as described in the species accounts and appendix portion of this consultation. Otherwise, these portions should be deleted from the sale area.

Should any changes be made in the course of action presented above which may affect listed species, should expansion of existing onshore facilities or the establishment of new facilities occur which may affect listed species, or should new species be listed that may be affected by the project, you must reinitiate

consultation. In order for the Fish and Wildlife Service (FWS) to adequately advise MMS on Endangered Species matters, we are requesting you to provide a written indication of the course of action you decide to follow.

The FWS would like to remind MMS of their continued obligation to conserve listed species throughout all phases of OCS activities. Although, for purposes of this consultation, only leasing and exploration actions relative to Sale No. 73 are considered, it is reasonable to conclude that leasing and exploration leads to the development and production of commercial deposits of hydrocarbons, and the inherent risks of oilspills. Before development and production plans are approved by MMS, formal consultation must be initiated with FWS.

The following is a discussion of the development/production phase of OCS Sale No. 73 and the associated risk analysis. Conservation recommendations for listed species are given to assist MMS in exercising its responsibility to protect listed species.

Currently (data from January 1, 1982), in California, there are 41 refineries in operation with a total refining capacity of 2,487,125 barrels per day (U.S. DOI Oil and Gas Transportation Scenario, March 1983). The San Francisco Bay area has 5 refineries with a capacity of 812,000 barrels per day. The Los Angeles basin has 20 refineries with a capacity of 1,374,295 barrels per day. California refineries operated at 70 percent capacity in 1981 and at a 69 percent capacity for the second quarter of 1982 (U.S. DOI Oil and Gas Transportation Scenario, March 1983). Proposed Sale No. 73 estimated peak daily oil production would be 84,300 barrels per day of which at least 21,075 barrels per day would be transported by tanker to San Francisco refineries and at least 42,150 barrels per day piped to Los Angeles Basin (see Figure 8).

Construction of subsea pipelines (114 miles) will begin with the installation of the platforms. Oil and gas production in the northern portion of Proposed Sale 73 area will be transported via subsea pipeline to an assumed-to-be-constructed treatment facility at Nipomo Mesa. Oil from the processing facility (assumed-to-be-constructed) at Gaviota would be transported by pipeline to Los Angeles area refineries and by tanker to San Francisco and the Gulf of Mexico. Oil and gas produced in the southern portion of the lease area will be transported via subsea pipeline to assumed-to-be-constructed processing and storage facilities at Point Conception. An assumed-to-be-constructed onshore pipeline from Point Conception to Gaviota will transport oil and gas.

Ancillary production facilities under consideration at Gaviota include a supply base, processing facility, and offshore marine terminal (deep water tanker port). Currently, a tank farm and marine terminal operate at this site. Many of the facilities (onshore support bases, marine terminals, pipelines) to be used in processing Sale No. 73 oil will be the same facilities specified in previous sales. However, previous sales have not yet reached the production

phase so these processing facilities have not yet been constructed. Therefore, some support facilities for OCS Sale No. 73 are assumed to be constructed as a result of OCS Sale No. 53. Since a may affect determination has been made by OES, these facilities will be considered when the Section 7 consultation request for production and development plans for OCS Sale No. 53 are received. Additional facilities to be built for OCS Sale No. 73 will also need to be consulted on during the development/production consultation.

#### Cumulative Effects Resulting From OCS Activities

Cumulative effects are considered to be the direct and indirect effects of actions that are interrelated or interdependent with the action under consideration. Indirect effects of the action under consideration are those that are caused by the activity and are later in time or farther removed in distance, such as the progression from leasing OCS tracts to exploration and ultimate development/production of the hydrocarbon resources. Other actions will be considered interrelated with the action if they are all part of a larger action, and other actions will be considered interdependent if they do not have significant independent utility apart from the action that is under consideration.

In the event that oil and gas discoveries lead to commercial production at any or all of the areas within the sale, cumulative effects must be analysed. Depending on whether gas and/or oil are produced, extensive additional facilities might be necessary, additional pipelines may be constructed offshore, or barge and tanker traffic to onshore collecting facilities may increase. Various relatively permanent man-made structures may be constructed offshore, such as drill platforms and storage and loading facilities. Although it is not anticipated that the development/production phase of Sale No. 73 will require the additional construction of any refineries in California, it is estimated that some minor modifications may be necessary to accommodate oil produced from this sale.

Several of these potential development/production related facilities could have an effect on endangered and threatened species. For instance, depending on their exact placement, underground pipelines and support facilities could effect many listed and candidate species (see later discussions). But these effects would presumably result only if hydrocarbons are discovered in sufficient quantities to support a production phase. Since the specific location, nature, and size of facilities that may be necessary under the development/production phases are only generally known at this time, and since MMS recognizes that an additional and separate Section 7 consultation will be necessary prior to any development/production, consultation as to the precise nature of any cumulative effects beyond the exploration stage should take place when development/production plans are presented for approval, and consultation will be reinitiated at that time.

The various lease sales, exploration, and development/production activities conducted and/or authorized by MMS offshore California are considered part of the total OCS program for California. Further, companies involved in the OCS program utilize the same onshore support facilities, helicopter and/or fixed-wing aircraft facilities, docks, supply bases, pipelines, etc., for different OCS sale activities and activities from different sales. For instance, interrelated and interdependent projects that will involve oil lease tracts from past and present OCS lease sales off the California coast are proposed for Humboldt Bay, California, and El Estero Bay, Ensenada, Baja California. These projects will affect a number of listed and candidate species. These two sites are proposed as construction yards for building giant "jackets" for offshore oil drilling platforms.

The Humboldt Bay site is an Exxon Corporation proposal on the Samoa Peninsula, that would destroy sand dune habitat that supports a large population of a candidate plant species, Erysimum menziesii. MMS is not legally bound to protect candidate species. However, this project would cause a significant loss for a species that is known to occur from only three other localities.

At El Estero Bay, BosPacific Company (of France) proposes an approximate 300-acre construction yard. The installation would be situated in the estuary and would require extensive dredge and fill operations. Other construction would involve creating a new ocean outlet from the estuary and construction of a huge dike that would separate the northern arm from the southern reach of the estuary. A project of this scale would radically alter tidal regimes and estuarine functioning and directly destroy a large amount of endangered species habitat. Approximately 30 percent of the world's light-footed clapper rail (Rallus longirostris levipes) population, about 300 pairs of rails, would be adversely affected. The endangered salt marsh bird's beak (Cordylanthus maritimus ssp. maritimus) is also found in the estuary, as well as California least tern (Sterna albifrons browni) nesting sites and California brown pelican (Pelecanus occidentalis) feeding and roosting habitat. Impacts on the rail and bird's beak could be extremely serious. Somewhat less is known of the potential significance of effects to the tern and pelican. If interrelated OCS Sale No. 73 projects of this size and complexity are planned for sites within the U.S. boundaries, they will require a Section 7 consultation.

The FWS would like to remind MMS that activities along the central California coast which are not directly related to OCS Sale No. 73 exploration activities but are expected to occur with development/production, could have impacts on some endangered and threatened species. The FWS is advising MMS that the following activities, although not subject to this consultation, may affect listed species along the California coast, thus requiring formal Section 7 consultation.

1. Future projects to prevent beach erosion, dredging projects, and port improvement or expansions will cause environmental concerns which may impact coastal listed species.

2. The possible sitings of liquified natural gas and oil refinery facilities may affect listed species. Impacts could result from the location of the facility and the transportation routes associated with the movement of the gas or oil from the offshore area to onshore facilities or between onshore facilities. Increased chronic oil pollution and the possibility of a large spill from either pipelines or tankers may affect local areas and listed species found in those areas.

3. Other coastal development projects will continue to reduce the habitat of many listed species.

MMS should be aware of these activities and their potential for affecting listed species. This potential should be considered during any planning of OCS development/production activities. MMS should expend every effort to meet their obligation to conserve listed species through all phases of OCS activities.

### The Oilspill Risk Analysis

MMS provided the Oilspill Risk Analysis (OSRA). This report includes probability figures that serve to estimate the possible risks to the environment that may result from the subsequent development/production phase of OCS Sale No. 73. The model used to generate these probabilities of risks incorporates information pertaining to monthly ocean currents and wind data, the estimated volume of oil to be produced, and the expected methods and distances of transport (Lanfear et al, 1979). In preparing the oilspill risk analysis for this sale, MMS (1) arbitrarily divided the coast from the Washington/Oregon border to the Mexican border into 65 land segments of approximately equal length. in order to analyse the potential oil impact along the entire coast and (2) designated a series of target areas that appeared to exhibit a high degree of vulnerability to oilspills because of biological, recreational, or other associated resources.

Two basic kinds of probabilities are generated by the model: conditional probabilities and overall probabilities. The conditional probability is that if an oilspill occurs at a particular launch point (an arbitrarily chosen point of origin within the sale area or along proposed transportation routes), it will contact a target within a given period of time. The probability is conditioned on oilspill occurrence. This probability primarily considers the effects of wind and ocean currents on the direction of movement of an oilspill. Overall probabilities take into account the volume of oil estimated to occur at the particular launch point and the methods and routes of transportation that may be used, in addition to the effects of wind and ocean currents. The result is the probability or percent chance that one or more oilspills will occur in a given area and impact a given target or land segment within various periods of time (3, 10, or 30 days from launch) during the 30-year life of the project. All probabilities given are for oilspills of 1000 barrels or more. An area that is

estimated to contain little or no oil is a small risk. No matter how high the conditional probabilities of oil from such an area striking a target may be, the small amount of oil involved would make the overall probability figure for this area low. Overall probabilities also take into account the possibility of transportation as well as platform spills.

### Ancillary Facilities and Impacts

Support facilities such as onshore supply bases, crew bases, processing facilities, pipelines, offshore marine terminals, equipment storage, and other service facilities may have an impact on listed species. The impact would not be a direct result of contact with oil but of habitat destruction as a result of construction activities. The majority of the construction activities will occur during the production phase.

There is no specific indication of where pipelines would be located, their capacity, length, or construction technique. If construction is in sand dune areas and estuarine/lagoon habitats the impacts could be significant. These systems are fragile and many are inhabited by listed and candidate species. Onshore pipeline routes and construction techniques should be chosen only after coordinating with the Fish and Wildlife Service to insure that listed/proposed species are not negatively impacted.

The DEIS discusses the need for fabrication yards that will require flat, well-drained areas with unrestricted access to the ocean. It seems the most likely spots would be flattened dune areas and filled salt marshes--both highly vulnerable and essential areas for listed and candidate species. MMS must initiate formal Section 7 consultation before any of these development/production-related activities occur.

### Effects on Listed Species

The development/production phase, as now planned, may well cause considerable damage to listed species. In order to assist you in conserving listed species we recommend that MMS include in its Oilspill Contingency Plans stringent requirements for the rapid deployment (within 6 hours) of oil containment equipment to the vulnerable bays, estuaries, and coastal habitats (described in species accounts or appendix) of listed species to prevent entry of advancing oilspills. Since onshore ancillary facilities which are associated with the development/production phases of OCS activities may affect listed species, they should be planned by MMS and FWS through the Section 7 process. This will help avoid impacts on fragile coastal populations of listed species. As you are aware, any activity or program authorized, funded, or carried out by a Federal agency, particularly activities associated with development and production, will require Section 7 consultation if listed species may be affected. Should significant new information become available, you must reinitiate consultation.



Species accounts describing the basic biology for the various listed species located within the project proposal can be found in previous biological opinions issued to MMS (OCS Sale No. 53, BLM/GS 80-1; OCS Sale No. 68, BLM/GS 81-1; and OCS Sale No. 35, USGS 79-2).

#### Southern Sea Otter (Enhydra lutris nereis)

The population of sea otters in California was listed in the Federal Register as threatened on January 14, 1977 (42 FR 2969). This determination stated that "A major spill of oil in the waters in the vicinity of the range of the southern sea otter is probably the most serious potential threat to the species. There seems little question that oil would be harmful to these animals; and, indeed, they are more susceptible to this problem than most species." Critical habitat has not been determined for this species. The Southern Sea Otter Recovery Plan was signed by the Director of the Fish and Wildlife Service on February 3, 1982.

The current range extends south to Pismo Beach, San Luis Obispo County and north to the Ano Nuevo region, Santa Cruz County (Southern Sea Otter Recovery Plan, 1982). The results of 1982 ground and aerial surveys (Estes and Jameson, 1983) indicate that the sea otter population has declined slightly. As a result of the spring 1982 shore survey, 1124 independent sea otters and 222 pups were seen. In the combined aerial and ground count in the fall of 1982, a total of 1194 independents and 144 pups were counted. The Fish and Wildlife Service feels that these counts are accurate since earlier counts surveyed more of the coastline by air than by ground survey; aerial counts are known to detect fewer animals than ground counts (Estes, 1982).

The FWS believes there is no evidence that the population has grown in numbers since the early 1970's, and if any change has occurred the data suggests the possibility of a modest decline. Considering the size of the data set and the uncertainties in technique, the 1982 study cannot be taken as conclusive evidence for a population decline. However, we can no longer operate under the assumption that the sea otter population is slowly increasing.

At present, the southern extension of the sea otter population forages within a range extending between Avila Beach south to about Arroyo Grande Creek with a scattering of animals to Point Conception. The northern front forages in the Santa Cruz/Point Ano Nuevo region. The size of frontal groups varies seasonally. Peak numbers occur in late winter and early spring.

An influx of males during the nonbreeding season causes an increase in the number of sea otters from Morro Bay to Cayucos Point during the winter-spring period. Breeding females, juvenile females, and dependent pups are principally distributed throughout the center of the range. Kelp beds die back in the winter and storms further reduce the remaining beds. Consequently, the concentrations of otters rafting in the remaining kelp beds become larger.

## Cumulative Effects Resulting from Oilspill Risks to Sea Otters

An oilspill associated with production and transportation could affect sea otters in several ways. Direct contact with oil would mat the coat and decrease the otter's natural insulation against temperature loss, resulting in hypothermia and death of individuals. Constant grooming to maintain the insulating quality of the coat would result in the direct ingestion of some petroleum products. Ingestion of petroleum products also would occur while eating contaminated invertebrates. "The accidental exposure of two sea otters to a small but unknown amount of oil (probably diesel) in an experimental holding pool on Amchitka Island resulted in fur matting, progressively severe distress, emergence from the water, and death by exposure within several hours. The oil in this case formed a visible sheen comparable to that sometimes present in harbor areas where gulls appear unaffected by it" (Kenyon, unpublished data).

There are natural factors which affect the persistence of oil in the environment such as dilution, evaporation, photo-oxidation, precipitation by adsorption on suspended particles, and microbial degradation, wind, waves, and temperature. Because of these factors, it is difficult to determine the effects of oil on benthic communities. Oil which settles to the bottom, depending upon the factors identified above, could kill benthic organisms either by smothering the organisms or from its toxic effects. Therefore, in the event of an oilspill, an effect on otters could be the local loss of food sources resulting in starvation or overcrowding of nearby habitat due to dispersing sea otters searching for food. A possible secondary effect would be the long-term contamination of shellfish populations which may also result in the ingestion of petroleum products by the sea otters.

Data on the long-term effects of oilspills are currently unavailable and therefore cannot be assessed at this time. So the Fish and Wildlife Service cannot determine whether the effects are or are not significant. The DEIS for OCS Sale No. 73 assesses the probability of an oilspill reaching the sea otter range within 3- and 30-day periods. The narrative implies that the probability of impact within the 3-day period would be the worst possible situation because of the greater toxicity of newly spilled oil to most organisms as compared to oil that has been weathered and detoxified by natural actions over a longer period of time. Although the toxins found in newly spilled oil may accumulate in the otter's food supply, a direct and more detrimental impact is the oiling of the otter's fur. Physical contact with oil results in death nearly 100 percent of the time (Benz, Brownell, 1983). The best available data on oilspill trajectories currently tracks oilspills a maximum of 30 days. Therefore, FWS uses this data set to analyse oilspill impacts. The residue of crude at the end of 30 days and beyond is also of vital importance to sea otters' survival in relation to physical contact, possible ingestion, and potential long-term effects of oil toxicity on sea otter habitat.

The OSRA prepared by MMS for OCS Sale No. 73 has indicated several potential modes of transportation or sources of oil which are of particular risk to the sea otter range. If a spill occurs, the following proposed pipelines, tanker routes, and sale areas have a high probability of the oilspill contacting sea otter range within 30 days:

Land Segment (See Fig. 7) or Portion of Sea Otter Range *	Probability of contact (% chance)	Pipeline (See Figs. 5 & 6)
18	44	16
	69	17
	89	18
22	34	9
23	31	10
24	67	11
25	56	5
Northern Range	31	3
	89	9
	50	24
Southern Range	75	5
	58	10
	82	11
		<u>Tanker Route (See Figs. 4-6)</u>
18	40	23
Total Range	30	12
		<u>Proposed Sale Area (See Fig. 3)</u>
25	41	8
Southern Range	48	8
	25	14
	28	15

\*Northern Range of Sea Otter = Land Segments 18-23

Southern Range of Sea Otter = Land Segments 24-26

Due to the possible decline or, at best, stagnation in the growth of the sea otter population, the implementation of protective measures (elimination of certain pipelines, tanker routes, or proposed sale areas, deployment of oil containment equipment) for the sea otter becomes imperative.

There is little evidence that the sea otter population is growing at all; however, the potential for growth is greatest near the ends of the range where unoccupied habitat is found. A small nucleus of sea otters south of Morro Bay has taken 6 years to grow from around 6 animals to between 20 and 25. Thus, an oilspill coupled with current man-caused mortalities could devastate the population.

Oilspills along the present 200-mile long sea otter range have been few and small. Therefore, data on the actual movement and dispersion of spilled oil are virtually nonexistent. The only recorded observation of the movement of a floating substance within the sea otter range was plotted when a lumber barge loaded with 2 million board feet of cut lumber capsized approximately 40 km west of Point Sur, California, on February 12, 1978. Within 60 days, lumber from the barge had covered virtually the entire sea otter range excluding only Point Soquel, Santa Cruz County. In only 12 days, the lumber was distributed throughout most of the interior range of the otter, i.e., from Moss Landing to Point Estero (Jameson, pers. comm. and VanBlaricom and Jameson, 1979). These observations exemplify the uncertainty and magnitude of the wind and current patterns of California's offshore waters during the winter months. This increases our concern that the movement of hydrocarbons throughout the southern sea otter range will be unpredictable.

Assuming that the leasing and exploration phases lead to development and production, we have no other choice but to believe that without implementing stringent conservation efforts developed through consultation with FWS, the development and production phases of OCS Sale No. 73 are likely to jeopardize the continued existence of the sea otter population. Before any development/production activities are commenced Section 7 consultation must be reinitiated.

In order to reduce adverse impacts associated with the development and production phase, the following alternatives could be implemented:

1. At this time, the OSRA identifies proposed pipelines 3, 5, 9, 10, 11, 16, 17, 18, and 24 and tanker routes 23 and 12 as potentially hazardous. If it can be shown that no prudent alternative to these pipelines and tanker routes exist, we suggest that conservation measures be developed in cooperation with the Fish and Wildlife Service to reduce to the lowest possible level the possibility of an oilspill contacting the sea otter in its southern range. This is particularly crucial since sea otters appear to be concentrated in frontal areas where expansion (and perhaps transplanted) to the Channel Islands area or other areas is essential for eventual recovery of the species.

2. At this time, develop stringent conservation measures in cooperation with the Fish and Wildlife Service that will prevent oil from Potential Launch Points P8 and P14 (near shore tracts - 112, 113, 114, 132, 133, 134, 153, 154, 173, 174, 193, 194, 233, and 234) from contacting sensitive species and their habitats, or delete these areas from the lease area. This would nearly eliminate the possibility of oilspills that may result from the sale affecting the southern limit of sea otter range and coastal Endangered and Threatened species.

3. Select and conduct studies in coordination with the FWS to determine impacts of oil contamination and oil containment techniques on sea otters and their habitat. The results could be useful in designating future tracts for sale, and in developing methods of avoiding conflicts between hydrocarbon exploration/development/ production and sea otters.

4. Develop and initiate an Oilspill Contingency Plan which contains provisions for the deployment of oil containment equipment within 6 hours of a spill to near shore tracts until such time as new environmental information has been obtained and technologies are developed such that current levels of oilspill risks to sea otters are not increased, or until the southern sea otter has been delisted and is no longer threatened by potential oilspills.

5. Coordinate closely with FWS personnel to insure that all information is current. Utilize the expertise available in the FWS to develop adequate Oilspill Contingency Plans.

#### American Peregrine Falcon (Falco peregrinus anatum)

Refer to BLM/GS 81-1, Section 7 Biological Opinion, Proposed Outer Continental Shelf Oil and Gas Leasing and Exploration in the Southern California Bight (OCS Sale No. 68), April 29, 1981, for the species account.

Three potential sources of impact to peregrine falcons may occur from OCS oil and gas activities in southern California: disturbance to eyrie sites resulting from development of onshore facilities and increased human activity, the possibility of an oilspill reaching the coast and contaminating peregrine food sources, and the possibility of a falcon coming in contact with oil and contaminating its eggs. The diet of peregrine falcons is almost exclusively birds, and like most raptors, the peregrine is an opportunistic feeder. Birds such as ducks and shorebirds which become contaminated as a result of an oilspill would be compromised in their ability to fly and to avoid capture. Oiled birds would be easy prey for the peregrine falcon, which might suffer potentially lethal effects from consuming petrochemically contaminated prey.

Transient American peregrines may be found in small numbers along the coast, especially during migration and winter periods. We recommend that MMS work with

the Sacramento Field Office to determine which of the estuaries, bays, lagoons, and rivers should have containment equipment available to close off these areas within 6 hours of a spill occurrence. This action would minimize the impact of the oil, should it reach the shore.

#### Bald Eagle (Haliaeetus leucocephalus)

Refer to BLM/GS 81-1, Section 7 Biological Opinion, Proposed Outer Continental Shelf Oil and Gas Leasing and Exploration in the Southern California Bight (OCS Sale No. 68), April 29, 1981, for the species account.

The potential impacts to the eagle from oil and gas activities are: disturbances to its nesting areas resulting from onshore activities during the production phase; and the possibility of an oilspill reaching the coast and subsequently oiling the eagles and/or contaminating their food source; oiled eagles returning to the nest could contaminate the eggs or nestlings. Toxicological studies have indicated that even small amounts of oil applied to an egg are toxic to the embryo. Prior to the development/production phase MMS should consult with the Fish and Wildlife Service to determine where oil containment equipment should be deployed to protect the eagle.

#### California Least Tern (Sterna albifrons browni)

Refer to BLM/GS 80-1, Biological Opinion Regarding Outer Continental Shelf Leasing and Exploration Offshore Central and Northern California (OCS Sale No. 53), September 18, 1980, for a species account.

The OSRA prepared by MMS for OCS Sale No. 73 has calculated a moderate chance of oil contacting least tern habitat. Although the probabilities of an oilspill occurring are low, if an oilspill were to start from certain pipelines and proposed sale areas, the probabilities of contacting certain land segments within 30 days is calculated at 69 percent from pipeline 25, 56 percent from pipeline 5, and 41 percent from proposed sale area 8 (See Figures 11-15 for location of pipelines and proposed sale areas).

Potential threats to the California least tern from oil and gas activities would be related to oilspills and loss of breeding habitat through the construction of onshore support facilities. These disturbance factors would be associated with oil development and production. The birds could be contaminated by a spill as they dive for food. This may contribute to direct mortality or result in reduced hatchability of eggs oiled from the fouled plumage of an adult bird. Oilspills cause severe damage when they enter coastal wetlands and could destroy essential feeding areas for the terns.

Some of the areas identified in the recovery plan as essential habitat for the least tern are: Bair Island; U.S. Naval Air Station, Alameda; Oakland Municipal

Airport; Oso Flaco and Dune Lakes; Coyote Hills; Nipomo Dunes; Santa Maria River Mouth and Santa Inez River Mouth. Areas recently identified and not included in the recovery plan are: Purisima Point (Vandenberg Air Force Base) and the mouth of the San Antonio River. MMS should maintain liaison with the FWS so they will be aware of any changes or additions to nesting sites for the California least tern. (See appendix for maps and specific locations.) We recommend that MMS work with the Sacramento Field Office to determine which of the estuaries, bays, lagoons, and rivers should have containment equipment available to close off these areas within 6 hours of a spill occurrence. This action would minimize the impact of the oil, should it reach the shore.

Onshore support facilities constructed during the development/production phase could cause considerable damage to least tern habitat. If any such activities are proposed for these areas, MMS must initiate formal Section 7 consultation.

California Clapper Rail (Rallus longirostris obsoletus) and Salt Marsh Harvest Mouse (Reithrodontomys raviventris)

Refer to BLM/GS 80-1, Biological Opinion Regarding Outer Continental Shelf Leasing and Exploration Offshore Central and Northern California (OCS Sale No. 53), September 18, 1980, for species accounts.

The OSRA for OCS related spills has projected a low probability of oil contacting salt marsh harvest mouse and California clapper rail habitats. During the production phase, if an oilspill were to occur, there is a 33 percent chance that oil will reach San Francisco Bay within 30 days if a spill occurs along tanker route 9. Even though there were 2765 spills of all sizes and substances reported by the U.S. Coast Guard in 1979 for San Francisco Bay, the added impacts from a few large OCS spills could be significant if they were to enter the Bay. We recommend that MMS work with the Sacramento Field Office to determine appropriate placement of containment equipment to protect these species. The expansion of water-related onshore support facilities may impact salt marsh harvest mouse or California clapper rail habitat if docks and storage facilities are constructed on wetlands. If any such activities are proposed for these areas, MMS must initiate formal Section 7 consultation.

Brown Pelican (Pelicanus occidentalis)

Refer to BLM/GS 80-1, Biological Opinion Regarding Outer Continental Shelf Leasing and Exploration Offshore Central and Northern California (OCS Sale No. 53), September 18, 1980, and BLM/GS 81-1, Section 7 Biological Opinion, Proposed Outer Continental Shelf Oil and Gas Leasing and Exploration in the Southern California Bight (OCS Sale No. 68), April 4, 1981, for a species account.

We recommend that MMS require the lessee to assign a high priority and prescribe specific measures for the protection of Anacapa Island, Scorpion Rock, and Santa

Barbara Island in all Oilspill Contingency Plans submitted to MMS for exploration (or development/production), and for activities that might result in substantially increased tanker traffic over the Channel Islands transportation routes. If any development/production activities are proposed for these areas, MMS must initiate formal Section 7 consultation. The OSRA estimates that if an oilspill were to occur along pipeline segment 25 the spill has a 69 percent probability of striking pelican habitat. We recommend that MMS consult with the Fish and Wildlife Service prior to the initiation of development/production phases in order to determine strategic locations for oil containment equipment and provide for the deployment of such containment equipment to pelican habitat within 6 hours of a spill. If the pipeline will be built and used during development/production, a may affect situation will exist requiring initiation of formal consultation.

Unarmored Threespine Stickleback (Gasterosteus aculeatus williamsoni)

Refer to Unarmored Threespine Stickleback Recovery Plan for species life history information.

The unarmored threespine stickleback, found in the headwaters of the Santa Clara River and its tributaries in Los Angeles County, was listed as endangered in the Federal Register on October 13, 1970. See appendix for description of essential habitat. If any development/production activities are proposed for this area, MMS must initiate formal Section 7 consultation.

Salt Marsh Bird's Beak (Cordylanthus maritimus ssp. maritimus)

Refer to USGS 79-2, Biological Opinion Regarding Oil and Gas Exploration and Certain Development Activities in Southern California, November 1, 1979, OCS Sale No. 35, for a species account.

Today, this plant's distribution is restricted to at least three locations: the Sandyland Marsh (Carpinteria) in Santa Barbara County, Point Mugu in Ventura County, and the Tijuana River Estuary in San Diego County. The probability of finding the plant in other locations is high. Although the verified remaining populations of the salt marsh bird's beak are located inside protected estuaries and along the upper elevations of tidal salt marshes, the potential for inundation by an OCS-related oilspill still exists. The use of containment equipment may reduce the potential for a spill reaching the bird's habitat. If any development/production activities are proposed for these areas, MMS must initiate formal Section 7 consultation.

Smith's Blue Butterfly (Euphilotes (=Shijimiaeoides) enoptes smithi)

Smith's blue butterfly was listed as endangered in the Federal Register on June 14, 1976. The Smith's blue is found in the coastal sand dunes in Monterey



County, California. The largest population occurs on the most coastal portion of the Monterey dune complex at Seaside and Fort Ord (U.S. Army). The Seaside and Marina populations have been almost extirpated by housing developments and highway construction, while the Fort Ord population has been seriously impacted by heavy foot and vehicular traffic, as well as the spread of the introduced ice plant (Mesembryanthemum spp.). See appendix for map of habitat. If any development/production activities are proposed for these areas, MMS must initiate formal Section 7 consultation.

#### San Francisco Garter Snake (Thamnophis sirtalis tetrataenia)

The San Francisco garter snake was listed as endangered in the Federal Register on March 11, 1967. The snake occurs from northern San Mateo County southward along the east slope of the Santa Cruz Mountains to the Santa Clara line, and along the coast west of this region southward to Point Ano Nuevo. The snake is found in marsh areas with good cover along coastal estuaries or in marshy inland spots.

Ancillary onshore facilities to be constructed for the development/production phases of OCS Sale No. 73 may impact the San Francisco garter snake. If any development activities are proposed for garter snake areas, MMS must initiate formal Section 7 consultation. Also, the OSRA has projected that if a spill occurs along pipelines 18 and 17 there is an 89 percent chance that oil will contact garter snake habitat from pipeline 18, and a 69 percent chance from pipeline 17. We recommend that MMS consult with the Fish and Wildlife Service prior to the initiation of development/production phases in order to determine strategic locations and routes of travel for oil containment equipment. MMS should also provide for the deployment of such containment equipment to protect garter snake habitat within 6 hours of a spill. If these pipelines are to be built and used during development/production, a may affect situation will exist requiring initiation of formal consultation.

#### Morro Bay Kangaroo Rat (Dipodomys heermanni)

The Morro Bay kangaroo rat was listed as endangered in the Federal Register on October 13, 1970. The Morro Bay kangaroo rat is found in a very restricted range on the south side of Morro Bay in San Luis Obispo County, California. Presently the rats are found in only four separate localities (see appendix) and the population numbers only 320-340 animals. If development/production activities are proposed for these areas, MMS must initiate Section 7 consultation.

The OSRA projects a 67 percent chance of oil contacting Morro Bay from pipeline 11 within 30 days of a spill. The oil may not contact kangaroo rat habitat directly, but cleanup or containment equipment deployed to cope with the spill may traverse kangaroo habitat. We recommend that MMS consult with the Fish and

Wildlife Service to determine routes of travel for the oil containment equipment. If the pipeline will be built and used during development/production, a may affect situation will exist requiring initiation of formal consultation.

Santa Cruz Long-toed Salamander (Ambystoma macrodactylum croceum)

The Santa Cruz long-toed salamander was listed as endangered in the Federal Register on March 11, 1967. The salamander is found in only four locations in California. The sites are Valencia, Ellicott, Bennett (Struve Pond), and Seascape (See appendix).

The salamander is not found along the shore so there is no threat from oilspills. However, onshore support facilities constructed for the development/production phases may affect the species, therefore, MMS must initiate formal Section 7 consultation if development/production activities are proposed for salamander habitat.

Light-footed Clapper Rail (Rallus longirostris levipes)

Refer to USGS 79-2, Biological Opinion Regarding Oil and Gas Exploration and Certain Development Activities in Southern California, OCS Sale No. 35, November 1, 1979, for species account.

There are probably not more than 250 light-footed clapper rails in California. Maps of their distribution are in the appendix.

The probability of a spill occurring from pipeline 25 is not great, but if an oilspill should occur, there is a 69 percent chance of the Long Beach area being contacted within 30 days. Therefore, we recommend that the Oilspill Contingency Plan contain provisions for deployment of oil containment equipment to light-footed clapper rail habitat within 6 hours of a spill or delete pipeline 25 from development/production plans.

Those areas to be included in the Oilspill Contingency Plans are: Mission Bay; Sweetwater River complex; Tijuana River Estuary; South San Diego Bay; San Diego River mouth; Los Penasquitos Lagoon; upper Newport Bay; Anaheim Bay; Mugu Lagoon area; Carpinteria Marsh; and Goleta Slough.

Furthermore, we do not anticipate that leasing and exploration will pose threats sufficient to result in an incidental take of any listed species. If any incidental take of any listed species results from the proposed action, further activities should cease and the consultation must be reinitiated immediately.



We wish to express the Service's gratitude to MMS for their assistance in this consultation and their efforts to meet their responsibilities under the ESA. Should you desire clarification of items in this opinion or desire further assistance, we will be pleased to respond promptly.

*Roman H. Koenigs*

Roman H. Koenigs

Attachments



# United States Department of the Interior

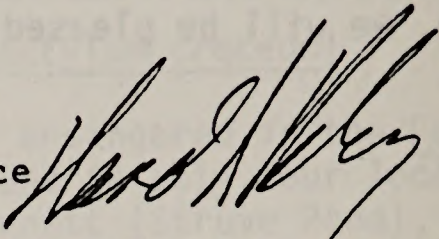
MINERALS MANAGEMENT SERVICE  
RESTON, VA. 22091

In Reply Refer To:  
EMM-Mail Stop 644

MAR 4 1983

## Memorandum

To: Director, Fish and Wildlife Service

From: Director, Minerals Management Service 

Subject: Biological Opinion for Outer Continental Shelf Leasing and Exploration in the Central and Northern California Region

In accordance with section 7(a) of the Endangered Species Act, the Minerals Management Service (MMS) is requesting reinitiation of the joint regional consultation considering all of the operations pertaining to Outer Continental Shelf (OCS) oil and gas leasing and exploration in the Central and Northern California OCS planning area.

On September 18, 1980, we received your biological opinion from a previous OCS leasing and exploration consultation for this region. That opinion addressed the impacts of the regional oil and gas leasing program on endangered and threatened species in general, and the effects of OCS Sale No. 53, in particular.

At the time of initiation of our previous consultation, no detailed information was available regarding any phase of proposed Sale No. 73. We have recently developed site-specific and quantified information relevant to this proposed sale including a delineation of the sale area, the conditional mean resource estimates, the anticipated exploration and development scenarios, and an oilspill trajectory analysis. Additionally, several relevant sections of the draft environmental impact statement for proposed Sale No. 73 are now available. All of this information has been provided, under separate cover, to your Office of Endangered Species.

We believe that the availability of this new information warrants a reexamination of your September 18, 1980, Central and Northern California regional biological opinion to ensure the conclusions it contains remain valid and continue to be applicable to proposed Sale No. 73.

My staff has been in contact with your Office of Endangered Species regarding mutually agreeable arrangements for this consultation. It has been agreed that because of time, staff, and travel budget constraints, the provided material will serve in lieu of a consultation meeting and that receipt of this memorandum will mark the commencement of the formal consultation period. Our Washington and Pacific OCS Office staffs are prepared to provide your office with any additional material you may require, to meet with your staff as necessary, and to answer any questions your representatives may have.

As always, it is understood that by providing us with a regional biological opinion you will not be foreclosing on opportunities to reconsider that opinion in later phases of the program, or as future sales are proposed for this region. It is our position that additional sale proposals in a region provide an appropriate occasion for further consultation and formal consultation may be reinitiated at that time. Further, it is understood that formal consultation should be reinitiated before development and production activities begin in this region. These formal procedures will take place in addition to our ongoing informal consultations presently occurring through all phases and regions of the OCS leasing program.

If you have any questions regarding this request, please contact Ralph Ainger, Minerals Management Service, 12203 Sunrise Valley Drive, Reston, Virginia 22091, (FTS) 343-6264, or Cheryl Conel, Pacific OCS Regional Office, 1340 W. Sixth Street, Los Angeles, California 90017, (FTS) 798-6746. Your prompt attention to this matter will be appreciated.

#### H. Endangered Species Consultation

Pursuant to Section 7 of the Endangered Species Act, consultation with appropriate Federal agencies is required when there is reason to believe that a species that is on the list as endangered or threatened (or is proposed to be listed as such) may be affected by a proposed action.

In accordance with Section 7(c) of the Endangered Species Act of 1973, as amended, a request to initiate formal consultation on Proposed Sale No. 73 was sent to the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service. The biological opinion from FWS was received on June 8, 1983 and is included in Section V.G.

#### I. Consultation with the State Historic Preservation Officer Pursuant to the National Historic Preservation Act

As required by the National Historic Preservation Act of 1966, as amended, consultation was initiated as conducted with the California Office of Historic Preservation (OHP) and the Native American Heritage Commission (NAHC).

#### J. Consultation With the U.S. Department of Defense

Consultation between the U.S. Department of Defense and Interior is conducted at the national level. Issues and conflicts addressed during this consultation will be resolved prior to the Proposed Lease Sale No. 73. Appropriate mitigation measures, such as the attachment of the Military Stipulations to specific tracts, or tract deletions from the proposed sale, will be addressed.

Letters were submitted in response to the DOI BLM (MMS) Proposed Sale No. 73 (See Comment Letters (1), (2), (3), (4), (9), and (10)). Included in the letter are the tracts being recommended for the various Military Stipulations.

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## VI.





## CHAPTER VI

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**VIII.**





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## IX. APPENDICES

A. Definitions of Impact Levels

The following definitions are employed in this EIS to describe the level of impacts expected to occur to each individual resource category as a result of Proposed Sale No. 73.

Water Quality

VERY HIGH - Water quality parameters (e.g., BOD, COD, salinity, temperature, etc.) change a few to many orders of magnitude, toxic trace metals or hydrocarbons exceed EPA safe levels, changes persist for months or longer.

HIGH - Water quality parameters change by several orders of magnitude, most or all toxic trace metals or hydrocarbons are near EPA safe levels, changes persist for days to weeks.

MODERATE - Statistically significant changes in water quality parameters (perhaps by factors of 2 or 3 orders of magnitude), toxic trace metals or hydrocarbons elevated, changes may persist for days to weeks.

LOW - A few water quality parameters, toxic trace metals, or hydrocarbons elevated above normal ambient levels, changes quickly (within 1-2 days) to weeks.

VERY LOW - Water quality parameters, toxic trace metals, and hydrocarbons show no stable statistically significant changes from ambient conditions except within a few meters of the source of the pollutant.

Ocean Dumping

VERY HIGH - Operations would disturb an existing dump site resulting in contamination of the water column over a large area, or operations would prohibit use of the area as a dump site.

HIGH - Operations would disturb an existing dump site possibly resulting in contamination of the water column over a large area, or operations possibly would prohibit use of the area as a dump site.

MODERATE - Operations may disturb an existing dump site resulting in contamination of the local water column or operations may have some conflicts with use of the area as a dump site.

LOW - Operations may disturb an existing dump site resulting in contamination of the local water column, or operations may have some conflicts with use of the area as a dump site.

VERY LOW - Boundary lines might overlap but operations will not disturb any existing dump sites, or operations will have no conflicts with use of the area as a dump site.

## Air Quality

VERY HIGH - Large emissions control and/or offset costs likely. Major adjustments in air quality management plans (AQMP) may be required. Major economic impacts possible.

HIGH - Increase in pollutant concentrations in an attainment area threatens attainment status. Large emissions control and/or offset costs likely. Significant adjustments in AQMP may be required. Significant economic impacts possible.

MODERATE - Significant increase in pollutant concentrations within a non-attainment area. Attainment area become only marginally attainment. Moderate emission controls and/or offset costs likely. Minor adjustments in AQMP may be required. Minor economic impacts possible.

LOW - Insignificant increase in pollutant concentrations within a nonattainment area. Significant increase in pollutant concentrations in an attainment area. Normal emission control strategies likely.

VERY LOW - No change in air pollutant concentrations within a nonattainment area; insignificant increase in pollutant concentrations in an attainment area.

## Coastal Ecosystems<sup>a</sup>

VERY HIGH - A species or assemblage will become threatened or endangered.

HIGH - A significant long-term<sup>b</sup> interference with ecological relationships lasting at least two years. This usually involves the mortality or a biological alteration of a noticeable segment of the population, community or assemblage.

MODERATE - A significant interference with ecological relationships lasting less than two years.

LOW - An interference with ecological relationships lasting less than a year that is not significant to either the relationships, species, community or assemblage.

VERY LOW - Loss of a few individuals but no interference with ecological relationships.

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<sup>a</sup> Includes impact levels for Intertidal Benthos, Subtidal Benthos, Estuaries and Wetlands, and the estuaries, intertidal and benthic portions of Areas of Special Concern, and Pt. Reyes/Marine Sanctuaries.

<sup>b</sup> The definition of "long-term" in reality is variable in terms of a specific number of years. If a generation of a particular species is eliminated from an area and it requires several generations to build the population to its original level, then this should be considered a long-term impact. However, since the reproductive periods of the various species varies from weeks in certain invertebrates to many years in other organisms, a long-term impact will, in reality, last several months to many years. Long-term impacts, as used here will be considered to be at least two years.

## Fish

VERY HIGH - Major reductions in the population sizes of many species.

HIGH - Major reductions in the population sizes of a few species.

MODERATE - Moderate or high reductions in the population sizes of a few species.

LOW - A small reduction in the population sizes of a few species. Not measurable against natural variation in fish populations.

VERY LOW - Sublethal and lethal changes insignificant.

## Endangered and Threatened Species, Marine Mammals and Seabirds

The impact levels for endangered species, marine mammals and seabirds are guidelines or estimates of the severity of an event. Where indicated in Chapter IV, they are backed by specific analysis or assumptions. In other instances they are merely best estimate by the resource specialist.

The impact levels for endangered and threatened species are elevated one level from those stated below due to the sensitive nature of the populations.

VERY HIGH - A major reduction in the California population requiring decades for recovery. In some circumstances, recovery may never occur. A very high impact is the level that would be expected to occur every 100 years due to natural environmental events.

HIGH - Moderate to major reduction in the size of the California population requiring several years to decades for recovery. A high impact is the level would be expected to occur every 30-40 years due to natural environmental conditions.

MODERATE - Moderate reduction in the California population requiring several years for recovery. A moderate impact is the level that would be expected to occur once a decade due to natural environmental conditions.

LOW - Small or moderate reduction in the California population requiring several months to a few years for recovery. A low impact is the level that would be expected to occur every few years due to natural environmental conditions.

VERY LOW - Short-term impacts, not necessarily discernible at the population level but may include some mortality. If impacts are longer-term or chronic, they are minor, not measurable and do not significantly reduce the health of the populations even though the effects may extend for the life of the proposal. A very low impact is the level that would be expected to occur annually due to natural environmental events. All actions are assumed to have at least a very low impact unless so stated. Very low impacts are considered insignificant.



### Coastal Economy

VERY HIGH - A change in employment and/or earnings of 10 percent or greater.

HIGH - A change in employment and/or earnings of 7 to 9 percent.

MODERATE - A change in employment and/or earnings of 4 to 6 percent.

LOW - A change in employment and/or earnings of 1 to 3 percent.

VERY LOW - A change in employment and/or earnings of less than 1 percent.

### Demography

VERY HIGH - Potentially significant long-term stress on public and private services and facilities; an increase of greater than 20 percent of the baseline population of the affected area.

HIGH - Potentially significant short-term and minor long-term stress on public and private services and facilities; an increase of 10 to 20 percent of the baseline population of the affected area.

MODERATE - Moderate short-term stress on public and private services and facilities; an increase of 5 to 10 percent of the baseline population of the affected area.

LOW - Minor short-term stress on public and private services and facilities; an increase of 1 to 5 percent of the baseline population of the affected area.

VERY LOW - No significant stress on public and private services and facilities; an increase of less than one percent of the baseline population of the affected area.

### Public Services and Facilities

VERY HIGH - Potentially significant long-term stress on public services and facilities; regional water supply substantially affected requiring facility construction, facility expansion or a new source of water. New or major expansion required for wastewater treatment, significant disruption of existing transportation patterns or power supply.

HIGH - Potentially significant short-term and minor long-term stress on public services and facilities; water supply and wastewater treatment facility in several areas substantially affected requiring modification of existing facilities; short-term and some long-term disruption of transportation patterns; power supply grid stressed.

MODERATE - Moderate short-term stress on public services and facilities; water supply or wastewater treatment facilities in one area noticeably affected stressing existing facilities; moderate short-term disruption of transportation pattern; power supply grid moderately stressed.

LOW - Minor short-term stress on public services and facilities; water supply or wastewater treatment facilities slightly stressed; minor inconveniences in transportation pattern; power supply slightly stressed.

VERY LOW - No significant stress on public services and facilities; no noticeable effect on water supply, wastewater treatment facilities; transportation patterns or power supply.

### Coastal Land Use

VERY HIGH - Industrial and other uses such as recreation, housing, etc. are completely incompatible (e.g. a support base in a recreation area); land use plans prohibit OCS related land use.

HIGH - Highly incompatible use between industrial and other uses such as recreation, housing, etc., or sitings in a residential, urban or natural area which results in impacts or nuisance, noise, traffic; little or no mitigation (buffer zone, distance or proximity) or sitings where no land use plans are in place.

MODERATE - Moderate incompatibility which may be caused by siting requests that result in changes to existing land use plans and which still allow a lesser degree of the above impacts; or sitings occur in rural or natural areas adjacent to other developments (e.g. a support base near a farm site).

LOW - Low incompatibility because impacts are obviated or mitigated by land use plans, CZM plans, and Federal, State, and local regulations and permitting procedures which already exist. It is assumed that sitings must meet specifications before permits are granted.

VERY LOW - No incompatibility because sitings would easily meet specifications or requirements, if any are required.

### Commercial Fisheries

VERY HIGH - A 30 percent or greater economic loss to the commercial fishing industry. Many fishermen out of work and secondary employment (fish processing plants, etc.) substantially affected.

HIGH - A 20-30 percent economic loss to the commercial fishing industry. Several fishermen out of work and secondary employment affected.

MODERATE - A 10-20 percent economic loss to the industry. A few fishermen out of work, and some financial loss to other fishermen and secondary employment.

LOW - Less than a 10 percent economic loss to the industry. A few fishermen affected but no effect on secondary employment expected. Not measurable against losses due to natural variation in commercial fish harvests.

VERY LOW - Economic loss insignificant.

## Sportfishing

VERY HIGH - A 30 percent or greater economic loss to the industry. All fishing stopped for any length of time, or partial closure for an extended period of time.

HIGH - A 10 percent or greater economic loss to the industry. Most sportfishing stopped.

MODERATE - Less than 10 percent economic loss to the industry. Most sportfishing still possible.

LOW - A small economic loss to the industry. Most fishing continues.

VERY LOW - Economic loss insignificant. A few fishermen affected by minor inconveniences, if any.

## Recreation

VERY HIGH - Complete closure of all water-oriented recreation facilities for any length of time, or partial closure for an extended period of time; or a 25 percent or greater economic loss to industry.

HIGH - Closure of most water-oriented recreational facilities; some beach and water use possible; or a 15 percent or greater economic loss to the industry.

MODERATE - Partial closure of some water-oriented recreational facilities; most beach and water use still possible; or a 5 percent or greater economic loss to the industry.

LOW - No closure of water-oriented recreational facilities; most beach and water use still possible; or less than a 5 percent or greater loss to the industry.

VERY LOW - No closure of water-oriented recreational facilities; all beach and water use occurring with minor inconveniences, if any.

## Tourism

VERY HIGH - Complete shutdown of tourist industry for any length of time, or partial shutdown for an extended period of time.

HIGH - Shutdown of most tourist related industries; some tourism still occurs.

MODERATE - Partial shutdown of some tourist facilities; most tourism still occurs.

LOW - No shutdown of tourist facilities; most tourism still occurs.

VERY LOW - No shutdown of tourist facilities; no drop in tourism; minor inconveniences, if any.

## Visual Resources

VERY HIGH - Visual quality degraded to an extent that it affects all people in the area; reduced recreational visitation to the area; reduced property values.

HIGH - Visual quality degraded to an extent which affects most people in the area; reduced recreational use of the area; reduction in property values likely.

MODERATE - Visual quality degraded to an extent which affects about half the people in the area; no noticeable reduction in recreational use; no perceptible reduction in property values.

LOW - Minor degradation in visual quality; most people accept the change; no reduction in recreational use or property values.

VERY LOW - No significant reduction in visual quality; or few people notice changes. No reduction in recreational use or property values.

## Cultural Resources

VERY HIGH - Many cultural resources are expected to be present and disturbed.

HIGH - A few cultural resources are expected to be present and disturbed.

MODERATE - Significant possibility of both presence and disturbance of cultural resources.

LOW - Remote possibility of presence and disturbance of cultural resources.

VERY LOW - No cultural resources likely to be present or disturbed.

## Ports and Harbors

VERY HIGH - New ports or harbors would be required.

HIGH - Additional docks, berths, and facilities would be required.

MODERATE - Moderate modifications or expansion of existing facilities would be required but major expansion or renovation not necessary.

LOW - Minor expansion of existing facilities would be required.

VERY LOW - Little or no expansion of existing facilities would be required.

## Marine Traffic

VERY HIGH - Vessel conflicts occur frequently. Re-routing of all shipping traffic, or creation of a new routing system would be necessary.

HIGH - Vessel conflicts occur frequently. Re-routing of some shipping traffic would be necessary.

MODERATE - Vessel conflicts occur frequently. Re-routing of shipping traffic not necessary.

LOW - Vessel conflicts occur, but are minor in character and infrequent.

VERY LOW - Vessel conflicts rarely, if ever, occur and when they occur, conflicts are always minor.

### Refineries

VERY HIGH - New refineries would be required to process produced oil.

HIGH - Requirement for expensive modifications to the refinery process to handle heavy, high sulphur crude oil.

MODERATE - Major contribution to the requirement for expensive modifications to the refinery process.

LOW - Minor contribution to the requirement for expensive modifications to the refinery process.

VERY LOW - Requirement for minor modifications to the refinery process.

### Offshore Structures

VERY HIGH - Affected structures would have to be completely replaced. Down time would exceed one month.

HIGH - Affected structures could be repaired with some replacement. These activities would result in over one week of down time.

MODERATE - Affected structures could be repaired with some replacement. These activities would result in down time of a few days to one week.

LOW - Affected structures could be repaired, with little, if any, replacement. Down time would be only one or two days.

VERY LOW - Affected structures could be repaired in a short time.

### Military Uses

VERY HIGH - Exclusive-use area would have to be completely shifted, curtailed, or eliminated. Extensive alterations or reductions to military operations would be required.

HIGH - Exclusive-use areas would have to be shifted or reduced somewhat. Significant alterations or reductions to military operations would be required.

MODERATE - Exclusive-use areas would have to be shifted or reduced slightly. Moderate alterations or reductions to military operations would be required.

LOW - Exclusive-use areas would have minimal overlap with resource development areas. Almost no alterations or reductions to military operations would be required.

VERY LOW - No alterations or reductions of military operations would be required.

B. Tracts Deleted From Previous Sales (Central and Northern California)

The Tracts listed below were deferred or deleted from previous sales in Central and Northern California. The reason for their deletion or deferral is also listed.

1963 Sale. The following tracts were requested by the Department of Defense during tentative tract selection to be deleted from the 1963 Sale due to military concerns:

Eureka Area (South Half) Map No. 1S\*

33N-44W	33N-44W
32N-44W	32N-42W
34N-43W	36N-41W
33N-43W	35N-41W (per official maps)
32N-43W	34N-41W
36N-42W	33N-41W
35N-42W	36N-40W
34N-42W	35N-40W

The following tracts located off Vandenberg Air Force Base were requested by the Department of Defense during final tract selection to be deleted from the 1963 Sale due to military concerns:

Morro Bay Area Map No. 5\*

35N-55W	30N-54W
34N-55W	29N-43W
33N-55W	33N-53W
32N-55W	32N-53W
31N-55W	31N-42W
30N-55W	30N-53W
35N-54W	29N-53W
34N-54W	34N-52W
33N-54W	31N-52W
32N-54W	30N-52W
31N-54W	24N-50W

\*The blocks for the 1963 Sale were based on the California (Lambert) Plane Coordinate System. However, Sale No. 53, Sale No. 73, and RS-2 blocks are of the Universal Transverse Mercator Grid System based upon the Clark Spheroid of 1866.

Sale No. 53. The following tracts were deferred by Secretary Watt until "a decision on the legal status in California with respect to whether the lease sale itself directly affects the coastal zone and, thus, requires the Department to make a determination of consistency with California's Coastal Zone Management program" (DOI Press Release, August 7, 1981).

Eel River Basin  
Tracts 001-030

Bodega Basin  
Tracts 061-068

Point Arena Basin  
Tracts 031-060

Santa Cruz Basin  
Tracts 069-128



DEPARTMENT OF TRANSPORTATION  
 UNITED STATES COAST GUARD

MAILING ADDRESS:  
 U. S. Coast Guard (G-WER-2)  
 Washington, DC 20593  
 Phone: (202) 426-9568

COMDTNOTE 5740

15 APR 1982

COMMANDANT NOTICE 5740

CANCELLED: 15 OCT 1982

Subj: Memorandum of Understanding between the U. S. Geological Survey and the U. S. Coast Guard Concerning Regulation of Activities and Facilities on the U. S. Outer Continental Shelf

Ref: (a) Federal Register, Vol. 46, No. 5, Thursday, Jan 8, 1981, page 2199

1. PURPOSE. This notice provides amplifying information and revised guidelines to be used by On-Scene Coordinators in the review of oil spill contingency plans submitted to the Minerals Management Service (MMS) as part of OCS Exploration Plans, or Development and Production Plans. The guidelines established in COMDTNOTE 5740 of 14 May 1981 are superseded effective 1 June 1982.

2. DISCUSSION.

a. The U. S. Geological Survey (USGS) and the USCG signed subject MOU to promote the safety of activities and facilities on the OCS. The text of the MOU was published in reference (a). The MOU affects activities associated with the exploration, development, and production of mineral resources on the OCS, and is intended to avoid duplication of effort, and to promote consistent, coordinated, and less burdensome regulation of these facilities. In a recent Department of Interior internal reorganization, responsibility for OCS activities was transferred from USGS to the newly created Minerals Management Service. This organizational name change does not otherwise effect the MOU.

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15 APR 1982

- 2.b. Paragraph VII of the MOU gives the CG the responsibility to review the adequacy of the oil spill contingency plans submitted to the MMS as a part of the Exploration Plans or Development and Production Plans. The MOU further states that the criteria by which to judge the adequacy of the oil spill response organization, clean up equipment, and procedures will be jointly agreed upon by the MMS and the USCG. The On-Scene Coordinator for the zone in which the drilling activity will occur will conduct this review. Planning guidelines for conducting this review were initially developed for Lease Sale 42 on Georges Bank and later were promulgated for nationwide application in COMDTNOTE 5740 of 14 May 1981. While the guidelines have been implemented quite effectively for Lease Sale 42, it has become apparent that they do not allow sufficient flexibility to meet the diverse geographic differences and local conditions in other areas where drilling or production activity occur.
- c. Revised guidelines for evaluating OCS oil spill contingency plans have been jointly agreed upon by MMS and USCG and are contained in enclosure (1). They are intended to provide general consistency in setting standards nationwide while allowing some flexibility to account for local conditions. The planning guidelines apply to OCS Exploration Plans or Development and Production Plans submitted for approval after 1 June 1982. Plans submitted and approved prior to that date are not affected by these guidelines except that operators at ongoing drilling/production operations shall ensure existing response equipment is upgraded to "state-of-the-art" as it is replaced.
- d. A regional Technical Review Board (TRB) will assist OSCs in assessing the capabilities of open water equipment and in applying the general guidelines of enclosure (1) to his particular area. Specifically the TRB will:
- (1) advise the OSC on whether response equipment proposed in the contingency plan meets currently accepted "state-of-the-art" criteria.
  - (2) advise the OSC on the adequacy of the amounts and types of equipment proposed.
  - (3) advise the OSC on acceptable response times for local conditions.
  - (4) keep abreast of developments in response equipment technology and revise "state-of-the-art" criteria accordingly.
  - (5) provide OSCs with technical information on equipment proposed by operators.

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**2.e. Membership of the regional Technical Review Board is:**

USCG District Commander representative - Co-chairman  
MMS Deputy Minerals Manager Representative - Co-chairman  
Appropriate USCG National Strike Force Commanding Officer  
USEPA OHMSETT representative  
USCG HQ DMT representative  
USCG HQ WER representative  
MMS HQ representative

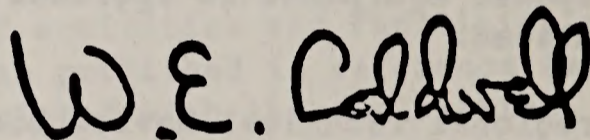
**3. ACTION.****a. District Commanders shall:**

(1) Establish and maintain liaison with the appropriate Minerals Management official [see enclosure (2)] to ensure that oil spill contingency plans for the OCS are submitted for timely review.

(2) Establish a regional Technical Review Board as described above to assist OSCs in reviewing contingency plans.

b. On-Scene Coordinators shall consider the Planning Guidelines of enclosure (1) in evaluating Oil Spill Contingency Plans submitted in accordance with the MOU and advise MMS as to adequacy of the Plans.

c. Commandant will incorporate the provisions of this Notice in the Marine Safety Manual, CG-495.



**W. E. CALDWELL**  
Chief, Office of Marine  
Environment and Systems

Encl: (1) Planning Guidelines  
(2) Addresses and phone numbers of MMS points of contact

15 APR 1982

### Planning Guidelines

- a. **Risk Analysis:** The contingency plan should contain an analysis which indicates the number and size of spills that could occur during OCS mineral exploration, development, and production operations. The spill trajectory analysis should indicate where an oil spill is likely to flow under the various expected sets of local, seasonal meteorological and oceanographic conditions. Impact areas should be identified and strategies should be fully developed for the protection of potentially vulnerable areas and resources. The depth of detail is flexible but should be sufficient to assure the OSC that adequate contingency planning has been done.
- b. **Recovery Equipment:** The type of recovery equipment and its method of deployment rests entirely with the operator. However, subject to the prevalent conditions identified in the risk analysis, the equipment should be "state-of-the-art". Based on previous R&D studies, observations, and experiences, currently available "state-of-the-art" equipment is capable of operating in 8-10 foot seas and 20 knot winds with deployment accomplished in the 5-6 foot range. However, the OSC should be aware that mechanical equipment cannot be expected to perform at optimum efficiencies in all environmental situations. Local conditions such as high energy sea states with short wave lengths, or severe icing, may not allow all of the above operational criteria to be met.
- c. **Equipment Availability:** The quantity and capability of the equipment to be made available should be related to the risk analysis. For planning purposes, open water recovery devices typically have a recovery capacity of at least 1000 barrels/day. A recovery rate of 1000 barrels/day should therefore be considered appropriate unless the risk analysis suggests a higher spill rate is likely. This recovery rate may be attained from one device or an array of devices which would be utilized in concert with each other. The contingency plan should also indicate how additional equipment will be made available for extraordinary spills, that is, spills that exceed the recovery capacity of the readily available equipment.
- d. **Response Time:** If local conditions or geography permit, the target for initiating recovery operations with pre-staged equipment (i.e., the response time) should be six to twelve hours from the time of the spill dependent upon the location and general operating characteristics of the drilling or production activity. Whatever amount of equipment is required to be available for responding to spills should be fully deployed and in operation within the specified response time, weather permitting. The location of staged equipment will be left to the operator. For extraordinary spills, the operator should be expected to obtain additional equipment within 48 hours.

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- e. **Drills:** Response exercises for deploying equipment in open water shall occur at least annually to test the equipment and the contingency plan. This exercise should be held under realistic environmental conditions in which deployment and operation can be accomplished without endangering the safety of personnel. In addition, at least one hands-on drill should be conducted annually as part of a training program and may include full deployment conducted in protected waters. Exercises that test the alerting/initial response mechanism and command, control, and communications should be held as frequently as necessary to demonstrate effectiveness to the OSC.
- f. **Support Vessels:** Vessels or vessel types to be used in deploying and operating the response equipment should be identified in the contingency plan. The vessels should be available within the same response time parameters as used for response equipment. The crews of all candidate support vessels should be familiar with equipment deployment and operating techniques; or a system should be developed to supply trained crews/supervisors to the support vessels within the specified response time.
- g. **Dispersant Equipment:** In addition to oil recovery equipment, dispersant equipment should be included in the contingency plan. Equipment capable of applying dispersants should be maintained at appropriate staging points as well as adequate stockpiles of dispersants if they are not readily available from local distributors. The types and toxicities of dispersants proposed for use should be identified in the contingency plan. The quantity and types of dispersants presented should be related to the risk analysis, taking into account dispersant toxicity, oil composition and water temperature. The above should not be interpreted as a predilection on the part of government for the use of dispersants, but a recognition that spills may occur when, due to environmental conditions or lack of adequate support resources, mechanical recovery is not possible. The decision to use dispersants would of course be made using the criteria and procedures set forth in the National Oil and Hazardous Substances Pollution Contingency Plan. A response target of twenty-four hours from the time the spill occurs is appropriate, unless pre-approved contingency plans or a streamlined RRT authorization procedures for the use of dispersants are in effect. In this event, the response time may be lessened.

D. Oil Spill Cleanup Equipment Inventories

1. Clean Seas Cleanup Cooperative

<u>Skimmers</u>	<u>Location</u>	<u>Performance Specifications</u>
1 Cyclonet 100 skimmer system mounted on CS spill response vessel (Mr. Clean I)	Santa Barbara Harbor or Avila Beach	Can operate in moderate to heavy sea states (Mr. Clean I)
CS weir skimmer barge (45' x 17' x 6') with 2000-gpm pump and 200-bbl onboard O/W separation system and 2-240' sections of oil boom	Santa Barbara Harbor	Can operate in moderate sea states
2 Mark II weir skimmers	Carpinteria Yard	Works in waves up to 2-3 ft and winds up to 14-16 knots
1 Komara Mini-skimmer	Carpinteria Yard	Works in waves up to 2 ft
3 Floating weir skimmers	Carpinteria Yard	Works in waves up to 2-3 ft
1 Acme 39T skimmer	Santa Barbara Gaviota	Works in light seas
5 Acme 51T skimmers	Carpinteria Yard Morro Bay Ventura Point Dume	Works in light to moderate seas
1 Mark II-9 Oil Mop	Carpinteria Yard	Protected harbor
1 050 Cyclonet Skimmer with Zodiac work boat	Carpinteria Yard	Works in waves up to 3 ft
<u>Containment Booms</u>		
2000' of a 4' free-board and 8' draft heavy-duty bottom tension boom	Carpinteria Yard	Works in 6-8 ft waves, currents up to 1-1/4 knots and winds up to 25 knots

CLEAN SEAS (continued)

<u>Containment Booms</u>	<u>Location</u>	<u>Performance Specifications</u>
2 Vikoma Sea Packs, each 1600' long	Carpinteria Yard Morro Bay	Works in waves up to 6 ft and winds
2000 ft Kepner 16" x 12" curtain boom	Carpinteria Yard Gaviota	Works in waves up to 2 ft
2000 ft Kepner 8" x 12" curtain boom	Carpinteria Yard Santa Barbara	Harbor boom
4180 ft of inflatable Goodyear 12" x 24" Sea Sentry boom	Carpinteria Yard	Open ocean conditions
5527 ft of 12" x 17" Expandi boom	Point Dume Morro Bay Ventura	Works in moderate sea states
9100 ft of 43" Expandi heavy-duty sea boom	Morro Bay Ventura Santa Barbara	Works in waves up to 5 ft and winds up to 20 knots

Vessels

Mr. Clean I 1 136' x 36' Dedicated Response Vessel fitted with Cyclonet 100 skimmers. Other equipment includes: 1 Vikoma Seapack 1500 ft of 43" Expandi Boom 2700 ft of 36" Goodyear Boom 1 Komara Skimmer 1 Dracone Storage Bag 1 Dispersant Spray Unit 1 15-ft Outboard Skiff 1 32-ft Boom Boat w/twin 175 hp Motors	Santa Barbara Harbor or Avila Beach	Open ocean conditions
Mr. Clean II 1 130' x 30' Dedicated Response Vessel equipped with the following: 2 ODI Center Section Skimming Barriers 4' x 65' 1 ODI 750 gpm Floating Pump System for above	Avila Beach	Open ocean conditions

CLEAN SEAS (continued)

<u>Vessels</u>	<u>Location</u>	<u>Performance Specifications</u>
Mr. Clean II cont. 1 Walosep W-3 Skimmer 2000 ft of 38" Goodyear Boom 1 Vikoma Seapack 1500 ft of 43" Expandi Boom 1 100-bbl Onboard Oil/Water Separation System 3 Kepner Storage Bags 1 32-ft Boom Boat w/twin 175 HP motors 1 Dispersant spray unit	Avila Beach	Open ocean conditions
1 19-ft Larson Skiff w/75 hp motor	Carpenteria Yard	Protected waters
3 14-ft Aluminum skiffs w/outboard motor	Carpenteria Ventura Avila Beach	Protected waters
1 21-ft Monark utility boat w/outboard motor	Carpenteria Yard	Calm to moderate seas
1 10-ft Avon rubber raft w/outboard motor	Carpenteria Yard	Protected waters
<u>Dispersants and Application Equipment</u>		
225 drums - Corexit 9572 dispersant	Carpenteria Yard	
2 Simplex Model 200 helicopter dispersant application systems	Carpenteria Yard	
1 Vessel mounted dispersant application system	Carpenteria Yard	
<u>Oil Storage Equipment</u>		
2 5000-gal. Kepner floating storage bags	Carpenteria Yard Gaviota	

CLEAN SEAS (continued)

<u>Oil Storage Equipment</u>	<u>Location</u>	<u>Performance Specifications</u>
6 1200-gal. Kepner floating storage bags	Ventura Carpinteria Yard Santa Barbara Point Dume Morro Bay	
1 6000-gal. Dracone floating storage bag	Carpenteria Yard	
Tide-Mar VII 7840 bbl tank barge	Ventura	
2 100-bbl oil/water recovery tanks	Carpinteria Yard	Use with CSI skimmer or elsewhere
4 100-bbl flat storage tanks	Carpinteria Yard	Use with all skimmer equipment
<u>Other</u>		
6 40' enclosed trailer vans with booms, sorbents, and small skimmers	Carpinteria Yard Morro Bay Santa Barbara Ventura Gaviota Point Dume	
1 25' mobile communication center with radio base station, portable radios, and auxiliary power	Carpinteria Yard	
2 100 bbl. tank trailers - loaded with dispersants	Carpenteria Yard	
1 - 36' flatbed trailer	Carpenteria Yard	

Equipment Release Procedures

In the event of a spill that requires CS assistance, the spiller will call the CS Manager:



## 2. Clean Bay Cleanup Cooperative

### Skimmers

### Location

- |  |  |
|--|--|
| 2 - Marco Class III M/V Spill Spoiler - 58' x 24' self-propelled skimmers capable of recovering all oils                     | 1 - San Francisco<br>1 - Martinez Marina             |
| 2 - Marco Class I M/V Mini Spoiler - 34' x 10' self-propelled skimmers stored on trailers and capable of recovering all oils | 1 - Long Wharf, Richmond<br>1 - Union Oil Co., Rodeo |
| 2 - Exxon 77" diameter Open Seas Wier Skimmers used to recover contained oil   | CB Warehouse   |
| 1 - OMI Oil Mop Mark I - 4E is used primarily in protected waters and will recover 4-8 bbls/hr                               | CB Warehouse   |
| 2 - PSI Oil Hawg Skimmers for use in relatively quiet waters and capable of up to 100 gpm pumping rate                       | CB Warehouse   |
| 2 - Skim Pak Skimmers for use in very calm waters with maximum pumping rate of 70 gpm  | CB Warehouse   |
| 1 - Skim Inc. Skimmer  | CB Warehouse   |

### Containment Booms

- |   |                        |
|---|------------------------|
| 1 - Vikoma Seapack - 23' fast response boat containing 1600' of sea boom capable of performing in 6' waves and 20-25' winds | Diablo Hitch & Trailer |
| 4600' - Kepner Sea Curtain 16" x 12" medium duty boom for ocean or harbor use   |                        |
| 2000' in 2 - 35' vans   | IT Corporation         |
| 2600' in 2 - 40' vans   | Diablo Hitch & Trailer |

Containment Booms (cont.)

Location

6400' - American Marine Optimax  
6" x 12" calm water harbor  
boom

Diablo Marina  
Martinez Marina

1640' - Whittaker Expandi Boom  
12" x 18" fast deployment  
open ocean or harbor boom

CB Warehouse

500' - PPC Aquafence 6" x 18"  
calm water harbor boom

CB Warehouse

Boom Deployment & Work Boats

2 - 34' Raider SRV  
Fast response or work vessel.  
Bow ramp - large load capa-  
city with 2-175 HP motors  
each

1 - Union Oil Company  
Rodeo, CA  
1 - Shell Oil Company  
Martinez, CA

1 - 16' Boston Whaler with 40 HP  
motor and trailer mounted

CB Warehouse

2 - 12' Pioneer Unsinkable Boats  
with outboard motors

CB Warehouse

2 - 10' John Boats, aluminum with  
outboard motors

CB Warehouse

Chemicals and Equipment

1 - Helicopter spray unit for  
application of surface col-  
lecting agents

CB Warehouse

5 Drums - Shell Oil Herder

CB Warehouse

49 Drums - Exxon Corexit 9527  
dispersant

IT Corporation

Radio Equipment

1 - Portable repeater trailer  
capable of 48 hr independent  
operation

CB Warehouse

1 - Craftsman multi-band AM receiver\*

Union Oil Company  
Rodeo, CA

Radio Equipment (cont.)

Location

- |   |                                |
|---|--------------------------------|
| 1 - Intech Marine Base Station*<br>(channels 10, 16, 18A & 22A) | Union Oil Company<br>Rodeo, CA |
| 1 - Motorola UHF Mobile Radio                                   | Union Oil Company<br>Rodeo, CA |
| 1 - Intech Scan Receiver (channels*<br>10, 16, 18A, 22A & WXI)  | Union Oil Company<br>Rodeo, CA |
| 10 - Motorola 6-watt packsets*<br>with cases and belts          | Union Oil Company<br>Rodeo, CA |
| 2 - Motorola 6-watt packsets*<br>with cases and belts           | CB Office                      |

Miscellaneous Equipment

- |  |                                |
|--|--------------------------------|
| 1 - 8' x 25' Mobile Headquarters<br>office trailer with tandem<br>axle and equipped with various<br>communications equipment | Union Oil Company<br>Rodeo, CA |
| 1 - APTS type tanker lightering<br>system and accessories  | CB Warehouse                   |
| 2 - Wilden 150 gpm spark-free<br>diaphragm pumps-air driven  | CB Warehouse                   |
| 4 - 2", 3" and 6" portable gaso-<br>line driven water pumps and<br>hoses   | CB Warehouse                   |
| 1 - 365 cfm air compressor   | CB Warehouse                   |
| 1 - 35' van with various types<br>and quantities of sorbents   | IT Corporation                 |
| 1 - Floodlight trailer with 4-<br>1500 watt lights and diesel<br>driven generator  | Diablo Hitch & Trailer         |
| 3 - Bird Scare-Away propane<br>cannons   | CB Warehouse                   |
| 1 - Av-Alarm bird scarer device  | CB Warehouse                   |

---

\*Radio equipment is stored in Mobile Headquarters Trailer.

### 3. Clean Coastal Waters Cooperative

#### BOATS:

#### M/V RECOVERER

##### 196' Oil Tanker

Storage capacity 10,000 barrels of recovered oil. Can serve as command and supply base for open ocean operations. Accommodations to feed and berth up to 20 people.

#### 2 - 34' Fast Response Boats (Response I and Response II)

10' x 22' open deck

twin 200 hp engines w/200 gals fuel

Radar, VHF Marine Radio, CB Radio, UHF radio.

Each boat can carry 1000' of 3300 Expandi Boom or Kamara Skimmer, seavac oil recovery systems, absorbent pads, or oil storage bags, along with other equipment for oil containment and recovery.

#### CLEAN WATERS - 40' Work Boat (Rotork)

9' x 20' open deck

Twin 200 Volvo Diesel engines

Radar, VHF Radio, CB Radio, UHF Radio

Vessel equipped with oil mop and out riggers, oil storage bags, absorbents, etc. Also can be used for boom deployment or to carry other oil recovery equipment.

#### 17' GLASPAR

130 hp engine

Used for supervisory control and reconnaissance

## DEDICATED VESSELS AND BOATS (CONTD)

### 12' ALUMINUM WORK BOAT

15 hp outboard engine

Used for boom surveillance

### SKIMMERS:

#### CLEAN WATERS-II - (Marco Class II)

40' self propelled oil ophylic belt type  
Storage capacity - 30 bbls.

A highly meneuverable twin hulled catamaran with an endless belt pick up module mounted between the hulls. Can be used as independant recovery device or any length of boom can be connected to each bow of the skimmer and positioned by boats to form a "V" with skimmer at the apex. Excess of oil storage capacity can be pumped into storage bags or to any other vessel.

#### WALOSEP SKIMMER

Model W3

Recovery capacity - Mfg. Specs. 420 + bbls per hour.

A large 10' x 8' skimmer capable of oil recovery in amy sea state that recovery would be attempted. Skimmer can be operated from any vessel equipped with launching crane and platform large enough to carry or provide onboard hydraulic power source.

#### 050 CYCLONET

Oil recovery system mounted on a self propelled 24' Zodiac boat with twin 50 hp engines.

Oil and water is separated by centrifical force as boat is moved forward through oil to be recovered. Oil is pumped to storage bags or into another vessel.

#### MARK II SKIMMERS - 2

30' x 14' twin hulled catamarans equipped with weir type skimming system. To be towed with oil boom extensions or tied along side of any motor vessel. Oil is pumped from weir to storage bags or to another vessel. Recovery rates from 50 to 200 gpm.

## SKIMMERS (CONTD)

### ACME SKIMMERS - 2

Floating weir type skimmers. Hydraulic or gasoline driven.

To be used inside boom to remove confined oil or around docks and ships.

### KOMARA SKIMMERS - 2

Floating rotating disc type skimmers operated and controlled by hydraulic power. Can be used on open ocean inside boom for oil recovery.

### SEAVAC SYSTEM - 4

Slurp skimmer with 2" homlite diaphragm pump equipped with 2 - 1200 gal storage bags. Oil-water separator, floats, hoses, etc.

### OIL MOP

Can be used with up to 1000' of rope mop to be used around docks and ships where rope can be anchored or tied.

### CONTAINMENT BOOMS:

#### VIKOMA SEAPACKS - 5

2 Trailer mounted - 1 - SC-PCO Yard/1 - Chevron El Segundo

1 Trailer mounted - Twin Harbors, Catalina Island

2 SC-PCO yard

1600' open ocean boom mounted in a 23' planing hull for fast response. Can be towed and deployed with any vessel of opportunity.

#### GOODYEAR BOOM - 12" x 24"

3100' heavy duty open ocean boom. Stowed on dock for immediate deployment.

Can be used for harbor protection or open ocean. Boom material can withstand chafing against riprap, pilings, etc.

CONTAINMENT BOOMS (CONTD)

20" KEPNER BOOM - 5000'

Stowed on docks for immediate deployment.

14" KEPNER BOOM - 5000'

Stowed on dock for immediate deployment

14" x 17" EXPANDI BOOM - 15,000'

Stowed on five trailers to be towed to any spill site for deployment.

16" x 23" KEPNER COMPACTI BOOM - 4100'

Stowed in covered van for transfer and deployment.

20" x 23" EXPANDI BOOM - 1000'

Stowed at Twin Harbors, Catalina Island

CONWED SORBENT BOOM - 200'

Stowed at Twin Harbors, Catalina Island.

(OTHOJ) 2MOB TCMATYOD

## TELECOMMUNICATIONS

The CCW/SC-PCO Communications Equipment is located at 320 W. 5th Street, Suite 302, San Pedro, California 90731.

The equipment consists of two frequencies:

- 1) the Logistics Network - is VHF channel - 158.445/159.000, call sign KCD 770. The Logistics network is dedicated to providing person to person contact for the Cleanup Manager, Cleanup Coordinator and designated supervisors on the cleanup team. The Logistics network is a wide range system that serves as a contact between Manager and Coordinator. It is aided by a repeater on Catalina Island.
- 2) the Operations Network - is UHF channel - 454.000/459.000, call sign KDG 714. The Operations network is designed to provide wide coverage via repeaters on Catalina Island, interconnecting all stations and units concerned with support of the cleanup team. It might be compared to a portable long distance telephone system, such as a tie line between company offices in different cities.

A permanent repeater station (continuous operating) is located atop Catalina Island to insure good coverage of the CCW/SC-PCO area of interest. Two portable trailers with two repeaters per trailer - one main and one stand-by, are battery powered with a built-in charger and need an AC source to charge the batteries. Both are on the UHF frequency and are stored at CCW/SC-PCO storage area in San Pedro.

### Base/Control Units

1. Two units at CCW/SC-PCO office (1 Logistics/1 Operational)
2. One unit at Aqua Contractors (1 Operational)
3. Two units at Catalina Isthmus (1 Logistics/1 Operational)

### Mobile Units

1. Two units in General Manager's car (1 Logistics/1 Operational)
2. Two units in Aqua Contractor's truck (1 Logistics/1 Operational)

### Portable Units

- |    |  |             |                |
|----|--|-------------|----------------|
| 1. | 21 units at SC/PCO/CCW offices         | 2 Logistics | 19 Operational |
| 2. | 1 unit at Aqua Contractors office      | 1 Logistics |                |
| 3. | 4 units at Crowley office              | 1 Logistics | 3 Operational  |
| 4. | 3 units at Catalina Two Harbors        |             | 3 Operational  |
| 5. | 4 units at San Diego Contractor office |             | 4 Operational  |
| 6. | 2 units at Shell Beta Platform         |             | 2 Operational  |

1 - 45 channel Marine radio Call Sign WQA 870 (Channel 79)



4. Coast Guard Pacific Strike Team

COAST GUARD PACIFIC STRIKE TEAM

EQUIPMENT MANUAL

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Section I. AIR DELIVERABLE ANTI-POLLUTION TRANSFER SYSTEM ADAPTS

The ADAPTS as a complete package is transportable to a site by various modes and is capable of pumping almost any type product utilizing the proper components parts. The ADAPTS is always maintained in a ready status. Four complete systems with spare parts are packaged on a 30 foot low-Boy flat bed trailer for immediate dispatch by tractor or for loading onto a C-130 Aircraft.

A. ADAPTS PRIME MOVER

This is the power source for the ADAPTS system. It consists of an air-cooled AVCO-LYCOMING Diesel engine (Model W-44) which is rated at 40 hp @ 3000 rpm. The engine in turn drives a DeLaval Lucas Hydraulic Pump. The pumped hydraulic fluid drives a Denison Motor which is part of the submersible pump. The engine is equipped with spark arrestors allowing operation in a volatile atmosphere.

PRIME MOVER CHARACTERISTICS:

	TYPE I	TYPE II
WEIGHT	1350 lbs	1150 lbs
DEMENSIONS	49"X44"X44"	51"X44"X48"
CUBES	54 Cubic Feet	62 Cubic Feet
HYDRAULIC PRESSURE RATING	2200 PSIG	2200 PSIG
FLUID OPERATING TEMPERATURE	120-140 F	120-140 F
FUEL SUPPLY	50-120F (Arctic)	50-120F (Arctic)
FUEL CONSUMPTION	6 Gallon Diesel	Fuel Bladder Separate
	3 Gallons per hr	3 Gallons per hr

The Pacific Strike Team maintains (06) Prime Movers (03) of each type. Type I can be sling loaded only by a HH-3F Helicopter, while type II can be loaded inside and delivered.

#### B. SUBMERSIBLE PUMPS

There are six (06) types of pumps in this category which can be driven by the ADAPTS prime mover. However, three of the pumps were designed to be used with the VOPS system and are therefore discussed in the next section. The type of product being pumped and the capability desired will determine which of these pumps is used in conjunction with the prime mover.

NOTE: The diameter of these pumps is such that they all can be lowered through buttersworths and hatches aboard vessels.

##### 1. Single Stage

This is an eight inch diameter, mixed flow pump driven by a hydraulic motor through an enclosed direct drive coupling. The suction intake is located 18 inches above the bottom of the pump housing. PST maintains four (04) of these type pumps.

<b>WEIGHT:</b>	<b>PUMP ONLY:</b>	265 lbs; w/box: 353 lbs
<b>DIMENSIONS</b>		13.5"x19.5"x59"
<b>CUBES</b>		7.7 Cubic Feet
<b>PUMPING RATE</b>		750 - 1500 GPM (dependent upon the product viscosity)
		Over 40 feet of vertical lift push, rate will decrease.
<b>DISCHARGE FITTINGS</b>		6 Inch Quick-Disconnect

## 2. DOUBLE STAGE

This is a ten inch diameter, two stage, mixed flow pump driven by a hydraulic motor through an enclosed direct drive coupling. The suction intake is located 24 inches above the bottom of the pump housing.

PST maintains eight (08) of these type pumps.

<b>WEIGHT:</b>	<b>PUMP ONLY:</b>	500 lbs; w/box: 614 lbs
<b>DIMENSIONS</b>		20"x20"x113"
<b>CUBES</b>		26.1 Cubic Feet
<b>PUMPING RATE</b>		900-1645 GPM (depending upon product viscosity and temp.)
		Over 65 feet vertical push, rate will decrease.
<b>DISCHARGE FITTINGS</b>		6 inch quick-disconnect

## 3. STRIPPING PUMP

This is an eight inch diameter, single stage, mixed-flow pump driven by a hydraulic motor through an enclosed direct drive coupling. The suction intake is on the bottom of the pump housing and is capable of stripping a tank's product to within 3 or 4 inches of the tank bottom. PST maintains three (03) of these type pumps.

WEIGHT:	PUMP ONLY:	300 lbs;	w/box:	300 lbs
DIMENSIONS		18"X20"X66"		
CUBES		12.6 Cubic Feet		
PUMPING RATE		600-1330 GPM (dependent upon product viscosity and temp)		
		Over 20 feet vertical push, rate will decrease.		
DISCHARGE FITTING		6 inch quick-disconnect		

### C. SUPPORTING EQUIPMENT

The prime mover and submersible pump are the primary parts of the ADAPTS system, However, several other parts such as hydraulic hose, discharge hose, fuel bladder, tripod, and rigging material are intergral parts for operation. Some of these items are packed in a connex box for deployment while some are loaded individually due to their size.

#### 1. HYDRAULIC HOSE

The main hydraulic supply and return line for the submersible pumps is through high pressure hose with Quick Disconnect coupling. The working pressure is approximately 2200 PSI. Check valves are built into the couplings which allows the hose to be maintained in a fully charged state. PST maintains 22 eighty foot sections and 19 one hundred foot sections of this hardrubber reinforced hose.

WEIGHT	150 lbs (100 ft); 120 lbs (80 ft)
CUBES	2.5 - 3.0 Cubic feet depending on the diameter of the coil



## 2. DISHCHARGE HOSE

The discharge hose used on the submersible pumps is 6 inch diameter and comes in 50 foot lengths. It is tested to 125 psi but is used in a working pressure mode of approximately 50 psi. The hose is equipped with Quick-Disconnect fittings. PST maintains 58 section of this hose.

WEIGHT	120 lbs (50 ft)
CUBES	7.0 Cubic Feet

## 3. FUEL BLADDERS

These 55 gallon capacity rubber bladders are used as the fuel source for the ADAPTS prime movers. PST maintains six (06) of these fuel bladders.

WEIGHT	420 lbs (full)
	42 lbs (empty)
CUBES	11 Cubic Feet

## 4. TRIPODS

To enable the lowering of a pump into tanks aboard a vessel or barge, a tripod with appropriate rigging material is used to support the weight. The tripod module has extendable steel legs, allowing the height of the tripod to be set between 8 ft 7 inches and 14 feet. Wire pennants are used to secure the base of the legs.

WEIGHT 175 lbs  
CUBES 12 cubic feet  
CAPACITY 9000 lbs (10'); 6000 lbs (14')

One leg of the tripod can be removed to make an A-frame configuration for other loading tasks. In this arrangement the capacity is reduced to approximately 2000 lbs at mid-height and 1500 lbs at maximum height, also depending upon the line used to support the A-frame.

PST Maintains nine (09) tripod modules.

#### 5. RIGGING BOX

A rigging box containing all necessary equipment to move or secure ADAPTS components accompanies the system on any response. Items included in the box are: griphoists, lugalls, aircraft straps, chain, A-frame heads, snatch blocks, wire straps, line, shackles, splicing kit, nylon slings, stoppers, and lifting briddles.

WEIGHT 500 lbs approx, depending on number /type  
of items  
CUBES 21.5 cubic feet

Section II. VISCOUS OIL PUMPING SYSTEM (VOPS)

The VOPS has the capability to pump high viscosity petroleum products. The system is similar in concept to ADAPTS, and is basically an enlarged version of it. It also shares some of the components with the ADAPTS. The VOPS prime mover is GM-4-53 water cooled diesel engine driving a commercial shearing gear type hydraulic pump.

The VOPS will operate any of the submersible pumps; two pumps at 26 GPM or one pump at 50 GPM (Hydraulic fluid) PST maintains (01) of these type systems.

WEIGHT	4100 lbs
CUBES	96 cubic feet
ENGINE	Detroit diesel allison (04) cylinder
HORSEPOWER	87 hp (continuous)
FUEL SUPPLY	20 gals
HYDRAULIC	
RESERVOIR	50 gals
HYDRAULIC	
SYSTEM	(02) section pump
HYDRAULIC	
FLOW RATE	26 GPM each pump section at 2200 RPM
COOLING	water
HYDRAULIC PRESS.	2500 PSI at 26 GPM (max)
FLUID OPERATING	
TEMPERATURE	160 - 185 F
OIL PRESSURE	4 - 50 PSI
ENGINE SPEED	2200 RPM

A. SUBMERSIBLE PUMPS

The three (03) type pumps designed for use primarily with the VOPS are described in this section. These, can also, be operated with the ADAPTS prime mover.

1. EUREKA PUMP

This a twelve inch diameter, single stage, mixed flow pump driven by a hydraulic motor through an enclosed direct drive coupling. The suction intake is on the bottom of the pump housing and is capable of stripping a tank's product to within 3 or 4 inches of the tank bottom. PST maintains one (01) of this type pump.

WEIGHT:	PUMP ONLY:	280 lbs; w/box:370 lbs
DIMENSIONS		21"X23"X54"
CUBES		15.1 Cubic Feet
PUMPING RATE		465 GPM at 50 PSI
DISCHARGE FITTING		6 inch Quick-Disconnect

## 2. SLOANE PUMP

This is a twenty inch diameter, trash pump driven by a hydraulic motor. The suction is located on the lower most end of the pump. The PST maintains (02) of these type pumps.

WEIGHT	PUMP ONLY	140 lbs;	w/box	230 lbs
DIMENSIONS		27"X27"X31"		
CUBES		13.1 Cubic Feet		
PUMPING RATE		800 GPM at 60 ft head at 2000 PSI		
		980 GPM at 40 ft head at 2000 PSI		
DISCHARGE FITTING		6 Inch Quick-Disconnect		

## 3. FRAMO TK-5 PUMP

This is a twelve inch diameter, corrosive chemical pump that will also pump viscous oils and fluids of high temperature. The construction is of stainless steel and its diameter allows it to fit through butterworths openings. The PST maintains (02) of these type pumps.

WEIGHT :	PUMP ONLY :	155 lbs;	w/box:	245 lbs
DIMENSIONS		20"X22"X56"		
CUBES		14.3 Cubic Feet		
PUMPING RATE		1147 GPM at 40 ft head at 2500 P.		
		794 GPM at 80 ft head at 2500 P.		
DISCHARGE FITTINGS		6 inch Quick-Disconnect w/ 4" adapter		

NOTE: Hydraulic hoses and discharge hoses also available in braided stainless steel, for this pump.

The supplementary parts required to make a complete ADAPTS system are also required to complete the VOPS. The VOPS is maintained in a ready response mode and is part of the 30 ft. low-boy flat bed trailer package described in the previous section. Either System may then be used on response depending upon what the situation/products warrants.

The VOPS is not deliverable by HH-3F Helicopter.

DISCHARGE FITTING	PUMPING RATE	CUBES	DIMENSIONS	WEIGHT (incl. PUMP ONLY)
1 1/2" Quick-Disconnect w/ adapter	194 GPM at 80 ft head at 3500 RPM	14.3 Cubic Feet	30" X 22" X 28"	585 lbs (incl. PUMP ONLY)
1 1/2" Quick-Disconnect w/ adapter	1147 GPM at 80 ft head at 3500 RPM	14.3 Cubic Feet	30" X 22" X 28"	585 lbs (incl. PUMP ONLY)

NOTE: Hydraulic hoses and discharge hoses also available in brushed stainless steel for this pump.

Section III. OPEN WATER CONTAINMENT AND RECOVERY SYSTEMS

(OWOCRS AND OWORS)

The containment and recovery systems described in this section have been designed for and are mainly used for the recovery of oil spilled off-shore. The devices can be used in protected waters, however.

The Dracone barges described in Section (C) are not specifically part of the other systems described but are compatible with them and can be used as a containment vessel for the recovered product. As will be noted in their descriptions, special handling and support equipment are required for the proper deployment and operation of these systems

A. OPEN WATER OIL CONTAINMENT AND RECOVERY SYSTEM

OWO CRS

1. OWO CRS BARRIER: This is a "High Seas" Barrier 612 feet in length. It is of fairly rigid construction with a draft of 27 inches and freeboard of 21 inches. Self-inflating floatation bags are part of the system and Nylon lines are used for Tension Slack Retainer, Bridle, and Extension lines. The barrier consists of 102 struts with six (06) designed as skimming struts (Weir type) which are located in the middle of the barrier.

The Barrier is stowed in an aluminum construction box, ready for deployment. The box includes floatation devices if needed and is Air Deliverable. The OWO CRS Barrier was designed to operate in 6 foot seas and can survive 10-12 foot seas. The Barrier can be deployed in a dynamic mode or a static mode. A mooring system utilizing 90 lb Danforth Anchors, mooring buoys, and appropriate lighting is available if needed during extended use. As can be noted from the weights and dimensions, a large staging area, heavy load handling equipment, and appropriate support vessels are needed for the proper operation of this barrier. PST maintains nine (09) of these barriers.



BARRIER:- Length 612 feet  
 Height 4 feet - draft 27 in. freeboard 21 in.  
 Weight 11,000 lbs(approx), 110 lb struts  
 Flotation bag 4 feet long, 13 in. diameter  
 Inflation at 5-6 psi, with CO<sub>2</sub> cartridges.

BARRIER

BOX: Length 18 feet, 4 in.  
 Width 9 feet, 2 in.  
 Height 5 feet, 2 in.  
 Cubes 875 Cubic feet  
 Weight 4500-5000 lbs (approx)  
 depending on container type

2. FAST SURFACE DELIVERY SYSTEM (FSD)

This delivery vessel or "Sled" was designed by the Coast Guard to provide an alternative delivery method for the ADAPTS, OWOCRS Barrier and the OWORS Skimmer. With an aluminum planning hull of 45 foot length and 15 foot beam, it can deliver up to a 20,000 lb payload. The sled can be towed by a HH-3F Helicopter at a speed of up to 50 knots or a surface vessel at up to approximately 30 knots. Compartments in the vessel can be flooded to allow the payload to float free. PST does not maintain any of these devices as they are pre-staged at selected sites (MSO's/COTP's).

LENGTH 47 feet  
 BEAM 15 feet  
 CARGO DECK 28 feet X 9 feet  
 DRAFT 1.5 feet empty, 11 feet stern flooded  
 WEIGHT 10,000 lbs  
 CAPACITY 20,000 lbs Payload

### 3. PUMPING SUBSYSTEM (PUMP FLOAT)

The pump float used in conjunction with the skimming barrier is a 14 foot aluminum flat bottom, barge type work boat. It is without an engine recess or any other type of maneuvering accessories. The pump float requires towing to position and securing to the skimming barrier. To accommodate the Six (06) weir type skimmers in the barrier, the pump float contains three (03) double action, single diaphragm pumps. The pumps are hydraulically driven by a prime mover, which must be located on another platform. The maximum pumping capacity is 825 GPM. Suction and discharge connections utilize 3 in. and 6 in. Quick-Disconnect fittings. PST maintains nine (09) of these pump floats.

LENGTH	14 feet
WIDTH	8 feet
CUBES	336 Cubic Feet
DRAFT	1 foot (approx)
FREEBOARD	2 feet (approx)
WEIGHT	2500 lbs

4. PRIME MOVER: The prime mover used as part of the skimming barrier system is the ADAPTS Prime Mover described in Section I.

5. RETRIEVAL / RECOVERY RACK

A retrieval rack with hydraulically driven capstan and a recovery rack are normally used as a single unit to recover the skimming barrier after deployment. The two racks have monorails that interface to facilitate barrier recovery using trolley and clip attachments to the struts of the barrier.

The rack frames are constructed of welded aluminum pipe. The retrieval rack has a skid-mounted bottom and the recovery rack has additional framework of two-inch galvanized steel pipe with slip on fittings. The recovery rack capacity is for 612 feet of barrier, one complete system. The hydraulic power source for the the retrieval rack capstan is the prime mover (ADAPTS). PST maintains one (01) of the retrieval racks (w/capstan) and three (03) of the recovery racks.

	RETRIEVAL RACK	RECOVERY RACK
LENGTH	4 ft 7 in.	26 ft
WIDTH	8 ft 11 in.	9 ft 1 in.
HEIGHT	8 ft	7 ft 4 in.
WEIGHT	900 lbs	3500 lbs

B. LOCKHEED CLEAN SWEEP 4000 (OWORS)

The OWORS is a self-powered, self-contained pontoon-floated oil recovery device which can operate in open seas or calm water. The hull is rectangular box beam structure of 3/16 inch aluminum alloy. The system is powered by an 88.5 hp Lister Diesel engine. A hydraulic system transfers power from the engine to the machinery. A high pressure air system is used for engine startup and controls and a low pressure system is used for pontoon inflation. Oil recovery is accomplished by two aluminum disc-drums. Oil adheres to the aluminum vanes and is wiped by blades into a collecting trough. An oil recovery weir is part of the system which provides for recovery of low viscosity oil in calm waters. There are two oil collection sumps which are automatically pumped-off by two transfer pumps. Due to limited storage capacity, a containment vessel of some type must be provided in which to pump the recovered oil. Four inflatable pontoons provide the floatation for the system. The inner and outer pontoons are neoprene impregnated nylon fabric. The OWORS must be towed to the area of operation and secured appropriately.

PST maintains one (01) of these units.

	OPERATION	TRANSPORT
BEAM	28 ft	28 ft
LENGTH	27.5 ft	7 ft
HEIGHT	11.5 ft	8.5 ft
CUBES	-----	1666 Cu. Ft.
WEIGHT	17,900 lbs	17,000 lbs
DRAFT	2.25 ft (max)	
FUEL CAPACITY	165 gals	
ENDURANCE AT LOAD	30 hours	
OIL RECOVERY RATE	1,000 GPM (max)	
TRANSFER PUMP CAPACITY	650 GPM each	
OIL SUMP CAPACITY	PORT-350 gal	Stbd- 300 gal

C. DRACONE BARGES

The Dracone barge is a flexible tube designed to carry petroleum products or other liquids with a specific gravity less than 1.0. It is constructed of nylon cord and woven nylon fabric, proofed with weather and abrasion resistant synthetic rubber outside and nitrile rubber inside. Two inflatable buoyancy tubes are fitted inside the nose and tail cone assemblies. These assemblies are of an aluminum alloy and provide a cargo seal, loading/discharge hose, and a means to tow the envelope when deployed. The dracone barge can provide an alternative container for recovered oil. Even though the barges are rolled-up on pallets for storage and transit, heavy load handling equipment is required for its deployment and recovery. A navigation light float needs to be used with the barge, when deployed. The size and number of dracone barges maintained by PST is indicated in the following chart, as well as its other characteristics.

(DRACONE TYPE)	D-10	F	O
LENGTH	103 ft	165 ft	300 ft
DIAMETER	4 ft 8 in.	7 ft 8 in.	13 ft 10 in.
WEIGHT	1715 lbs	5005 lbs	14300 lbs
CUBES	150 cu. ft.	270 cu.ft.	570 cu.ft.
CAPACITY(100%)	12,000 gal	50,400 gal	290,500 gal
OPERATIONAL	10,200 gal	42,840 gal	246,925 gal
NUMBERED MAINTAINED BY PST	1	4	1

SECTION IV. SKIMMING DEVICES

PST maintains several small oil skimming devices which utilize various recovery principles. These skimmers are used mainly in a training mode but are available for response if the incident so dictates.

A. MARCO CLASS I SKIMMER

This inland water service device uses an ophilephobic belt to recover product. The belt can be adjusted for raising or lowering 12 inches. A self-contained prime mover operates the skimmer and rollers. This unit requires a small trailer for delivery.

WEIGHT	625 lbs plus 250 lbs for prime mover
DIMENSIONS	15 ft X 3 ft X 4 ft
CUBES	180 cu. ft.
POWER	Hydraulic (compressed air)
SUMP	90 gal
ENGINE	1 cyl. Petter Diesel 6,5 hp @ 3600 rpm
PRESSURE	Nose roller 20 psi SQUEEZER ROLLER 45 psi
HYDRAULIC FLUID	Teresic 46

B. SEAVAC SKIMMER SYSTEM

(Slurp skimmer or Portable Oil Retrieval Transfer System (PORTS))

The PORTS is a complete system with a weir type skimming head, a floating oil water separator, and a 300 gallon storage bladder. The prime mover for the system includes a small diesel engine and a self-priming diaphragm pump.

WEIGHT	1250 lbs
DIMENSIONS	7.5 ft X 4 ft X 4 ft
CUBES	120 Cu. Ft.
POWER	1 Cyl. Barnes Diesel 2.4 hp @ 2400 rpm
RECOVERY RATE	30 GPM
MAXIMUM LIFT	20 Ft.

C. ACME FLOATING SAUCER SKIMMER (WEIR TYPE)

This device consists of a floating suction head (Weir Type) with a 4 hp Tecumesh gasoline engine that drives a four inch impeller pump. It can also be powered by compressed air or electricity. A receiving container must be provided for the recovered product.

WEIGHT	500 lbs
DIMENSION	4.3 ft X 4.2 ft X 4.3 ft
CUBES	79 Cu. Ft.
MAXIMUM HEAD	30 Ft
RECOVERY RATE	75 to 120 GPM (Varies according to skimming depth of product)

D. VAC-U-MAX

This device is a portable wet or dry vacuum, useable on petroleum products. Using compressed air of at least 60 psi it creates a vacuum of 8 to 16 inches of mercury which can lift water to about 18 feet. The vacuum unit normally includes a 55 gallon drum but it can be adapted to a 275 gallon designed tank. The device has an automatic shut-off so it cannot overflow. A skimming wand can be used with this unit also. PST Maintains two of these units.

WEIGHT	600 lbs
DIMENSIONS	4.3 ft X 4.2 ft X 4.3 ft (both units)
CUBES	79 cu. ft.
RECOVERY RATE	up to 2 GPM
AIR PRESSURE	60 psi or greater



Section V. PUMPS

A. DOUBLE DIAPHRAM PUMPS

1. WILDEN

This pump is a compressed air operated double diaphragm pump with a 3 inch discharge. The pump is packaged with discharge hose, fittings, and compressed air line. The OSI compressor described in Section VII will normally be the source of compressed air for the Wilden pump.

PST has one (01) of these units.

WEIGHT	500 lbs
DIMENSIONS	4 ft X 4.3 ft X 3.2 ft
CUBES	55 cu. ft.
PUMPING RATE	up to 200 GPM
MAX. LIFT	up to 25 ft
AIR PRESSURE	90-125 psi

2. WARREN RUPP "SANDPIPER"

This double diaphragm pump is also operated by compressed air. Two inch fittings and discharge hoses are used with this unit. The OSI compressor also is used to supply compressed air for this pump. PST maintain two (02) of these pumps.

WEIGHT	95 lbs
DIMENSIONS	1.25 ft X 2 ft X 2 ft
CUBES	5 cu. ft.
PUMPING RATE	up to 140 GPM
MAX. LIFT	up to 20 ft
AIR PRESSURE	80 - 100 PSI

B. HOMELITE 385 TRASH PUMP

1. The Homelite 385 is a self-contained pump with a 3 inch discharge. A 6 horsepower, 4 cycle, Briggs and Stratton gasoline engine powers the pump, which is a centrifugal type pump with impeller. The pump must be primed before operating. PST maintains two (02) of these units.

WEIGHT	135 lbs
DIMENSIONS	3 ft X 1.75 ft X 2 ft
CUBES	10.5 cu. ft.
PUMPING RATE	up to 385 GPM
MAX. LIFT	up to 25 ft

C. MULTIQUIP TRASH PUMP

1. The multiquip is a centrifugal stainless steel pump driven by 7.1 hp Farymann diesel engine. This pump can be utilized with corrosive and petro-chemical products. This unit has 3 inch fittings and hoses and is self-priming. PST has one (01) of this type pump.

WEIGHT	217 lbs
DIMENSIONS	1.67 ft X 2.25 ft X 2.5 ft
CUBES	9.4 cu. ft.
PUMPING RATE	up to 200 GPM
MAX. LIFT	up to 25 ft

D: GORMANN-RUPP SELF-PRIMING CENTRIFUGAL PUMP

1. This stainless steel, hydraulic driven pump can be used to move corrosives and petrochemical products. An ADAPTS prime mover is used to power the pump. The suction manifold is 3 inch and the discharge is 4 inch. PST maintains two (02) of these pumps.

WEIGHT	315 lbs
DIMENSIONS	1.5 ft X 4 ft X 3 ft
CUBES	18 cu. ft.
PUMPING RATE	up to 200 GPM
MAX. LIFT	20 ft

Section VI. GENERATORS

A. HOMELITE 3500

1. This generator is powered by an 8.0 hp 4 cycle, Briggs and Stratton gasoline engine. Generator output can be in 120 volts or 240 volts, or both. For maximum power the switch should be in a single voltage mode. 3.5 kilowatts is produced at 60 Hz by this unit and 20 to 30 amperes can be drawn. An automatic idle control allows the engine to operate at the speed necessary to supply power demanded. The generator, must be grounded for safe operation. PST maintains two (02) of these portable generators.

WEIGHT 160 lbs

DIMENSIONS 2.25 ft X 2.25 ft X 1.5 ft

Section VII COMPRESSORS

A. OSI COMPRESSOR

1. The OSI unit is the compressed air source used to power PST's pneumatic tools and air powered pumps. This compressor has a 3 stage Dresser compressor and is powered by a 14.5 hp, 2 cylinder Lister Diesel engine. PST maintains one (01) of these units.

WEIGHT	2350 lbs
DIMENSIONS	5.5 ft X 4.2 ft X 4.2 ft
CUBES	97 cu. ft.
COMPRESSOR	
RATING	100 cfm at 1800 rpm 125 cfm at 2500 rpm
TANK PSI	up to 200

B. MAKO K-51

1. This high pressure air compressor is one of PST's sources of breathing air for the self-contained breathing apparatus (SCBA'a) held at the unit. The three-stage high pressure machine is powered by a 5 hp Briggs and Stratton gasoline engine. Due to its light weight is quite portable. A Light weight frame is constructed around the compressor and engine to facilitate handling the compressor. PST has one of these units.

WEIGHT	190 lbs
--------	---------

C. BAUER MARINER - D

1. This high pressure, three stage air compressor is another source of breathing air for PST's SCBA's. This unit is powered by an 8 horsepower one cylinder HATZ Diesel engine. A frame encloses the compressor and engine to aid in its portability. PST maintains one of this type.

WEIGHT	320 lbs
DIMENSIONS	50 in X 22 in X 32 in
CUBES	20.4 cu. ft.
PRESSURE	5000 psi
AIRFLOW	7.0 cfm @ 1300 rpm

Section VIII BOAT AND OUTBOARD MOTORS

A. MONARCH UTILITY BOAT (TAN B)

PST maintains one of these 21 foot utility boats or "trailerable Aids to Navigation Boats"

This boat is designed with a Cathedral hull for stability and added load capacity and is constructed of marine aluminum. Transferring personnel and equipment and tending boom are some of the possible uses for this boat. A crucifix has been added to the boat, for towing capability. The TAN B is also equipped with a fathometer and triton radio.

LENGTH	21 ft 6 in
BEAM	7 ft 3 in
DEPTH (MOLDED)	3 ft 2 in
(NORMAL)	1 ft 2 in
FREEBOARD	2 ft 0 in
ENGINE	Mercury Cruiser, inboard 165 hp, 6 cyl. Gasoline
FUEL CAPACITY	40 gal
LOAD CAPACITY	12 persons
WEIGHT	2,250 lbs
WEIGHT W/TRAILER	7,080 lbs
LENGTH W/TRAILER	27 ft 6 in
WIDTH W/TRAILER	8 ft 0 in
HEIGHT W/TRAILER	7 ft 11 in

**B. ZODIAC INFLATABLE BOATS**

Two zodiac inflatable boats are maintained by the PST. The two different size zodiacs, which are light, safe, stable, and quite maneuverable, are used to tend the skimming barrier and pump float on a response. Powered by one of the outboards motors described in paragraph C, the zodiacs provide a reliable work platform.

	MARK III	MARK IV GR
LENGTH	15 ft 5 in	17 ft 6 in
LENGTH INSIDE	8 ft 4 in	9 ft 4 in
WIDTH	6 ft 4 in	7 ft 2 in
WIDTH INSIDE	3 ft 0 in	3 ft 6 in
BUOYANCY TUBE		
DIAMETER	1 ft 8 in	1 ft 10 in
BUOYANCY CHAMBERS	5	5
KEEL, RUBBER	Inflatable	Inflatable
CAPACITY PERSONS	10	12
CAPACITY PAYLOAD	220 lbs	286 lbs
OUTBOARD MOTOR		
CAPACITY	10 - 65 hp	10 - 85 hp
DIMENSIONS FOLDED	4ftX2ftX11in 3ft10inX2ftX10in	5ftX2ft8inX1ft3in 4ft6inX2ft6inX10in
CUBES	13.5 cu. ft.	25 cu. ft.
WEIGHT	211 lbs	352 lbs



C. OUTBOARD MOTORS

PST maintains four (04) gasoline powered outboard motors to be used on Zodiac Inflatable Boats as described in paragraph b. There are two (02) each Johnson and Envinrude long shaft motors. Portable 5 gallon fuel tanks with priming bulb in-line are used with this motor.

	ENVINRUDE	JOHNSON
DIMENSIONS	2ft X 1.5ft X 4.25ft	2ft X 1ft X 4.25ft
CUBES	12.75 cu. ft.	8.5 cu. ft.
WEIGHT	87 lbs	118 lbs
HORSEPOWER	25	35
STARTING MECHANISM	Manual	Manual
PROPELLER DIAMETER	10 in	10 in
PROPELLER PITCH		13 in

Section IX VEHICLES AND TRAILERS

The PST maintains a number of vehicles and trailers used in transporting equipment to the scene of a response. All these units are capable of being loaded onto a C-130 airfract. In case of the trailers, some type of mobilizer is needed to off-load the unit at its destination and a tractor for final delivery to the sight.

A. General 5 STAR TRACTOR, 1978

This GSA-Interagency motor pool semi-tractor is used by PST for over the road delivery of equipment laden trailers. It has been equiped with a moveable fifth wheel, a Jacobs Engine Brake, and a Mercury Sleeper.

MANUFACTURER	GMC
ENGINE	CUMMINGS DIESEL NTCC - 350
TRANSMISSION	FULLER 8 SPEED
HORSEPOWER	350
DRIVER WHEELS	8
FUEL CAPACITY	150 GALS
WEIGHT	20,000 lbs

B. LOW BED SEMI-TRAILER

These low bed trailers manufactured by Transport Trailers are equipped with a 2 inch King Pin towing facility, Air Brakes, and 12 volt DC, 7 pin electrical receptacles. A fifth wheel dolly comes as part of the unit which allows aircraft loading/unloading without a tractor or forklift; but controlled by aircraft winches. When a tractor is hooked up for transporting the dolly can be towed from the back of the trailer using the pinto hook. Couplings for air and electrical are located on the after end of the trailer also. The trailer is welded steel construction with a 1-1/2 inch apitong planking deck. PST maintains seven of these units. The trailers are usually loaded in a ready response status with the ADAPTS system, dracon barges, and OWOCRS barriers.

LENGTH	32.7 ft (overall)
	23.5 ft (deck)
	9.2 ft (gooseneck)
WIDTH	8.0 ft (deck)
	3.0 ft (gooseneck)
HEIGHT	5.0 ft (over gooseneck)
	3.0 ft (over deck)
GOOSENECK IS APPROX.	2.0 ft ABOVE DECK
WEIGHT	7,550 lbs (curb)
	30,550 lbs (GVWR)
AXLES	2 tandem
LANDING GEAR	VERTICAL SCREW, 2 SPEED MANUAL
	16 INCH RETRACTED HEIGHT

C. MOBILE COMMAND POST

PST's mobile command post is a modified 1974 TRAVCO motor home. It has been equipped with air conditioning, heaters, electrical generators, galley, storage cabinets, and counter/dish space to accommodate 4-5 personnel. Wiring has been installed to provide for 3 telephone after connection by the phone company. Six to Eight people can be accommodated for a conference situation if other activities are precluded. A VHF-FM Triton radio with appropriate antenna is installed to provide for a 25 watt base station capability. It is possible to provide berthing for 2 persons on board, but not recommended. The MCP is C-130 air deliverable.

LENGTH	32.0 ft (overall) 209 inch (17.4 ft) wheel base
WIDTH	8.0 ft
HEIGHT	9 ft 1 in
WEIGHT	13,770 lbs
ENGINE	440 CID CHRYSLER
HORSEPOWER	240 hp
TRANSMISSION	3 speed automatic (Loadlite)
FUEL CAPACITY	80 GALS
GENERATOR	ONAN 6000 WATT, 50 amp
WATER SUPPLY	26 gal tank 6 gal heater

#### D. CHEMICAL RESPONSE VAN

PST has modified a 20 foot shipping container into a chemical response van. The container is placed atop a low bed trailer for over-the-road response or palletized for C-130 delivery. Power is supplied to the van by a portable generator. The container also, has forced ventilation, a 15 gallon water supply and a mini-weather station. The van is so arranged that most of the space is used for chemical response equipment storage. Items described in section X are found in the van in addition to a considerable amount of other supportive equipment. The outfitting of the response van is such that 6 personnel could be supported at a chemical response for a period of at least one week. Work space inside the van is restricted therefore, this unit would not serve effectively as a command post.

LENGTH	21 ft 8 in
WIDTH	8 ft 6 in
HEIGHT	7 ft 10 in
WEIGHT	10,000 lbs

## Section X CHEMICAL RESPONSE SAFETY EQUIPMENT

PST's chemical response equipment inventory includes a great number of items that would be used on a hazardous material response. Considering this, only the major items and those most used will be described in this section. Other supportive materials include reference books, repair tools, spare SCBA and instrument parts, TYVEK Coveralls, portable eyewash, portable shower, decontamination materials, digital blood pressure monitor, digital thermometer, and other items to numerous to mention.

### A. SELF-CONTAINED BREATHING APPARATUS

Three types of SCBA's are maintained by PST:

Survivair Model, Survivair XL-60, 60 minute model, and the MSA 30 minute unit. Each is a pressure Demand unit. A number of spare air bottles of steel or composite structure are kept for each type SCBA. Eleven (11) Survivair 30 minute units are kept in the chemical response van. The remaining Survivair 30 minutes units (01), six (06) Survivair XL-60's and the four (04) MSA 30 minute units are maintained in a ready status in the response equipment storage.

B. SCOTT AIR LINE RESPIRATOR (CASCADE)

PST maintains three (03) Scott Air Line Respirators with 5 - minute escape bottles. These breathing apparatus can be connected by 300 feet of high pressure air hose to air cylinders charged to at least 2100 psi (225 Cubic Feet). With two cylinders used in this mode, a breathing air supply of up to approximately 4 hours can be provided.

C. ROBERT SHAW EMERGENCY ESCAPE BREATHING APPARATUS

This 5-minute escape pack provides breathing air for a person to exit only from hazardous atmosphere. The unit is carried in a pack over the shoulder and can be slipped over the head in seconds for use. PST maintains 16 of these units.

D. AIR PURIFYING

Three types of Air Purifying Respirators are kept in PST's inventory: the MSA Full face twin cartridge respirator, the MSA full face gas mask (with type N canisters) and the Scott Full Face Twin Cartridge Respirator. 40 units total are maintained and cartridges/canisters for organic vapors, acid/gas and particulates are kept in stock.

E. ENCAPSULATED SUITS

Many chemical response incidents may require an entry in a fully encapsulated suit. For this situation, PST maintains three (03) types of these suits: The Eastwind Chemtursion of Butyl rubber, Eastwind Chemtursion of Neoprene and the ILC Dover Walkaround of Chlorinated Polyethylene. Six (06) of the Butyl Rubber suits, Six (06) of the Neoprene, and fourteen (14) of the CPE suits are kept ready at all times.

F. SPLASH GEAR

When a hazardous material incident is not that serious but personnel body protection is still desirable, splash gear is utilized. PST maintains a considerable amount of splash gear of several different types. Some of these items can also be used as rain gear if needed during any type of response. The following chart lists the items of gear and the type of material of which they are composed. No attempt is made to list the number of pieces in stock due to the fluctuation that can occur.

	NEOPRENE	POLYVINYL CHLORIDE	BUTYL NITRILE RUBBER
COVERALLS, ONE PIECE	X		
JACKETS		X	
OVERALLS, BIB TYPE		X	
HOODS		X	
GLOVES	X		X
BOOTS, W/STEEL SHANK &TOE	X		X
OVER <u>BOOTS</u>		X	X



## Section XI. COMMUNICATIONS AND DOCUMENTATION EQUIPMENT

A number of pieces of equipment are used by PST in the field to facilitate communication between the OSC and his staff and other resources and to document events in a case and progress in cleanup. Several OSC kits, containing all necessary administrative/office supplies have been put together and could be considered an item in this section, although not described. A typewriter can also be released from the unit to accompany personnel if needed.

### A. COMMUNICATIONS EQUIPMENT

1. FM RADIOS: PST maintains four (04) Modar Triton radios for use in vehicles or setting up as a 25 watt base station in the field. More portable communications is obtained by using Motorola MX-350 hand-held radios. Twenty-four (24) of these radios are available. A number of frequencies/channels are utilized on the radios including channels 16, 21, 22, 23, 81, and 83.

Auxilliary equipment used with the MX-350 radios make them more versitile. Belt holders and hand-held microphones can be used. Transmit/Receive handsets for use during aircraft operations are on hand for use also.

Setcoms, which are "Bone" activated transmit and ear-phone receive, can be attached to the MX-350's for use when a chemical response demands encapsulated suits.

Charging units are maintained to accommodate all radios on hand.

2. TELECOPIERS: Two (02) different telecopier machines

are held by PST for the purpose of sending or receiving messages or other printed material over a telephone during a response, when a teletype is not available and time requirements preclude personnel from delivering the information.

The 3M model 603 "VRC" Portable Remote Copier operates on 115V AC or 12V DC. This machine can be set on 3, 4, or 6 minute mode for compatibility with most other types of telecopiers. 3M brand copy paper must be used for receiving.

The Exxon Enterprises Inc Qwip 1200 series telecopier operates on 110/115V AV only. It has only 4 and 6 minute send/receive modes but is compatible with most any telecopying machine. Exxon or Xerox paper may be used for receiving messages on this machine.

B. DOCUMENTATION EQUIPMENT

1. CAMERAS: POLAROID Model 440

Pentax Spotmatic, 35mm

Canon AE-1, 35mm

PST maintains three (03) each of the above cameras with flash attachments and extra lenses.

2. TAPE RECORDERS: SONY, Portable Cassette, Two

(02) units are kept on hand for response.

3. VIDEO TAPE RECORDING SYSTEM: PST maintains a complete

Video Tape Recording System with 1/2 inch tape and

3/4 inch tape capability components include:

Sony VP-2000 VTR, and a Sony SLP-300VTR. This

system is used primarily in training programs but

could be used in recording field activity.

C. MINITERM:

A Computer Devices Inc Miniterm is maintained by PST. With

this device, access can be gained by telephone link to the

Spill Cleanup Equipment Inventory System (SKIM) and

computerized Chemical Information System CIS. A single

copy printout is received when accessing the system.

## Section XII AUXILIARY EQUIPMENT

A number of pieces of equipment maintained by PST are used in loading and transporting materials to the scene of a response. This section examines several of those items. Also, a few support items that would be used on scene are described. By no means are all support type items used by PST described as the list would be too extensive and most are for the units internal use.

### A. MODULAR CARGO PLATFORM (AIRCRAFT PALLETS)

These aluminum alloy pallets constructed in two foot panels, are used by PST for unitizing several pieces of equipment for aircraft shipment. The panels are of a standard 9 ft wide adaptable to most any cargo aircraft and can be interlocked to provide pallets of four foot to twenty-eight foot lengths, in two foot increments. Several one piece pallets seven foot long are also used by PST. Each pallet has recessed tie down rings and provides for locking side rails. The empty pallet weight is approximately 75 lbs per linear foot.

**B. CARGO NETS**

Aircraft cargo nets normally come in three sections PST utilizes only the top section of these nets to secure loads on the pallets described above. These top nets are made of nylon and are 9 ft by 9 ft. They have metal rings for securing spaced around the edge of the net.

**C. SPUR GEAR HAND WINCH**

PST maintains two of these winches for use in loading and off loading aircraft where a pulling force is needed. Utilizing 1/2 inch wire rope these winches have a load rating of 10,000 pounds.

**D. AIRCRAFT LOADING RAMPS**

Two specially constructed ramps of 3/16 inch aluminum, which match up with the lowered tail section of a C-130 aircraft are used for vehicular loading or unloading of such aircraft. The ramps height of 1.5 ft and length of 16 ft gives an incline of approximately 25,000 lbs. PST has two sets of these ramps.

E. X-4 CONTAINERS (CONEX BOXES)

These containers constructed of reinforced plastic (fiberglass), are used for transporting spare parts and small pieces of equipment. They can be loaded with material up to 4000 lbs in weight and 200 cubic feet in volume. PST has four (04) of these containers.

EMPTY WEIGHT	920 lbs
OVERALL LENGTH	8 ft 8 in
OVERALL WIDTH	5 ft 10 in
OVERALL HEIGHT	5 ft 5 in
OVERALL CUBIC FEET	272

F. ADAPTS HELICOPTER PLATFORM (HELO DELIVERY KIT)

The ADAPTS type II Prime movers maintained by PST are equipped with a "Bomb rack" which makes them H-3 helicopter deliveriable. However, some extra modification are needed on the H-3 to accommodate this. The delivery kit contains all the required items to complete the system. The main items are a platform, on which the prime mover sets in the cargo bay, and a bracket conveyor assembly which converts the H-3's winch and cable to a double fall system vice a single fall system. The bomb rack on the prime mover also allows a pump to be attached for delivery at the same time. PST has two (02) of these Helo delivery kits.

**G. FENDERS, OSI TYPE**

These Ocean System Inc. Fenders, constructed of polyurethane, are used when a small support vessel being used by PST must tie-up along side another vessel.

DIMENSIONS	8 ft diameter	12 foot length
WEIGHT	1650 lbs	

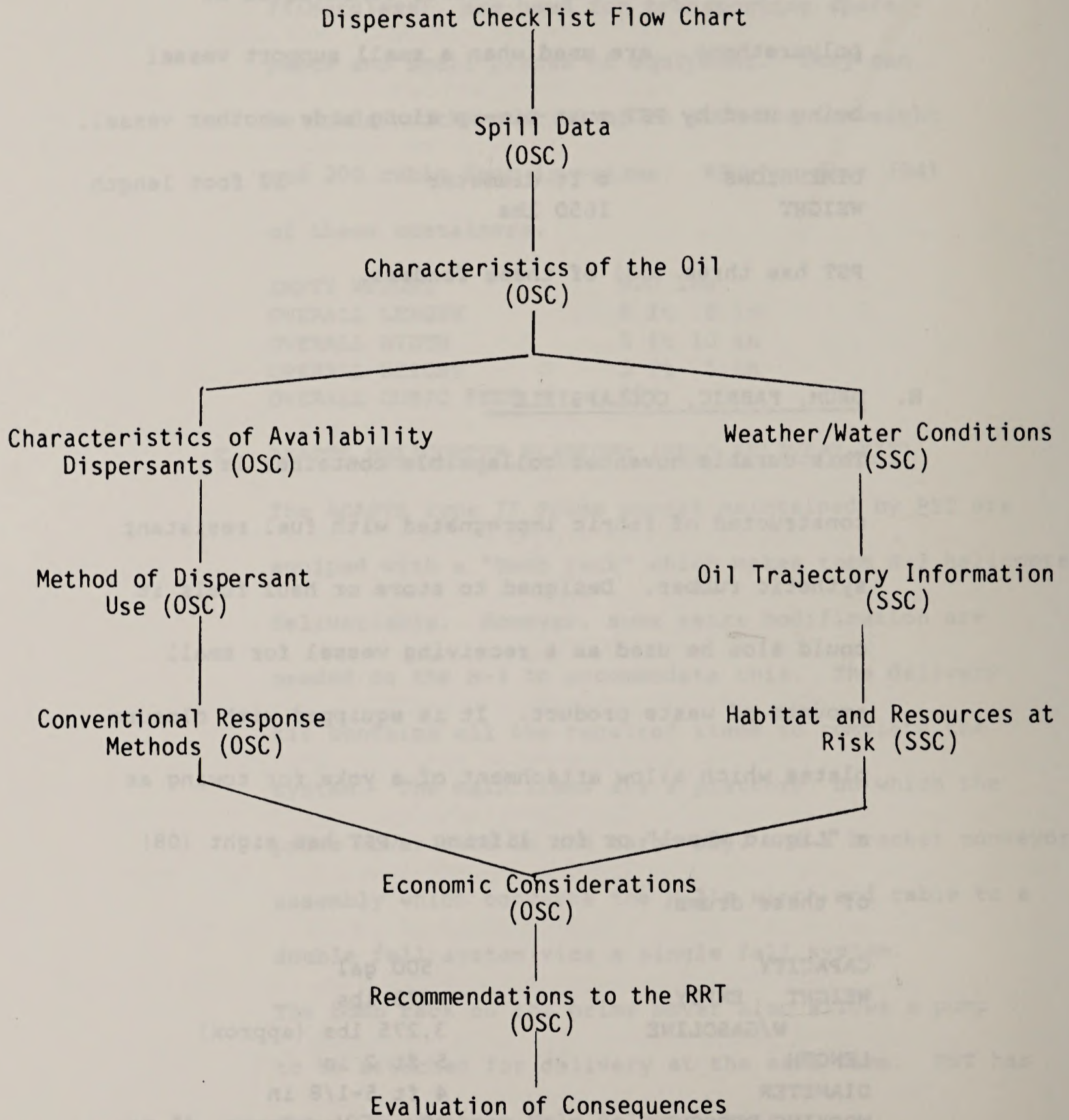
PST has three (03) of these fenders.

**H. DRUM, FABRIC, COLLAPSIBLE**

This durable novented collapsible container is constructed of fabric impregnated with fuel resistant synthetic rubber. Designed to store or haul fuels it could also be used as a receiving vessel for small amounts of waste product. It is equipped with closure plates which allow attachment of a yoke for towing as a "Liquid Wheel" or for lifting. PST has eight (08) of these drums.

CAPACITY	500 gal
WEIGHT EMPTY	275 lbs
W/GASOLINE	3,275 lbs (approx)
LENGTH	5 ft 2 in
DIAMETER	4 ft 5-1/8 in
WORKING PRESSURE	30 psi Max Press. 45 psi
MANUFACTURER	UNIROYAL

E. Dispersant Approval Guidelines\*



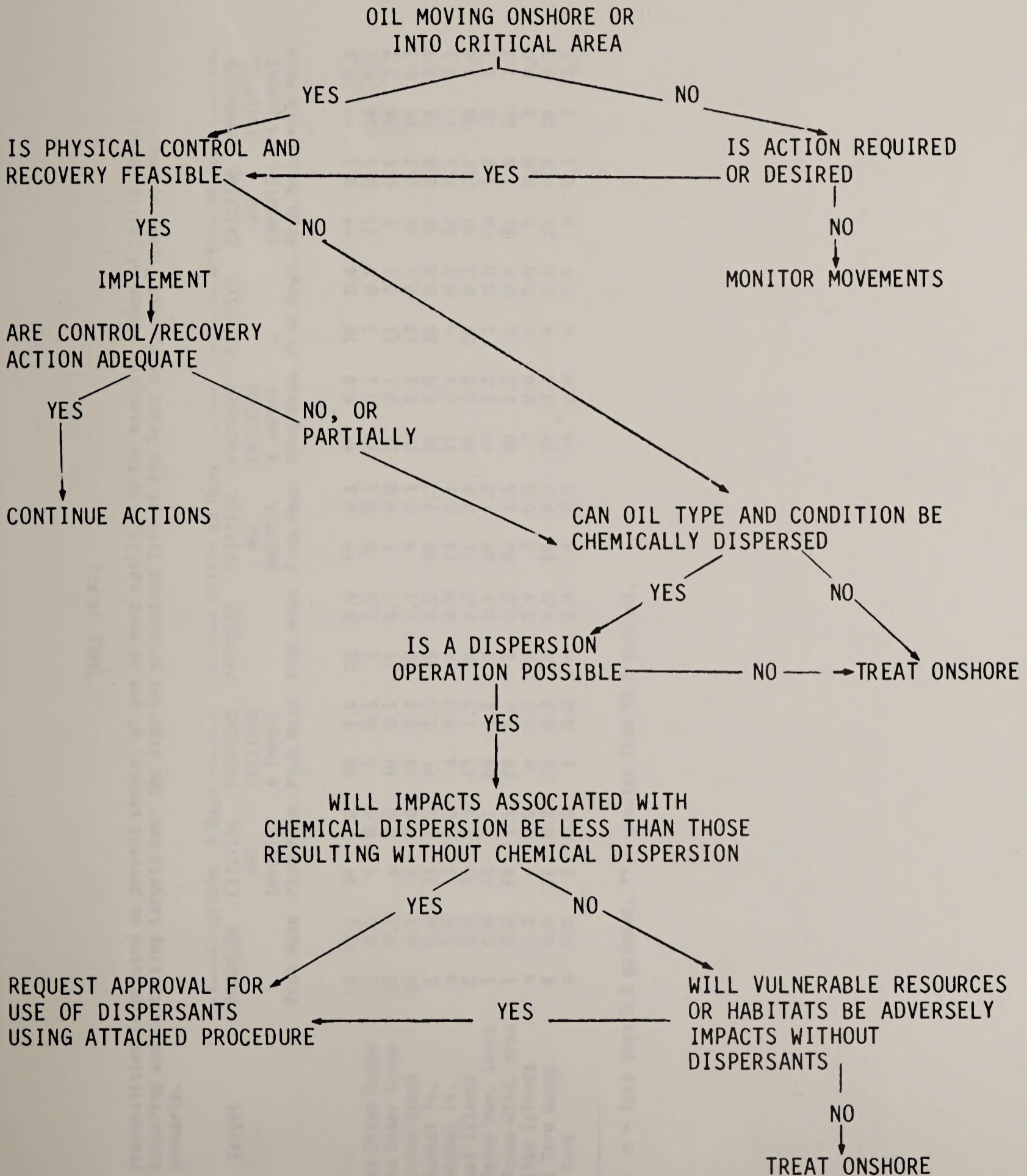
OSC - On-scene Coordinator  
SSC - Scientific Support Coordinator  
RRT - Regional Response Team

\*from Region IX Oil and Hazardous Substance Pollution - Contingency Plan



\*The following steps should be utilized in deciding if the use of dispersants will be requested.

NOTE: Immediate threat to life and property pre-empt the following matrix by the OSC in the use of dispersants.



\*from Region IX Oil and Hazardous Substance Pollution Contingency Plan

**F. Oil Spill Risk Analysis Model Tables**

The following steps should be utilized in deciding if the use of dispersants will be requested.

NOTE: Immediate threat to life and property present for following matrix by the OSC in the use of dispersants.

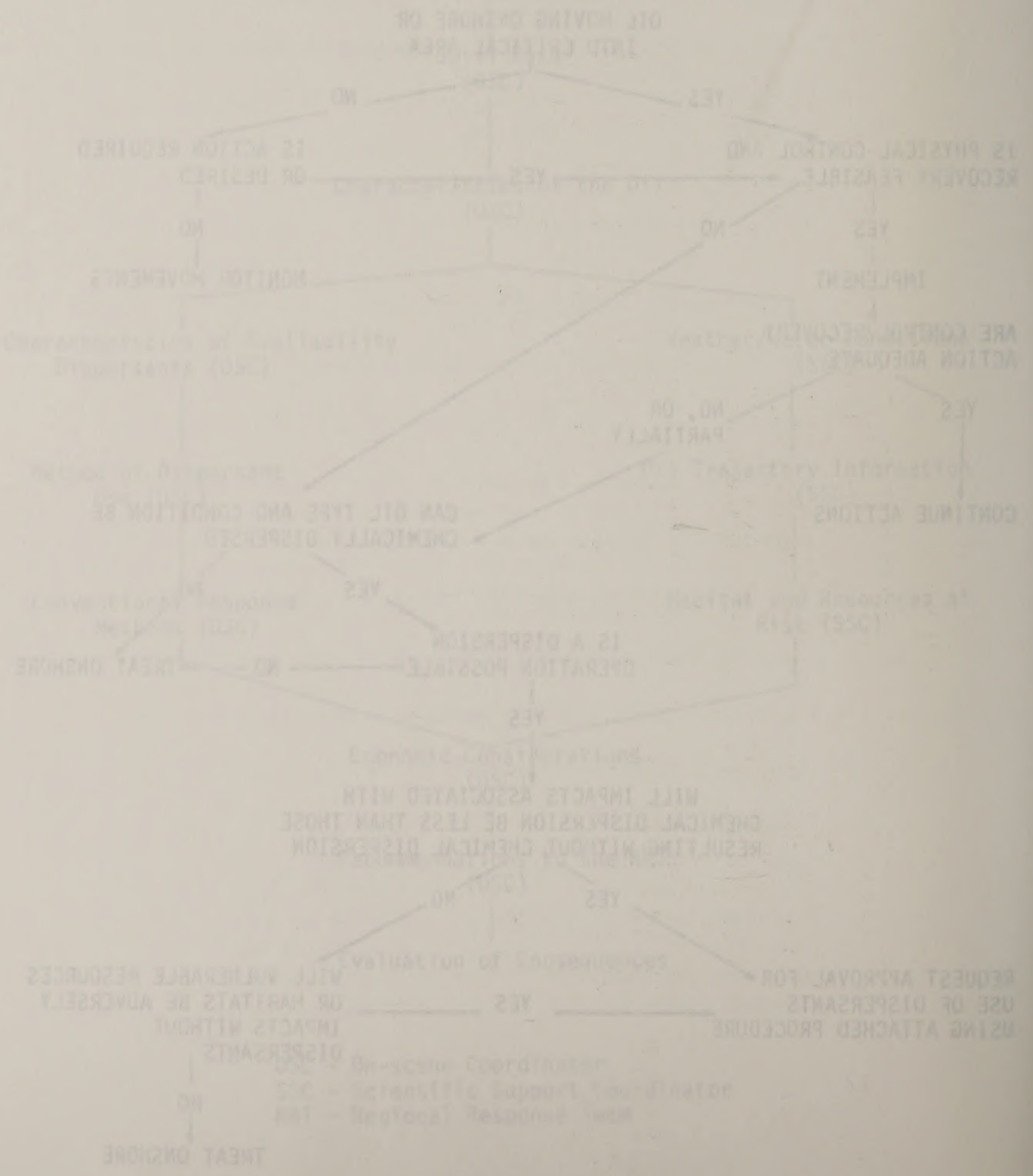


TABLE IX.F-1

Probabilities (expressed as percent chance) of one or more spills, and the expected number of spills (mean) occurring and contacting targets over the expected production life of the lease sale, most likely volume scenario.

Target	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING		PROPOSED		PROPOSED		EXISTING		PROPOSED		PROPOSED		EXISTING		PROPOSED	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
Land	12	0.1	94	2.8	95	2.9	23	0.3	**	6.1	**	6.4	34	0.4	**	8.1	**	8.5
N. Sea Otter Range	1	0.0	4	0.0	5	0.1	2	0.0	8	0.1	10	0.1	3	0.0	12	0.1	14	0.2
S. Sea Otter Range	10	0.1	n	0.0	10	0.1	11	0.1	1	0.0	11	0.1	11	0.1	5	0.1	16	0.2
Sea Otter Range	10	0.1	4	0.0	14	0.2	12	0.1	9	0.1	20	0.2	13	0.1	15	0.2	26	0.3
N. Channel Is.	2	0.0	73	1.3	74	1.3	15	0.2	90	2.3	92	2.5	26	0.3	92	2.6	94	2.9
S. Channel Is.	n	0.0	3	0.0	3	0.0	n	0.0	11	0.1	11	0.1	n	0.0	12	0.1	12	0.1
Channel Islands	2	0.0	73	1.3	73	1.3	16	0.2	91	2.4	92	2.6	26	0.3	93	2.7	95	3.0
Pt. Reyes Mar. Sanct	1	0.0	68	1.1	68	1.1	1	0.0	69	1.2	69	1.2	1	0.0	70	1.2	70	1.2
Pt. Reyes Wild. Area	1	0.0	79	1.5	79	1.6	1	0.0	80	1.6	80	1.6	1	0.0	81	1.6	81	1.7
Farallon Islands	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
Least Tern Range	4	0.0	21	0.2	23	0.3	4	0.0	24	0.3	27	0.3	4	0.0	25	0.3	28	0.3
Begg Rock	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0	n	0.0	6	0.1	7	0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent.

TABLE IX.F-2

Probabilities (expressed as percent chance) of one or more spills, and the expected number of spills (mean) occurring and contacting land segments over the expected production life of the lease sale, most likely volume scenario.

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
1	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	6	0.1	n	0.0	10	0.1	10	0.1
2	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0	n	0.0	6	0.1	6	0.1
3	n	0.0	4	0.0	4	0.0	n	0.0	11	0.1	11	0.1	n	0.0	17	0.2	17	0.2
4	n	0.0	3	0.0	3	0.0	n	0.0	8	0.1	8	0.1	n	0.0	13	0.1	13	0.1
5	n	0.0	6	0.1	6	0.1	n	0.0	10	0.1	10	0.1	n	0.0	15	0.2	15	0.2
6	n	0.0	5	0.1	5	0.1	n	0.0	11	0.1	11	0.1	n	0.0	17	0.2	17	0.2
7	n	0.0	n	0.0	n	0.0	n	0.0	10	0.1	10	0.1	n	0.0	19	0.2	19	0.2
8	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	4	0.0
9	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	4	0.0
12	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	9	0.1
13	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1
14	n	0.0	9	0.1	9	0.1	n	0.0	25	0.3	25	0.3	n	0.0	36	0.5	37	0.5
15	n	0.0	38	0.5	38	0.5	n	0.0	43	0.6	43	0.6	n	0.0	43	0.6	43	0.6
16	n	0.0	29	0.3	29	0.3	n	0.0	35	0.4	36	0.4	n	0.0	35	0.4	36	0.4
17	n	0.0	6	0.1	6	0.1	n	0.0	8	0.1	8	0.1	n	0.0	8	0.1	8	0.1
18	n	0.0	8	0.1	9	0.1	1	0.0	15	0.2	16	0.2	1	0.0	18	0.2	19	0.2
19	n	0.0	2	0.0	3	0.0	1	0.0	9	0.1	9	0.1	1	0.0	11	0.1	11	0.1
20	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
22	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	n	0.0	1	0.0	1	0.0
23	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	1	0.0	1	0.0	4	0.0	5	0.0
24	n	0.0	n	0.0	1	0.0	2	0.0	n	0.0	2	0.0	2	0.0	2	0.0	4	0.0
25	n	0.0	n	0.0	7	0.1	7	0.1	n	0.1	7	0.1	7	0.1	n	0.0	8	0.1
26	n	0.0	1	0.0	1	0.0	n	0.0	2	0.0	3	0.0	n	0.0	3	0.0	3	0.0
27	1	0.0	13	0.1	14	0.2	1	0.0	21	0.3	22	0.3	2	0.0	23	0.3	24	0.3
28	7	0.1	18	0.2	19	0.2	n	0.0	25	0.3	25	0.3	n	0.0	25	0.3	26	0.3
29	n	0.0	21	0.2	22	0.2	n	0.0	41	0.5	41	0.5	1	0.0	43	0.6	43	0.6

TABLE IX.F-2 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
30	n	0.0	14	0.1	14	0.1	n	0.0	22	0.3	n	0.3	n	0.0	23	0.3	23	0.3
31	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	n	0.0	n	0.0	2	0.0	2	0.0
32	n	0.0	2	0.0	2	0.0	n	0.0	3	0.0	n	0.0	n	0.0	3	0.0	3	0.0
33	n	0.0	12	0.1	12	0.1	n	0.0	17	0.2	n	0.2	n	0.0	18	0.2	18	0.2
34	n	0.0	10	0.1	10	0.1	n	0.0	11	0.1	n	0.1	n	0.0	11	0.1	12	0.1
35	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	n	0.0	n	0.0	3	0.0	3	0.0
38	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
39	n	0.0	5	0.0	5	0.0	6	0.1	29	0.3	14	0.4	14	0.1	43	0.6	50	0.7
40	n	0.0	n	0.0	n	0.0	1	0.0	3	0.0	2	0.0	2	0.0	5	0.0	7	0.1
41	n	0.0	7	0.1	7	0.1	2	0.0	36	0.4	4	0.5	4	0.0	42	0.5	44	0.6
42	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0
43	n	0.0	17	0.2	17	0.2	n	0.0	38	0.5	1	0.5	1	0.0	40	0.5	41	0.5
44	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	n	0.0	n	0.0	1	0.0	1	0.0
45	n	0.0	8	0.1	8	0.1	n	0.0	11	0.1	n	0.1	n	0.0	11	0.1	12	0.1
46	n	0.0	1	0.0	1	0.0	n	0.0	5	0.0	1	0.0	1	0.0	9	0.1	9	0.1
47	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
48	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	n	0.0	n	0.0	4	0.0	4	0.0
49	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	n	0.1	n	0.0	7	0.1	8	0.1
50	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	n	0.0	n	0.0	2	0.0	2	0.0
51	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
52	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
54	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
55	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0
56	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	n	0.0	n	0.0	3	0.0	3	0.0
57	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	n	0.0	n	0.0	4	0.0	4	0.0
58	n	0.0	n	0.0	n	0.0	n	0.0	3	0.0	n	0.0	n	0.0	8	0.1	8	0.1
59	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	n	0.0	n	0.0	9	0.1	9	0.1

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TABLE IX.F-2 (cont.)

TABLE IX.F-2 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
60	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	n	0.0	n	0.0	6	0.1	6	0.1
61	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	n	0.0	n	0.0	5	0.1	5	0.1
62	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	n	0.0	n	0.0	8	0.1	8	0.1
63	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	n	0.1	n	0.0	12	0.1	12	0.1
64	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	n	0.1	n	0.0	9	0.1	9	0.1
65	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	n	0.1	n	0.0	14	0.1	14	0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent. Segments with less than 0.5 percent probability of one or more contacts within 30 days are not shown.

TABLE IX.F-3

Probabilities (expressed as percent chance) of one or more spills, and the expected number of spills (mean) occurring and contacting targets over the expected production life of the lease sale, conditional mean volume scenario.

Target	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING		PROPOSED		PROPOSED		EXISTING		PROPOSED		EXISTING		PROPOSED			
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean		
Land	26	0.3	94	2.8	93	2.6	53	0.7	**	6.1	**	5.8	73	1.3	**	8.1	**	7.8
N. Sea Otter Range	1	0.0	4	0.0	4	0.0	3	0.0	8	0.1	9	0.1	5	0.1	12	0.1	14	0.1
S. Sea Otter Range	18	0.2	n	0.0	18	0.2	20	0.2	1	0.0	20	0.2	21	0.2	5	0.1	24	0.3
Sea Otter Range	19	0.2	4	0.0	21	0.2	22	0.2	9	0.1	27	0.3	24	0.3	15	0.2	33	0.4
N. Channel Is.	7	0.1	73	1.3	72	1.3	45	0.6	90	2.3	94	2.8	66	1.1	92	2.6	97	3.4
S. Channel Is.	n	0.0	3	0.0	3	0.0	1	0.0	11	0.1	10	0.1	n	0.0	12	0.1	11	0.1
Channel Islands	7	0.1	73	1.3	72	1.3	46	0.6	91	2.4	94	2.8	66	1.1	93	2.7	97	3.5
Pt. Reyes Mar. Sanct	2	0.0	68	1.1	55	0.8	3	0.0	69	1.2	57	0.8	3	0.0	70	1.2	58	0.9
Pt. Reyes Wild. Area	3	0.0	79	1.5	66	1.1	3	0.0	80	1.6	67	1.1	3	0.0	81	1.6	69	1.2
Farallon Islands	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
Least Tern Range	9	0.1	21	0.2	26	0.3	10	0.1	24	0.3	30	0.4	10	0.1	25	0.3	31	0.4
Begg Rock	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0	2	0.0	6	0.1	8	0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent.

TABLE IX.F-4

Probabilities (expressed as percent chance) of one or more spills, and the expected number of spills (mean) occurring and contacting land segments over the expected production life of the lease sale, conditional mean volume scenario.

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING		PROPOSED AND EXISTING		PROPOSED		EXISTING		PROPOSED AND EXISTING		PROPOSED		EXISTING		PROPOSED AND EXISTING	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
1	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	4	0.0	n	0.0	10	0.1	7	0.1
2	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	3	0.0	n	0.0	6	0.1	4	0.0
3	n	0.0	4	0.0	3	0.0	n	0.0	11	0.1	8	0.1	n	0.0	17	0.2	12	0.1
4	n	0.0	3	0.0	2	0.0	n	0.0	8	0.1	6	0.1	n	0.0	13	0.1	9	0.1
5	n	0.0	6	0.1	4	0.0	n	0.0	10	0.1	7	0.1	n	0.0	15	0.2	10	0.1
6	n	0.0	5	0.1	3	0.0	n	0.0	11	0.1	8	0.1	n	0.0	17	0.2	12	0.1
7	n	0.0	n	0.0	n	0.0	n	0.0	10	0.1	7	0.1	n	0.0	19	0.2	13	0.1
8	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	1	0.0	n	0.0	4	0.0	3	0.0
9	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	3	0.0
12	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	1	0.0	n	0.0	9	0.1	6	0.1
13	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	5	0.0
14	n	0.0	9	0.1	6	0.1	1	0.0	25	0.3	18	0.2	1	0.0	36	0.5	27	0.3
15	1	0.0	38	0.5	28	0.3	1	0.0	43	0.6	32	0.4	1	0.0	43	0.6	32	0.4
16	n	0.0	29	0.3	21	0.2	1	0.0	35	0.4	27	0.3	1	0.0	35	0.4	27	0.3
17	1	0.0	6	0.1	5	0.1	1	0.0	8	0.1	7	0.1	2	0.0	8	0.1	7	0.1
18	2	0.0	8	0.1	7	0.1	3	0.0	15	0.2	14	0.1	4	0.0	18	0.2	16	0.2
19	n	0.0	2	0.0	2	0.0	2	0.0	9	0.1	8	0.1	2	0.0	11	0.1	10	0.1
20	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
22	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	1	0.0	1	0.0
23	1	0.0	n	0.0	1	0.0	1	0.0	1	0.0	1	0.0	2	0.0	4	0.0	4	0.0
24	2	0.0	n	0.0	2	0.0	3	0.0	n	0.0	3	0.0	4	0.0	2	0.0	6	0.1
25	13	0.1	n	0.0	13	0.1	14	0.1	n	0.1	14	0.1	14	0.2	n	0.0	14	0.2
26	1	0.0	1	0.0	2	0.0	2	0.0	2	0.0	4	0.0	2	0.0	3	0.0	5	0.1
27	4	0.0	13	0.1	16	0.2	5	0.0	21	0.3	25	0.3	6	0.1	23	0.3	27	0.3
28	1	0.0	18	0.2	19	0.2	1	0.0	25	0.3	25	0.3	1	0.0	25	0.3	26	0.3
29	n	0.0	21	0.2	21	0.2	1	0.0	41	0.5	40	0.5	2	0.0	43	0.6	43	0.6



TABLE IX.F-4 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
30	n	0.0	14	0.1	13	0.1	n	0.0	22	0.3	22	0.2	1	0.0	23	0.3	22	0.3
31	n	0.0	2	0.0	1	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
32	n	0.0	2	0.0	1	0.0	n	0.0	3	0.0	3	0.0	n	0.0	3	0.0	3	0.0
33	1	0.0	12	0.1	11	0.1	1	0.0	17	0.2	16	0.2	1	0.0	18	0.2	17	0.2
34	1	0.0	10	0.1	10	0.1	1	0.0	11	0.1	11	0.1	1	0.0	11	0.1	11	0.1
35	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	1	0.0	3	0.0	3	0.0
38	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
39	n	0.0	5	0.0	5	0.0	19	0.2	29	0.3	41	0.5	40	0.5	43	0.6	64	0.0
40	n	0.0	n	0.0	n	0.0	3	0.0	3	0.0	5	0.1	7	0.1	5	0.0	10	0.1
41	n	0.0	7	0.1	6	0.1	7	0.1	36	0.4	39	0.5	13	0.1	42	0.5	48	0.7
42	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0
43	1	0.0	17	0.2	16	0.2	2	0.0	38	0.5	38	0.5	2	0.0	40	0.5	40	0.5
44	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
45	n	0.0	8	0.1	7	0.1	n	0.0	11	0.1	11	0.1	n	0.0	11	0.1	11	0.1
46	n	0.0	1	0.0	1	0.0	n	0.0	5	0.0	5	0.0	2	0.0	9	0.1	10	0.1
47	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
48	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0	n	0.0	4	0.0	3	0.0
49	n	0.0	1	0.0	1	0.0	1	0.0	7	0.1	6	0.1	1	0.0	7	0.1	7	0.1
50	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	1	0.0	n	0.0	2	0.0	2	0.0
51	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
52	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
54	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	2	0.0
55	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	1	0.0
56	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	2	0.0
57	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	3	0.0
58	n	0.0	n	0.0	n	0.0	n	0.0	3	0.0	2	0.0	n	0.0	8	0.1	6	0.1
59	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	2	0.0	n	0.0	9	0.1	6	0.1

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TABLE IX.F-4 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
60	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	1	0.0	n	0.0	6	0.1	4	0.0
61	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	1	0.0	n	0.0	5	0.1	3	0.0
62	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	3	0.0	n	0.0	8	0.1	5	0.1
63	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	5	0.0	n	0.0	12	0.1	8	0.1
64	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	4	0.0	n	0.0	9	0.1	6	0.1
65	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	6	0.1	n	0.0	14	0.1	10	0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent. Segments with less than 0.5 percent probability of one or more contacts within 30 days are not shown.

TABLE IX.F-5

Probabilities (expressed as percent chance) of one or more spills, and the expected number of spills (mean) occurring and contacting targets over the expected production life of the lease sale, most likely volume scenario, all oil from the proposal moved by tanker only.

Target	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING		PROPOSED		PROPOSED		EXISTING		PROPOSED		PROPOSED		EXISTING		PROPOSED	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
Land	8	0.1	94	2.8	94	2.9	16	0.2	**	6.1	**	6.3	24	0.3	**	8.1	**	8.3
N. Sea Otter Range	n	0.0	4	0.0	4	0.0	1	0.0	8	0.1	9	0.1	1	0.0	12	0.1	13	0.1
S. Sea Otter Range	1	0.0	n	0.0	2	0.0	2	0.0	1	0.0	3	0.0	2	0.0	5	0.1	7	0.1
Sea Otter Range	2	0.0	4	0.0	6	0.1	3	0.0	9	0.1	11	0.1	3	0.0	15	0.2	18	0.2
N. Channel Is.	5	0.1	73	1.3	74	1.4	10	0.1	90	2.3	91	2.4	17	0.2	92	2.6	94	2.8
S. Channel Is.	n	0.0	3	0.0	3	0.0	1	0.0	11	0.1	11	0.1	1	0.0	12	0.1	13	0.1
Channel Islands	5	0.1	73	1.3	74	1.4	11	0.1	91	2.4	92	2.5	18	0.2	93	2.7	94	2.8
Pt. Reyes Mar. Sanct	1	0.0	68	1.1	68	1.1	1	0.0	69	1.2	70	1.2	1	0.0	70	1.2	70	1.2
Pt. Reyes Wild. Area	1	0.0	79	1.5	79	1.6	1	0.0	80	1.6	80	1.6	1	0.0	81	1.6	81	1.7
Farallon Islands	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
Least Tern Range	2	0.0	21	0.2	23	0.3	3	0.0	24	0.3	27	0.3	3	0.0	25	0.3	27	0.3
Begg Rock	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0	n	0.0	6	0.1	7	0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent.

TABLE IX.F-6

Probabilities (expressed as percent chance) of one or more spills, and the expected number of spills (mean) occurring and contacting land segments over the expected production life of the lease sale, most likely volume scenario, all oil from the proposal moved by tanker only.

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
1	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	6	0.1	n	0.0	10	0.1	10	0.1
2	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0	n	0.0	6	0.1	6	0.1
3	n	0.0	4	0.0	4	0.0	n	0.0	11	0.1	11	0.1	n	0.0	17	0.2	17	0.2
4	n	0.0	3	0.0	3	0.0	n	0.0	8	0.1	8	0.1	n	0.0	13	0.1	13	0.1
5	n	0.0	6	0.1	6	0.1	n	0.0	10	0.1	10	0.1	n	0.0	15	0.2	15	0.2
6	n	0.0	5	0.1	5	0.1	n	0.0	11	0.1	11	0.1	n	0.0	17	0.2	17	0.2
7	n	0.0	n	0.0	n	0.0	n	0.0	10	0.1	10	0.1	n	0.0	19	0.2	19	0.2
8	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	4	0.0
9	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	4	0.0
12	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	9	0.1
13	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1
14	n	0.0	9	0.1	9	0.1	n	0.0	25	0.3	25	0.3	n	0.0	36	0.5	37	0.5
15	n	0.0	38	0.5	38	0.5	n	0.0	43	0.6	43	0.6	n	0.0	43	0.6	43	0.6
16	n	0.0	29	0.3	29	0.3	n	0.0	35	0.4	36	0.4	n	0.0	35	0.4	36	0.4
17	n	0.0	6	0.1	6	0.1	1	0.0	8	0.1	8	0.1	1	0.0	8	0.1	9	0.1
18	1	0.0	8	0.1	9	0.1	1	0.0	15	0.2	16	0.2	1	0.0	18	0.2	19	0.2
19	n	0.0	2	0.0	3	0.0	1	0.0	9	0.1	9	0.1	1	0.0	11	0.1	11	0.1
20	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
22	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
23	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0
24	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	2	0.0	3	0.0
25	1	0.0	n	0.0	1	0.0	1	0.0	n	0.1	1	0.0	1	0.0	n	0.0	1	0.0
26	n	0.0	1	0.0	1	0.0	n	0.0	2	0.0	3	0.0	n	0.0	3	0.0	3	0.0
27	n	0.0	13	0.1	13	0.1	n	0.0	21	0.2	22	0.2	1	0.0	23	0.3	23	0.3
28	n	0.0	18	0.2	18	0.2	n	0.0	25	0.3	25	0.3	n	0.0	25	0.3	26	0.3
29	n	0.0	21	0.2	22	0.2	1	0.0	41	0.5	41	0.5	1	0.0	43	0.6	44	0.6

TABLE IX.F-6 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
30	n	0.0	14	0.1	14	0.1	1	0.0	22	0.3	23	0.3	1	0.0	23	0.3	23	0.3
31	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
32	n	0.0	2	0.0	2	0.0	n	0.0	3	0.0	3	0.0	n	0.0	3	0.0	4	0.0
33	1	0.0	12	0.1	13	0.1	2	0.0	17	0.2	19	0.2	2	0.0	18	0.2	19	0.2
34	1	0.0	10	0.1	11	0.1	1	0.0	11	0.1	12	0.1	1	0.0	11	0.1	12	0.1
35	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0
38	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
39	n	0.0	5	0.0	5	0.0	12	0.0	29	0.3	31	0.4	7	0.1	43	0.6	46	0.6
40	n	0.0	n	0.0	n	0.0	n	0.0	3	0.0	3	0.0	1	0.0	5	0.0	6	0.1
41	n	0.0	7	0.1	7	0.1	1	0.0	36	0.4	37	0.5	2	0.0	42	0.5	43	0.6
42	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0
43	1	0.0	17	0.2	18	0.2	1	0.0	38	0.5	39	0.5	1	0.0	40	0.5	41	0.5
44	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
45	n	0.0	8	0.1	8	0.1	n	0.0	11	0.1	12	0.1	n	0.0	11	0.1	12	0.1
46	n	0.0	1	0.0	1	0.0	n	0.0	5	0.0	5	0.0	n	0.0	9	0.1	9	0.1
47	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
48	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0	n	0.0	4	0.0	4	0.0
49	n	0.0	1	0.0	1	0.0	1	0.0	7	0.1	7	0.1	1	0.0	7	0.1	8	0.1
50	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
51	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
52	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
54	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
55	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
56	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0
57	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0
58	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0
59	n	0.0	n	0.0	n	0.0	n	0.0	3	0.0	3	0.0	n	0.0	8	0.1	8	0.1
									4	0.0	4	0.0	n	0.0	9	0.1	9	0.1

TABLE IX.F-6 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
60	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	6	0.1	6	0.1
61	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	5	0.1	5	0.1
62	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	4	0.0	n	0.0	8	0.1	8	0.1
63	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1	n	0.0	12	0.1	12	0.1
64	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	6	0.1	n	0.0	9	0.1	9	0.1
65	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	9	0.1	n	0.0	14	0.1	14	0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent. Segments with less than 0.5 percent probability of one or more contacts within 30 days are not shown.

TABLE IX.F-7

Probabilities (expressed as percent chance) of one or more spills, and the expected number of spills (mean) occurring and contacting targets over the expected production life of the lease sale, most likely volume scenario, deletion alternative II (spills  $\geq 1,000$  bbls).

Target	----- Within 3 Days -----			----- Within 10 Days -----			----- Within 30 Days -----		
	PROPOSED Prob Mean	EXISTING AND IMPORTS Prob Mean	PROPOSED AND EXISTING Prob Mean	PROPOSED Prob Mean	EXISTING AND IMPORTS Prob Mean	PROPOSED AND EXISTING Prob Mean	PROPOSED Prob Mean	EXISTING AND IMPORTS Prob Mean	PROPOSED AND EXISTING Prob Mean
Land	11 0.1	94 2.8	95 2.9	22 0.3	** 6.1	** 6.4	34 0.4	** 8.1	** 8.5
N. Sea Otter Range	1 0.0	4 0.0	5 0.1	2 0.0	8 0.1	10 0.1	2 0.0	12 0.1	14 0.2
S. Sea Otter Range	8 0.1	n 0.0	8 0.1	9 0.1	1 0.0	10 0.1	10 0.1	5 0.1	14 0.2
Sea Otter Range	9 0.1	4 0.0	13 0.1	10 0.1	9 0.1	18 0.2	11 0.1	15 0.2	25 0.3
N. Channel Is.	2 0.0	73 1.3	74 1.3	17 0.2	90 2.3	92 2.5	27 0.3	92 2.6	94 2.9
S. Channel Is.	n 0.0	3 0.0	3 0.0	n 0.0	11 0.1	11 0.1	n 0.0	12 0.1	12 0.1
Channel Islands	2 0.0	73 1.3	73 1.3	17 0.2	91 2.4	92 2.6	28 0.3	93 2.7	95 3.0
Pt. Reyes Mar. Sanct.	1 0.0	68 1.1	68 1.1	1 0.0	69 1.2	69 1.2	1 0.0	70 1.2	70 1.2
Pt. Reyes Wild. Area	1 0.0	79 1.5	79 1.6	1 0.0	80 1.6	80 1.6	1 0.0	81 1.6	81 1.7
Farallon Islands	n 0.0	n 0.0	n 0.0	n 0.0	2 0.0	2 0.0	n 0.0	2 0.0	2 0.0
Least Tern Range	3 0.0	21 0.2	23 0.3	3 0.0	24 0.3	27 0.3	4 0.0	25 0.3	27 0.3
Begg Rock	n 0.0	1 0.0	1 0.0	n 0.0	4 0.0	4 0.0	1 0.0	6 0.1	7 0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent.

TABLE IX.F-7 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
1	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	6	0.1	n	0.0	10	0.1	10	0.1
2	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0	n	0.0	6	0.1	6	0.1
3	n	0.0	4	0.0	4	0.0	n	0.0	11	0.1	11	0.1	n	0.0	17	0.2	17	0.2
4	n	0.0	3	0.0	3	0.0	n	0.0	8	0.1	8	0.1	n	0.0	13	0.1	13	0.1
5	n	0.0	6	0.1	6	0.1	n	0.0	10	0.1	10	0.1	n	0.0	15	0.2	15	0.2
6	n	0.0	5	0.1	5	0.1	n	0.0	11	0.1	11	0.1	n	0.0	17	0.2	17	0.2
7	n	0.0	n	0.0	n	0.0	n	0.0	10	0.1	10	0.1	n	0.0	19	0.2	19	0.2
8	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	4	0.0
9	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	4	0.0
12	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	9	0.1
13	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1
14	n	0.0	9	0.1	9	0.1	n	0.0	25	0.3	25	0.3	n	0.0	36	0.5	37	0.5
15	n	0.0	38	0.5	38	0.5	n	0.0	43	0.6	43	0.6	n	0.0	43	0.6	43	0.6
16	n	0.0	29	0.3	29	0.3	n	0.0	35	0.4	36	0.4	n	0.0	35	0.4	36	0.4
17	n	0.0	6	0.1	6	0.1	n	0.0	8	0.1	8	0.1	n	0.0	8	0.1	8	0.1
18	n	0.0	8	0.1	9	0.1	1	0.0	15	0.2	16	0.2	1	0.0	18	0.2	19	0.2
19	n	0.0	2	0.0	3	0.0	1	0.0	9	0.1	9	0.1	1	0.0	11	0.1	11	0.1
20	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
22	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	n	0.0	1	0.0	1	0.0
23	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	1	0.0	1	0.0	4	0.0	5	0.0
24	1	0.0	n	0.0	1	0.0	1	0.0	n	0.0	2	0.0	2	0.0	2	0.0	4	0.0
25	6	0.1	n	0.0	6	0.1	6	0.1	n	0.1	6	0.1	6	0.1	n	0.0	6	0.1
26	n	0.0	1	0.0	1	0.0	n	0.0	2	0.0	3	0.0	n	0.0	3	0.0	3	0.0
27	1	0.0	13	0.1	14	0.2	1	0.0	21	0.3	22	0.3	2	0.0	23	0.3	24	0.3
28	n	0.0	18	0.2	19	0.2	n	0.0	25	0.3	25	0.3	n	0.0	25	0.3	26	0.3
29	n	0.0	21	0.2	22	0.2	n	0.0	41	0.5	41	0.5	1	0.0	43	0.6	43	0.6



TABLE IX.F-7 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
30	n	0.0	14	0.1	14	0.1	n	0.0	22	0.3	22	0.3	n	0.0	23	0.3	23	0.3
31	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
32	n	0.0	2	0.0	2	0.0	n	0.0	3	0.0	3	0.0	n	0.0	3	0.0	3	0.0
33	n	0.0	12	0.1	12	0.1	n	0.0	17	0.2	18	0.2	n	0.0	18	0.2	18	0.2
34	n	0.0	10	0.1	10	0.1	n	0.0	11	0.1	11	0.1	n	0.0	11	0.1	12	0.1
35	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0
38	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
39	n	0.0	5	0.0	5	0.0	6	0.1	29	0.3	34	0.4	15	0.2	43	0.6	51	0.7
40	n	0.0	n	0.0	n	0.0	1	0.0	3	0.0	4	0.0	2	0.0	5	0.0	7	0.1
41	n	0.0	7	0.1	7	0.1	2	0.0	36	0.4	38	0.5	4	0.0	42	0.5	44	0.6
42	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0
43	n	0.0	17	0.2	17	0.2	n	0.0	38	0.5	39	0.5	1	0.0	40	0.5	41	0.5
44	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
45	n	0.0	8	0.1	8	0.1	n	0.0	11	0.1	11	0.1	n	0.0	11	0.1	12	0.1
46	n	0.0	1	0.0	1	0.0	n	0.0	5	0.0	5	0.0	1	0.0	9	0.1	9	0.1
47	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
48	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0	n	0.0	4	0.0	4	0.0
49	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1	n	0.0	7	0.1	8	0.1
50	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
51	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
52	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
54	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
55	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0
56	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0
57	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0
58	n	0.0	n	0.0	n	0.0	n	0.0	3	0.0	3	0.0	n	0.0	8	0.1	8	0.1
59	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	4	0.0	n	0.0	9	0.1	9	0.1

TABLE IX.F-7 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
60	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	6	0.1	6	0.1
61	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	5	0.1	5	0.1
62	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	4	0.0	n	0.0	8	0.1	8	0.1
63	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1	n	0.0	12	0.1	12	0.1
64	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	6	0.1	n	0.0	9	0.1	9	0.1
65	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	9	0.1	n	0.0	14	0.1	14	0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent. Segments with less than 0.5 percent probability of one or more contacts within 30 days are not shown.

TABLE IX.F-8

Probabilities (expressed as percent chance) of one or more spills, and the expected number of spills (mean) occurring and contacting targets over the expected production life of the lease sale, most likely volume scenario, deletion alternative III (spills >1,000 bbls).

Target	----- Within 3 Days -----			----- Within 10 Days -----			----- Within 30 Days -----		
	PROPOSED Prob Mean	EXISTING AND IMPORTS Prob Mean	PROPOSED AND EXISTING Prob Mean	PROPOSED Prob Mean	EXISTING AND IMPORTS Prob Mean	PROPOSED AND EXISTING Prob Mean	PROPOSED Prob Mean	EXISTING AND IMPORTS Prob Mean	PROPOSED AND EXISTING Prob Mean
Land	7 0.1	94 2.8	94 2.9	16 0.2	** 6.1	** 6.3	26 0.3	** 8.1	** 8.3
N. Sea Otter Range	1 0.0	4 0.0	5 0.0	1 0.0	8 0.1	10 0.1	2 0.0	12 0.1	14 0.1
S. Sea Otter Range	5 0.0	n 0.0	5 0.0	5 0.1	1 0.0	6 0.1	6 0.1	5 0.1	10 0.1
Sea Otter Range	5 0.1	4 0.0	9 0.1	6 0.1	9 0.1	15 0.2	7 0.1	15 0.2	21 0.2
N. Channel Is.	2 0.0	73 1.3	73 1.3	13 0.1	90 2.3	92 2.5	21 0.2	92 2.6	94 2.8
S. Channel Is.	n 0.0	3 0.0	3 0.0	n 0.0	11 0.1	11 0.1	n 0.0	12 0.1	12 0.1
Channel Islands	2 0.0	73 1.3	73 1.3	13 0.1	91 2.4	92 2.5	21 0.2	93 2.7	94 2.9
Pt. Reyes Mar. Sanct.	1 0.0	68 1.1	68 1.1	1 0.0	69 1.2	69 1.2	1 0.0	70 1.2	70 1.2
Pt. Reyes Wild. Area	1 0.0	79 1.5	79 1.6	1 0.0	80 1.6	80 1.6	1 0.0	81 1.6	81 1.6
Farallon Islands	n 0.0	n 0.0	n 0.0	n 0.0	2 0.0	2 0.0	n 0.0	2 0.0	2 0.0
Least Tern Range	2 0.0	21 0.2	22 0.3	2 0.0	24 0.3	26 0.3	2 0.0	25 0.3	26 0.3
Begg Rock	n 0.0	1 0.0	1 0.0	n 0.0	4 0.0	4 0.0	1 0.0	6 0.1	7 0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent.

TABLE IX.F-8 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
1	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	6	0.1	n	0.0	10	0.1	10	0.1
2	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0	n	0.0	6	0.1	6	0.1
3	n	0.0	4	0.0	4	0.0	n	0.0	11	0.1	11	0.1	n	0.0	17	0.2	17	0.2
4	n	0.0	3	0.0	3	0.0	n	0.0	8	0.1	8	0.1	n	0.0	13	0.1	13	0.1
5	n	0.0	6	0.1	6	0.1	n	0.0	10	0.1	10	0.1	n	0.0	15	0.2	15	0.2
6	n	0.0	5	0.1	5	0.1	n	0.0	11	0.1	11	0.1	n	0.0	17	0.2	17	0.2
7	n	0.0	n	0.0	n	0.0	n	0.0	10	0.1	10	0.1	n	0.0	19	0.2	19	0.2
8	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	4	0.0
9	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	4	0.0
12	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	9	0.1
13	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1
14	n	0.0	9	0.1	9	0.1	n	0.0	25	0.3	25	0.3	n	0.0	36	0.5	36	0.5
15	n	0.0	38	0.5	38	0.5	n	0.0	43	0.6	43	0.6	n	0.0	43	0.6	43	0.6
16	n	0.0	29	0.3	29	0.3	n	0.0	35	0.4	36	0.4	n	0.0	35	0.4	36	0.4
17	n	0.0	6	0.1	6	0.1	n	0.0	8	0.1	8	0.1	n	0.0	8	0.1	8	0.1
18	n	0.0	8	0.1	8	0.1	1	0.0	15	0.2	16	0.2	1	0.0	18	0.2	19	0.2
19	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	9	0.1	n	0.0	11	0.1	11	0.1
20	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
22	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	n	0.0	1	0.0	1	0.0
23	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	1	0.0	1	0.0	4	0.0	4	0.0
24	1	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0	2	0.0	3	0.0
25	3	0.0	n	0.0	3	0.0	3	0.0	n	0.1	4	0.0	4	0.0	n	0.0	4	0.0
26	n	0.0	1	0.0	1	0.0	n	0.0	2	0.0	3	0.0	n	0.0	3	0.0	3	0.0
27	1	0.0	13	0.1	14	0.2	1	0.0	21	0.3	22	0.3	1	0.0	23	0.3	24	0.3
28	n	0.0	18	0.2	19	0.2	n	0.0	25	0.3	25	0.3	n	0.0	25	0.3	26	0.3
29	n	0.0	21	0.2	21	0.2	n	0.0	41	0.5	41	0.5	1	0.0	43	0.6	43	0.6

TABLE IX.F-8 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
30	n	0.0	14	0.1	14	0.1	n	0.0	22	0.3	22	0.3	n	0.0	23	0.3	23	0.3
31	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
32	n	0.0	2	0.0	2	0.0	n	0.0	3	0.0	3	0.0	n	0.0	3	0.0	3	0.0
33	n	0.0	12	0.1	12	0.1	n	0.0	17	0.2	18	0.2	n	0.0	18	0.2	18	0.2
34	n	0.0	10	0.1	10	0.1	n	0.0	11	0.1	11	0.1	n	0.0	11	0.1	12	0.1
35	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0
38	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
39	n	0.0	5	0.0	5	0.0	5	0.0	29	0.3	33	0.4	11	0.1	43	0.6	49	0.7
40	n	0.0	n	0.0	n	0.0	1	0.0	3	0.0	4	0.0	1	0.0	5	0.0	6	0.1
41	n	0.0	7	0.1	7	0.1	2	0.0	36	0.4	38	0.5	3	0.0	42	0.5	44	0.6
42	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0
43	n	0.0	17	0.2	17	0.2	n	0.0	38	0.5	39	0.5	1	0.0	40	0.5	41	0.5
44	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
45	n	0.0	8	0.1	8	0.1	n	0.0	11	0.1	11	0.1	n	0.0	11	0.1	11	0.1
46	n	0.0	1	0.0	1	0.0	n	0.0	5	0.0	5	0.0	1	0.0	9	0.1	9	0.1
47	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
48	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0	n	0.0	4	0.0	4	0.0
49	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1	n	0.0	7	0.1	8	0.1
50	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
51	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
52	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
54	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
55	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0
56	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0
57	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0
58	n	0.0	n	0.0	n	0.0	n	0.0	3	0.0	3	0.0	n	0.0	8	0.1	8	0.1
59	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	4	0.0	n	0.0	9	0.1	9	0.1

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TABLE IX.F-8 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
60	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	6	0.1	6	0.1
61	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	5	0.1	5	0.1
62	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	4	0.0	n	0.0	8	0.1	8	0.1
63	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1	n	0.0	12	0.1	12	0.1
64	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	6	0.1	n	0.0	9	0.1	9	0.1
65	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	9	0.1	n	0.0	14	0.1	14	0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent. Segments with less than 0.5 percent probability of one or more contacts within 30 days are not shown.

TABLE IX.F-9

Probabilities (expressed as percent chance) of one or more spills, and the expected number of spills (mean) occurring and contacting targets over the expected production life of the lease sale, most likely volume scenario, deletion alternative IV (spills  $\geq 1,000$  bbls).

Target	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 Days -----					
	PROPOSED		EXISTING		PROPOSED AND EXISTING		PROPOSED		EXISTING		PROPOSED AND EXISTING		PROPOSED		EXISTING		PROPOSED AND EXISTING	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
Land	11	0.1	94	2.8	95	2.9	22	0.3	**	6.1	**	6.4	34	0.4	**	8.1	**	8.5
N. Sea Otter Range	1	0.0	4	0.0	5	0.1	2	0.0	8	0.1	10	0.1	2	0.0	12	0.1	14	0.2
S. Sea Otter Range	8	0.1	n	0.0	8	0.1	9	0.1	1	0.0	10	0.1	9	0.1	5	0.1	14	0.1
Sea Otter Range	9	0.1	4	0.0	12	0.1	10	0.1	9	0.1	18	0.2	11	0.1	15	0.2	25	0.3
N. Channel Is.	2	0.0	73	1.3	74	1.3	17	0.2	90	2.3	92	2.5	27	0.3	92	2.6	94	2.9
S. Channel Is.	n	0.0	3	0.0	3	0.0	n	0.0	11	0.1	11	0.1	n	0.0	12	0.1	12	0.1
Channel Islands	2	0.0	73	1.3	73	1.3	17	0.2	91	2.4	92	2.6	28	0.3	93	2.7	95	3.0
Pt. Reyes Mar. Sanct.	1	0.0	68	1.1	68	1.1	1	0.0	69	1.2	69	1.2	1	0.0	70	1.2	70	1.2
Pt. Reyes Wild. Area	1	0.0	79	1.5	79	1.6	1	0.0	80	1.6	80	1.6	1	0.0	81	1.6	81	1.7
Farallon Islands	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
Least Tern Range	3	0.0	21	0.2	23	0.3	3	0.0	24	0.3	27	0.3	3	0.0	25	0.3	27	0.3
Begg Rock	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0	1	0.0	6	0.1	7	0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent.

TABLE IX.F-9 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
1	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	6	0.1	n	0.0	10	0.1	10	0.1
2	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0	n	0.0	6	0.1	6	0.1
3	n	0.0	4	0.0	4	0.0	n	0.0	11	0.1	11	0.1	n	0.0	17	0.2	17	0.2
4	n	0.0	3	0.0	3	0.0	n	0.0	8	0.1	8	0.1	n	0.0	13	0.1	13	0.1
5	n	0.0	6	0.1	6	0.1	n	0.0	10	0.1	10	0.1	n	0.0	15	0.2	15	0.2
6	n	0.0	5	0.1	5	0.1	n	0.0	11	0.1	11	0.1	n	0.0	17	0.2	17	0.2
7	n	0.0	n	0.0	n	0.0	n	0.0	10	0.1	10	0.1	n	0.0	19	0.2	19	0.2
8	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	4	0.0
9	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	4	0.0	4	0.0
12	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	9	0.1
13	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1
14	n	0.0	9	0.1	9	0.1	n	0.0	25	0.3	25	0.3	n	0.0	36	0.5	37	0.5
15	n	0.0	38	0.5	38	0.5	n	0.0	43	0.6	43	0.6	n	0.0	43	0.6	43	0.6
16	n	0.0	29	0.3	29	0.3	n	0.0	35	0.4	36	0.4	n	0.0	35	0.4	36	0.4
17	n	0.0	6	0.1	6	0.1	n	0.0	8	0.1	8	0.1	n	0.0	8	0.1	8	0.1
18	n	0.0	8	0.1	9	0.1	1	0.0	15	0.2	16	0.2	1	0.0	18	0.2	19	0.2
19	n	0.0	2	0.0	3	0.0	1	0.0	9	0.1	9	0.1	1	0.0	11	0.1	11	0.1
20	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
22	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	n	0.0	1	0.0	1	0.0
23	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	1	0.0	1	0.0	4	0.0	5	0.0
24	1	0.0	n	0.0	1	0.0	1	0.0	n	0.0	2	0.0	2	0.0	2	0.0	4	0.0
25	6	0.1	n	0.0	6	0.1	6	0.1	n	0.1	6	0.1	6	0.1	n	0.0	6	0.1
26	n	0.0	1	0.0	1	0.0	n	0.0	2	0.0	3	0.0	n	0.0	3	0.0	3	0.0
27	1	0.0	13	0.1	14	0.2	1	0.0	21	0.3	22	0.3	2	0.0	23	0.3	24	0.3
28	n	0.0	18	0.2	19	0.2	n	0.0	25	0.3	25	0.3	n	0.0	25	0.3	26	0.3
29	n	0.0	21	0.2	22	0.2	n	0.0	41	0.5	41	0.5	1	0.0	43	0.6	43	0.6



TABLE IX.F-9 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
30	n	0.0	14	0.1	14	0.1	n	0.0	22	0.3	22	0.3	n	0.0	23	0.3	23	0.3
31	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
32	n	0.0	2	0.0	2	0.0	n	0.0	3	0.0	3	0.0	n	0.0	3	0.0	3	0.0
33	n	0.0	12	0.1	12	0.1	n	0.0	17	0.2	18	0.2	n	0.0	18	0.2	18	0.2
34	n	0.0	10	0.1	10	0.1	n	0.0	11	0.1	11	0.1	n	0.0	11	0.1	12	0.1
35	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0
38	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
39	n	0.0	5	0.0	5	0.0	6	0.1	29	0.3	34	0.4	15	0.2	43	0.6	51	0.7
40	n	0.0	n	0.0	n	0.0	1	0.0	3	0.0	4	0.0	2	0.0	5	0.0	7	0.1
41	n	0.0	7	0.1	7	0.1	2	0.0	36	0.4	38	0.5	4	0.0	42	0.5	44	0.6
42	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0
43	n	0.0	17	0.2	17	0.2	n	0.0	38	0.5	39	0.5	1	0.0	40	0.5	41	0.5
44	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	1	0.0	1	0.0
45	n	0.0	8	0.1	8	0.1	n	0.0	11	0.1	11	0.1	n	0.0	11	0.1	12	0.1
46	n	0.0	1	0.0	1	0.0	n	0.0	5	0.0	5	0.0	1	0.0	9	0.1	9	0.1
47	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
48	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0	n	0.0	4	0.0	4	0.0
49	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1	n	0.0	7	0.1	8	0.1
50	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	2	0.0	2	0.0
51	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
52	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
54	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0
55	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0
56	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	3	0.0	3	0.0
57	n	0.0	n	0.0	n	0.0	n	0.0	1	0.0	1	0.0	n	0.0	4	0.0	4	0.0
58	n	0.0	n	0.0	n	0.0	n	0.0	3	0.0	3	0.0	n	0.0	8	0.1	8	0.1
59	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	4	0.0	n	0.0	9	0.1	9	0.1

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TABLE IX.F-9 (cont.)

Land Segment	----- Within 3 Days -----						----- Within 10 Days -----						----- Within 30 days -----					
	PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT		PROPOSED		EXISTING AND IMPORTS		PROPOSED EXISTING & IMPORT	
	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean	Prob	Mean
60	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	6	0.1	6	0.1
61	n	0.0	n	0.0	n	0.0	n	0.0	2	0.0	2	0.0	n	0.0	5	0.1	5	0.1
62	n	0.0	n	0.0	n	0.0	n	0.0	4	0.0	4	0.0	n	0.0	8	0.1	8	0.1
63	n	0.0	1	0.0	1	0.0	n	0.0	7	0.1	7	0.1	n	0.0	12	0.1	12	0.1
64	n	0.0	1	0.0	1	0.0	n	0.0	6	0.1	6	0.1	n	0.0	9	0.1	9	0.1
65	n	0.0	2	0.0	2	0.0	n	0.0	9	0.1	9	0.1	n	0.0	14	0.1	14	0.1

Note: n = less than 0.5 percent; \*\* = greater than 99.5 percent. Segments with less than 0.5 percent probability of one or more contacts within 30 days are not shown.

G. National and California Ambient Air Quality Standards

TABLE IX.G-1

NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards <sup>1,3,6</sup> Concentration	National Standards <sup>2</sup>	
			Primary <sup>3,4</sup>	Secondary <sup>3,5</sup>
Oxidant (Ozone)	1 Hour	0.10 ppm (200 ug/m <sup>3</sup> )	235 ug/m <sup>3</sup> (0.12 ppm)	Same as Primary
Carbon Monoxide	12 Hours	10 ppm (11 mg/m <sup>3</sup> )		
	8 Hours	--	10 mg/m <sup>3</sup> (9 ppm)	Same as Primary
	1 Hour	40 ppm (46 mg/m <sup>3</sup> )	40 mg/m <sup>3</sup> (35 ppm)	
Nitrogen Dioxide	Annual Average	--	100 ug/m <sup>3</sup> (0.05 ppm)	Same as Primary
	1 Hour	0.25 (470 ug/m <sup>3</sup> )	--	--
Sulfur Dioxide	Annual Average	--	80 ug/m <sup>3</sup> (0.03 ppm)	--
	24 Hours	0.05 ppm <sup>7,8</sup> (131 ug/m <sup>3</sup> )	365 ug/m <sup>3</sup> (0.14 ppm)	--
	3 Hours	--	--	1,300 ug/m <sup>3</sup>
	1 Hour	0.5 ppm <sup>8</sup> (1,310 ug/m <sup>3</sup> )	--	--
Suspended Particulate Matter	Annual Geometric Mean	60 ug/m <sup>3,9</sup>	--	--
	24 Hours	100 ug/m <sup>3,9</sup>	260 ug/m <sup>3</sup>	150 ug/m <sup>3</sup>
Sulfates	24 Hours	25 ug/m <sup>3,8</sup>	--	--
Lead	30-Day Average	1.5 ug/m <sup>3</sup>	--	--
	3-Month Average	--	1.5 ug/m <sup>3</sup>	

Pollutant	Averaging Time	California Standards <sup>1,3,6</sup> Concentration <sup>3,6</sup>	National Standards <sup>2</sup>	
			Primary <sup>3,4</sup>	Secondary <sup>3,5</sup>
Hydrogen Sulfide	1 Hour	0.03 ppm (42 ug/m <sup>3</sup> )	--	--
Ethylene	8 Hours	0.1 ppm <sup>10</sup>	--	--
	1 Hour	0.5 ppm <sup>10</sup>	--	--
Visibility-Reducing Particles	One Observation	Insufficient to reduce the prevailing visibility to less than 70%		

Notes:

1. California standards are values that are not to be equaled or exceeded.
2. National standards, other than those based on annual averages or annual geometric means, are not to be exceeded more than once per year.
3. Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of Hg (1013.2 millibars). In this table, ppm refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect public health. Each State must attain the primary standards no later than 3 years after the State's implementation plan is approved by the Environmental Protection Agency (EPA).
5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each State must attain the secondary standards within a "reasonable time" after their implementation plan is approved by the EPA.
6. Prevailing visibility is defined as the greatest visibility attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.
7. This state standard is violated if there is also a simultaneous violation of the state one-hour oxidant standard or the state 24-hour suspended particulate matter standard.
8. California SO<sub>2</sub> and sulfate standards are currently being challenged in the courts. The case currently is before the California Supreme Court with a decision possible within the next few months. The current standards remain in effect pending outcome of this litigation.

9. The Air Resources Board recently approved but did not formally adopt revisions to the particulates standard which would set standards for five particulates (less than 10 microns) of  $30 \text{ ug/m}^3$  (annual geometric mean) and  $60 \text{ ug/m}^3$  (24 hours).
10. The ethylene standards have never been formally adopted by the ARB; the existing standard was adopted by the Department of Health Services (DHS). ARB staff indicate that there are no plans for the ARB to adopt the ethylene standards. Further, ARB staff feel that there are no human health effects directly attributable to ethylene and have recommended that DHS rescind this standard.

## H. DOI Air Quality Regulations

The Department of the Interior (DOI) is obliged under the Outer Continental Shelf Lands Act Amendments of 1978 (OCSLAA) to protect onshore air quality. Section 5(a)(8) of the OCSLAA states, "The regulations prescribed by the Secretary (Department of the Interior) under this subsection shall include, but not be limited to, provisions...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." The Department of the Interior promulgated OCS air quality regulations (30 CFR 250.57) to carry out its responsibility under the OCSLAA. These regulations are presented in their entirety at the end of this section.

The OCSLAA clearly states that any regulations prescribed by the Secretary can only apply to activities authorized by the Act. This means that facilities used for the exploration, development and production of oil and gas in OCS waters are covered. As defined in 30 CFR 250.2(ZZ) "facility" means any installation or device permanently or temporarily attached to the seabed on the OCS which is used for exploration, development or production activities. All equipment directly associated with the installation or device shall be considered part of a single facility if the equipment is dependent on, or affects the processes of the installation or device.

Examples of facilities are exploratory drilling vessels, production platforms and pipelines. During production, multiple installations or devices will be considered to be a single facility if the installations or devices are directly related to the production of oil or gas at a single site. Any vessel used to transfer production from an OCS facility will be considered part of the facility while physically attached to the facility. Crewboats, supply boats and tankers while in transit to or from OCS facilities are not regulated by the DOI air quality regulations. However, any air emissions from a tanker while connected to a production platform or an oil or gas transfer mooring system in the OCS are covered. Additionally, piledriver barges or other construction related vessels while at the site of a platform or pipeline are covered.

The OCSLAA directs the DOI to protect the national ambient air quality standards. It does not require protection of the state ambient standards, which in some cases are more stringent than the national ones.

DOI air quality regulations specify emission exemption levels. If a source exceeds the exemption level, air quality modeling is required to determine whether it would significantly affect onshore air quality. The exemption level is based on distance from shore. Exemption levels are established for nitrogen oxides ( $\text{NO}_x$ ), sulfur dioxide ( $\text{SO}_2$ ), carbon monoxide (CO), total suspended particulates (TSP), and volatile organic compounds (VOC). Current and planned facilities with projected emissions below these levels are exempt from further regulatory review, unless the facility in combination with other facilities in the area would significantly affect the air quality of an onshore area. The exemption level for CO is:

$$E = 3400 D^{2/3}$$

where E is the emission rate in tons per year and D is the distance of the proposed facility from shore in statute miles. For TSP, NO<sub>x</sub>, SO<sub>2</sub>, and VOC the exemption level is:

$$E = 33.3 D$$

The exemption levels apply to any offshore installation and related storage and processing facilities.

For any facility with projected emissions above the exemption levels, for any pollutant other than VOC, computer modeling needs to be performed to determine whether the facility would cause significant air quality impacts. If maximum calculated concentrations are below the DOI Significance Levels (Table VIII.H-1), no further regulatory review would be required. If concentrations exceed the DOI Significance Levels, the applicant would be required to apply Best Available Control Technology (BACT), an emission limitation based on maximum degree of reduction considering energy, environmental, and economic impacts. For TSP and SO<sub>2</sub>, additional controls may be required if projected concentrations exceed the DOI Maximum Allowable Increases in an attainment area (designated region in which existing pollution levels meet Federal ambient standards). The Maximum Allowable Increases are listed in Table VIII.H-2.

Any source with VOC emissions above the exemption level is considered to significantly affect the air quality of an onshore area. Emission reductions would be required through the application of BACT (Section 250.57-1(g)(3)(ii)).

If projected emissions from an OCS facility significantly affect onshore air quality of a nonattainment area (designated region in which pollution levels do not meet Federal ambient standards), the emissions shall be "fully reduced". "Fully reduced" means that the lessee's net emissions increase must be reduced to zero. This shall be done through the application of BACT and, if additional reductions are necessary, through the application of additional emission controls or through the acquisition of offshore or onshore offsets (Section 250.57-1(g)(i) and 250.57-3(i)).

Section 250.57-1(j) of the DOI air quality regulations states that an exempt facility may be subject to emissions controls if the facility either individually or in combination with other facilities in the area would significantly affect the air quality of an onshore area. This section states that, "If, during the review of a new, modified, or revised exploration or development and production plan, the Director determines or an affected State submits information to the Director, that projected emissions from an otherwise exempt facility will, either individually or in combination with other facilities in an area, significantly affect the air quality of an onshore area, then the Director shall require the lessee to submit additional information to determine whether emission control measures are necessary. The lessee shall be given the opportunity to present information to the Director which demonstrates that the exempt facility is not significantly affecting the air quality of an onshore area of the State."

The projected emissions for future facilities are obtained from the Environmental Report that accompanies Plans of Exploration or Plans of Development

and Production. The exact information required is contained in 30 CFR 250.34-3. These regulations are reproduced in the section following this discussion.

To assess current emissions in the Pacific OCS the Regional Manager under the provisions of Section 250.57-1(k) and 250.57-2(g) has required lessees to submit monthly emission inventories of their production facilities and exploratory vessels contracted by them. Individual facilities are being continuously reviewed for compliance with the rules according to Section 250.57-2.

Mitigating measures are imposed if MMS determines they would be required under these air quality regulations, after review of a plan of exploration or a plan of development and production. Mitigating measures are only on a case-by-case basis. Even though this EIS may show significant impacts from the proposed lease sale, it is inappropriate to require mitigating measures until site-specific information becomes available through a plan of Exploration/Production submitted by the lessee.



TABLE IX.H-1  
 DOI SIGNIFICANCE LEVELS<sup>1</sup>

Air pollutant	Averaging Time				
	Annual	24-hr	8-hr	3-hr	1-hr
Sulfur Dioxide (SO <sub>2</sub> )	1	5	--	25	--
Total Suspended Particulates (TSP)	1	5	--	--	--
Nitrogen Oxides (NO <sub>x</sub> )	1	--	--	--	--
Carbon Monoxide (CO)	--	--	500	--	2,000

1. All concentrations are in micrograms per cubic meter.  
 -- indicated no standard exists.

Source: 30 CFR 250.57

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Table IX-H-2. DOI Maximum Allowable Increments<sup>1</sup>

Air Pollutant	Annual Average <sup>2</sup>	24-Hour Maximum	3-Hour Maximum
Class I <sup>3</sup>			
TSP	5	10	--
SO <sub>2</sub>	2	5	25
Class II			
TSP	19	37	--
SO <sub>2</sub>	20	91	512
Class III			
TSP	37	75	--
SO <sub>2</sub>	40	182	700

1. Concentrations in micrograms per cubic meter.  
-- indicates no standard.
2. TSP - geometric average; SO<sub>2</sub> - arithmetic average.
3. Classes established under EPA's Prevention of Significant Deterioration program.

Source: 30 CFR 250.57

**§ 250.57 Air Quality.**

**§ 250.57-1 Facilities described in a new or revised exploration plan or development and production plan.**

(a) *New Plans.* All exploration plans and development plans deemed submitted under § 250.34-1(a) or § 250.34-2(a) on or after June 2, 1980, shall include the information required to make the necessary findings under paragraphs (d) through (i) of this section and the lessee shall comply with the requirements of this section as necessary.

(b) *Applicability of this Section to Existing Facilities.* (1) The Director may review any exploration plan or development and production plan deemed submitted or approved prior to June 2, 1980, to determine whether any facility described in the plan should be subject to review under this section and has the potential to significantly affect the air quality of an onshore area. To make these decisions the Director shall consider the following: The distance of the facility from shore; the size of the facility; the number of sources planned for the facility and their operational status; and the air quality status of the onshore area.

(2) For a facility identified by the Director under paragraph (b)(1) of this section, the Director shall require the lessee to refer to the information required under § 250.34-3(a)(4) or § 250.34-3(b)(4) and to submit only that information required to make the

necessary findings under paragraphs (d) through (i) of this section. The lessee shall submit this information within 120 days of the Director's determination or within a longer period of time at the discretion of the Director. The lessee shall comply with the requirements of § 250.57-1 as necessary.

(c) *Revised facilities.* All revised exploration plans and development and production plans which are deemed submitted under § 250.34-1(a) or § 250.34-2(a) on or after June 2, 1980, shall include the information required to make the necessary findings under paragraphs (d) through (i) of this section. The lessee shall comply with the requirements of this section as necessary.

(d) *Exemption Formulas.* To determine whether a facility described in a new, modified, or revised exploration plan or development and production plan is exempt from further air quality review, the lessee shall use the highest annual total amount of emissions from the facility for each air pollutant calculated in § 250.34-3(a)(4)(ii)(A)(1) or § 250.34-3(b)(4)(ii)(A)(1) and compare these emissions to the emission exemption amount "E" for each air pollutant calculated using the following formulas:  $E = 3400D^{2.3}$  for carbon monoxide (CO); and  $E = 33.3D$  for total suspended particulates (TSP), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and VOC (where E is the emission exemption amount expressed in tons per year, and D is the distance of the proposed facility from the closest onshore area of a State expressed in statute miles). If the amount of these projected emissions is less than or equal to the emission exemption amount "E" for the air pollutant, the facility is exempt for that air pollutant from further air quality review required by paragraphs (e) through (i) of this section.

(e) *Significance Levels.* For a facility not exempt under paragraph (d) of this section for air pollutants other than VOC, the lessee shall use an approved air quality model to determine whether projected emissions of those air pollutants from the facility result in an onshore ambient air concentration above the following significance levels:

Air pollutant	Averaging time (hours)				
	Annual	24	8	3	1
SO <sub>2</sub> .....	11	15	.....	25	.....
TSP .....	11	15	.....	.....	.....
NO <sub>x</sub> .....	11	.....	.....	.....	.....
CO .....	.....	.....	1500	.....	2,000

<sup>1</sup>µg/m<sup>3</sup>.

(f) *Significance Determinations.* (1) The projected emissions of any air pollutant other than VOC from any facility which result in an onshore ambient air concentration above the significance level determined under paragraph (e) of this section for that air pollutant shall be deemed to significantly affect the air quality of the onshore area for that air pollutant.

(2) The projected emissions of VOC from any facility which is not exempt under paragraph (d) of this section for that air pollutant shall be deemed to significantly affect the air quality of the onshore area for VOC.

(g) *Controls required.* (1) The projected emissions of any air pollutant other than VOC from any facility, except a temporary facility, which significantly affect the quality of a nonattainment area shall be fully reduced. This shall be done through the application of BACT and, if additional reductions are necessary, through the application of additional emission controls or through the acquisition of offshore or onshore offsets.

(2) The projected emissions of any air pollutant other than VOC from any facility which significantly affect the air quality of an attainment or unclassifiable area shall be reduced through the application of BACT.

(i) Except for temporary facilities, the lessee also shall use an approved air quality model to determine whether the emissions of TSP or SO<sub>2</sub> that remain after the application of BACT cause the following maximum allowable increases over the baseline concentrations established in 40 CFR 52.21 to be exceeded in the attainment or unclassifiable area:

Air pollutant	Annual mean <sup>1</sup>	Maximum allowable increases (averaging times)	
		24-hour maximum	3-hour maximum
Class I:			
TSP.....	15	10	
SO <sub>2</sub> .....	2	5	25
Class II:			
TSP.....	19	37	
SO <sub>2</sub> .....	20	91	512
Class III:			
TSP.....	37	75	
SO <sub>2</sub> .....	40	182	700

<sup>1</sup> For TSP—geometric. For SO<sub>2</sub>—arithmetic  
<sup>2</sup> μg/m<sup>3</sup>.

No concentration of an air pollutant shall exceed the concentration permitted under the national secondary ambient air quality standard, or the concentration permitted under the national primary air quality standard, whichever concentration is lowest for the air pollutant for the period of exposure. For any period other than the annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one onshore location.

(ii) If the maximum allowable increases are exceeded, the lessee shall apply whatever additional emission controls are necessary to reduce or offset the remaining emissions of TSP or SO<sub>2</sub> so that concentrations in the onshore ambient air of an attainment or unclassifiable area do not exceed the maximum allowable increases.

(3)(i) The projected emissions of VOC from any facility, except a temporary facility, which significantly affect the onshore air quality of a nonattainment area shall be fully reduced. This shall be done through the application of BACT and, if additional reductions are necessary, through the application of additional emission controls or through the acquisition of offshore or onshore offsets.

(ii) The projected emissions of VOC from any facility which significantly affect the onshore air quality of an attainment area shall be reduced through the application of BACT.

(4)(i) If projected emissions from a facility significantly affect the onshore air quality of both a nonattainment and an attainment or unclassifiable area, the regulatory requirements applicable to projected emissions significantly affecting a nonattainment area shall apply.

(ii) If projected emissions from a facility significantly affect the onshore air quality of more than one class of attainment area, the lessee must reduce projected emissions to meet the maximum allowable increases specified for each class in paragraph (g)(2)(i) of this section.

(h) *Controls Required On Temporary Facilities.* The lessee shall apply BACT to reduce projected emissions of any air pollutant from a temporary facility which significantly affect the air quality of an onshore area of a State.

(i) *Emission Offsets.* When emission offsets are to be obtained, the lessee must demonstrate that: The offsets are equivalent in nature and quantity to the projected emissions that must be reduced after the application of BACT; a binding commitment exists between the lessee and the owner or owners of the source or sources; the appropriate air quality control jurisdiction has been notified of the need to revise the State Implementation Plan to include the information regarding the offsets; and the required offsets come from sources which affect the air quality of the area significantly affected by the lessee's OCS operations.

(j) *Review of Facilities with Emissions Below the Exemption Amount.* If, during the review of a new, modified, or revised exploration plan or development and production plan, the Director determines or an affected State submits information to the Director which demonstrates, in the judgment of the Director, that projected emissions from an otherwise exempt facility will, either individually or in combination with other facilities in the area, significantly affect the air quality of an onshore area, then the Director shall require the lessee to submit additional information to determine whether emission control measures are necessary. The lessee shall be given the opportunity to present information to the Director which demonstrates that the exempt facility is not significantly affecting the air quality of an onshore area of the State.

(k) *Emission monitoring requirements.* The lessee shall monitor, in a manner approved or prescribed by the Director, emissions from the facility. The lessee shall submit this information, in a manner and form approved or prescribed by the Director, with the monthly report of operations prescribed under section 250.93 of this Part.

(l) *Collection of meteorological data.* The Director may require the lessee to collect, for a period of time and in a manner approved or prescribed by the Director, and submit meteorological data from a facility.

**§ 250.57-2 Existing facilities.**

(a) *Process leading to review of an existing facility.* (1) An affected State may request that the Director supply basic emission data from existing

facilities when such data are needed for the updating of the State's emission inventory. In submitting the request, the State must demonstrate that similar offshore and onshore facilities in areas under the State's jurisdiction are included also in the emission inventory.

(2) The Director may require lessees of existing facilities to submit basic emission data to a State submitting a request under paragraph (a)(1) of this section.

(3) The State submitting a request under paragraph (a)(1) of this section may submit information from its emission inventory which indicates that emissions from existing facilities may be significantly affecting the air quality of the onshore area of the State. The lessee shall be given the opportunity to present information to the Director which demonstrates that the facility is not significantly affecting the air quality of the State.

(4) The Director shall evaluate the information submitted under paragraph (a)(3) of this section and shall determine, based on the basic emission data, available meteorological data, and the distance of the facility or facilities from the onshore area, whether any existing facility has the potential to significantly affect the air quality of the onshore area of the State.

(5) If the Director determines that no existing facility has the potential to significantly affect the air quality of the onshore area of the State submitting information under paragraph (a)(3) of this section, the Director shall notify the State of, and explain the reasons for, this finding.

(6) If the Director determines that an existing facility has the potential to significantly affect the air quality of an onshore area of the State submitting information under paragraph (a)(3) of this section, the Director shall require the lessee to refer to the information requirements under § 250.34-3(a)(4) or § 250.34-3(b)(4) and to submit only that information required to make the necessary findings under paragraphs (b) through (e) of this section. The lessee shall submit this information within 120 days of the Director's determination or within a longer period of time at the discretion of the Director. The lessee shall comply with the requirements of § 250.57-2 as necessary.

(b) *Exemption formulas.* To determine whether an existing facility is exempt from further air quality review, the lessee shall use the highest annual total amount of emissions from the facility for each air pollutant calculated in § 250.34-3(a)(4)(ii)(A)(1) or § 250.34-3(b)(4)(ii)(A)(1) and compare these emissions to the emission exemption

amount "E" for each air pollutant calculated using the following formulas:  $E = 3400D^{2/3}$  for CO; and  $E = 33.3D$  for TSP, SO<sub>2</sub>, NO<sub>x</sub>, and VOC (where E is the emission exemption amount expressed in tons per year and D is the distance of the facility from the closest onshore area of a State expressed in statute miles). If the amount of projected emissions are less than or equal to the emission exemption amount "E" for the air pollutant, the facility is exempt for that air pollutant from further air quality review required under paragraphs (c) through (e) of this section.

(c) *Significance levels.* For a facility not exempt under paragraph (b) of this section for air pollutants other than VOC, the lessee shall use an approved air quality model to determine whether projected emissions of those air pollutants from the facility result in an onshore ambient air concentration above the following significance levels:

Air pollutant	Averaging time (hours)				
	Annual	24	8	3	1
SO <sub>2</sub> .....	'1	'5			'25
TSP .....	'1	'5			
NO <sub>x</sub> .....	'1				
CO .....			'500		'2,000

<sup>1</sup>µg/m<sup>3</sup>.

(d) *Significance determinations.* (1) The projected emissions of any air pollutant other than VOC from any facility which result in an onshore ambient air concentration above the significance level determined under paragraph (c) of this section for that air pollutant shall be deemed to significantly affect the air quality of the onshore area for that air pollutant.

(2) The projected emissions of VOC from any facility which is not exempt under paragraph (b) of this section for that air pollutant shall be deemed to significantly affect the air quality of the onshore area for VOC.

(e) *Controls required.* (1) The projected emissions of any air pollutant which significantly affect the air quality of an onshore area shall be reduced through the application of BACT.

(2) The lessee shall submit a compliance schedule for the application of BACT. If it is necessary to cease operations to allow for the installation of emission controls, the lessee may apply for a suspension of operations under the provisions of § 250.12.

(f) *Review of facilities with emissions below the exemption amount.* If, during the review of the information required under paragraph (a)(6) of this section, the Director determines or an affected State submits information to the Director which demonstrates, in the

judgment of the Director, that projected emissions from an otherwise exempt facility will, either individually or in combination with other facilities in the area, significantly affect the air quality of an onshore area, then the Director shall require the lessee to submit additional information to determine whether control measures are necessary. The lessee shall be given the opportunity to present information to the Director which demonstrates that the exempt facility is not significantly affecting the air quality of an onshore area of the State.

(g) *Emission monitoring requirements.* The lessee shall monitor, in a manner approved or prescribed by the Director, emissions from the facility following the installation of emission controls. The lessee shall submit this information, in a manner and form approved or prescribed by the Director, with the monthly report of operations prescribed under § 250.93.

(h) *Collection of meteorological data.* The Director may require the lessee to collect, for a period of time and in a manner approved or prescribed by the Director, and submit meteorological data from a facility.

§ 250.57, and shall submit only that information, described below, needed to make the findings under § 250.57:

(A)(1) Projected emissions from each proposed or modified facility for each year of operation, and the bases for all calculations, to include: (i) For each source: The source, the amount of the emission by air pollutant expressed in tons per year, and the frequency and duration of emissions; (ii) For each facility: The facility, the total amount of emissions by air pollutant expressed in tons per year, and in addition, for a modified facility only, the incremental amount of total emissions by air pollutant resulting from the new or modified source or sources; (iii) A detailed description of all processes, process equipment, and storage units, including information on fuels to be burned; (iv) A schematic drawing which identifies the location and elevation of each source; and (v) If projected emissions are based on the use of emission reduction control technology, a description of the controls providing the information required by paragraph (a)(4)(ii)(D) of this section. If a mobile drilling vessel has been described in an earlier Environmental Report, the lessee may reference, consistent with the limitations described in paragraph (a) of this section, the information in that report pertaining to paragraphs (a)(4)(ii)(A)(1) (iii), (iv) and (v).

(2) The distance of each proposed facility from the mean high water mark (mean higher high water mark on the Pacific Coast) of any State.

(B)(1) The model or models used to determine the effect on the onshore air quality of emissions from each facility, or from other facilities when required by the Director, and the results obtained through the use of the model or models. The model or models must be approved for use by the Director.

(2) The best available meteorological information and data consistent with the model or models used, stating the basis for the information and data selected.

(C) The air quality status of any onshore area where the air quality is significantly affected by projected emissions from each facility proposed in the plan. The area should be classified as nonattainment, attainment, or unclassifiable, to include: The status of each area by air pollutant; the class of attainment areas; and the air pollution control agency whose jurisdiction covers the area identified.

(D) The emission reduction control technology available to reduce emissions, to include: The source; the emission reduction control technology; the reductions achieved; and the monitoring system the lessee proposes

§ 250.34-3 Environmental reports.

(a) \* \* \*

\* \* \* \* \*

(4)(i) For onshore activities directly associated with a proposed OCS facility, the lessee shall provide information on each source of air pollutants, listing: The source; the location of each source; the chemical composition and quantity of air pollutants; and the frequency and duration of emissions.

(ii) For each OCS facility, the lessee shall review the requirements of

to use to measure emissions. If applicable, the lessee shall indicate which emission reduction control technology the lessee believes constitutes BACT and the basis for that opinion.

(b) *Environmental Report (Development/Production)*. \* \* \*

(4)(i) For onshore activities directly associated with a proposed OCS facility, the lessee shall provide information on each source of air pollutants, listing: The source; the location of each source; the chemical composition and quantity of air pollutants; and the frequency and duration of emissions.

(ii) For each OCS facility the lessee shall review the requirements of § 250.57, and shall submit only that information, described below, needed to make the findings under § 250.57:

(A)(1) Projected emissions from each proposed or modified facility for each year of operation, and the bases for all calculations, to include: (i) For each source: the source, the amount of the emission by air pollutant expressed in tons per year, and the frequency and duration of emissions; (ii) For each proposed facility: The facility, the total amount of emissions by air pollutant expressed in tons per year, the frequency distribution of total emissions by air pollutant expressed in pounds per day, and in addition, for a modified facility only, the incremental amount of total emissions by air pollutant resulting from the new or modified source or sources; (iii) A detailed description of all processes, process equipment, and storage units, including information on fuels to be burned; (iv) A schematic drawing which identifies the location and elevation of each source; and (v) If projected emissions are based on the use of emission reduction control technology, a description of the controls providing the information required by paragraph (b)(4)(ii)(D)(1) of this section.

(2) The distance of each proposed facility from the mean high water mark (mean high water mark on the Pacific Coast) of any State.

(B)(1) The model or models used to determine the effect on the onshore air quality of emissions from each facility, or from other facilities when required by the Director, and the results obtained through the use of the model or models. The model or models must be approved for use by the Director.

(2) The best available meteorological information and data consistent with the model or models used, stating the basis for the information and data selected.

(C) The air quality status of any onshore area where the air quality is

significantly affected by projected emissions from each facility proposed in the plan. The area should be classified as nonattainment, attainment, or unclassifiable, listing: The status of each area by air pollutant; the class of attainment areas; and the air pollution control agency whose jurisdiction covers the area identified.

(D)(1) The emission reduction control technology available to reduce emissions, listing: The source; the emission reduction control technology; the reductions achieved; and the monitoring system the lessee proposes to use to measure emissions. If applicable, the lessee shall indicate which emission reduction control technology the lessee believes constitutes BACT and the basis for that opinion.

(2) The ownership of the offshore and onshore offsetting source or sources, and the reduction obtainable from each offsetting source.

## I. Resource Estimates for Environmental Impact Statements

### Prior to Streamlining

Prior to the implementation of streamlining procedures, the Conservation Division (CD) of the U.S. Geological Survey (USGS) provided estimates of undiscovered recoverable oil and gas resources that may exist in the proposed sale area for use in preparing sale specific Environmental Impact Statements (EIS). These resource estimates were developed on the following basis:

1. There is a probability that economically recoverable resources exist in the area under consideration.
2. The resource estimates are conditional on the existence of commercial accumulations of hydrocarbons in the area under consideration.
3. All identified hydrocarbon prospects in the area are considered.
4. "Economically recoverable" is determined upon the basis of present cost/price relationships.
5. There are various combinations of oil and nonassociated gas (and productive prospects) that may coexist. The EIS addressed the following combinations.
  - a. A low estimate, the 95 percentile
  - b. A high estimate, the 5 percentile
  - c. A mean estimate

### Streamlined EIS

With the initiation of streamlining, resource estimates developed by the USGS Resource Appraisal Group (RAG) served as the basis for sale EIS's. The RAG estimates of undiscovered recoverable resources differ from the method previously used in prior EIS's in several important respects.

1. The RAG resource estimates are not developed solely on the basis of identified prospects. The estimates include a "learning curve" and subjective assessments of future field types and size distributions. That is, in frontier areas RAG assumes knowledge gained from early exploration efforts will be used to direct future exploration and development activities. The estimates include discoveries that will be made from all future rounds of exploration.
2. The RAG estimates include resources that may exist in traps and plays that are very difficult, if not impossible to identify with current technology or technology which can reasonably be assumed to be developed in the near term.
3. The RAG estimates are for the entire OCS area, including State waters and leased Federal OCS.



4. The RAG assessments of oil and nonassociated gas are done independently of one another. The assessments are not conditional upon the existence of hydrocarbons (oil and/or nonassociated gas) but on the existence of the particular fluid being assessed.
5. The RAG assessments are based upon areas termed "provinces." Various assumptions are necessary to aggregate the RAG province assessments for areas corresponding to planning areas.

Realizing the above differences exist between the previous and RAG methodologies, USGS modified the RAG assessments in the following manner.

1. The RAG province assessments of resources were aggregated assuming independence between the occurrence of oil and gas within and among provinces to an estimate for the planning area. This is possible only with the conditional mean resource level. The resultant estimate is the conditional mean estimate of undiscovered recoverable resources given commercial hydrocarbons are present for the planning area.
2. Next, USGS on the basis of a percentage allocation removes the resources estimated to exist in the State waters.
3. The Minerals Management Service estimates of resources for existing leases are removed assuming statistical independence between leased and unleased tracts.
4. Removal of the resources estimated to exist within State lands and Federal leases is assumed to have no affect upon the probability of commercial hydrocarbons existing within the remaining area.

The end product of these modifications is the conditional mean estimate for undiscovered oil and gas resources given hydrocarbons are present for the unleased Federal OCS portion of the planning area. Due to the inclusion of unidentified prospects and a learning curve in the generation of these estimates, resources are included that cannot reasonably be assumed to be discovered as a result of the specific sale being addressed in the EIS, for this reason, it was decided to use this estimate for the total development scenario in the EIS. A "most likely" estimate of resources to be discovered and developed as a result of the sale was made taking into account the knowledge of the particular area's geology, economic considerations, exploration history, and potential learning curve in conjunction with finding rates in other OCS areas worldwide.

## J. Glossary

- Acute - short term, severe or intense impacts may be felt, bioassays of generally 96 hours or less.
- Anadromous fish - fish that migrate up rivers from the sea to breed in fresh water.
- Anomaly - deviation from normal condition.
- Anthropogenic - coming from human sources.
- Benthic - bottom dwelling.
- Benthic macroinvertebrate - animals such as worms, clams, or crabs which are large enough to see without the aid of a microscope.
- Biomass - weight of living organisms.
- Carrying capacity - the maximum number of weight of individuals that can exist in a given habitat.
- Cetacean - any of an order (Cetacea) of aquatic mostly marine mammals including the whales, dolphins, porpoise and related forms with large head, fishlike nearly hairless body, and paddle-shaped forelimbs.
- Critical habitat - an area that is essential to the conservation of a species.
- Demersal - bottom dwelling.
- Endangered - refers to any species which is in danger of extinction throughout all or a significant portion of its range and has been officially listed by the appropriate Federal or State agency; a species is determined to be endangered (or threatened) because of any of the following factors: a) the present or threatened destruction, modification, or curtailment of its habitat or range; b) overutilization for commercial, sporting, scientific, or educational purposes; c) disease or predation; d) the inadequacy of existing regulatory mechanisms; or e) other natural or man-made factors affecting its continued existence.
- Epibenthic organism - those organisms attached to, or living on a substrate as opposed to those which burrow and live in the substrate.
- Epiphyte - a plant growing attached to another plant.

- Fauna - animals, especially the animals of a particular region or time.
- Fledge - to rear until ready for flight or independent activity.
- Fledgling - a young bird just fledged.
- Flyway - an established air route of migratory birds.
- Gross regional product - total value added generated from all sectors in the regional economy including government and households. (See value added.)
- Haul-out area - specific locations where pinnipeds come ashore and concentrate in numbers to rest, breed, and/or bear young.
- Hypothermia - subnormal temperature of the body, usually due to excessive heat loss.
- Indirect (socio-economic) effects - caused by activities which are stimulated by an action but not directly related to it.
- Mariculture - the breeding or growth of marine animals and plants to increase their stocks.
- Microcrustacean - any relatively small crustacean (may range from microscopic to a few inches in size) including organisms such as shrimp, crabs, beach hoppers (amphipods), copepods and other similar groups.
- Mysids - small shrimp-like organisms.
- Ovoviviparous - producing eggs that hatch within the female's body.
- Phytoplankton - plant (photosynthetic) plankton.
- Pinniped - any of a suborder (Pinnipedia) of aquatic carnivorous mammals (e.g., seals, sea lions) with all four limbs modified into flippers.
- Purse seine - a fishing net that is pursed or drawn into the shape of a bag to enclose the catch.
- Rare - refers to any species whose continued existence is threatened by one or more conditions and has been officially listed by the appropriate State agency; a species is determined to be rare because of any of the following conditions: a) the species is confined to a

- relatively small and specialized habitat and is incapable of adapting to different environmental conditions; b) the species, although found in other parts of the world, is nowhere abundant; c) the species is so limited that appreciable reduction in range, numbers, or habitat would cause it to become endangered; or d) the species would become endangered if current management and protection programs were diminished to any degree.
- Rookery** - the nesting or breeding grounds of gregarious (i.e., social) birds or mammals; also a colony of such birds or mammals.
- Subtidal** - generally considered to be that part of the ocean bottom not uncovered by tidal action.
- Threatened** - refers to any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and has been officially listed by the appropriate Federal agency; criteria for determination of threatened status can be found under "endangered".
- Trawl** - a large, tapered fishing net of flattened, conical shape that is typically towed along the sea bottom.
- Trophic** - feeding, trophic levels refer to the hierarchy of organisms from photosynthetic plants to carnivores such as man.
- Upwelling** - movement of subsurface water to the surface of the ocean, caused by meteorological and physical phenomena.
- Value added** - for a given enterprise, the market price of goods completed, less the cost of purchased materials. Gross value added includes compensation to employees, profits, taxes, rents, interest, and reserves for depreciation.
- Xenobiotic** - compound not usually associated with living organisms.
- Zooplankton** - animal plankton, dependent on phytoplankton for food source.

K. Abbreviations

AAPG	American Association of Petroleum Geologists
AAQS	Ambient Air Quality Standards
API	American Petroleum Institute
ASBS	Areas of Special Biological Significance
BAST	Best Available and Safest Technologies
BCD	Barrels per Calendar Day
BCDC	Bay Conservation and Development Commission
BLM	Bureau of Land Management
BOD	Biological Oxygen Demand
CalCOFI	California Cooperative Oceanic Fisheries Investigations
CARB	California Air Resources Board
CCA	California Coastal Act
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CDI	Coastal Dependent Industry
CDOG	California Division of Oil and Gas
CEC	California Energy Commission
CEP	Council of Environmental Protection
CEPEX	Controlled Ecosystem Pollution Experiment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMP	Coastal Management Program
COD	Chemical Oxygen Demand
CSLC	California State Lands Commission
CZMA	Coastal Zone Management Act
DEIS	Draft Environmental Impact Statement
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DWT	Dead Weight Ton
EA	Environmental Assessment
E&D	Exploration and Development Report
EIS	Environmental Impact Statement
EOR	Enhanced Oil Recovery
EPA	U.S. Environmental Protection Agency
FACSFAC	Fleet Area Control and Surveillance Facility
FEIS	Final Environmental Impact Statement
FERC	Federal Energy Regulatory Commission
FIRS	Failure and Inventory Reporting System
FONSI	Finding of No Significant Impact
FOSI	Finding of Significant Impact
FR	Federal Register
FWPCA	Federal Water Pollution Control Act
FWS	U.S. Fish and Wildlife Service
GS (also USGS)	U.S. Geological Survey
LCP	Local Coastal Programs
LNG	Liquified Natural Gas
MERL	Marine Ecosystems Research Laboratory
MMS	Minerals Management Service
MOU	Memorandum of Understanding

NAAQS	National Ambient Air Quality Standards
NAS	National Academy of Science
NEPA	National Environmental Policy Act
NERBC/RALI	New England Rivers Basins Commission/Resources and Land Investigations Program
NMFS	National Marine Fisheries Service
NMRC	National Maritime Research Center
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant and Discharge Elimination System
NPS	National Park Service
NSF	National Science Foundation
NTLs	Notices to Lessees and Operators
OBERS	Office of Business Economics and the Economic Research Service (OBE-Dept. of Commerce) (ERS-Dept. of Agriculture)
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
OSC	On-scene Coordinator
OS&T	Offshore Storage and Treatment
PG&E	Pacific Gas & Electric Company
PGT	Pacific Gas Transmission Company
PMTC	Pacific Missile Test Center
POCS	Pacific Outer Continental Shelf
PTC	Petroleum Transportation Committee
RSOFOD	Regional Supervisor Offshore Field Operations Division
RRT	Regional Response Team
RIMS	Regional Industrial Multiplier System
RTWGs	Regional Technical Working Groups
SALM	Single Anchor Leg Mooring System
SID	Secretarial Issue Document
SLO	San Luis Obispo
SSC	Scientific Support Coordinator
USCG	U.S. Coast Guard
USDI	U.S. Department of the Interior
USFWS	U.S. Fish and Wildlife Service
USGS (also GS)	U.S. Geological Survey
VOC	Volatile Organic Compounds
WSMC	Western Space and Missile Center

## L. Units of Measure

b/d	= barrels per day
BBO	= billion barrels of oil
bcd	= barrels per calendar day
Btu	= British thermal unit
bbl	= barrel
BP	= years before present
bcf	= billion cubic feet
cm	= centimeter
dBA	= decibels audible
dwt	= dead weight ton
ha	= hectares
hr	= hour
km	= kilometer
l	= liter
lb.	= pound
m	= meter
maxi.	= maximum
mg	= milligrams
mgd	= million gallons per day
MW	= megawatt
MWe	= megawatt (electric)
ng	= nannogram
nm	= nautical mile
ppb	= parts per billion
pphm	= parts per hundred million
ppm	= parts per million
ppt	= parts per thousand
sp.	= species
TCFG	= trillion cubic feet gas
ug	= microgram
°/oo	= parts per thousand

#### M. Cultural Resource Located Between Point Reyes and the Mexican Border

California has done an excellent job of preserving examples of its early history, and it has identified many gaps which still remain to be filled. Many of the original or reconstructed missions still remain. Cove areas or "Old Towns" are preserved and open for public enjoyment in Santa Barbara, Los Angeles, and San Diego. Numerous churches, early wells, military installations and early pioneer homes have been designated as California Historical landmarks and/or listed on the National Register of Historic Places. Most sites that are designated are inland. The following list includes those sites designated as California Historical landmarks, National Register of Historic Places, and sites which are potentially eligible for nomination to the National Register which are either on the coast or a few miles inland between Point Reyes and the Mexican Border.

Most of these sites will not be impacted by any OCS development, however they are included to show the number of sites which are in the coastal region.

In addition to the sites listed below, there are numerous prehistoric sites in the coastal region. These are not included in this list, neither are the shipwrecks nor the submerged prehistoric sites. These sites are on file with Minerals Management Service but are not listed due to their sensitivity.



NATIONAL REGISTER OF HISTORIC SITES, CALIFORNIA HISTORICAL LANDMARKS AND

POTENTIALLY ELIGIBLE SITES

Marin

Angel Island  
Lighter Wharf (site)  
Lime Kilns  
Point Bonita Light Station  
Fort Baker  
Fort Cronkhite  
Fort Barry  
Point Reyes Light Station

San Francisco

Eureka, San Francisco Maritime State Historic Park (S.F.M.H.P.) ,

Fort Mason Historic District

Wapama, S.F.M.H.P.

The Presidio

San Francisco Cable Cars

Fort Point National Historic Site

Ghirardelli Square

Haslett Warehouse

Landing Place of Capt. J.B. Montgomery

Long Wharf

Tugboat Hercules, S.F.M.H.P.

Alcatraz Federal Prison

Alcatraz Island Light House

C.A. Thayer, S.F.M.H.P.

Castillo de San Joaquin

Cliff House

Cunningham's Wharf Site

Custom House

Ferry Building

San Mateo

Ano Nueva Light Station

Montana Light Station

Pigeon Point Light Station

Portola Expedition Camps

Purissima Cemetery

Tobin Station - Ocean Shore Railroad Station

Tunitas Beach Indian Village Site

San Francisco Bay Discovery Site

Johnston, James House

## Santa Cruz

Hihn Building  
McHugh and Bianchi Building  
Octagon Building  
Agua Puerce School (Red Schoolhouse)  
Alzina House  
Antlers  
Aptos Catholic Cemetery  
Aptos Hacienda Rancho  
Baldwin House  
Bay View Hotel  
Bolcoff Adobe  
Breakers  
Calvary Episcopal Church  
China Ladder  
Cowell Cook House  
Cowell Kilns  
Cowell Lime Works Carriage House  
Cowell Home  
Davenport Homesite  
Delaveaga Park Sites  
Flatiron Building  
Forester's Hall  
Freirermuth Company

Hihn-Cope (Katie) House  
Hihn (F.A.) Lumber Mill  
Live Oak Ranch (Hagemann House)  
Lorenzana Adobe  
Lynch (Sedgwick J.) House  
McCray Hotel Site  
Neary-Rodriguez Adobe  
New Brighton Beach Fishing Camp  
Piedmont Court (Calreta Court)  
Rodeo Gulch Round-Up  
San Vicente Quarry Camp  
Santa Cruz Hotel  
Santa Cruz Mission Site  
Santa Cruz Mountain Winery  
Scaroni House  
Smith (Lucas T.) House  
Soquel Congregational Church  
St. Joseph's Catholic Church  
Superintendent's Office - Capitola  
Union St. - Santa Cruz  
Villa de Branciforte (Center) Site  
Wessendorf House  
Whaling Station  
Wilder Ranch

## Monterey

Carmel Mission  
Casa Amerti  
Larkin House  
Monterey Old Town Historic District  
Royal Presidio Chapel  
U.S. Custom house (Old Customhouse)  
El Castillo  
Stevenson House (Gonzalez House)  
Cannery Row  
Carmel-by-the-Sea  
Chautauqua Hall  
Corral de Tierra  
Del Monte Forest  
Fisherman's Wharf  
Green Gables House  
Gutierrez Adobe  
Highway 1 (Monterey)

Hopkins Marine Station  
Hovden Cannery  
Landing Place of Sebastian Viscaino and  
Fra. Junipero Serra  
Monterey Bay  
Monterey Presidio  
Moss (J. Mora) Home  
Naval Postgraduate School  
Pine Inn  
Point Sur Lighthouse  
Slates Hot Springs  
Soberanes Adobe  
Spreckels  
St. Mary's By the Sea  
Stevenson House  
Stoddard (Charles Warren) House, Site  
Walker House

San Luis Obispo

Hearst San Simeon State Historical Monument  
San Luis Obispo Light Station  
Avila Beach Cave Landing  
Canet Adobe  
Cayucas  
Morro Rock  
Oso Flaco Lake

Piedras Blancas Lighthouse and Rock  
Port San Luis  
Rancho Canada de Los Osos y Pecho y Islay  
Rice (Coffee) House  
Sebastian Store  
Spooner's Cove  
St. Francis of Assisi Catholic Church

Santa Barbara

Old Lompoc Landing Site  
Point Arguello Lighthouse  
Site of Naval Disaster (9/8/23) in which seven destroyers were lost  
Surf Railroad Station  
Yankee Blade Shipwreck Site at Pt. Arguello

Santa Barbara County

Gaviota Pass  
Burton Mound (Archeological)  
Casa de la Guerra  
Covarrubias Adobe  
Old Lobero Theater  
Gonzales House  
Painted Cave  
Santa Barbara Mission  
Santa Barbara Presidio

Carpinteria and Indian Village of Mishopshnow  
Hastings Adobe  
Royal Spanish Presidio  
Carrillo Adobe  
El Camino Real (road)  
Point Conception Light Station  
Point Conception Railroad Site  
Santa Barbara Lighthouse  
Tajiguas Ranch, Ortega Adobe

Ventura County

Site - Father Junipero Serra's Cross  
Old Mission Reservoir  
Olivas Adobe  
Ventura County Courthouse  
Calleguas Creek Site (CA-Ven 110)  
Mission San Buenaventure & Mission Compound Site  
Oxnard Public Library

San Buenaventure Mission Aqueduct  
Bard Memorial Hospital  
Berylwood  
Port Hueneme Old Wharf Site  
Punta Gorda - Reunion Schoolhouse  
San Nicolas Island  
Seaside Hotel

## Los Angeles County

Casa de Governor Pio Pico  
Banning Park  
Dominguez Ranch House  
Drum Barracks  
Hancock - La Brea  
Centinela Springs  
Old Salt Lake  
Homesite of Diego Sepulveda  
Whaling Station  
Homesite of Jose Dolores Sepulveda  
Timm's Point and Landing  
Serra Springs  
Banning Home  
Battery Osgood-Farley  
Humaliwo  
Point Fermin Lighthouse  
Puvunga Indian Village Site

Will Rogers State Historic Park  
S.S. Catalina  
Lummis Home  
Original Building of the University of  
Southern California  
Well, "Alamitos 1"  
Portola Trail Campsite No. 2  
Site of the Original U.S. Air Meet  
El Camino Real (road)  
Old Santa Monica Forestry Station  
Cabrillo Marker (Avalon)  
Port of Los Angeles, Long Wharf Site  
St. John's Episcopal Church  
St. Peter's Episcopal Church  
Santa Monica Pier  
Wayfarer's Chapel

## Orange County

Dana Point  
Old Landing  
Mission San Juan Capistrano  
Barton Mound  
Anaheim Landing  
Fairview Indian Site  
Lovell Beach House  
Martin (Glenn C.) Flight  
Newland House  
San Juan-by-Sea Boom Town Site  
San Juan Capistrano Mission Cemetery  
San Juan Capistrano Mission (First) Site  
Santa Fe Railroad Station  
Stanton (P.A.) House  
Yorba, (Dominga) Adobe

Flores Peak  
Diego Sepulveda Adobe  
Site of the first water to water  
flight - Newport Harbor  
El Camino Real (road)  
McFadden Wharf  
Aguilar (Blas) Home  
Arch Beach Boom Town Site  
Avila (Juan) Adobe  
Balboa Pavilion  
Bouchard Invasion Landing Site  
Egan (Judge Richard) Home  
Hanson (Ole) House  
Irvine Bowl  
Juzgado Adobe

San Diego County

Adobe Church of the Immaculate Conception  
San Diego Whaling Station  
Mission Dam and Flume  
Fort Stockton  
Fort Rosecrans National Cemetery  
Tip of Ballast Point  
La Punta de los Muertos  
San Diego Presidio Site  
Casa de Lopez  
Bancroft Ranch House  
Brick Row  
Old Town San Diego Historic District  
Red Roost and Red Rest Cottages  
San Diego Mission Church  
Santa Fe Depot  
Star of India  
Villa Montezuma (Jesse Shepard House)  
Hotel Del Coronado  
La Jolla Women's Club  
Las Flores Adobe  
Las Flores Asistencia  
Las Flores Site  
Old Mission Dam  
Cabrillo National Monument  
    (Old Point Loma Lighthouse)  
Estudillo (Jose Antonio) House  
Ford Building  
Guajome Ranch House  
Initial Point of Boundary between  
    U.S. and Mexico

Fort Rosecrans  
Plaza, San Diego Viejo  
"Old Landing", Site of El Desembarcadero  
La Cristianita  
Montgomery Memorial  
First Military Flying School in America  
San Diego State College, Site of first  
    doctorate degree granted by the  
    California State College System  
The Whaley House  
Congress Hall Site  
Serra Palm Site  
Old Spanish Cemetery  
Fort Guajarras Site  
Casa de Pedrorena  
Casa de Machado  
Casa de Bandini  
Casa de Stewart  
Casa de Carrillo  
Casa de Cota Site  
Mission San Luis Rey  
Mission San Diego de Alcalá  
Derby Dike  
Lindbergh Field  
Quarantine Station (Old La Playa)  
Rancho de Los Penasquitos  
Exchange Hotel  
San Diego Barracks  
Kate O. Sessions' Nursery Site

## N. CURRENT AND PROPOSED MMS OCS STUDIES

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### A. Active Contracts

#### 1. Air Quality

- 29110: Sale 73 and 80 Air Quality Trajectory Modeling.  
29114: Central California Coastal Air Quality Model Validation Study.  
IA2-1: Offshore Meteorological and Tracer Measurements in Central California Coastal Waters.

#### 2. Physical Oceanography and Meteorology

- IA1-40, IA2-12: Operation of West Coast OCS Meteorological Buoy Monitoring Network.  
29113: California Shelf Physical Oceanography Circulation Model.  
29026: Central California Nearshore Current Study.  
29123: Santa Barbara Channel Circulation Model and Field Study.  
CT2-54: An Evaluation of Effluent Dispersion and Fate Models for OCS Platforms.

#### 3. Marine Mammals and Seabirds

- MU-9-13: Seabird Nesting and Seasonal Use Survey for the Central and Northern California Coastal Region.  
29090: Central and Northern California Marine Mammal and Seabird Study, Years I-III.  
29102: California Seabird Oil Spill Behavior Study.  
29112: Seabird Oil Toxicity Study.  
29115: Southern California Marine Mammal and Seabird Risk Analysis.

#### 4. Marine Ecology

- 29104: Oil Spill Risk Assessment of Coastal and Marine Habitats in Central and Northern California.  
29105: California Commercial and Sports Fish Oil Toxicity Study.

### B. Planned Studies (to be awarded by September 30, 1983)

1. California Sea Otter Study.
2. Operation of West Coast OCS Meteorological Buoy Monitoring Network.
3. Cumulative Socioeconomic Impacts of OCS Oil and Gas Development in the Santa Barbara Channel Region: A Case Study.

CURRENT AND PROPOSED MMS OCS STUDIES (con't)

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4. Central California Coastal Circulation Study.
  5. Central and Northern California Intertidal Community Analysis and Recovery Study.
  6. Rig Monitoring: Assessment of Long-Term Changes in Biological Communities.
  7. Air Quality Modeling Study of Proposed Central-Northern and Southern California OCS Lease Offerings in 1985 and 1986.
  8. Fisheries/Offshore Pipelines Mitigation Study.
  9. Assessment of the Long-Term Fate and Effective Methods of Mitigation of California OCS Platform Particulate Discharges.
-

## 0. Potential Mitigating Measures for Air Quality

Various emission control measures could be applied to OCS facilities if it is determined that those facilities may result in significant air quality impacts. The various measures are summarized in Table 0-1. A more rigorous discussion is presented in POCs Technical Paper No. 83-2 (FSI, 1983b).

### 1. Volatile Organic Compounds (VOC)

If crude oil is transported by tanker, large VOC emissions could potentially result from tanker loading operations. Use of a vapor balance line during tanker loading operations would eliminate about 95% of VOC emissions. Other possible measures include the use of a submerged fill pipe during tanker loading, or vapor-freeing empty cargo tanks while the tanker is in transit at sea. A vapor balance line is being used at the OS&T associated with Exxon's Platform Hondo.

Use of tankers with segregated ballast would eliminate most VOC emissions when the tanker takes on ballast after unloading crude oil in port. If the tanker has no segregated ballast or only partial segregated ballast, emission in the coastal area could be reduced by only partially ballasting in port, and completing ballasting operations once the vessel is out at sea.

Fugitive losses from pumps, compressors, and valves can be reduced by 50 to 75 percent through a rigorous inspection and maintenance program. For onshore storage facilities, use of floating roof tanks or a vapor recovery system on fixed roof tanks would reduce storage losses by 75 to 95%. Waste heat utilization of gas turbines could reduce VOC emissions by 26%.

### 2. Nitrogen Oxides (NO<sub>x</sub>)

Possible methods of reducing NO<sub>x</sub> emissions from diesel engines include injection timing retard and intake air cooling. Other potential measures include exhaust gas recirculation, water injection, waste heat utilization, and selective catalytic reduction (ammonia injection).

A comprehensive study of methods to reduce NO<sub>x</sub> emissions from diesel engines used in exploratory drilling on the OCS was performed by Radian (1982). The results demonstrated that the most promising method to reduce NO<sub>x</sub> emissions from exploratory drilling would be injection timing retard or intake air cooling. Injection timing retard could reduce NO<sub>x</sub> emissions by 10 to 20%. Intake air cooling could reduce NO<sub>x</sub> emissions by 30%.

Exhaust gas circulation used on power production equipment could reduce NO<sub>x</sub> emissions by 50 to 60%. However, this application results in increased particulate levels and engine oil contamination. Water injection used on diesel engines or large gas turbines could result in a reduction of NO<sub>x</sub> emissions of about 70%. However, corrosion and other problems could adversely



TABLE IX.0-1: CONTROL MEASURES FOR MAJOR OFFSHORE OIL AND GAS EMISSION SOURCES

Emission Source	Location	Major Pollutant	Control Measure	Possible Emission Reductions	Measure In-Use	Other Controls
Diesel Engines	Drilling Vessel Marine Tanker	NO <sub>x</sub>	Injection timing retard	10-20%	No	Exhaust gas recirculation
			Intake air cooling	30%	Some Engines	
		SO <sub>x</sub>	Low sulfur fuel	variable		
Gas Turbines	Platform OS&T	NO <sub>x</sub>	Water injection	70-80%	Yes <sup>1</sup>	Fuel injection retard SCR on exhaust gas
		All	Waste heat recovery <sup>2</sup>	26%	Yes <sup>3</sup>	
Flares	Drilling Vessel Platform OS&T	VOC	Vapor recovery	95%	No	
Valves, Flanges, Compressors Seals, Pumps	Platform OS&T	VOC	Inspection & maintenance (I&M)	50-75%	No	Double mechanical seals on compressors and pumps Connect compressor pumps to vapor recovery system
Storage Tanks	Platform	VOC	Use of floating roofs or vapor recovery on fixed roofs	75-95%	Yes <sup>4</sup>	
Tanker Loading	Platform OS&T	VOC	Vapor recovery	95%	Yes <sup>3</sup>	
Gas Processing	Platform OS&T	SO <sub>x</sub>	Tail gas treatment (e.g., Stretford) Sulfur recovery unit (e.g., Claus)	95-99%	Yes <sup>5</sup>	

Source: POCS Technical Paper No. 83-2 (FSI, 1983i).

1. Used on Exxon Platform Hondo, Texaco Platform Habitat. Some problems noted.
2. Can eliminate need for external combustion process heaters.
3. Exxon Platform Hondo.
4. Onshore facilities.
5. Exxon Platform Hondo, Chevron Platform Grace, Union Platform Gilda (if H<sub>2</sub>S is encountered).

affect engine durability and performance. Waste heat utilization on gas turbines could reduce  $\text{NO}_x$  emissions by 26 to 40%. Catalytic reduction measures on diesel engines are largely in the experimental stage. Catalytic reduction using ammonia on turbines appears to be technically feasible. However, the cost of installing the equipment could be prohibitive and could pose safety problems at OCS facilities.

3. Sulfur Dioxide ( $\text{SO}_2$ ) Carbon Monoxide (CO), and Total Suspended Particulates (TSP)

Many of the mitigating measures mentioned above would also reduce emissions of  $\text{SO}_2$ , TSP, and CO. However, for  $\text{SO}_2$  two additional techniques can be applied.  $\text{SO}_2$  emissions from diesel-fired gas turbines on the platform could be reduced by using fuel with a low sulfur content. Emissions from tankers would also be reduced by burning low sulfur residual oil or diesel fuel.  $\text{SO}_2$  emissions from oil or gas processing could be reduced by using a sulfur recovery system. This would eliminate about 95% of  $\text{SO}_2$  emissions. Use of a tail gas treatment system, such as a Stretford, Clearain, or Wellman unit, would result in a total removal efficiency of over 99%.

P. Technical Papers For Proposed Sale No. 73

To obtain a copy of the following POCS Technical Papers

Yamasaki, R., 1983. Hypothetical Oil and Gas Transportation Scenario of Proposed OCS Lease Sale No. 73 Offshore Central California. POCS Technical Paper 83-1

Form and Substance Inc., 1983. Air Quality Impact Proposed OCS Lease No. 73 Offshore Central California, POCS Technical Paper 83-2

Fernandez, J., 1983. Economic Impacts of Proposed OCS Lease Sale No. 73, POCS Technical Paper 83-3

Contact: Minerals Management Service  
Pacific OCS Region  
1340 West 6th Street  
Los Angeles, California 90017

LaBelle, R.P., LanFear, K.J., and Karpas, R.M. 1983. An Oil Spill Risk Analysis for the Central and Northern California (Proposed Sale 73) Outer Continental Shelf Lease Area. Open-File Report 83-117. Prepared by Minerals Management Service, Reston, Virginia and Los Angeles, California.

To obtain a copy of this report:

Contact: Open File Services Station  
Branch of Distribution  
U.S.G.S.  
Federal Center Box 25425  
Denver, Colorado 80225

Charge: Cost of printing.

## A REEXAMINATION OF OCCURRENCE RATES FOR ACCIDENTAL OIL SPILLS ON THE U.S. OUTER CONTINENTAL SHELF

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**ABSTRACT:** *The Department of the Interior is required to evaluate the risks of oil spills from outer continental shelf (OCS) oil leasing and must compare these risks to those of other oil sources, such as importing oil. Past practice has been to treat spill occurrence as a Poisson process, with a rate proportional to the amount of oil produced or transported. U.S. oil production and accident data and worldwide tanker data were used. Criticism of this approach has centered on the validity of using oil volume as an exposure variable, and the applicability of existing accident data to frontier OCS areas.*

*To examine these questions, the Interior Department recently sponsored several studies on OCS oil spill occurrence rates. One study compiled an extensive listing of all known oil spills of recent years and is believed to be the most complete database on oil spills available to the public. Another study looked at trends in oil spills from U.S. OCS platforms and discovered a statistically significant decrease in the spill rate since 1974. Other studies examined oil spill data for Cook Inlet and Prudhoe Bay, Alaska, and found that spill rates for these areas could not be shown to be significantly different from the U.S. OCS platform spill rate based on trend analysis.*

*Studies are continuing to ensure that oil spill rates used by the Interior Department reflect the latest data and analyses.*

The Minerals Management Service (MMS) of the U.S. Department of the Interior conducts oil and gas leasing on the U.S. outer continental shelf (OCS) and supervises leases which are sold. The leasing process is subject to the National Environmental Policy Act (NEPA), which requires that MMS evaluate the risks of oil spills occurring and damaging environmentally sensitive resources.

To address this important question, an oil spill trajectory analysis (OSTA) model was developed.<sup>10</sup> A central portion of the OSTA model deals with the likelihood of spill occurrence associated with producing and transporting offshore oil. A realistic, objective methodology for estimating oil spill occurrence rates is essential for properly balancing the benefits and risks of OCS leasing.

Intuitive notions regarding exactly what affects oil spill risks abound and often conflict with one another. For example, one can make an intuitively reasonable argument that risks should decline as the industry gains experience. An equally reasonable intuitive argument, however, can be made that drilling in deeper water or in the presence of sea ice should be riskier. Who is to say which effect predominates?

To address such questions in an objective manner, the oil spill risk analyses performed by the Interior Department have followed the principles of basing oil spill occurrence rates on historical records, updating records to reflect recent experience, and using trend analysis, where appropriate, to expedite adjustments for recent experience. Following this approach, intuitive notions are treated as hypotheses, which must be tested against the data, and accepted only if they meet objective tests. Claims of improved or decreased safety for

certain operations are held to the test of experience, to fail or succeed on their own record. Updating and trend analysis ensures that obsolete data eventually will be purged from the record. Spill occurrence must be predicted over two to three decades, the estimated time to complete production from an offshore lease, so, it is reasonable to examine a comparably long record of experience.

The primary concern of the OSTA model has been with accidental spills of 1,000 barrels (bbl) or larger, and which could originate from OCS leasing or (for comparison) from alternatives to OCS leasing, such as importing oil.<sup>10</sup> All aspects of OCS production, including transportation of the oil to the shore, have been considered, so that spill rates are needed for production platforms, pipelines, and tankers.

The 1,000 bbl cutoff was selected to limit evaluations to those spills large enough to travel long distances on the ocean surface and to do serious damage under the right circumstances, though it is recognized that not all spills have serious environmental impacts. Another consideration is that a 1,000 bbl spill is serious enough not to go unnoticed, so reporting records tend to be reliable.

Some of the more recent analyses also have looked at spills of 10,000 bbl or greater,<sup>8, 9</sup> and there is increasing interest in obtaining a frequency distribution for spill size, so that more detailed examinations of impacts can be made. Frequency distributions also are necessary for stochastic oil spill simulations using spreading algorithms, as the initial spill volume is a critical parameter. These new demands on the OSTA model reflect the increasing sophistication of users in interpreting its results.

Oil spill occurrence has been treated as a Poisson process, with the estimated volume of economically recoverable oil as the exposure variable. Thus, the expected number of spills resulting from a proposed sale is directly proportional to the estimated amount of oil to be gained as benefits from the proposed sale. However, other exposure variables have been suggested as better predictors of oil spill occurrence.

Although the literature abounds with studies of oil spill occurrence statistics, many are applicable only in limited circumstances. Sponsoring agencies often have different requirements. The U.S. Coast Guard, for example, may be interested only in spills from carriers of crude oil. Researchers rarely have made their databases readily available to the scientific community, so it is difficult to reproduce or verify results, and nearly impossible to adapt the results to different situations.

To help update its own estimates of spill rates, the Interior Department contracted with The Futures Group, Glastonbury, Connecticut, to prepare a database of historic oil spills and to perform a preliminary analysis of spill rates.<sup>14, 15</sup> Completed in September 1982, the database contains detailed records of platform, pipeline, and tanker spills. It is available in hard copy or electronic format from the MMS for the cost of reproduction. Records are in a readable format that also is suitable for convenient input with most modern computer languages. The entire database used by the Interior Department is,

Table 1. Oil spills of 1,000 bbl or more from platforms on the U.S. outer continental shelf, 1964-1980

Date	MMS Data-base ID No.	Location	Size (bbl)	Cause
8 April 64	200	Eugene Island 208	5,108	Collision
3 Oct. 64	220-280	(7 Platforms)	17,500	Hurricane
19 July 65	360	Ship Shoal 29	1,688	Blowout
28 Jan. 69	990	Santa Barbara	77,000	Blowout
16 March 69	1,060	Ship Shoal 72	2,500	Blowout, weather
17 Aug. 69	1,220	Main Pass 41	16,000	Tank spill, weather
10 Feb. 70	1,430	Main Pass 41	30,500	Blowout
1 Dec. 70	1,580	South Timbalier 26	53,000	Blowout
20 July 72	2,000	(Unspecified, Gulf of Mexico)	4,300	Unspecified
9 Jan. 73	2,130	West Delta 79	9,935	Tank spill
23 Nov. 79	4,230	Main Pass 151	1,500	Tank spill
17 Nov. 80	4,590	Galveston	1,500	Tank spill

1. Estimates vary<sup>1</sup>

therefore, available to the scientific community for examining the spill rates now used or for testing new hypotheses.

### Spills from OCS platforms

Before 1981, OSTA model runs used OCS platform spill rates based on Stewart:<sup>11</sup> 10 spills of 1,000 bbl or more in handling 5.338 billion bbl of oil, for a rate of 1.87 spills per billion barrels.

Samuels and others,<sup>8</sup> using U.S. Geological Survey (USGS) accident records<sup>16, 17</sup> which reported nine spills of 1,000 bbl or more from 1964 to 1979, and using a 1964-1980 federal OCS oil production of 4.386 billion bbl,<sup>10</sup> computed a rate of 2.05 spills per billion barrels and a rate of 0.91 spills per billion barrels for spills of 10,000 bbl or more.

Nakassis<sup>7</sup> examined the spill record and concluded that a trend existed. Using a maximum likelihood approach, he estimated that the present spill rate for U.S. OCS platforms should be 0.79 spills per billion barrels. This rate has been applied in all OSTA models since late 1981.

The Futures Group and World Information Systems database<sup>14</sup> con-

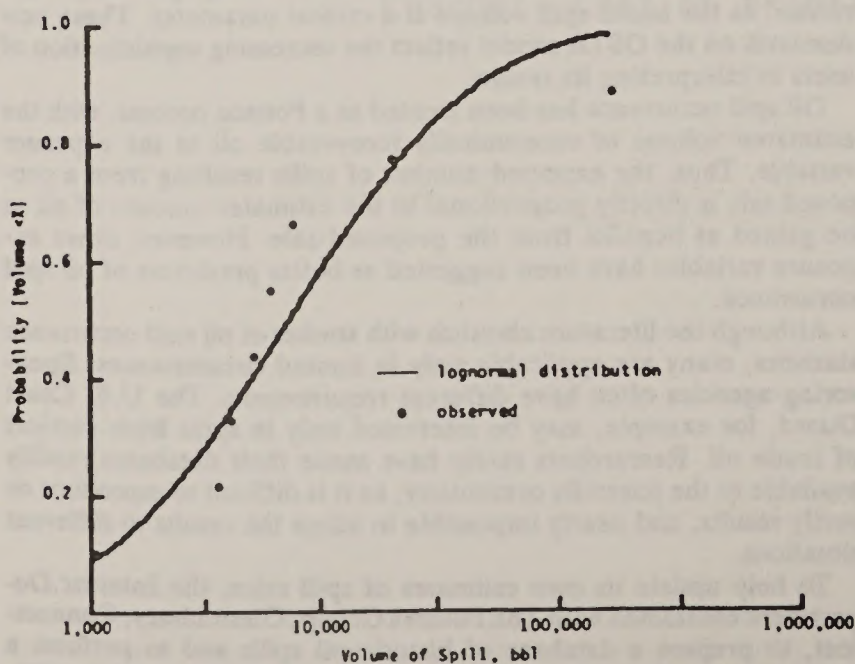


Figure 2. Log-normal cumulative frequency distribution of spill size for spills of 1,000 bbl or more from pipelines on the U.S. OCS

1. Approximately the total U.S. federal and state offshore oil production from 1964 to 1974.

Table 2. Oil spills of 1,000 bbl or more from pipelines on the U.S. outer continental shelf, 1964-1980

Date	MMS Data-base ID No.	Location	Size (bbl)	Cause
17 Oct. 67	20	West Delta 73	160,638	Anchor dragging
12 March 68	30	South Timbalier 131	6,000	Anchor dragging
11 Feb. 69	60	Main Pass 299	7,532	Anchor dragging
12 May 73	280	Grand Island 73	5,000	Corrosion
18 April 74	320	Eugene Island 317	19,833	Anchor dragging
11 Sept. 74	350	Main Pass 73	3,500	Environmental
18 Dec. 76	440	Eugene Island 297	4,000	"Damaged"
17 July 78	530	Eugene Island 215	1,000	Anchor dragging

tains records of 462 platform accidents worldwide from 1955 through 1980, including 12 spills of 1,000 bbl or more in U.S. waters (Table 1). The USGS data for spills before 1973<sup>16</sup> contain several discrepancies but do not negate the conclusions of Nakassis. Ten of the 12 spills occurred before 1974, reaffirming the existence of a trend. Using the same methodology as Nakassis, we compute a spill rate of 1.0 spills per billion barrels for spills of 1,000 bbl or more.

Exposure variables other than volume of oil have been proposed. Stewart and Kennedy<sup>13</sup> suggested platform-years. Well-years, wells drilled, and frequency of hurricanes also have been suggested. Large spills, fortunately (for the environment, not the statisticians), are not very common, and it is difficult with only 12 spills to compare exposure variables to see which is a significantly better predictor than volume of oil. To complicate the analysis further, many proposed exposure variables are closely correlated with volume of oil, and, as shown by Nakassis, the spill rate, at least on a volume basis, has changed with time. Volume of oil has been used primarily because most other exposure variables are derived from predictions of oil resources.

The implication of using volume of oil as the exposure variable is that past and future OCS production will be similar. One intuitive notion is that this assumption will not hold in parts of Alaska, where production may occur on gravel islands. This notion can be tested as follows.

Using data from Prudhoe Bay,<sup>3, 4</sup> Samuels and others<sup>9</sup> tested the hypothesis that the spill rate for Prudhoe Bay was the same as the spill rate for the U.S. OCS. They concluded that the spill record of Prud-

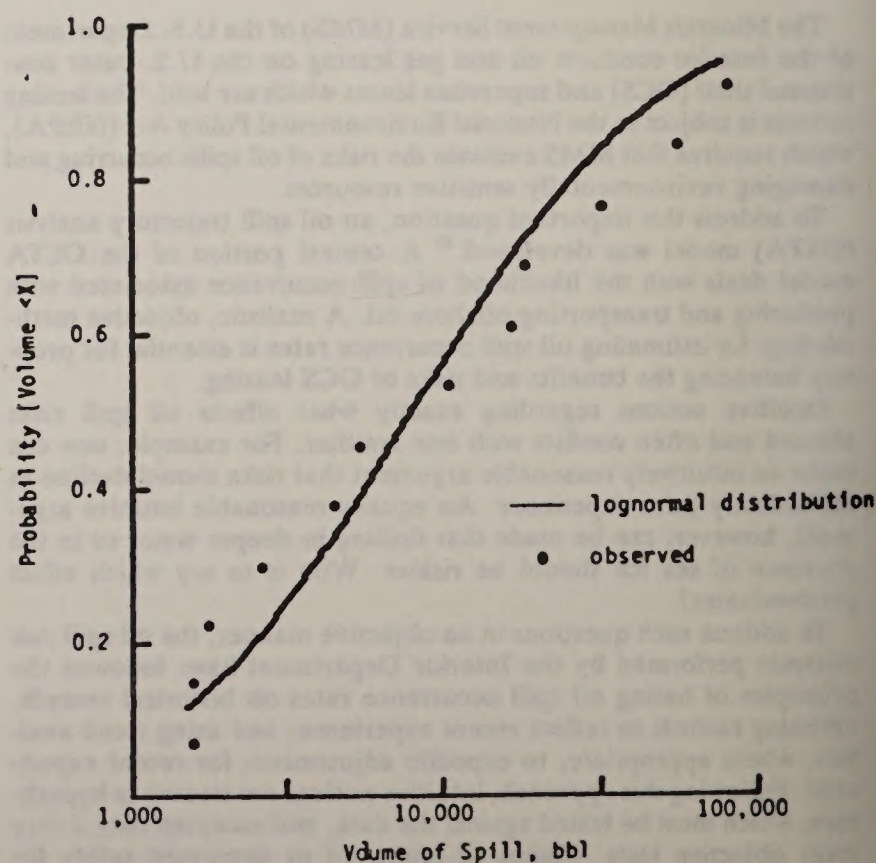


Figure 1. Log-normal cumulative frequency distribution of spill size for spills of 1,000 bbl or more from U.S. OCS production platforms

Seq\_No: 6370 DNV\_ID: 7803001 Date: 16 MAR 78  
 Vessel: Name: "AMOCO CADIZ" Flag: LIB  
 DWT: 233690 GT: 109700 Built: 1973 Level\_of\_Load: FULL  
 Spill: Amt: 233690 ton Spill\_type: 1 "CRUDE OIL TO SEA"  
 Oil: 4 "Light Arabian crude" Specific\_gravity: 0.8600  
 Location: Lat/Lon: 048:35N 004:43W MARSDEN Code: 145 Type: REPORTED  
 Waters: RESTR Sea: HEAVY Visibility: UNSP  
 Casualty: Sequence: "MACHINE OTHER AGROUND"  
 Persons\_lost: 0 Structural\_loss: TOTAL  
 Source: "DNV MAR WIS"  
 Notes\_ ( 5 lines): "Descrip. of Location: OFF NORTHWEST FRANCE, ENTERING"  
 "ENGLISH CHANNEL"  
 "Casualty: STEERING TROUBLE; TAKEN IN TOW; BROKE TOW IN HEAVY;"  
 "WEATHER; AGROUND; BROKE IN TWO; HEAVY POUNDING; HULL SECTION"  
 "SPLIT, WRECKAGE IN 3 PARTS; HEAVY POLLUTION TO COASTAL AREAS"

Figure 3. Example of a tanker accident record

Prudhoe Bay, one spill (60,000 gallons of fuel oil) in producing 1.8 billion bbl of oil, was not likely to have resulted from a Poisson process with a spill rate of 2.05 spills per billion barrels (the rate used, at that time, for the OCS). However, using a spill rate of 1.0 spills per billion barrels, there is a 0.46 probability of observing zero to one spill in producing 1.8 billion bbl of oil. In other words, the record of Prudhoe Bay is very much what we would expect, given its production. Prudhoe Bay indeed could be safer, but there is not a long enough record to prove so, and we cannot reject the hypothesis that the spill rate for gravel islands is the same as for platforms.

Figure 1 shows the cumulative frequency distribution for the 12 platform spills of more than 1,000 bbl. A log-normal distribution, with a mean  $\log_{10}$  volume of 3.905 and a standard deviation  $\log_{10}$  of 0.608 provides a useful approximation for most oil spill modeling purposes. Note that the distribution is truncated at its lower end due to the 1,000 bbl cutoff.

### Oil spills from U.S. OCS pipelines

Spill rates for pipelines on the U.S. OCS were, like platform rates, taken from Stewart.<sup>11</sup> The rates changed little when Samuels and others,<sup>8</sup> using USGS accident data from 1964 through 1979 and basing exposure on U.S. OCS production (almost all U.S. OCS oil is transported by pipeline), computed a rate of 1.82 spills per billion barrels for spills of 1,000 bbl or more.

The new database contains records of 64 OCS pipeline accidents worldwide from 1967 through 1980. Of these, eight spills of 1,000 bbl or more occurred on the U.S. OCS (Table 2). These are the same spills used by Samuels and others.<sup>8</sup> The spill rate, updating for 5.01 billion bbl of oil and condensate production from 1964-1980,<sup>19</sup> is 1.6 spills per billion barrels. Unlike platform spills, no trend in the rate is apparent.

A cumulative frequency distribution for pipeline spills is shown in Figure 2. A log-normal distribution with a mean  $\log_{10}$  volume of 3.875 and a standard deviation  $\log_{10}$  of 0.648 provides only an approximate fit. This must be applied with some caution as a single event, one 160,000 bbl spill, has a great influence.

Anchor dragging is the most frequent cause of pipeline spills; with corrosion, it accounts for 75 percent of the large pipeline spills in Table 2. Both of these causes appear to have a relationship to length of the pipeline, implying that kilometer-years (km-yr) may be a more accurate exposure variable. With an exposure in the U.S. Gulf of Mexico from 1969 to 1980 of 24,140 km-yr,<sup>15</sup> the spill rate would be 0.086 spills per 1,000 km-yr. Table 3 compares km-yr and volume of oil as exposure variables.

On a likelihood basis, volume of oil is better than km-yr in explaining the spill record. The length of pipelines has increased more than threefold since 1969, with no corresponding increase in spill occurrences. Perhaps km-yr, adjusted for some experience factor, may yet

Table 3. Analysis of U.S. OCS pipeline spills of 1,000 bbl or more from 1969 to 1980, comparing km-yr and volume of oil as exposure variables

Year	Pipelines <sub>1</sub> (10 <sup>3</sup> km)	Volume of oil and condensate <sub>2</sub> (billion bbl)	Spills observed
1969	1.15	0.313	1
1970	1.23	0.361	0
1971	1.33	0.419	0
1972	1.56	0.412	0
1973	1.70	0.395	1
1974	1.84	0.361	2
1975	1.97	0.330	0
1976	2.39	0.317	1
1977	2.50	0.304	0
1978	2.60	0.292	1
1979	2.88	0.286	0
1980	2.99	0.277	0

Spill rate: 0.25/10<sup>3</sup>km-yr 1.79 per billion bbl  
(1969-1980)

Likelihood: 1.2e-5 1.9e-5

1. Gulf of Mexico only, diameter greater than six inches<sup>15</sup>
2. U.S. Geological Survey<sup>19</sup>

prove to be a superior exposure variable. However, such an adjustment would cost a statistical analysis at least two degrees of freedom (for shape and parameter value), making its superiority very difficult to demonstrate with only eight spill occurrences.

### Oil spills from tankers

The Interior Department did not maintain a database of tanker accidents as it did for platforms and pipelines. All tanker spill rates were derived from published studies. Devaney and Stewart,<sup>2</sup> examining spills on major trade routes, reported 99 spills of 1,000 bbl or more occurred in transporting 29.326 billion bbl of oil. Stewart<sup>12</sup> reported 178 spills in transporting 45.941 billion bbl of oil, for a rate of 3.87 spills per billion barrels; all of these spills occurred before 1976.

The Futures Group and World Information Systems database provides the Interior Department with the first opportunity since 1976 to review and update the tanker spill rates. Because of the difficulty and expense of collecting spill data, primary emphasis was placed on

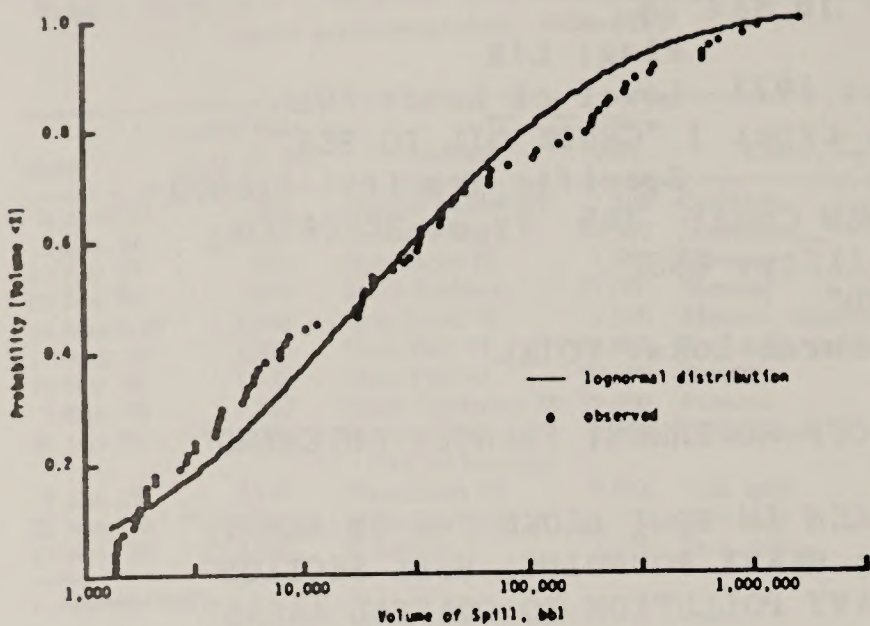


Figure 4. Log-normal cumulative frequency distribution of spill size for crude oil spills of 1,000 bbl or more from tankers worldwide

collecting data on spills of 1,000 bbl or more occurring since 1974, although spills of all dates and sizes were included. Data from the U.S. Coast Guard Pollution Incident Reporting System (PIRS), for example, were included beginning in 1973. The data summarized in Table 4 contain 885 records of accidents, involving vessels engaged in transporting oil as a product. The format of a typical record (Figure 3) includes such details as type of oil, location, and type of water (pier, harbor, restricted, or open), as well as room for comments.

Spills of crude oil of 1,000 bbl or more, from tankers worldwide are shown in Table 5. That at least 31 percent of the spills occurred in harbors or at piers is particularly important for evaluating environmental impacts, as these spills would not be subject to the same advective and weathering effects of winds and currents as spills on the OCS. Earlier analyses did not make this important distinction. Using an exposure of approximately 88 billion bbl of oil transported between 1974 and 1980,<sup>15</sup> the new spill rates become 0.90 spills per billion barrels for spills at sea (open, restricted or unknown waters) and 0.40 spills per billion barrels for spills in port (harbors or piers), for a total of 1.3 spills per billion barrels. Spills in port must be assumed to be divided evenly between the inbound and outbound portions of the voyage, as the database does not make this distinction.

The tanker spill rate since 1974 appears to be only a third of that before 1973. Stewart<sup>12</sup> reports more spills before 1976 than are contained in The Futures Group and World Information Systems database, but this could be due to lack of collection success (emphasis was on years 1974 and later) in the earlier years. Goldberg and others<sup>3</sup> also

Table 4. Summary of data on oil spills from vessels carrying petroleum as a cargo

Year	Number of spills	
	Any size	≥ 1,000 bbl
pre-1969	49	33
1969	20	13
1970	40	22
1971	47	19
1972	89	44
1973	78	49
1974	82	30
1975	67	27
1976	57	26
1977	88	34
1978	81	27
1979	111	43
1980	76	27
Total	885	394

report more incidents for years before 1972, but about the same number for later years. (Their classification scheme, however, is not exactly the same, and individual records are not available, so the comparison is only approximate.) Unless the databases are very much in error, it appears that the tanker spill rate for spills of 1,000 bbl or more dropped significantly sometime between 1972 and 1974.

The cumulative frequency distribution for crude oil spills of 1,000 bbl or more is shown in Figure 4. Although distorted by truncation at the lower end, a log-normal distribution gives a reasonable fit, even at the upper ends. Using a Kolmogorov-Smirnov test,<sup>6</sup> we fail to reject the hypothesis that the distribution is log-normal, with a mean log<sub>10</sub> volume of 4.294 and a standard deviation log<sub>10</sub> of 0.872. A minimum volume of 1,000 bbl should be used because of the truncation.

Do the worldwide rates apply to U.S. waters? From 1974 to 1980, 14 crude oil spills of 1,000 bbl or more occurred at sea near the United States, while 23.1 billion bbl of oil were delivered.<sup>15</sup> Allowing for half of the spills occurring on the outbound portion of the journey (that is, from the oil exporting countries), and assuming movement of crude oil between U.S. ports is small, we would expect to have observed 10 or 11 spills in this period, with a 0.17 probability of observing 14 or more. Although the U.S. rate seems a little high, we cannot reject the hypothesis that it is the same as the worldwide rate.

### Discussion

The statistical evidence now points to a sharp drop in oil spill occurrences from production platforms and tankers sometime around 1974. Although the statistics do not explain why this drop occurred, any number of intuitive theories could claim credit, including greater industry concern, increased public pressure, stricter government regulations, and better technology. Ironically, this better safety record, particularly in the case of production platforms, has made it difficult to predict accurately the lower spill rates for spills of 1,000 bbl or more. This is an uncertainty we should be happy to accept.

When should the trend have been detected? Hindsight tells us that the spill rate has been over-predicted since 1974, but trends take time to become apparent. Assuming a Poisson process, with a rate estimated as the total number of spills since 1964 divided by total OCS oil and condensate production, we can calculate the probability of observing zero spills from 1974 onward. Not until 1977 would this probability become less than 5 percent.

Table 5. Crude oil spills of 1,000 barrels or more from tankers worldwide, by location

Year	At sea (Open/restricted)	In port (Harbor/pier)	Unspecified	Totals
1974	10	8	2	20
1975	9	4	3	16
1976	16	4	1	21
1977	12	4	0	16
1978	8	1	2	11
1979	11	9	1	21
1980	3	5	1	9
Total	69	35	10	114

Table 6. Summary of occurrence rates for accidental oil spills now used in the OSTA model

	Spills/billion bbl	
	≥ 1,000 bbl	≥ 10,000 bbl
Platform	1.0	0.44
Pipeline	1.6	0.67
Tanker, total	1.3	0.65
at sea	0.90	0.50
in port	0.40	0.15



Thus, one could have only begun tentatively to detect the trend in platform spills sometime in 1978. Allowing time for data collection, analysis, and review—and admitting to some caution against reporting a false trend—it is not surprising that the OSTA model's spill rate did not reflect the trend until 1981.

Estimating occurrence rates for accidental oil spills does not, of course, completely describe the risks of OCS leasing, as mere occurrence does not necessarily imply that environmental impacts occur. These risks only can be studied with models such as the OSTA model, which consider not only spill occurrence, but also movement of spills and contact with environmental resources.

## Conclusions

Predictions of oil spill occurrence rates from OCS production platforms, OCS pipelines, and tankers have been revised and updated to reflect experience through 1980. The statistical evidence points to a sharp drop, sometime around 1974 in the oil spill occurrence rates from OCS production platforms and from tankers. The new rates, recommended for predicting the impacts of OCS leasing, are given in Table 6. All data in support of these rates are readily available to the scientific community through the MMS.

Volume of oil produced or transported remains the most practical exposure variable for predicting oil spill occurrences as a Poisson process. Although intuitive arguments exist for using other variables, it is difficult to demonstrate, particularly in the case of platforms and pipelines, that these exposure variables are superior to volume of oil, because there have been few spills from these sources. The new database, however, provides opportunities for researchers to examine other exposure variables for tankers.

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U. Errata Sheet for Proposed Sale No. 73 Graphics

Graphic No. 1-4

Correct spelling of Pt. Delgado to Pt. Delgada.

Graphic No. 1

Change "Sale No. 53 Proposed Sale Area" to read Sale No. 53 Area.

Change "Proposed RS-2 Sale Area" to RS-2 Sale Area.

Change "1963 Sale - Proposed Sale Area" to 1963 Sale Area.

Change "Sale No. 53 Litigated Tracts (Bids Received)" to include the following 19 tracts: 13, 14, 29, 30, 44, 45, 46, 60, 61, 75, 77, 93, 94 (portion), 110, 111, 129, 130, 131.

For clear delineation of Sale No. 73 tract numbers see Figure II.A.1.a-2, page II-3 of the EIS.

Note indicated by star should be changed to indicate tracts are numbered sequentially from top to bottom.







