Shamrock Rd. JMA

State of California, George Deukmejian, Gov.

California Coastal Commission
631 Howard Street, 4th Floor
San Francisco, California 94105
(415) 543-8555
Michael L. Fischer, Executive Director
William Travis, Deputy Director

File Number: CC-7-85
Date Filed: 10/25/84 & 1/2/85
3-Month Period Ends: 1/25/85
6-Month Period Ends: 4/25/85
Staff: Energy
Hearing Date/Item: 3/12/85, Item 17a

12-0 YES

REGULAR CALENDAR

FINAL STAFF RECOMMENDATION ON CONSISTENCY CERTIFICATION

PROJECT DESCRIPTION

Applicant for federal permit:	Exxon Company U.S.A. OCS Development and Production Plan
Project Location:	Offshore Leases OCS P-0438 and P-0440, approximately 7 miles west of Point Pedernales; running approximately 2.5 miles southeast to Union's Platform Irene on OCS P-0441 (see Exhibit 1).
Project Description:	One 60-slot drilling and production platform (Shamrock) on Lease OCS P-0440; two subsea pipelines (oil/water emulsion and gas) from Platform Shamrock to Platform Irene; and a submarine power cable from Platform Irene to Platform Shamrock.
Substantive File Documents:	See Appendix 1.

STAFF RECOMMENDATION

The staff recommends that the Commission adopt the following resolution, findings, and declarations:

I. CONCURRENCE

The Commission concurs with the consistency certification made by Exxon Company, U.S.A., for its Development and Production Plan (DPP) for the Point Pedernales Field because while the DPP affects the coastal zone, it does meet the policies of the approved California Coastal Management Program (CCMP), and is therefore consistent with the CCMP. Specifically, the Commission finds that Exxon's proposed project includes adequate information to permit an assessment of its probable coastal zone effects, including cumulative impacts, and it complies with the enforceable policy requirements of Chapter 3 of the California Coastal Act (Public Resources Code Section 30000 et seq.). This concurrence is contingent upon various commitments made by Exxon to mitigate the adverse impacts of its project to the maximum extent possible as further described below. The Commission furthermore finds that the DPP

implements the national interest as required by Chapter 11 of the CCMP and Sections 302 and 303 of the CZMA.

The findings and declarations that follow explain in detail (1) the effects that this proposed activity has on the coastal zone where sufficient and adequate data has been submitted to so determine; and (2) how the activity is consistent with the specific mandatory provisions of the CCMP.

II. FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

A. COMMISSION REVIEW OF DEVELOPMENT PLANS

A Development and Production Plan (DPP), which is prepared by an applicant for a federal permit, includes an Environmental Report describing environmental impacts and a technical drilling and production plan. Two federal laws govern the content and review of a DPP: (1) the Coastal Zone Management Act (CZMA); and (2) the Outer Continental Shelf Lands Act (OCSLA). The Commission has the authority to review DPPs for consistency with the California Coastal Act because the federal government has approved the California Coastal Management Program (CCMP) under the CZMA. The Coastal Act policies are the enforceable standards of the CCMP. The Commission must act on DPPs within six months of their receipt.

Exxon has stated that it has applied, or will be applying for the federal licenses and permits listed below. Exxon certifies that the proposed activities described in the Development and Production Plan for Platform Shamrock and its associated pipeline do not significantly affect any land or water use in the coastal zone in the State of California and are therefore consistent with the CCMP. By concurring in Exxon's certification, the Commission informs the federal agencies listed below that Exxon's project is consistent with the CCMP.

Agency	Federal License or Permit
U.S. Minerals Management Service	Approval of the Development and Production Plan (DPP) and EIS. Right of-Way Approval for Pipeline.
U.S. Army Corps of Engineers	Platform and Pipeline Structure.
U.S. Environmental Protection Agency	NPDES Permit.
U.S. Coast Guard	Approval of Navigation Aids. Certificate of Financial Responsibility.
Federal Aviation Administration	Heliport.
Federal Communications Commission	Private Radio Licenses.

Minerals Management Service (MMS) is preparing an Environmental Impact Statement (EIS) on the project. This document is being prepared jointly with an Environmental Impact Report (EIR), required by the California Environmental Quality Act (CEQA). The scope of the EIR/EIS includes a project specific analysis of Union Oil Company's Platform Irene project, as well as a Point Pedernales Area Study extending from

Point Arguello to north of Purisma Point. This document will be completed in mid-1985.

The applicant controls the schedule for consistency review by its submittal of the DPP to the MMS. Once the MMS determines that the plan is complete, MMS forwards it to the Commission, which starts the six month schedule for consistency review. Even if the MMS has determined that an EIS is required, the six month schedule for a state's consistency review remains unchanged. Exxon's DPP for Platform Shamrock was forwarded by MMS to the Commission on October 25, 1984, at which time the six month schedule began. However, on January 2, 1985, the MMS submitted a revised DPP to the Commission. MMS viewed these revisions as "modifications'" which were not significant changes to the DPP, and therefore refused to start a new six month schedule. The revisions included moving the platform location approximately 2,500 feet to the northeast, changing the preferred platform design to no longer include oil and water separation facilities, changing the platform power source, and changing the preferred subsea pipeline route from Platform Hermosa to Platform Irene, with a resulting different preferred onshore destination for the platform production.

Due to schedule limitations imposed by the federal regulations which implement the CZMA, the Commission must complete its review of the Exxon DPP prior to the completion of the joint EIS/EIR for the project and before action is taken on the permits. Consequently, the Commission does not have the benefit of all the environmental documents in reviewing this project, and must base its determination on the Environmental Report (ER) and other information provided by Exxon as part of the DPP. Furthermore, the Commission received substantial revisions to the DPP months after the original submission. Despite these scheduling difficulties and the absence of the EIR/EIS, the Commission finds it has adequate data and information to render its consistency certification because Exxon has provided additional information and mitigation that satisfies the requirements of the CCMP.

B. PROJECT DESCRIPTION AND HISTORY

Exxon Company, U.S.A., proposes to expand development of the Point Pedernales Field by:

- Installing a 60 well slot drilling and production platform (Shamrock) on OCS lease P-0440, approximately seven miles west of Point Pedernales;

- Installing two subsea pipelines for transportation of oil and gas from the platform to Platform Irene;

- Installing a submarine power cable from Platform Irene to Platform Shamrock.

Exxon Company, U.S.A., is the sole lessee of OCS Leases P-0438 and P-0440. Atlantic Richfield Company (ARCO), Elf Aquitaine, Inc., Aminoil Inc., Champlin Petroleum Company, and Amoco Production Company are the co-lessees of OCS Lease P-0437; ARCO is the tract operator. Union Oil Company of California, Gulf Oil Company, and Superior Oil Company are the co-lessees of OCS Lease P-0441, with Union acting as the operator of this tract. MMS has directed that these four tracts (P-0437, P-0438, P-0440, and P-0441), purchased in Lease Sale 53, be developed as a unit (see Exhibit 2).

Union's Platform Irene on OCS P-0441, approved by the Commission on January 22, 1985, will be the main platform through which Shamrock or any other future platform

in the field will feed its production. The pipelines between Platform Irene and the processing facility at Lompoc, as well as that facility, are sized to carry the full production of the Point Pedernales Field. The electric power cable to Platform Irene will have the capacity to provide power for Shamrock and any other platforms that may be installed.

From Lompoc, Exxon will transport its Point Pedernales crude production by pipeline consistent with Santa Barbara County's Oil Transportation Policies which require pipeline transportation when the producer's refinery center of choice is served by pipeline. Exxon's primary long-term refinery destination is its Baytown, Texas, refinery. Prior to completion of pipelines, approved marine terminal facilities will have to be used to transport Exxon's oil. These same commitments have been agreed to by ARCO, Elf, Aminoil, Amoco, and Champlin, and will be applied to any entity purchasing Point Pedernales crude production (see Exhibit 3).

Installation of Platform Shamrock is scheduled to commence in May 1986 with production start-up in December 1986. Production is expected to peak at 20,000 BBL/D (Barrels of Oil Per Day) in 1988 and 45 MCF/D (Million Cubic Feet Per Day) of gas in the mid 1990's. Gas will be dehydrated on the platform and reinjected or transported to the existing Union gas treating facility at Battles for further handling. The planned design capacities of the Shamrock platform production systems are 30,000 BBL/D and 65 MCF/D. The ultimate estimated recovery of the entire Point Pedernales field is estimated by Exxon to be between 100 and 150 million barrels of oil and between 60 and 100 billion cubic feet of gas.

There are currently no platforms in the project area. As stated above, the Commission approved Union's Platform Irene approximately 2.5 miles southeast. Chevron's Platform Hidalgo, already approved by the Commission, is approximately nine miles south. Cities Service has proposed to install Platform Julius approximately 20 miles north on OCS P-0409.

C. COASTAL DEPENDENCY AND RELATION TO INDUSTRIAL DEVELOPMENT

Section 30101 of the Act defines a coastal dependent development or use as that which "requires a site on or adjacent to the sea to be able to function at all." Ports, commercial fishing facilities, offshore oil and gas development, and mariculture are specifically defined in the Coastal Act as coastal dependent, although not all activities or facilities associated with such development would necessarily be considered coastal dependent uses. Coastal dependent developments are given priority over other development on or near the shoreline.

A special provision of the Act, Section 30260 (and Sections 30261 and 30262, which are incorporated within 30260 by reference) provides for further consideration of coastal dependent industrial facilities if they fail to meet the policies contained in Sections 30200-30255 of Chapter 3. Under Section 30260, a coastal dependent industrial facility may be permitted if: (1) there are no feasible less environmentally damaging locations for the project; (2) denial of or objection to the project would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible. Section 30260 therefore provides special standards for coastal dependent facilities that otherwise fail to satisfy Coastal Act requirements.

Offshore oil and gas extraction is by its very nature "coastal dependent" because the operations to develop the petroleum resources take place where the resources are located, underneath the sea. In this particular project, the Commission finds that

Platform Shamrock and the related pipelines and power cable between the platform and Platform Irene are coastal dependent industrial facilities which must be evaluated under the overriding considerations provided in Section 30260 of the Act, when they are found to be inconsistent with other Chapter 3 policies.

D. COASTAL ACT ISSUES

1. Transportation of Crude Oil

Section 30232 of the Coastal Act states that:

> Protection against the spillage of crude oil, gas petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

Sections 30230 and 30231 of the Act require protection of the biological productivity of the marine environment, and Section 30253 requires protection of air quality. Section 30260 provides for possible approval of coastal dependent industrial facilities (which includes offshore oil and gas development) not otherwise consistent with Chapter 3 of the Coastal Act, if among other provisions, the adverse impacts are mitigated to the maximum extent feasible. Section 30262 requires consolidation to the maximum extent feasible and legally permissible of new or expanded oil and gas facilities. Taken individually or together, all of these Coastal Act provisions mandate the use of the most environmentally protective method of oil transportation.

The Commission has made detailed findings in past federal consistency actions which demonstrate the superiority of onshore pipeline transportation of crude over transportation by tanker because of the reduced risk of oil spills and reduced air pollutant emissions. These findings are supported by data from the Commission, the Department of the Interior and the Council of Environmental Quality (1975), the Rand Corporation (1975), the State Lands Commission (1982), the Oil Spill Intelligence Report (1981), the U.S. Coast Guard (1981, 1982), the Department of the Interior (1983), the County of Santa Barbara (1984), and the All American Pipeline Company (1984) (see for example the Commission's findings for Exxon's Santa Ynez Unit [CC-7-83], Chevron's Platform Hermosa [CC-12-83], Texaco's Platform Eureka [CC-4-84], Chevron's Platform Hidalgo [CC-24-84], which are incorporated by reference). These findings demonstrate the environmental and economic advantages of pipeline transportation over the use of tankers.

Exxon and its partners have committed to transport the oil produced from Platform Shamrock by pipeline consistent with Santa Barbara County's oil transportation policies. These policies were approved as Local Coastal Plan and Coastal Zoning Ordinance amendments by the Coastal Commission in September 1984. Exxon recognizes that crude transportation by means other than pipeline must be in conformance with these policies and approved by the County, subject to Commission review on appeal. Transportation of oil by pipeline will protect marine resources and reduce air quality impacts. Exxon's partners in this project, ARCO, Elf, Aminoil, Amoco, and Champlin, have made the same commitment. These assurances of pipeline transportation provide the maximum feasible mitigation and consolidation for the project. The Commission's finding of consistency is contingent upon these commitments to transport Platform Shamrock crude by pipeline consistent with the County's Local Coastal Program policies. Thus, the development is mitigated and

consolidated to the maximum extent feasible and is therefore consistent with Section 30260 of the California Coastal Management Program.

2. Containment and Cleanup of Crude Oil Spills

Section 30232 of the Coastal Act, cited previously, requires protection of the marine environment from any spilling of crude oil, gas petroleum products, or other hazardous substances. For any development or transportation of these materials, the section further requires "... Effective containment and cleanup facilities and procedures..." to be provided for spills that do occur.

The Commission interprets the word "effective" to mean that spill containment and recovery equipment must have the ability to keep oil off the coastline. Unfortunately, this equipment does not currently have the capability to clean up large oil spills in the open ocean. Spill clean up efforts could not keep oil off the beaches during the Ixtoc I oil spill in the Bahia de Campache, Mexico; the Amoco Cadiz spill off the coast of France; the 1969 Santa Barbara oil spill from Union's Platform A; the 1984 Alvenus tanker spill offshore Galveston, Texas; or the 1984 Puerto Rican tanker spill off San Francisco. Clean up of large spills is extremely difficult. A 1980 report from the International Tankers Owners Pollution Federation states:

> 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 coastline. The only real saviors of the beaches in the case of a major spill are favorable winds and currents which take the oil out to sea where it can be dispersed naturally.

While oil spill clean up equipment can function with about 50 percent recovery efficiencies in calm seas, recovery efficiencies are drastically reduced in moderate or rough seas, thus limiting or eliminating the ability of the equipment to recover oil. Data on seastates in the area of OCS P-0440 indicate that waves are greater than nine feet over 50 percent of the time for seven months per year. This data states that waves exceed nine feet 95 percent of the time in January and February. Because of these conditions, the Commission cannot find that the proposal is consistent with Section 30232 due to the limited effectiveness of existing oil spill equipment in rough open ocean areas.

As described in section C of this report, the platform and subsea pipelines components of the project are found to be coastal dependent industrial facilities and therefore are given additional consideration under Section 30260 of the Act. Oil spill containment and clean up equipment, including response time and contingency planning, associated with Platform Shamrock and the pipelines to shore, must provide maximum feasible mitigation for the project to be consistent with Section 30260 of the Act.

a. Increased Risks of Oil Spills.

The construction and operation of the proposed platform and associated pipelines increase the risk of an oil spill in the Point Pedernales/Point Arguello area. Exxon will use a pipeline instead of marine tankers for transporting crude oil to refineries consistent with Santa Barbara County's oil transportation policies. This will significantly reduce the risk of a large marine oil spill resulting from this operation.

An oil spill could seriously affect marine resources. According to Exxon's Oil Spill Contingency Plan, oil spilled from Platform Shamrock would move offshore in the general direction of the Channel Islands in the summer months and on to the mainland the rest of the year. Specifically, oil may contact the islands in May, June, July, and August. The rest of the year, oil would move onshore. However, drift bottle studies (1973) performed by the Scripps Institute of Technology have shown a tendency for oil movement north during some months, thus threatening the sea otter range. The oil spill trajectories used during the Puerto Rican oil spill predicted southwesterly oil movement, but the oil ended up going in the opposite direction. Although trajectory analysis provides a good planning tool, planners and spill responders must exercise caution in depending on the information.

If oil does contact the islands or the sea otter range, the feathers of birds and the fur of marine mammals would be fouled. Birds, mammals, fish and invertebrates could ingest the oil. Both fouling and ingestion can result in the death of the animals. Commercial fish species could become oil-tainted and therefore could not be sold by the commercial fishermen. Depending on the extent of a spill, kelp beds, wetland areas, streams, and rocky intertidal areas could be damaged. The southern sea otter, a threatened species, is not now a resident of the area, but could move into the kelp beds in the future. According to the Fish and Wildlife Service the sea otter population ranges from Pt. Ano Nuevo to the mouth of the Santa Maria River. The sea otter is especially susceptible to injury or death from oil contact. Therefore, it is essential that Exxon provide the maximum feasible mitigation measures for response to oil spills.

b. Oil Spill Containment Equipment and Response.

The Commission has determined in past permit and federal consistency certification decisions that the following oil spill containment and cleanup equipment must be located at the site of offshore drilling operations to help provide the first line of defense against oil spills:

- 1500 feet of oil spill containment boom capable of open ocean use;
- An oil recovery device (skimmer) capable of open ocean use;
- Oil storage capacity to handle skimmer throughput until the oil spill cooperative can arrive from shore with additional equipment;
- A boat located at the site of drilling operations or within 15 to 60 minutes of the site equipped with a second boat capable of assisting in boom deployment; and
- Oil sorbent material capable of absorbing 15 barrels of crude oil.

To provide the maximum feasible response time with the most appropriate equipment, Exxon is planning with other oil companies to locate a large spill response vessel (160-200 foot range) operated by the oil spill cooperative Clean Seas, at or near the site of oil operations. This vessel will be equipped with major open ocean oil skimmers (both advancing and stationary), at least 3,000 feet of oil containment boom, an onboard boat to assist boom deployment, adequate oil storage capacity, dispersant supplies and application equipment. This boat will provide an onsite capability which far exceeds the Commission's standard equipment requirements. However, if this vessel cannot be onsite by the time operations are to begin, Exxon

will provide a large vessel fully equipped with boom, and appropriate oil recovery equipment until the new vessel is available.

c. Clean Seas Oil Spill Cooperative.

The Clean Seas oil spill cooperative is composed of numerous oil companies which have pooled their personnel and financial resources for response to oil spills. The cooperative's inventory of tools for oil spill clean up include eight onshore vans with equipment for shoreline protection, equipment at its Carpinteria storage yard, and two large oil spill response vessels, Mr. Clean I and Mr. Clean II. As mentioned, Clean Seas plans to acquire and operate a large vessel for response to spills in the Point Pedernales/Arguello area. The cooperative's role is to provide assistance for spills exceeding Exxon's onsite capability and for initial response to large spills. Clean up operations for large spills will probably require the assistance of other spill cooperatives, numerous contractors, and the U.S. Coast Guard Pacific Strike Team located in the San Francisco Bay area.

The Coast Guard Oil Pollution Response Planning Guide for extreme weather limits the performance of these systems to Sea State 3 or 4. (Sea State 3 includes waves 3.1 to 5.4 feet and Sea State 4 includes waves 5.4 to 7.5.) Waves in the Point Arguello area exceed six feet during 20 percent of the year.

Presently the Mr. Clean vessels can store only about 500 barrels of fluid onboard. The Commission has found in previous actions that 1,000 barrels of oil storage capacity is required to provide maximum feasible mitigation of oil spillage. Exxon has committed to assuring that 1000 barrels of oil storage can be available within six hours of a spill prior to the operation of platforms within the Pedernales field. This commitment assures that the project meets the maximum feasible mitigation requirements of Section 30260 of the Act.

d. Oil Spill Contingency Plan.

According to Coast Guard requirements, oil companies operating offshore must submit oil spill contingency plans with specific dispersant procedures to be used in a spill. This information must include a description of wind and wave conditions in areas where dispersants may be necessary, spill sizes where dispersant use is warranted, detailed descriptions of dispersant application systems, and, most importantly, an evaluation of whether the dispersant can function on the type of oil being produced.

The oil spill dispersant presently planned for use is Exxon's Corexit 9527. This dispersant does not work well on many heavy oils. In addition, the dispersant and oil mixtures may be more toxic than the oil alone, according to a recent Environment Canada report, Acute Lethal Toxicity of Prudhoe Bay Crude Oil and Corexit 9527 to Arctic Marine Fish and Invertebrates, 1982. Exxon's Corexit 9550 has proven to be more effective on heavy oil. This dispersant is not yet licensed, but Exxon has applied for the federal and state governments to license the product. When it is licensed Exxon or Clean Seas will stockpile it.

Based on Exxon's commitment to provide: (1) adequate onsite oil spill containment and cleanup equipment, including open ocean booms, skimmers, sorbents, and deployment vessels; (2) adequate oil spill containment and cleanup equipment and procedures for larger spills; and (3) adequate dispersant information or an approved dispersant use plan, the Commission finds that Exxon will provide the maximum feasible mitigation for oil spill impacts as required by Section 30260(3).

3. Marine Resources.

The Coastal Act requires the protection of marine resources in Sections 30230-30236. Section 30230 of the Act states:

> Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that it will sustain healthy populations of all species of marine organisms adequate for long-term commercial, recreation, scientific, and educational purposes.

Section 30231 of the Act states:

> The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment.

Exxon's proposal raises significant marine resource issues under these Coastal Act sections because the development plan will result in the following: (1) disturbance of marine mammals and other marine organisms from platforms, pipelines, construction equipment, crew and supply boats, and helicopters; (2) increased risk of oil spills; (3) ocean disposal of drilling muds and cuttings; and (4) adverse effects on both the commercial and sport fishing industry (discussed further under part D. 4 below).

a. Resources of the Point Arguello - Point Conception Area.

The prevailing ocean currents meet at Point Conception, creating a complex hydrographic regime (patterns of surface water circulation and temperatures). The convergence of warm and cold water masses create a biogeographical barrier to shallow-water fauna, and may be the most important factor in the distribution of these species along the west coast of the United States. Relatively large numbers of species terminate their north-south ranges at or near Point Conception and the offshore islands. Consequently, this region contains species associated with both of the major eastern north Pacific biotic provinces: the cold and warm temperate. The region is also thought to support endemic species adapted to this transition area.

Due to its remoteness and to frequently severe weather conditions, the Point Arguello/Point Conception area has been subjected to relatively little human degradation compared to most of the coastal and marine communities in the Southern California Bight. This factor, combined with the hydrogeographic factors discussed above, contribute to a diverse and abundant coastal and marine fauna assemblage.

The open water, shore and island areas surrounding the project support marine mammals, seabirds and a healthy fishery. The coastal shallow water areas support large kelp beds and productive intertidal and subtidal communities. Kelp beds and rocky outcroppings provide excellent habitat for abalone. Large concentrations of intertidal abalone have been recorded south of Rocky Point, for example. There are harbor seal haul-out areas west of the Point Arguello Boathouse, at Jalama, and at Point Conception. Several species of seabirds nest at Point Arguello, Rocky Point, and Point Conception. Gray whales pass through the area twice each year during migration. The endangered California brown pelican is often found feeding in the area.

Exxon's proposal for one new platform and associated subsea pipelines presents numerous possibilities for disturbance and damage to these marine resources.

b. Marine Biological Survey of Platform Shamrock Site and Corresponding Pipeline Route.

Dames and Moore conducted a site-specific marine biological survey of Exxon's platform and pipeline corridors for the Shamrock project between April 22 and May 23, 1984. The survey included a Remote Controlled Vehicle (RCV) video survey of the platform site and the two submarine canyons which intersect the western portion of OCS P-0440, in the central Santa Maria Basin. In addition, grab, trawl, water, and sediment quality samples were collected at the platform site and along two proposed pipeline corridors.

The marine habitat areas with the highest potential for biological sensitivity in the Shamrock Project area are the submarine canyons in the westernmost portion of Lease P-0440. Examination of geophysical survey data collected for both the exploration and production geohazards investigations showed no rocky outcrops near the platform site or in the pipeline corridor in Leases P-0440 and P-0441. Evidence of relatively steep-walled irregularities in the bottom topography along the edges of and within the submarine canyons of Lease P-0440 were examined by RCV using television relay to deck monitors as the primary sensor. The nearest hard bottom habitat to the platform site observed in P-0440 was 1.8 km southwest of the platform site. This is also the closest point of either canyon to the platform site.

The biota of the project area forms a broad and relatively uniform faunal assemblage which extends at least 15 km (8 nmi) along the 100-m (about 330 feet) isobath of the southern Santa Maria Basin. This assemblage is similar to that found in the western Santa Barbara Channel at depths of 60-100m (200 to 330 feet). Since the nearest hard bottom habitat area to the platform site is in the axis of the head of the nearer of the two submarine canyons, 1.8 km south-west of the platform site, and the faunal assemblage is typical for the area, direct construction impacts from the project should not be significant.

c. Disturbance to Marine Mammals from Crew and Supply Boat and Helicopter Traffic.

Construction, crew, and supply boats, and helicopters could affect marine mammals (especially gray whales) by collisions or disturbance of migration patterns. The California gray whale moves through the Point Arguello area twice each year, in the early winter and spring months. The northward migration of gray whales from their winter calving lagoons in Baja California and mainland Mexico to their summer feeding grounds in Alaska is of great significance, as it includes females that have recently conceived as well as new calves of the year. These mothers and calves are the most susceptable to disturbance. Noise and collision disturbance is therefore a seasonal impact which Exxon has agreed to mitigate by limiting all offshore construction activities to the months of May through November to avoid the peak migration period.

In addition, Exxon has agreed to the following mitigation measures: (1) crew and supply boats will adhere to prescribed vessel traffic routes as much as possible to minimize channel-wide noise impacts; and (2) Exxon will cooperate with the Fisheries and Environmental Training Program and the Western Oil and Gas Association to improve, if necessary, the information presented in the program on gray whales and the avoidance of any harassment.

The Commission finds that with these mitigation measures, it can find that Exxon has included maximum feasible mitigation measures to protect marine mammals. Contingent upon the fulfillment of these mitigation commitments the project is consistent with Section 30260 and the CCMP.

d. Ocean Disposal of Drilling Muds and Cuttings.

1) Commission Authority Over The Discharge of Drilling Muds and Cuttings. The Commission reviews OCS Development and Production Plans (DPPs) under Section 307(c)(3)(B) of the Coastal Zone Management (CZMA) to determine if these plans are consistent with the California Coastal Management Plan (CCMP). The discharge of drilling muds and cuttings is tested under all applicable policies in Chapter 3 of the Coastal Act, including Sections 30230 and 30231 (quoted above), and under the cumulative impacts policy contained in Section 30250 (quoted in part D. 10, below).

Based upon an extensive review of substantive evidence pertaining to the effects of drilling muds and cuttings on marine habitat areas and biota, the Commission finds, in general, as follows: (1) discharges within 1,000 meters of the Coastal Zone or especially sensitive marine habitat areas, or in shallow waters less than 100 feet in depth, affect land and water uses in the coastal zone; and (2) any and all discharges cumulatively may affect land and water uses in the coastal zone.

2) Affects on the Marine Environment from Drilling Muds Discharge. The Commission finds that the scientific studies and information available on the fate and affects of drilling muds and cuttings have not addressed essential questions about the marine environment and the effects of drilling muds (Brannon and Rao, 1979; Cal. DFG, 1983; Dames and Moore, 1981; Duke and Parrish, 1984; Jenkins and Sanders, 1984; Klapow and Lewis, 1978; Neff, 1984 and 1979; Petrazzuolo, 1983 and 1981; and Tagatz et al., 1978). For example, most studies on the bioaccumulation of metals contained in drilling fluids measure only total tissue or body burdens, and therefore their usefulness in predicting biological effects is limited. Only recently have studies been devised to examine the subcellular distributions of the contaminants and to determine the ecological implications of this data. In addition, despite theoretical chemical principals which suggest that a substance such as barium sulfate should not be bioavailable, it is apparently bioavailable. In the Santa Barbara Channel, the marine biological system is so complicated that scientists cannot distinguish natural changes from pertubations caused by drilling discharges (Dr. Ken Johnson, University of California, Santa Barbara, personal communication).

The evidence shows that drilling muds may cause adverse effects on the environment on a cumulative basis. The Commission is compelled by the Coastal Act to take a conservative approach because land and water uses in the coastal zone will be degraded or destroyed if these effects occur. The Western Oil and Gas Association estimates that, by the year 2000, approximately 1,500 exploratory and production wells will be drilled in the Santa Barbara Channel and Santa Maria Basin. This amount of drilling could result in roughly one million tons of drilling muds and cuttings being discharged into the ocean (Henry W. Wright, Manager, Land and Water, WOGA, personal communication--based upon MMS's EIS for Lease Sale 80). Only upon completion of scientifically rigorous long-term monitoring programs in the California offshore environment can the Commission arrive at firm conclusions regarding cumulative impacts. Such studies are currently being planned or conducted by the MMS and EPA.

The Commission finds that the standards contained in Sections 30230 and 30231 as applied to the discharge of drilling muds and cuttings cannot be satisfied by reliance on the current state of knowledge. Discharges resulting from Exxon's Platform Shamrock may cause adverse impacts upon the marine environment when considered on a cumulative basis with other development. Therefore, the Exxon project is inconsistent with Section 30250(a). However, because this project is a coastal dependent development, it must also be analyzed under the requirements of Section 30260, under which a project may be approved even if inconsistent with certain policies contained in Chapter 3 of the Coastal Act.

3) Quantities and Types of Drilling Muds Proposed for Discharge. Exxon proposes to drill 31 wells initially, but up to 60 could be drilled eventually. Each well is expected to produce up to 1,000 cubic feet/day of cuttings (10,000 cubic feet total) and up to 200 bbl/day of muds (5,000 bbl total). Discharges will be in accordance with NPDES permit conditions. Contaminated muds or cuttings will be transported to shore and hauled to an approved site.

The settling of the cuttings on the bottom should not result in any significant adverse effects since there are no sensitive hard bottom habitat areas within range of the bulk of the discharge plume. The platform is in deep water and in excess of 1,000 meters from the coastal zone or any specifically designated biologically sensitive area, but the discharge may still cumulatively affect land and water uses in the coastal zone. Maximum feasible mitigation must be provided for possible cumulative effects, as discussed below.

4) Maximum Feasible Mitigation. Under Section 30260, all offshore oil operators must provide the maximum feasible mitigation for the discharge of drilling muds and cuttings. Since the discharge will be subject to an EPA NPDES permit (which must also be consistent with the CCMP), and the platform is not near any biologically sensitive areas, the only other mitigation necessary is to further reduce the toxicity of the discharge beyond that which is currently required by EPA. Exxon has committed to do this by using chrome-free lignosulfonates. This will reduce the risk that may be associated with introducing chrome into the environment. In addition, a joint government/industry study on drilling muds and cuttings discharge mitigation techniques is currently being conducted. Exxon has agreed to implement all feasible mitigation measures appropriate to the Shamrock Platform which may be identified in that study.

The Commission finds, based upon the information cited above, and further elaborated in the Commission's general policy statement on the ocean disposal of drilling muds and cuttings, that while the project is inconsistent with the marine resource policies of Chapter 3 of the Coastal Act (Sections 30230 and 30231), and with Section 30250, the discharge is proposed in the least environmentally damaging location. Adverse environmental effects are mitigated to maximum extent feasible due to Exxon's commitment to use chrome-free lignosulfonates and to implement all feasible mitigation measures appropriate to the Shamrock Platform which may be identified in the study referenced above.

The Commission will be conducting another review of the drilling muds and cuttings issue when it considers EPA's consistency certification on the General NPDES permit. Thus, while the Commission finds that project is consistent with the CCMP because of Exxon's commitment to the mitigations listed above, Exxon's project is still subject to the General NPDES permit, which must also be consistent with the CCMP. The Commission reserves the right to object to the EPA's consistency certification which must be reviewed for the General NPDES permit under the CZMA, in which case Exxon

may not discharge muds and cuttings until the provisions of the permit are brought into conformance with the CCMP.

4. Commercial Fishing

Coastal Act policies which protect commercial fisheries and associated commercial fishing industries are contained in Sections 30230, 30231, 30234 of the Coastal Act. Sections 30230 and 30231 require that development sustain the biological productivity of all marine species for long-term commercial purposes. These policies also require protection of areas with special biological significance. Together these sections require marine habitats and species to be protected and call for special protection of commercial uses which depend upon these resources.

Section 30234 protects and requires upgrading, where feasible, of onshore support facilities such as ice plants and fish processing plants. Section 30255 and 30703 establish commercial fishing as a priority use of the coastal zone which must be protected in ports and all other coastal areas.

The Coastal Act also requires the consideration of social and economic impacts of proposed development. Section 30001(d) provides that,l "...economic and social well-being of the people of this state...," are critical considerations for the Coastal Commission. Section 30001.5 requires the Commission to take into account, "... the social and economic needs of the people of the state." Section 30260 also requires the Commission to consider the public welfare.

The effects of this project upon the state's commercial fishing industry will affect the land and water uses of the coastal zone. The industry generates many additional secondary jobs for seafood processors, brokers, dock workers, truck drivers, and boat yard crew members. Most businesses which support these workers are located in local harbors and ports and require a waterfront location to function. These coastal dependent industries are dependent on the commercial fishing industry, and thus a significant reduction in the commercial fishing effort could affect these businesses, and their use of land and water in the coastal zone. According to San Luis Obispo County, in Research Report: Proposed Offshore Oil & Gas Development and the Commercial Fishing Industry, during 1980 commercial fishermen at Port San Luis and Morro Bay landed almost $4.4 million worth of fish. When the contributions of the onshore support facilities are considered, with a multiplier of 3.1 (DEIS, OCS lease sale 73), the commercial fishing industry contributed almost $13.64 million to the County.

Exxon's Platform Shamrock and the pipeline and power cable connecting it to Union's proposed Platform Irene will be located within DFG fish blocks 644 and 659. DFG fish catch data for these blocks indicate that for the years 1976-77 principal fisheries included albacore, mackeral, sole, rockfish, and white croaker. For the years 121981-83 principal fisheries included rockfish, halibut, albacore, sea urchin, thresher shark, rock crab, soupfin shark, boccacio, and white croaker.

A map submitted by DFG on CC-6-83 (Exxon-P-0438 and 0440) shows that halibut, pink-shrimp, rockfish, ling cod, petrale sole, English sole, and prawns are trawled in block 644. Maps prepared by MMS (July 1984) depicting trawl areas in central and southern California show that fishing for halibut occurs in the vicinity of the proposed project. Comments from DFG on Platform Irene state that trawling, gill netting, and trap fisheries are located in the project vicinity. The Department recommends that upon completion of pipeline construction all impediments to trawling activities be removed and severe alterations of benthic substrate be returned to

their original configurations. DFG also recommends that cumulative impact analyses be done for development projects, and that consolidation of pipeline facilities be considered.

Commercial fishermen are informed of oil and gas exploration and development by direct communication with the applicant and/or by notice in the "Oil and Gas Project Newsletter for Fishermen and Offshore Operators," published monthly. The newsletter is widely distributed to fishermen and other interested parties in ports from Port San Luis in San Luis Obispo County to San Diego. The Commission, applicants, and fishermen rely on this form of communication for information on the timing and location of offshore oil and gas related activities. If fishermen perceive a conflict will occur between fishing and oil and gas related activities, they inform the applicant and the Commission.

Exxon's project proposal was noticed in the February 1985 issue of the newsletter. To date, no comments from commercial fishermen have been received in response to the notice. Normally, a lack of response suggests that little or no impact would occur from a project. However, because the subject proposal will be a permanent development, Commission staff contacted several trawlers from Morro Bay and Avila Beach.

Responses indicate that halibut and rockfish trawling occurs in the project vicinity. In addition, petrale sole and shark are also fished in the area. The platform will preclude the gill netting activities. Currently few boats are in the shark fishery; however, the platform may preclude more boats as the fishery grows in popularity north of Point Conception. The trawlers were most concerned that the pipeline and power cable be designed to be compatible with their operations and that the pipeline and platform construction areas be void of any oil and gas related obstructions which could damage their gear. When asked about the implication of Platform Irene, they indicated that while one platform may not seriously impede their activities, several platforms in the area may decrease their accessibility to the fishing grounds.

In previous Commission decisions, general concerns regarding drilling muds and cuttings disposal, oil spills, and crew and supply boats have been raised by fishermen. Drilling up to 60 wells from the proposed platform will entail ocean disposal of drill muds and cuttings. In previous Commission reviews of DPPs and POEs, commercial fishermen and the Commission have expressed concern about the effects of these materials on commercially recoverable fish. Part D.3 Marine Resources, above, provides further analysis of the fates and effects of drill muds on marine biota.

Production from Platform Shamrock will increase the chance of oil spills, which could adversely impact commercial fisheries. Economic losses to the fishing industry can occur in the following ways: (1) marine organisms may be tainted by direct coating or ingestion of hydrocarbons; (2) the total available catch could be reduced; (3) fishing gear and vessels may be contaminated, requiring either cleaning or replacement of the gear and cleaning of the vessels; and (4) fishermen may be prevented from leaving port due to placement of oil containment booms. Additional discussion of impacts from oil spills is provided in part D. 1, above.

Supply boats traveling between Port Hueneme and Platform Shamrock may conflict with nearshore (set gill netting and trapping) fishing activities by running over buoys and surface lines, leading to loss of the gear. Fishermen from Port Hueneme have stated in a petition to the U.S. Coast Guard that some support vessels anchor within

traditional halibut grounds outside Port Hueneme, thereby blocking access to the Hueneme Flats. To mitigate against these conflicts, Exxon will use support boat routes adopted by the Joint Committee in the Santa Barbara Channel Oil Service Vessel Corridor Programs, and will refrain from mooring its support vessels within the 10 fathom contour in the Hueneme Flats.

Construction and operation of the platform and pipeline could also impact the fishing activities by blocking access to traditional trawl areas, disposing project related debris in the fishing areas, or snagging trawl nets. To minimize these conflicts Exxon has agreed to: (1) design and construct the pipeline protrusions so that they will be shrouded; (2) use pipeline installation methods which eliminate or minimize anchor scarring; (3) use pipelines and a power cable with a minimum of surface obstructions; (4) conduct post-construction surveys within the platform and pipeline construction zones; (5) remove all artificial obstructions related to construction activities and drag the bottom where recoverable project equipment is lost overboard as required by the Minerals Management Service; and if an object is not recoverable, publish notice of its location in the Santa Barbara Marine Advisory Program Newsletter and the Notice to Mariners; (6) notify commercial fishermen of the schedule and locations of construction activities through the Santa Barbara Marine Advisory Program Newsletter and the Notice to Mariners; and (7) place the platform mooring buoys in the same water depth as the platform and as near to parallel to the shore line as possible.

In addition to analyzing individual impacts of proposed development, the Commission also analyzes the effects of past, present, and future development in accordance with Section 30250 of the Act. The waters offshore California have historically supported and will continue to support the oil and gas and commercial fishing industries. Future development and production facilities for oil and gas will be proposed on other Lease Sale 53 and 68 tracts and future exploration and development could occur in Lease Sale 73 and 80 areas. In addition to future activities in the OCS, activity may increase in state waters, as evidenced by the proposed state tidelands lease sale between Points Arguello and Conception.

The Commission is in the midst of reviewing several production projects which will impact trawling activities in the Santa Maria Basin and the Santa Barbara Channel. The EIR/S for development of the Santa Ynez Unit states that 27 percent of the trawling operations in the area will be affected by construction activities, and less than 10 percent will be affected by operation of the platforms and pipelines. The MMS maps show that the ARCO Coal-Oil Point project will be located within halibut trawling grounds. Tanker traffic associated with the marine terminals proposed by Texaco and Exxon could also interfere with trawling activities. Recent announcements of commercial hydrocarbon discoveries by Exxon, Cities Service, and Sun in the Santa Maria Basin will lead to proposals for additional offshore development which could conflict with the trawl and gill net fisheries. Further assessment is required to establish whether these projects and future exploratory work will cause a significant cumulative impact on the trawl fisheries. Exxon's proposed mitigation measures will reduce conflicts between the project and the trawlers. As a result cumulative impacts both on the fishing operations, and the coastal dependent onshore fishing-related businesses, will be lessened.

Since the mitigation measures will reduce but not eliminate the impacts, the Commission finds that the project proposal will indeed impact commercial fishing operations. Use of the vessel corridors will displace a portion of the nearshore trapping and gillnetting grounds; and trawling and drift gillnetting activities will be displaced during construction and operation of the pipeline and platform.

Although expected impacts from this project may be small, future development in the Santa Maria Basin and Santa Barbara Channel may compound the impacts on the fishing operations and fishing-related businesses. Thus, the Commission finds that the project is inconsistent with Sections 30230, 30231, 30234, 30250, 30255, and 30703 of the Coastal Act.

The Commission found in part C Coastal Dependency and Relation to Industrial Development, above, that the platform and subsea pipelines are coastal dependent industrial facilities. The proposed development does not comply with the Coastal Act sections cited above, but because the project is coastal dependent, it must be further analyzed under the requirements of Section 30260, cited previously.

A major relocation, to reduce impacts on fishing activities is infeasible since these measures would limit efficient production of the field. In addition, relocation of the pipeline could adversely affect its geologic stability. Platform Shamrock producers are committed to using pipeline transportation of their crude to market, if pipelines are available. Other available methods would only be used if pipelines are unavailable or during emergencies. The project is therefore consistent with Section 30260(1) of the Act, since Exxon has chosen the least environmentally damaging alternative.

As stated above, Exxon has committed to mitigation measures for the pipeline and platform construction and operation which significantly decrease impacts on the commercial fisheries. Only upon the fulfillment of these commitments can the project be found to meet the requirements of 30260(3) and the CCMP. However, the Commission may find that future development, coupled with Exxon's proposal, may cause a cumulative impact.

When the cumulative impacts are determined to be significant, measures to improve or replace income producing fishing opportunities may be used to mitigate these impacts. However, development of such programs will be very difficult because they must benefit the parties who are impacted by the displacement. Identifying these parties will be a complicated challenge to the administering agency. The Joint Committee is studying this issue and may recommend an approach to this problem. The Commission will address the issue if it is not successfully undertaken by the Joint Committee, or if the Committee's solution does not satisfy Coastal Act policies. Given Exxon's mitigation measures and the efforts of the Joint Committee, the Commission finds the impacts of the project proposal are mitigated to the maximum extent feasible and it meets with the requirements of 30260(3).

5. Vessel Traffic Safety

Section 30262 (d) of the Act states, in part, as follows:

> Oil and gas development shall be permitted in accordance with Section 30260, if the following conditions are met:
>
> ...(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.

Exxon proposes to site Platform Shamrock apprcximately 25 miles north northwest of the Santa Barbara Channel Vessel Traffic Separation Scheme (VTSS). Although there are no platforms currently in the area, Union's Irene has been approved approximately two and a half miles southeast and three platforms have been approved

off Point Arguello. The closest of these is Chevron's Hidalgo, approximately eight miles south. Presently, most vessels traveling between the Santa Barbara Channel and ports on the North American coast pass west of the general area of the proposed platform site. However, U.S. Coast Guard radar tracking confirms that some vessels pass through the area where platform Shamrock would be located. The U.S. Coast Guard request for a northwesterly extension of the present Santa Barbara Channel Vessel Traffic Separation Scheme has been rejected by the International Maritime Organization (IMO), but the Coast Guard is reapplying for the extension. If the extension is approved, the vessel traffic lanes will pass approximately ten miles west of the platform. Use of the proposed lanes is not mandatory, so even if they are approved by IMO, some vessels may continue to pass through the area of the proposed platform.

In addition, the proposed platform site is in an area of extreme weather conditions. According to the U.S. Coast Pilot (NOAA), "Off Point Arguello, sea fog becomes a persistent and frequent navigational hazard. ...These fogs are often thick, and Point Arguello is considered by mariners to be the most dangerous along the coast."

Union submitted data showing that seastates in the area of OCS P-0441 are greater than nine feet over 50 percent of the time for seven months per year. The Union DPP stated that, in January and February, waves exceed nine feet 95 percent of the time. The Exxon DPP uses wave data from buoys off Point Sal and at the western edge of the Santa Barbara Channel. The former recorded significant wave heights in February and March to exceed 13 feet about 20% of the time. The latter buoy recorded significant wave heights for December through March to exceed 13 feet about 20% of the time.

The Exxon DPP states that tanker loadings in the western Channel area have increased from about five per year in the 1974 to 1976 period to more than 60 per year in 1979. Since April 1981, additional tanker loadings have taken place at Exxon's OS&T at the average rate of approximately one per week. Crew boat traffic from Ellwood pier is currently about 30 vessel trips per day. An increase in offshore crew and supply vessel traffic involving both Ellwood Pier and Port Hueneme will take place as a result of platforms in the Point Arguello and Point Pedernales Fields (Union's Irene, Chevron's Hidalgo and Hermosa, and Texaco's Harvest).

The Chevron Hermosa DPP states that the Point Arguello operators will generate 144 tanker trips per year and Exxon's Santa Ynez production will result in 132 tanker trips per year if pipelines to refinery centers are not available. Additional vessel trips will be generated by other developments such as the Santa Ynez Unit, the remaining areas of the Santa Maria Basin, Sockeye Field, and State Lands leases.

In the years 1970-1982 inclusive, 93 collisions occurred between offshore installations and vessels. Thirty of these resulted in loss of life. Twenty-four of the 93 collisions took place in the United States, where, after blowouts, collisions are the greatest cause of accidents resulting in structural damage.

In addition, 58 of the collisions resulted in oil spills. Because the platform will be sited where it will pose a substantial hazard to vessel traffic safety and this could increase the likelihood of oil spills, the Commission finds Platform Shamrock inconsistent with Section 30262(d) and 30232.

Exxon has added measures to the DPP to mitigate the vessel hazard problems resulting from this project. These include the installation of an Automatic Radar Plotting Aid (ARPA) on Platform Shamrock if the Executive Director determines that Union's Platform Irene system is inadequate for both platforms. This device will alert

platform personnel of an approaching vessel's location. Exxon will install four quick-flashing white lights visible for five miles on each corner of the platform, and red clearance lights at the top of the drilling mast and the tip of each crane boom. Exxon will provide lighting when daylight visibility is less than three miles. The heliport perimeter lighting will consist of dual fixtures equipped with one blue and one amber globe. The platform will have a foghorn with a two-mile audible range. Platform Shamrock will be painted in accordance with the USCG recommendations to increase the platform's visibility to vessels. The platform will be equipped with personnel escape capsules that have been approved by the MMS and the USCG.

With these measures, the Commission finds that, though the platform will be sited where it could pose a hazard to vessel traffic, Exxon has mitigated vessel traffic hazards of the project to the maximum extent feasible. Therefore, the Commission finds the project consistent with Section 30260 of the Coastal Act.

6. Geologic Hazards

Section 30253(1) and (2) of the Act states that:

> New development shall:
>
> (1) Minimize risk to life and property in areas of high geologic flood, and fire hazard.
>
> (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

Section 30262 of the Act states in part that:

> 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) 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.
>
> 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.

Section 30263 (a)(4) of the Act further states that:

> New or expanded refineries or petrochemical facilities not otherwise consistent with the provisions of this division shall be permitted if...(4) the facility is not located in a highly scenic or seismically

> hazardous area, on any of the Channel Islands or within or contiguous to environmentally sensitive areas...

Exxon's proposed project consists of one offshore platform (Shamrock) and two subsea pipelines connecting the platform to Union's platform Irene. The project is located on the Continental Shelf and is designed for maximum recovery of hydrocarbons from the Point Pedernales Field.

Platform Shamrock will be a two-decked, eight leg, pile founded jacket set in 277 feet of water. This conventional type platform will have space for 60 well conductors. The initial phase of Exxon's production plan calls for 31 wells, 25 to be completed within the Monterey and 6 to be completed within the Monterey and Pre-Miocene reservoirs. Seafloor conditions at the platform site are generally smooth with a slope of one percent to the southwest. No hardbottom outcrops are exposed on the seafloor within several thousand feet of the platform site.

Two pipelines will connect platform Shamrock to platform Irene (located approximately 10,000 feet to the southeast). A 16 inch pipeline will carry an oil-water emulsion and a 6 inch pipeline will transport gas. Exxon has examined seafloor conditions within a pipeline corridor (10,000' by 4,000'). Bottom sediments consist of unconsolidated clay or sandy silt. The seafloor is basically featureless and slopes 1 to 2 percent to the southwest. No hardbottom outcrops exist within the pipeline corridor.

a. Seismicity

Exxon has evaluated the earthquake history of the seismotectonic provinces in the vicinity of OCS Parcel 0440. The proposed project is located within the California Continental Borderland province which is characterized by long, northwesterly trending fault zones. The Hosgri, Offshore Lompoc, and the San Andreas faults have the most importance to the project area due to their proximity to the platform location and their capacity to produce maximum credible earthquakes (Ertec, 1984). Exxon (Exxon letter to staff, Feb. 12, 1985) has identified a magnitude 7.5 earthquake on the Hosgri fault and a magnitude 8+ on the San Andreas Fault as the controlling events. The closest approach of the Hosgri fault to the project area is 16 kilometers. Exxon's earthquake analyses generally conforms with seismological data submitted by Union for platform Irene (located approximately 10,000 feet to the southeast).

b. Faults

Three major fault zones have been identified within the north and central part of the offshore Santa Maria Basin: The Hosgri, Lompoc, and Purisima (Exxon, 1984). None of these major fault zones extend to the project area (Richmond, 1981). Several faults have been identified (Exxon, 1984) approximately 2,000 feet northeast of the platform site. Exxon has interpreted these features to be inactive based on the following evidence (Exxon, 1984):

> Several faults, previously thought to be long continuous features, are now interpreted to be short en echelon fault segments associated with the crest of a major anticline in the area adjacent to the proposed platform. These features have probably been active during the past two million years or less, but have not been active during the Holocene (11,000 years or less). It appears that design considerations can adequately mitigate against all of the geologic constraints observed during this investigation.

These faults do not offset the seafloor or Holocene age sediments, however, they do offset Pleistocene age sediments and therefore have been branded as potentially active. Exxon (DPP p. 3.a-22) has interpreted these features as "second-order structures related to formation of anticlines and not through-going primary structures."

c. Submarine Slumping

No submarine slumping has occurred at the platform site or along the pipeline route.

d. Liquefaction

The development of high pore-pressures in certain types of sediments due to ground vibrations, (which can occur during an earthquake) can cause sediments to be altered from a solid state to a liquid state (liquefaction). In some cases, liquefaction of sand induced by earthquake ground motions can cause overlying, sloping soil to slide laterally along the liquefied layer.

No historic liquefaction of soils has occurred within the project study area. However, the presence of sandy silts on the seafloor raises the possibility that liquefaction might occur as the result of strong ground motion. Exxon has incorporated seafloor soils conditions into pipeline and platform design.

e. Subsidence

Subsidence of the land or seafloor can pose potential problems for oil development and any nearby non-oil related structures. The main causes of subsidence in California oil fields have been the result of extraction of oil, water, and gas. With regard to subsidence in the Point Pedernales Field, Exxon maintains that (DPP, p. 3.a-26):

> Shamrock production will be primarily from the Monterey Formation which is composed predominantly of fractured siliceous shale. Reservoir porosity results from fractures within the shale. Due to the well indurated competent nature of the Monterey Shale, it is not expected to undergo compaction as a result of hydrocarbon removal. The folded nature of the producing beds and resulting structural regidity coupled with the bridging effects resulting from the lithified character of the overlying Tertiary strata, provide further evidence that land subsidence is not a potential hazard for the Shamrock Project.

Commission technical staff discussion with the U.S. Geological Survey and the MMS reveal an absence of measured subsidence locations where there has been oil or water extraction from the Monterey Formation at onshore Santa Barbara County locations or offshore in state or federal waters (R. Castle, USGS, and J. McCarthy, MMS, personal communication, 1983). Should any subsidence occur, it is expected to be negligible and will be restricted to the offshore area. Any minor subsidence that may pose a threat to oil field production facilities could be eliminated by implementing a repressurization program. Therefore, subsidence should not pose a significant hazard to the structural integrity or stability of the development.

f. Gas-charged Sediments/Shallow Gas Zones

Exxon has identified areas of gas-charged sediments and shallow gas zones beneath the platform site and within the pipeline corridor. The presence of gas within

seafloor sediments can lower soil strength. Therefore, Exxon will examine the potential impact of gas-charged sediments on the platform foundation and on the subsea pipelines.

Unexpected shallow gas zones, if overpressured, can cause blowouts. Exxon has mapped zones of potential shallow gas within the platform vicinity and will most certainly drill through these features during production operations. State-of-the-art drilling techniques should mitigate any hazards posed by shallow gas zones. Those techniques include close monitoring of well pressures, an adequate drilling muds and casing programs, blowout preventers, and downhole shutoff valves.

The Commission's review of Exxon's offshore geotechnical studies has revealed no major geologic hazards that would preclude development of the Point Pedernales Field as proposed. No geologic constraints exist at the platform site or within the pipeline corridor. Therefore, the Commission finds that the proposed platform and pipeline corridor meet the requirements of Section 30253 and 30262 of the Costal Act as they relate to geologic hazards.

7. Air Quality

Section 30253(3) of the Coastal Act states in part, that:

> New development shall:
>
> (3) Be consistent with requirements imposed by an air pollution control district or the State Resources Control Board as to each particular development.

Section 30250 further requires new development to be located where it will not have "significant adverse effects, either individually or cumulatively, on coastal resources."

Air pollutant emissions from the proposed project will occur individually as a result of the construction and operation of the proposed offshore platform and pipelines. Construction and drilling emissions will be of short duration, while emissions from production will occur throughout the life of the project. Cumulatively, air pollutant emissions will occur in combination with the construction and operation of other existing and proposed developments in the area.

a. Applicable Regulations.

To receive a federal permit, the air pollutant emissions from the project must conform to the Department of the Interior (DOI) regulations established under the OCS Lands Act Amendments (OCSLAA). The Commission has previously expressed concern for the adequacy of the DOI regulations to protect California's onshore air quality in its Findings for Lease Sale 73 (CD-28-83), Chevron (CC-12-83), and Texaco (CC-27-83). The ARB and local air pollution control districts do not accept the DOI regulations as providing adequate protection to onshore air quality in California; the DOI is currently considering revisions to these regulations.

Moreover, air pollutant emissions from proposed activities on the OCS which could affect the coastal zone must meet all applicable standards and conform to state and local rules and regulations, including the state's plan for attaining and maintaining federal ambient air quality standards. In addition, Section 307(f) of the federal Coastal Zone Management Act requires that state standards adopted under the Clean Air Act become part of the CCMP pursuant to which federal activities must

conform. Thus, any proposed activities which, either individually or in combination with other existing or proposed activities, result in violations of the national or state ambient air quality standards or otherwise impede the state's ability to meet the requirements of the Clean Air Act cannot be found consistent with the CCMP.

b. Impacts of Project.

The South Central Coast Air Basin which may be impacted by air emissions from the project includes Santa Barbara County and portions of Ventura and San Luis Obispo Counties. Santa Barbara County has been designated as nonattainment for ozone, although the northern portion of the county is being considered for redesignation to attainment. The County favors retention of the ozone nonattainment designation throughout the county because of potential onshore transport of ozone and other impacts from future OCS development. The Santa Maria portion of Santa Barbara County currently does not meet federal standards for total suspended particulates (TSP) and has been designated as nonattainment. Ventura County is in attainment of the federal standards except for ozone, and TSP in more populated areas. San Luis Obispo County is in attainment for all pollutants.

Impacts to onshore air quality from emission sources on the OCS and sources onshore and within State waters from associated facilities, whether individually from Exxon's project or in combination with other offshore development in the area, are likely to occur. In addition to potential environmental and public health impacts, there may be severe economic impacts if the districts continue to be classified or are re-classified to nonattainment status under the Clean Air Act. These impacts could include the cost to local businesses of retrofitting facilities, the cost of EPA-imposed sanctions, the cost to local government to develop and enforce nonattainment plans, increased health care costs, and losses to tourist and agriculture based industries.

The Commission is not alone in its assessment of the potential significance of the cumulative effect from offshore development on coastal resources. The State Lands Commission DEIR for the State Lease Sale proposed for Point Arguello to Point Conception concluded that the most significant cumulative impacts will be the "... likelihood that progress toward attainment will be completely offset by the impact of new offshore emissions." In comments to Secretary Duffy on the Chevron plan of development for the Arguello Field, a few miles south of Exxon's project, the ARB called for analyses to identify the impacts from all proposed, existing, and anticipated development in the area to ensure that state and federal ambient air quality standards will not be violated or that reasonable further progress towards attainment of these standards will not be jeopardized.

In a letter commenting on the Arguello Field development, Major General Jack L. Watkins, Commander of Vandenberg Air Force Base, also stated his concern that "...air quality impacts of offshore oil development are not being considered on a cumulative basis," and recommended that oil development in federally controlled waters "... have air quality management requirements consistent with the APCD." In addition, in a letter commenting on Exxon's plan of development for the Santa Ynez Unit, Pasquale A. Alberico, Acting Director of the U.S. EPA's Office of Federal Activities, stated his concern that "... a comprehensive look needs to be taken of the cumulative impacts of offshore development and the ability of the State to accommodate these emissions and still meet the statutory requirements of the Clean Air Act."

Development of the Point Pedernales Field is expected to proceed as a unit, with Exxon's lease P-0440 and P-0438, Union's lease P-0441, and Arco's lease P-0437.

Unit facilities include two OCS platforms, one on Union's lease (Platform Irene) and one on Exxon's lease P-0440, an onshore oil treating facility at Lompoc, and associated pipelines and facilities to supply purchased power. The Commission recently concurred with Union's consistency certification for Platform Irene and onshore oil treatment facilities (CC-36-84). Electrical power for the normal operation of Exxon's platform facilities and drilling rig will be provided by PG&E via a subsea power cable tie-in at Platform Irene. A dedicated diesel engine powered generator will provide electric power for emergency and life support functions. A second diesel engine generator will be provided to furnish electric power for drill rig activities in the event the primary shore power is interrupted. Production from the Shamrock platform will be handled by the onshore oil treatment facilities at Lompoc proposed by Union.

Emission sources associated with the platform include fugitive hydrocarbons from oil and gas handling facilities, combustion emissions from a flare, and from emergency diesel engine generators. Additional emissions will come from the use of crew and supply boats and helicopters.

The DPP/ER states that emissions from these individual project sources will be below the DOI exemption levels, and therefore, that there is no potential to significantly impact onshore air quality. The DOI regulations provide that if individual project emissions do not exceed the exemption levels no further review of air quality impacts is required.

In its review of the DPP/ER, the ARB noted shortcomings in Exxon's analyses. In particular, no fumigation or ozone modeling was performed to assess compliance with the State's NO_2 standard or state and federal ozone standards. In addition, it appears that the analysis does not include the onshore emissions related to the proposed project or the cumulative impacts of project emissions and potential emissions from surrounding lease tracts. Without these analyses, the ARB states, the impact of the project cannot be adequately assessed.

This deficiency in Exxon's DPP/ER precludes the Commission from adequately evaluating the extent of onshore air quality impacts expected to result from the proposed project. The draft EIS/EIR for this project, which will not be available until late March, 1985, will contain the necessary analyses of these impacts. However, in the absence of this document and without an adequate analysis in the DPP/ER, the Commission cannot determine if the project, either individually or in combination with other existing and proposed projects, will result in violations of the national or state ambient air quality standards or otherwise impede the state's ability to meet the requirements of the Clean Air Act. Therefore, the Commission finds that it lacks sufficient information to find the project consistent with Sections 30250 and 30253(3) of the Coastal Act with regard to air quality.

c. Maximum Feasible Mitigation.

Although the Commission finds that the proposed project cannot be found consistent with the air quality policies, the coastal dependent industrial facilities can nevertheless be permitted in accordance with Section 30260 of the Coastal Act if they meet the tests of this section.

It is the ARB's position that OCS emissions sources be treated similarly to onshore sources. Consequently, the ARB believes that projects must incorporate not only the best controls currently available, but also mitigation measures which provide a level of protection to onshore air quality at least equivalent to the protection

provided by the Lease Sale 73 Memorandum of Agreement (MOA) between the U.S. Department of the Interior and the State of California. The Commission agrees that it is appropriate to consider the provisions of the MOA in order to determine whether companies are proposing minimally acceptable levels of control.

The proposed project design currently includes the following Best Available Control Technology measures:

- All vessels containing volatile hydrocarbons will be connected to a low pressure gas gathering or vapor recovery system to reduce hydrocarbon emissions;
- All vapor pressure safety relief valves and back pressure surge control regulators will exhaust into a closed flare header system;
- A gas scrubber will be installed upstream of each flare to remove and contain any entrained liquids;
- Crew and supply vessels will employ retarded injection timing to reduce NOx emissions to the extent that vessel operators and the American Bureau of Shipping consider it safe and feasible;
- A fugitive emission inspection and maintenance program will be instituted to reduce fugitive hydrocarbon emissions; and
- H_2S monitors will be installed on the platform.

In Addition, power will be supplied from the PG&E electrical grid system instead of reliance upon deisel power, which would have far greater detrimental impacts on air quality. Exxon's commitment to transport its Shamrock project oil by pipeline further mitigates the air quality impacts of its project. Thus, the Commission finds that the air quality impacts from the proposed Shamrock project are mitigated to the maximum extent feasible with Exxon's commitments to the mitigations listed above and, therefore, that the proposed project is consistent with Section 30260(3) of the Coastal Act.

8. Visual and Scenic Resources

Section 30251 of the Act states:

> The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and where, feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The scenic areas and views of the entire Santa Barbara County coastline are resources of public importance. The coastal area has major parks and recreation areas of statewide significance, and the tourist and recreation industries rely heavily on the natural scenic quality of the coast. The Santa Barbara County LCP

states that the scenic quality of the coastal zone in the North Coast planning area (Gaviota to Santa Maria River) is outstanding. The area north of Point Arguello offers highly valuable, relatively undisturbed, and varied views. One of the most striking views in the area is of the expansive open ocean from the elevated coastal terrace. Currently, four fixed structures have been concurred with by the Coastal Commission in the offshore project area.

According to the DPP, Platform Shamrock and the associated offshore construction activities will be potentially visible from Ocean Beach County park and the Southern Pacific Railroad line in the vicinity of Point Arguello. Because of the onshore topography, the platform and associated construction activities are not likely to be visible from Point Conception. The platform will be visible by beach users along the Point Arguello to Point Sal shoreline, and by surfers and boaters in the proposed platform vicinity. Although the distance from shore will reduce its apparent size, the platform, together with Chevron's Platforms Hermosa and Hidalgo, Union's Platform Irene, and Texaco's Platform Harvest, will introduce long-term industrial structures to a previously natural seascape. Associated with the platforms will be helicopters and support and crew boats traveling to and from the site, adding to the project's visual impact.

The Commission finds that the project will cause a permanent visual impact on the scenic and recreational qualities of the Point Conception-Point Arguello area and is therefore inconsistent with Section 30251 of the Coastal Act. However, the project has been mitigated to the maximum extent feasible. The separation and dehydration facilities have been sited onshore, rather than on the platform, thereby minimizing platform size.. The platform location cannot be changed and still achieve consolidated field production, and the minimization of the number of platforms needed.

Thus, while the visual impacts of the platform will be significant and therefore inconsistent with Section 30251 of the Coastal Act, the proposed project is mitigated to the maximum extent feasible and is therefore consistent with the prevailing Section 30260(3) of the Coastal Act.

9. Archaeological Resources

Section 30244 of the Act states:

> Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Exxon prepared a supplemental report identifying cultural and archaeological resource data around the proposed Platform Shamrock and along the route of the proposed pipeline from Shamrock to Platform Irene.

The geophysical field survey underwater was conducted by Pelagos Corporation during November 1984 in OCS P-0437, 0438 and 0440. The purpose of this study was to identify and inventory any cultural resources within the project and nearby area, and evaluate potential impacts of the proposed project on such resources, should they occur.

Evaluation of the marine geophysical survey data indicated no anomalies were located which clearly indicate the presence of shipwrecks; however, four anomalies were identified which possess characteristics that could indicate the presence of

shipwrecked vessels which have been completely or partially buried by sediments. These potential vessel wrecks are of unknown origin. The nearest of these to any proposed development (the platform and pipeline) is 2000 feet north of the platform site. Neither the platform nor associated activities would impact this site. Several anomalies were identified to a reasonable certainty as being connected with oil exploration activity. The platform and pipeline will be sited on top of or just beside seafloor scars associated with oil exploration activities.

Since Exxon has committed to locate the pipeline route and platform to avoid anomalies with potential cultural resources, the Commission finds that this provides reasonable mitigation and the project is consistent with Section 30244 of the Act as it relates to the protection of archaeological resources offshore.

10. Cumulative Impacts/Consolidaton of Facilities

The Point Pedernales Field lies under at lease four tracts, Arco's OCS P-0437, Exxon's OCS P-0438 and 0440, and Union's OCS P-0441 (see Exhibit 2). The field, which is still being explored, may also extend under adjoining State Tidelands to the east. Development of the OCS portion of the field will include at least two platforms, Union's Irene and Exxon's Shamrock. Future production from these platforms will more closely delineate the extent of the field.

The Platform Shamrock DPP is the second development proposal in the Point Pedernales Field. It is on a Lease Sale 53 tract, which the Commission found could be offered for lease consistent with the CCMP. Since that sale the DOI has held Lease Sales RS-2, 68, 73 and 80. Development of tracts sold in 1968 and Lease Sale 48 are still in the planning stage. The cumulative effects of the exploration and development, especially the timing, pace, and nature of the development triggered by these sales has not been adequately addressed by the DOI in a comprehensive manner. As a result, impacts on marine and coastal resources, most notable air quality, vessel safety, and land use planning have been addressed on a case-by-case basis with the burden falling on the OCS operator proposing the activity. Clearly, this process does not provide reasonable protection from cumulative impacts nor does it provide the certainty OCS operators deserve.

Section 30250 of the Coastal Act requires protection against these cumulative impacts to the coastal environment:

> (a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources...

In the Cumulative Effects section of the Environmental Report for Platform Shamrock, Exxon states that production and transportation in the Santa Maria Basin/western Santa Barbara Channel area could be expected to produce cumulative effects with the Shamrock Project. This would include activities not yet proposed but related to OCS lease sales 48, 53, 68, 73, reoffering of tracts not sold in Lease Sale No. 53, and future lease offerings. The three principal sources of cumulative effects from potential projects in this area are the presence and operation of offshore facilities, the presence and operation of onshore facilities, and accidental oil spills.

Energy related projects in the Santa Maria Basin/western Santa Barbara Channel area which are already in the permit process include Exxon's Santa Ynez Unit Development, Chevron/Texaco Point Arguello Field/Gaviota Processing Facility, Union's Platform Irene/Lompoc Processing Facility, ARCO's Coal Oil Point Project, Texaco Gaviota Consolidated Coastal Facility, Exxon's Las Flores Marine Terminal, Celeron/All American Pipeline, and Four Corners/Chevron/Texaco Pipeline. (Some of these projects are competing or partially competing with other projects and it is unlikely that all would be built.) In addition, Cities Service Oil and Gas Corporation is submitting a DPP to Mineral Management Service for OCS P-0409 in early 1985. Several other operators are drilling or have proposed drilling exploratory wells in the southern Santa Maria Basin area.

MMS has required Union and Exxon to arrive at an agreement to develop the Point Pedernales Field with the minimum number of platforms. This agreement is still under negotiation between the companies.

As noted in Sections D3, D4, and D7 above, the Commission finds the proposed project will have significant and adverse cumulative impacts in relation to marine resources, commercial fishing, and air quality. Thus the proposed project fails to meet the requirements of Section 30250(a).

The project therefore must be analyzed under Section 30260 requirements, which provides for further consideration of certain facilities even if they fail to meet other Chapter 3 policies. Under Section 30260, a coastal dependent industrial facility may be permitted if: (1) there are no feasible less environmentally damaging locations for the project; (2) denial of or objection to the project would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

The Commission finds that the first requirement of feasible alternative locations for Exxon's project is met for the proposed OCS facilities. Even if the platform location could be moved within limited distances and still allow production of the hydrocarbon structure, such a move would not reduce environmental impacts due to similar substrate and habitats in the area. The second requirement relating to public welfare is discussed in the following section (11).

Mitigation of adverse environmental effects to the maximum extent feasible is the third requirement of 30260. As stated in the previous sections, Exxon is proposing maximum feasible mitigation to reduce impacts on coastal resources. The Commission emphasizes that the commitment to use consolidated pipelines, power cables, and processing facilities is the major step towards developing maximum feasible mitigation measures to reduce impacts on the resources.

Production from Exxon's proposed Platform Shamrock will be moved by pipeline to Union's proposed Platform Irene, which in turn is designed to transport oil and gas production from other platforms in the central Santa Maria Basin to an onshore separation and dehydration facility. Exxon will be connected to the electric power cable that goes to Union's Irene from the existing Pacific Gas and Electric grid system. Thus, site-specific impacts from processing plants, pipelines, and other associated developments will be minimized. Due to consolidation and to Exxon's commitments to mitigate impacts to the maximum extent feasible, the Commission finds the project consistent with Section 30260(3).

11. Public Welfare.

Under Section 30260(2) of the Act, the Commission must determine whether Exxon's project will adversely affect the public welfare. Included in the concept of public

welfare is consideration of the "national interest." The Commission considers the national interest when it reviews federal licenses and permits. In addition to the Coastal Act, the Commission's approved CCMP includes a separate chapter (Chapter 11) that describes the process used for considering the national interest. The federal government has determined that the California coast is a resource of national significance, comprising more than half the western coastline of the contiguous 48 states. In reauthorizing the federal Coastal Zone Management Act in 1980, Congress identified national objectives to be achieved by states through their coastal management programs to recognize the critical need to protect coastal zone environmental resources. However, the Congress, the California Legislature, and the Commission also recognize that a balancing must be made with respect to the protection of land and water resources and the development of domestic energy resources. This balancing takes place under the provisions of the "public welfare" test embodied in Section 30260 of the Coastal Act. Thus, under Section 30260, the Commission is empowered to balance the national interest in both resource protection and energy development as is required under the CZMA.

The Commission recognizes the national interest in meeting the nation's domestic energy needs and supports OCS lease sales and development projects in areas where petroleum resources are high and an infrastructure exists to support offshore oil development. In keeping with this policy, the Commission finds that Platform Shamrock and the accompanying pipeline can be found to promote the public welfare only because the adverse impacts identified in the previous sections of this report have been mitigated to the maximum extent feasible. The commitment of the Platform Shamrock producers to use pipelines for transportation of the crude if they are available with accessible capacity to their market destinations, and the proposed consolidation of the transportation and processing facilities with Union's Platform Irene mitigate the majority of these impacts. Other measures for protection of marine resources, commercial fishing activities, air quality, vessel traffic safety, and visual and scenic resources represent adequate mitigation of adverse impacts on coastal resources as required by the CCMP. These commitments allow the Commission to find the project consistent with the public welfare since the impacts are mitigated to the maximum extent feasible. Therefore, the Commission finds the proposed construction and operation of Platform Shamrock, and the pipeline between the platform and Platform Irene to be consistent with Section 30260(2) and hence with the California Coastal Act of 1976.

APPENDIX I

Substantive File Documents

California Coastal Commission Findings and Reports

Consistency Determination File CD-28-83, Department of the Interior, Lease Sale 73.

Consistency Certification File CC-27-83, Texaco U.S.A., Inc., Platform Harvest.

Consistency Certification File CC-12-83, Chevron U.S.A., Point Arguello Field.

Consistency Certification File CC-7-83, Exxon Company, U.S.A., Santa Ynez Unit.

Consistency Certification File CC-24-84, Chevron U.S.A., Point Arguello Field Supplement.

Consistency Certification File CC-36-84, Union Oil Company of California, Point Pedernales Field.

Policy Statement on Conflicts Between Vessel Safety and Offshore Oil and Gas Operations, July 28, 1982.

Policy Statement on Oil Spill Response Measures, December 15, 1983.

General Policy Statement on the Ocean Disposal of Drilling Muds and Cuttings, October 10, 1984.

General Policy Statement on Conflicts Between the Commercial Fishing and Oil and Gas Industries, October 10, 1984.

Environmental Documents and Studies.

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

California Air Resources Board. Report of the California Legislature on Air Pollutant Emissions from Marine Vessels (Draft), June 1983.

California State Lands Commission, Program EIR. Leasing, Exploration, and Development of Oil and Gas Resources on State Tide and Submerged Lands, Point Conception to Point Arguello, Santa Barbara County, California. April 1982.

California State Lands Commission. Finalizing Addendum of the Environmental Impact Report for the State Tidelands Lease Sale from Point Conception to Point Arguello, 1982.

California State Lands Commission and Bureau of Land Management. Proposed Celeron/All American Pipeline Projects, August 1984.

Center for Short-Lived Phenomena and Cahners Publishing Company. Oil Spill Intelligence Report, 1984.

Clean Seas, Oil Spill Contingency Plan, Point Dume to Cape San Martin.

Dames & Moore, Site-specific Marine Survey, 1984.

Geohazards Investigation, Shamrock Project (Pt. Pedernales, California) Proposed Platform and Pipeline Survey Area, June, 1984.

Supplementary Geohazards Investigation, Shamrock Project, (Pt Pedernales, California)
Proposed Platform and Pipeline Survey Area, January, 1985

Lehrman, D.E.et al, A Study of Transport Into, Within, and Out of Coastal Areas of Southern Santa Barbara County and Ventura County, Meteorology Research, Inc., and California Institute of Technology, Division of Chemistry and Chemical Engineering for Ventura County Air Pollution Control District, June 1981.

Petroleum Transportation Committee, County of Santa Barbara. Phase I Final Report, Vol.I; Appendices, Vol.II, 1983.

Petroleum Transportation Committee Phase II Final Report, County of Santa Barbara, Resource Management Department, June 1983.

Poole, M. Michael, "Migration Corridors of Gray Whales along the Central California Coast", 1980-1982, from the Gray Whale by Jones and Swartz, 1984 Academic Press.

Radian Corp., Interim NO_x Control Measures for Diesel Engines on Offshore Exploratory Drilling Vessels and Rigs, Final Report, April 1982.

Radian Corp., Assessment of NO_x Control Measures for Diesel Engines on Offshore Exploratory Drilling Vessels and Rigs, Final Report, July 1982.

Rice, Dale W. and Wolman Allen A. The Life History and Ecology of the Gray Whale Euchrichtius robustus, Special publication No. 3, The American Society of Mammalogists, 1971.

San Luis Obispo County, Research Report: Proposed Offshore Oil and Gas Development and the Commercial Fishing Industry, August 1982.

University of California Santa Cruz for the Bureau of Land Management, October 1978, Marine Mammal and Seabird Survey of Southern California Bight Area. Volume II Detailed Synthesis of Findings.

University of Claifornia Santa Cruz for the Bureau of Land Management, July 1978 Marine Mammal and Seabird Survey of the Southern California Bight Area. Volume III Principal Investigator's Reports. Book I Pinnipedia, Cetacea and Parasitology.

U.S. Department of the Interior. DEIS, Proposed OCS Lease Sale 73.

U.S. Fish and Wildlife Service. Southern Sea Otter Recovery Plan, February 2, 1982.

U.S. Coast Guard. Pollution Incident Response System, 1983.

Letters

To B.L. Boyd, Exxon Company, U.S.A., from Suzanne Rogalin, California Coastal Commission, January 18, 1985.

To Honorable William Clark, Secretary of the Interior, USA, from Gordon Duffy, Secretary of Environmental Affairs, State of California (with attachments), October 30, 1984.

To Thomas W. Dunaway, Pacific OCS Region, Minerals Management Service, from Robert W. Carr, Director, San Luis Obispo County Air Pollution Control District, October 25, 1984.

To Thomas W. Dunaway, Pacific OCS Region, Minerals Management Service, from L.Thomas Tobin, California Coastal Commission, December 20, 1984

To John Doyle, Office of Environmental Affairs, from James D. Boyd, California Air Resources Board, December 4, 1984.

To Michael L. Fischer, California Coastal Commission, from Shelby H. Moore, Jr. Exxon Company, U.S.A., February 11, 1985

To Michael L. Fischer, California Coastal Commission, from Shelby H. Moore, Jr., Exxon Company, U.S.A., February 15, 1985

To Michael L. Fischer, California Coastal Commission, from Shelby H. Moore, Jr., Exxon Company, U.S.A., February 19, 1985

To Michael L. Fischer, California Coastal Commission, from Richard W. Hollis, Jr., ARCO, February 21, 1985

To Michael L. Fischer, California Coastal Commission, from Alan J. Rimel, Elf Aquitaine Petroleum, February 21, 1985

To Michael L. Fischer, California Coastal Commission, from Don R. Hankins, Champlin, February 25, 1985

To Michael L. Fischer, California Coastal Commission, from J. E. Jennings, Phillips Oil Company, February 21, 1985

To Michael L. Fischer, California Coastal Commission, from R. J. Criswell, Amoco Production Company, February 28, 1985

Personal Communications

Telephone conversation with Barry Cohen, fish processor, Olde Port Fish Company, Avila, February 4 and February 7, 1985.

Telephone conversation with Tom Dohl, biologist, UC Santa Cruz, Santa Cruz, February 8, 1985.

Telephone conversation with Jody Giannini, commercial trawler, Morro Bay, February 4, 1985.

Telephone conversation with Don Kent, biologist, Hubbs Sea World, San Diego, February 11, 1985.

Telephone conversation with Charles Woodhouse, biologist, Santa Barbara Museum of Natural History, Santa Barbara, February 8, 1985.

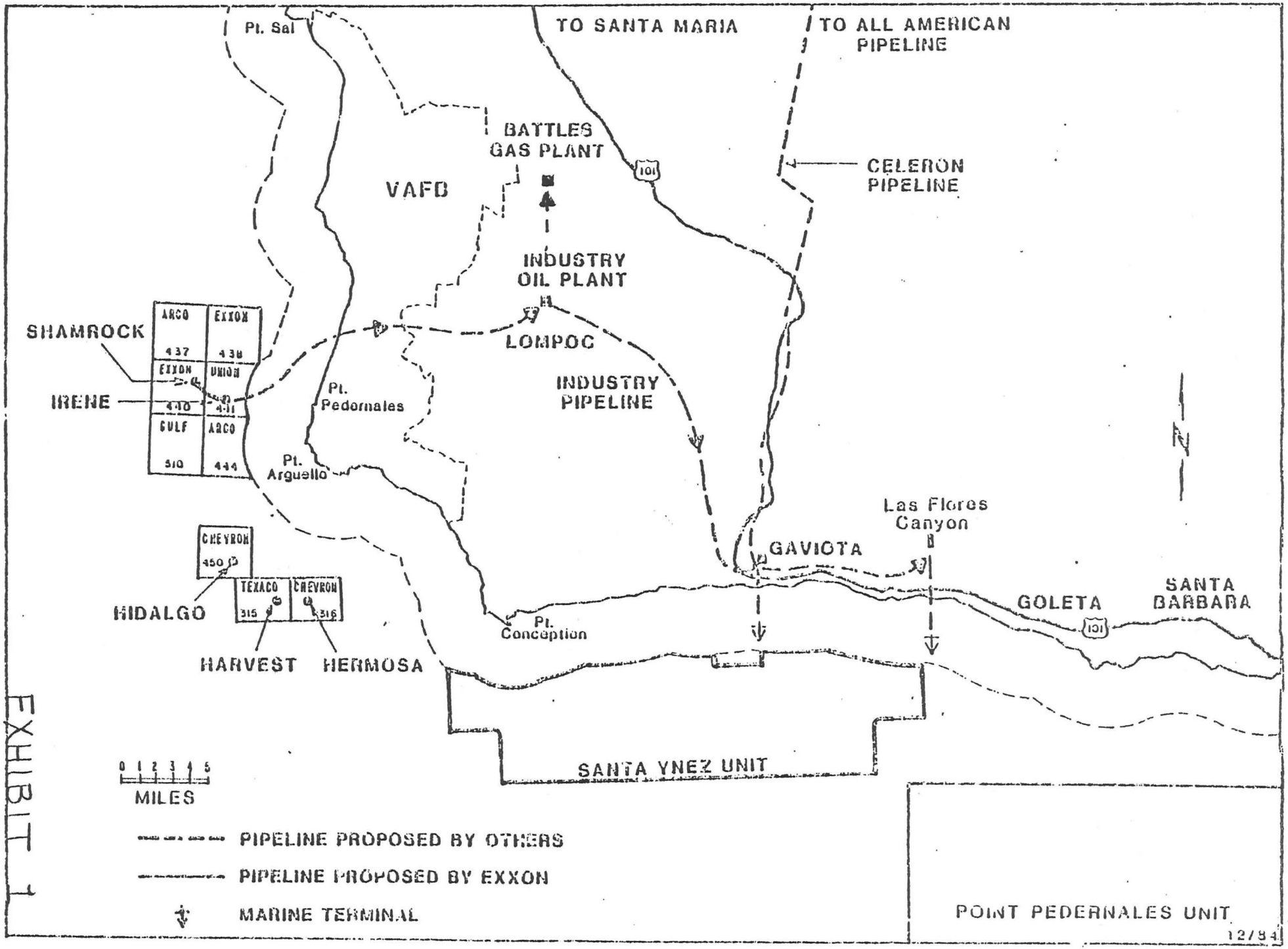
Pt. Sal
TO SANTA MARIA
TO ALL AMERICAN PIPELINE
BATTLES GAS PLANT
VAFB
CELERON PIPELINE
INDUSTRY OIL PLANT
SHAMROCK
ARCO
EXXON
437
438
EXXON
UNION
IRENE
440
441
GULF
ARCO
510
444
LOMPOC
INDUSTRY PIPELINE
Pt. Pedernales
Pt. Arguello
Las Flores Canyon
GAVIOTA
CHEVRON
450
HIDALGO
TEXACO
CHEVRON
315
316
HARVEST
HERMOSA
Pt. Conception
GOLETA
SANTA BARBARA
101
SANTA YNEZ UNIT
0 1 2 3 4 5
MILES
PIPELINE PROPOSED BY OTHERS
PIPELINE PROPOSED BY EXXON
MARINE TERMINAL
POINT PEDERNALES UNIT
12/84

EXHIBIT 1

California Coastal Commission

SANTA MARIA BASIN

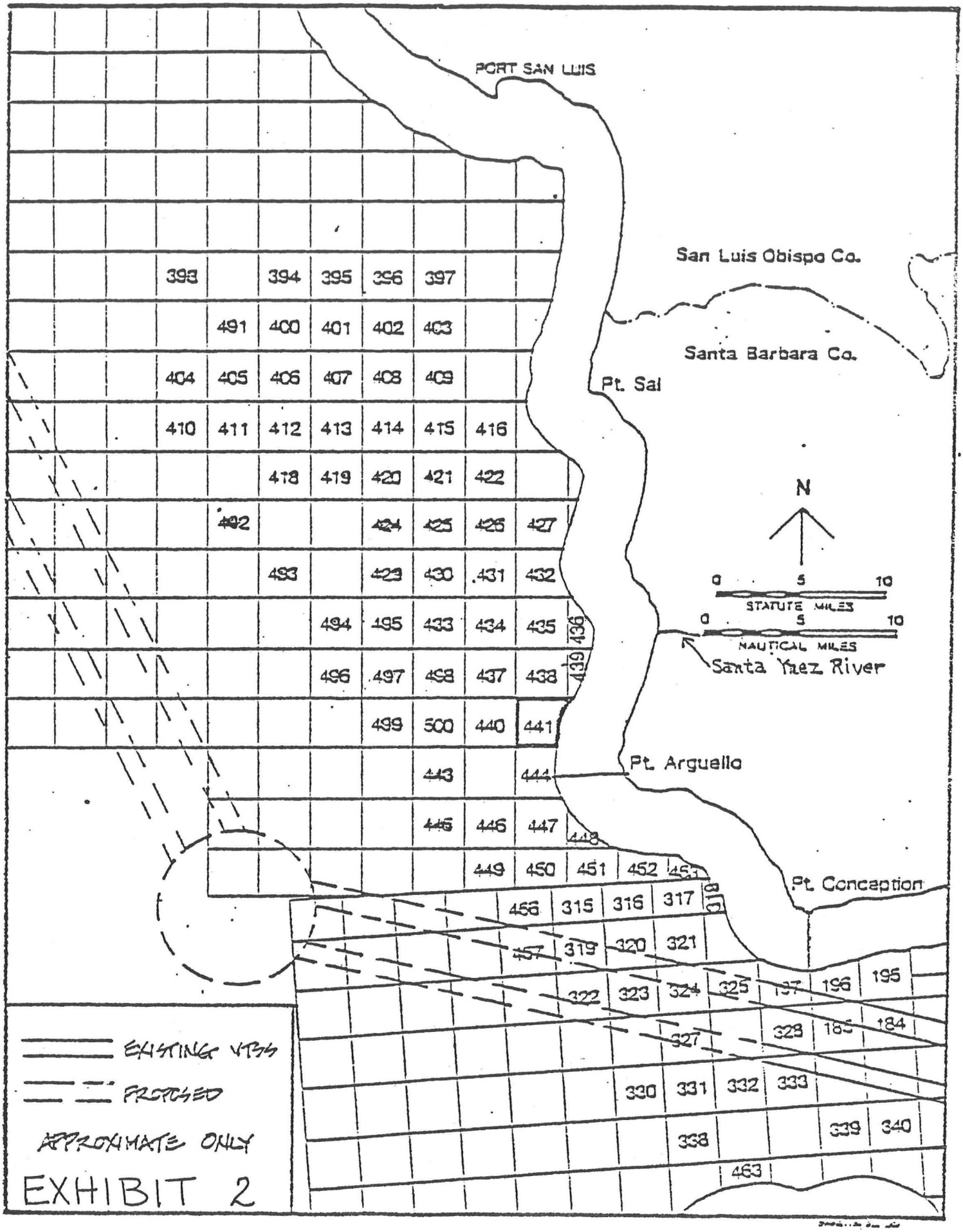

EXHIBIT 2

EXXON COMPANY, U.S.A.
P.O. BOX 5025 • THOUSAND OAKS, CALIFORNIA 91359

PRODUCTION DEPARTMENT
WESTERN DIVISION

SHELBY H. MOORE, JR.
DIVISION ATTORNEY

February 19, 1985

Re: Exxon Consistency Certification
Point Pedernales Field

Mr. Michael Fischer
Executive Director
California Coastal Commission
631 Howard Street
San Francisco, California 94105

Dear Mr. Fischer:

Exxon has been engaged in discussions with your Staff concerning the consistency of its Point Pedernales Field Development and Production Plan. During these meetings, your Staff advised that additional mitigation measures would be required to obtain the Staff's recommendation of consistency concurrence. Accordingly, in the spirit of cooperation and based on the understanding that the following mitigation measures address Staff's concerns and will enable them to recommend concurrence, Exxon hereby amends its consistency certification for its Point Pedernales project to include the additional mitigation measures set forth below:

Transportation of Crude Oil

Exxon agrees to transport its Pt. Pedernales crude production by pipeline consistent with Santa Barbara County's Oil Transportation Policies, which were approved as Local Coastal Plan and Coastal Zoning Ordinance amendments by the California Coastal Commission in September 1984. Under these Policies, transport of Pt. Pedernales crude production must be by pipeline when Exxon's refinery center of choice is served by pipeline. Exxon recognizes that crude transportation by means other than pipeline shall be in accordance with these Policies, and will be permitted only when the County, subject to Commission and other appropriate review, has determined that use of a pipeline is not feasible by making one of the following findings:

1. A pipeline to the shippers' refining center of choice has inadequate capacity or is unavailable within a reasonable period of time;

2. A refinery upset has occurred, which lasts less than two

months, precludes the use of a pipeline to that refinery, and requires temporary transportation of oil to an alternative refining center not served by pipeline;

3. The costs of transportation of oil by common carrier pipeline are unreasonable taking into account alternative transportation modes, economic costs, and environmental impacts; or

4. An emergency, which may include a national state of emergency, has precluded use of a pipeline.

These same Oil Transportation Policies will apply to any person or entity purchasing Exxon's Pt. Pedernales crude production.

Exxon's crude oil will be transported from the consolidated Lompoc treating facility by approved industry transportation systems. Exxon's primary long-term refinery destination for its crude oil is its Baytown, Texas refinery. It is anticipated that permit applications will be filed for the industry pipeline from Lompoc to Gaviota, which is currently being analyzed on a programmatic basis in the Central Santa Maria Basin EIS/R. This line would tie into existing or proposed consolidated storage and transportation systems along the Gaviota coast. Prior to completion of pipelines, only approved marine terminal facilities will be used.

Containment and Cleanup of Crude Oil Spills

° Exxon's Pt. Pedernales project will have the following oil spill containment and cleanup equipment:

- 1,500 feet of oil spill containment boom capable of open ocean use;
- Oil recovery skimmer capable of open ocean use;
- Oil storage capacity to handle skimmer throughput until the oil spill cooperative can arrive with additional equipment;
- A boat located at the site of drilling operations (arrangements will be made with Union whereby this boat and Union's boat will be available for reciprocal support);
- Oil sorbent material capable of absorbing 15 barrels of crude oil;
- To ensure adequate oil spill response capability for the Pt. Pedernales area, Exxon will participate in the acquisition of a vessel with increased capabilities for Clean Seas. The vessel will be approximately 180 feet in length with 1,000 barrel storage capacity, have state of the art containment and cleanup equipment for oil spills, and be operated by a

professional crew. This boat will provide an onsite capability which far exceeds the Commission's standard equipment requirements. The vessel is to be stationed in the Pt. Arguello/Conception area at a location approved by all appropriate authorities within one hour of the site. If this vessel cannot be onsite by the time Exxon's operations begin, Exxon will provide a large vessel fully equipped with the above-mentioned equipment list until the Clean Seas vessel is available.

° Exxon will participate with Union in effectiveness and toxicity testing of dispersants, and in encouraging federal and state agencies to license Corexit 9550. Effectiveness tests performed on Corexit 9550 confirm that it is a superior dispersant for use on Pt. Perdernales crude oil. By June 1, 1985, Exxon Chemical Company will file the necessary information with the State Water Resources Control Board and the Environmental Protection Agency to get this dispersant accepted. It is anticipated that the acceptance and licensing process will take approximately three to four months.

Marine Resources

° Exxon will make avoidance of marine construction activities during the whale migration period of December through April a significant project design criterion. Platform and pipeline installation will not be planned for this period. If unavoidable construction delays necessitate that these activities take place during this period, Exxon will notify the Commission and work out mutually agreeable appropriate mitigation measures such as instructing personnel on whale observation, identification and avoidance, assigning a boat for whale observation, and placing sonar reflectors on vessel mooring lines.

° Crew and supply boats will adhere to prescribed vessel traffic routes as much as possible.

° Exxon will cooperate with the Fisheries and Environmental Training Program and WOGA to improve, as necessary, the information presented in the program on gray whales and the avoidance of any inadvertent harrassment.

° Exxon will use only chrome-free lignosulfonate drilling muds when discharging to the ocean, pursuant to NPDES permit.

° Exxon agrees to implement all feasible mitigation measures

appropriate to its Pt. Pedernales project which may be identified in the joint government/industry study on drilling muds and cuttings discharge mitigation techniques.

Commercial Fishing

° Exxon will use support boat routes adopted by the Joint Committee in Santa Barbara Channel Oil Service Vessel Corridor Programs, and refrain from mooring support vessels within ten fathoms of Hueneme Flats.

° Impacts on fishing from crew boats will be minimized by consolidating crew changes, requiring crew boats to utilize prescribed vessel traffic routes, and requiring crew boat operators to attend the Marine Mammals and Fisheries Training Program.

° Exxon will also:

- Design and construct the pipeline protrusions so that they will be shrouded;
- Use pipeline installation methods which eliminate or minimize anchor scarring;
- Use pipelines with a minimum of surface obstructions;
- Conduct post-construction surveys within the platform and pipeline construction zone;
- Remove all artificial obstructions related to construction activities and drag the bottom where recoverable project equipment is lost overboard as required by the Minerals Management Service; and if an object is not recoverable, publish notice of its location in the Santa Barbara Marine Advisory Program Newsletter and the Notice to Mariners;
- Notify commercial fishermen of the schedule and locations of construction activities through the Santa Barbara Marine Advisory Program Newsletter and the Notice to Mariners; and
- Orient the platform support boat mooring buoys in the same water depth as the platform and as near to parallel to the shore as possible.

Vessel Traffic Safety

° Exxon will install an Automatic Radar Plotting Aid on the platform if the Executive Director determines that Union's Platform Irene system is inadequate for both platforms.

° Exxon will install four quick-flashing white lights visible for five miles on each corner of the platform and red clearance

lights at the top of the drilling mast and the tip of each crane boom.

° Lighting will be provided when daylight visibility is less than three miles.

° Helicopter perimeter lighting will consist of dual fixtures equipped with one blue and one amber globe.

° The platform will have a foghorn with a two-mile audible range.

° The platform will be painted in accordance with USCG recommendations to increase the platform's visibility to vessels.

° The platform will be equipped with personnel escape capsules that have been approved by the Minerals Management Service and USCG.

Air Quality

° The project will have the following Best Available Control Technology equipment and operating practices:

- All vessels containing volatile hydrocarbons will be connected to a low pressure gas gathering system or vapor recovery system to reduce hydrocarbon emissions;
- Emergency flare;
- Gas scrubber upstream of each flare to remove and contain any entrained liquids;
- Crew and supply vessels will employ retarded injection timing to reduce NO_x emissions to the extent vessel operators and the ABS consider it safe and feasible;
- Fugitive emission inspection and maintenance program; and
- H_2S monitors on the platform.

° In addition, electric power will be provided by onshore electric utility service via a subsea power cable from Union's Platform Irene.

Public Access and Recreation

° Exxon plans on using local labor and local contractors in support of platform operations, and will encourage and promote employment from local sources.

Compatibility with the Local Coastal Program

° Exxon's Pt. Pedernales crude oil will be transported consistent with the pipeline commitment set forth herein.

Public Welfare

° Production from Exxon's Pt. Pedernales project will be consolidated in Union's oil gathering and processing facilities associated with their proposed Platform Irene project.

° Exxon's Pt. Pedernales crude oil will be transported consistent with the pipeline commitment set forth herein.

These additional mitigation measures are for Exxon's Pt. Pedernales project, and Exxon reserves its position on these issues as to its other operations. The implementation of these mitigation measures is subject to the approval of all federal, state or local agencies properly having jurisdiction over their implementation, and nothing contained herein shall require Exxon to take any action that would violate any valid rule, regulation or order of any such agency. Exxon reserves the right to contest on all grounds the Commission's or any other agency's application or enforcement of these mitigation measures. Nothing contained herein shall be construed to limit Exxon's rights to participate in the Environmental Protection Agency's NPDES permit renewal process or to contest the provisions of that permit or the Commission's consistency review. In agreeing to additional air quality control mitigation, Exxon expressly reserves its position that OCS emissions are subject to exclusive regulation by the Department of the Interior and that the regulations of the Department fully protect onshore air quality.

I wish to express my appreciation for the time your Staff has spent with us in working on this matter.

Very truly yours,

for Shelby H. Moore, Jr.

SHM/jef

xc: T. W. Dunaway
Minerals Management Service