NAVAL PETROLEUM RESERVE NO. 1
(ELK HILLS)
KERN COUNTY, CALIFORNIA

SUPPLEMENT TO
FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR CRUDE OIL TRANSPORT

ELK HILLS/COALINGA
CONVEYANCE SYSTEM

VOLUME II
COMMENTS AND RESPONSES

MAY 1978

U.S. DEPARTMENT OF ENERGY
ASSISTANT SECRETARY FOR RESOURCE APPLICATIONS
OFFICE OF NAVAL PETROLEUM AND OIL SHALE RESERVES

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X. WRITTEN COMMENTS

X. WRITTEN COMMENTS

A. Introduction

The Draft Environmental Impact Statement for the Elk Hills/Coalinga Conveyance System was made available to the Council on Environmental Quality on April 23, 1977, and was announced in the Federal Register on April 29, 1977. Over 120 copies of the statement were sent with requests for comments to elected officials, government agencies, libraries, and organizations.

The government received 39 letters which directly commented on the Elk Hills/Coalinga conveyance system or on the project in general. (Additional comments were received regarding the Elk Hills/Port Hueneme and Elk Hills/SOHIO routes). These letters are numbered 1 through 39 and are included in part C of this section. The particular comments within each letter which apply to the Elk Hills/Coalinga system or to the project in general are assigned letters of the alphabet. In Section XI, these comments and their responses are organized by this numeric and alphabetical system.

B. Agencies, Organizations, and Individuals Who Responded to the Draft Environmental Impact Statement

Number	
	Federal
1	Advisory Council on Historic Preservation
2	Department of Agriculture, Soil Conservation Service

3 Department of Commerce
4 Department of Defense, Department of the Air Force
Department of Defense, Department of the Army
5 Sacramento District Corps of Engineers
6 Department of Health, Education, and Welfare,
Office of the Secretary
7 Department of the Interior, Office of the Secretary
8 Department of Transportation, U.S. Coast Guard
9 Environmental Protection Agency, Region IX
10 Federal Energy Administration, Region IX
11 Federal Power Commission

State

12 The Resources Agency of California, Office of the Secretary
13 The Resources Agency of California, Air Resources Board
14 The Resources Agency, State Water Resources Control Board

Local

15 Fresno County Planning Department

Public Organizations

16 League of Women Voters of San Luis Obispo
17 Mission Coast Lung Association
18 Save Our Coast Coalition
19 Sierra Club, Santa Lucia Chapter
20 Sierra Club, Southern California Regional Conservation Committee
21 South Bay Conservation Group

Private Organizations

22 Atlantic Richfield Company, Transportation Division
23 Beacon Oil Company
24 Chevron U.S.A. Inc.

Individuals

25 Charles W. Quinlan, Urban Planner and Architect, A.I.A.
26 E. Craig and Eileen P. Cunningham, Atascadero
27 George H. Floyd, Cambria
28 Mr. and Mrs. Theodore Foster, San Luis Obispo
29 Mrs. I.W., Gahagan, San Luis Obispo
30 Constance and William Hendricks, San Luis Obispo
31 Andy Hinsdale, Cayucos
32 Russell L. Kaldenberg, Fellows
33 Chris Kennington, Morro Bay
34 Dr. and Mrs. W.C. Langworthy, Arroyo Grande
35 C. W. O'Brien, M.D., Arroyo Grande
36 Jane Orvis, Morro Bay

37 R.D. Rice, M.D., Arroyo Grande
38 Fred A. and Janice C. Schenk, Morro Bay
39 Mr. and Mrs. R. Stern and Family, San Luis Obispo

C. Written Comments

Following are the written comments received on the Elk Hills/ Coalinga Conveyance System DEIS.

1

Advisory Council on
Historic Preservation
1522 K Street N.W.
Washington, D.C. 20005

May 16, 1977

Captain John I. Dick-Peddie
Officer In Charge Of Construction
Naval Facilities Engineering Command Contracts,
Elk Hills
P. O. Box 40
San Bruno, California 94066

Dear Captain Dick-Peddie:

This is in response to your request of April 21, 1977, for comments on the draft environmental statement for the construction of a pipeline to convey up to 250,000 barrels per day of crude oil from Naval Petroluem Reserve No. 1 (Elk Hills), Tupman, California, to market. Pursuant to its responsibilities under Section 102(2)(C) of the National Environmental Policy Act of 1969, the Advisory Council on Historic Preservation has determined that while you have discussed the historical, architectural and archeological aspects related to the undertaking, the Council needs additional information to adequately evaluate the effects on these cultural resources. Please furnish additional data indicating:

I. Compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f, as amended, 90 Stat. 1320). The Council must have evidence that the most recent listing of the National Register of Historic Places has been consulted (see Federal Register, February 1, 1977, and monthly supplements each first Tuesday thereafter) and that either of the following conditions is satisfied:

A. If no property included in or eligible for inclusion in the National Register is affected by the project, a section detailing this determination must appear in the statement. a

B. If a property included in or eligible for inclusion in the National Register is affected by the project, b

The Council is an independent unit of the Executive Branch of the Federal Government charged by the Act of October 15, 1966 to advise the President and Congress on the [illegible]

the statement must contain an account of steps taken in compliance with Section 106, as amended, and a comprehensive discussion of the contemplated effects on the property. (Procedures for compliance with Section 106 are detailed in the Federal Register of January 25, 1974.)

II. Contact with the State Historic Preservation Officer.

The procedures for compliance with Section 106, as amended, of the National Historic Preservation Act of 1966 and Executive Order 11593 require the Federal agency to demonstrate consultation with the appropriate State Historic Preservation Officer. The State Historic Preservation Officer for California is Mr. Herb Rhodes, Director, Department of Parks and Recreation, State of California, P. O. Box 2390, Sacramento, California 95841.

Should you have any questions or require additional assistance, please contact Michael H. Bureman of the Council's Denver staff at P. O. Box 25085, Denver, Colorado 80225, or (303)234-4946, an FTS number.

Sincerely yours,

Michael H. Bureman
for Louis S. Wall
Assistant Director, Office of
Review and Compliance

(2)

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
2828 Chiles Road, Davis, CA 95616

June 15, 1977

Officer in Charge of Construction
Naval Facilities Engineering Command Contracts
Elk Hills, P. O. Box 40
San Bruno, California 94066

Dear Sir:

We acknowledge receipt of the draft environmental statement for the construction of a pipeline to convey up to 250,000 barrels per day of crude oil from Naval Petroleum Reserve No. 1 (Elk Hills), Tupman, California to market, that was addressed to the Soil Conservation Service on April 21, 1977, for review and comment.

We have reviewed the above draft environmental statement and have the following comments.

The erosion control and revegetation measures following construction were not adequately addressed. The statement recognizes the difficulties associated with establishing vegetation in the area. We would recommend that an erosion control and revegetation plan be developed in consultation with the Bakersfield field office of the Soil Conservation Service. The operations and maintenance following construction and initial efforts to re-establish vegetation should recognize the possibilities of failure and provide for additional planting if needed. a

We find no conflict with any Soil Conservation Service on-going or planned programs or projects.

We appreciate the opportunity to review and comment on this proposed project.

Sincerely,

Francis C. H. Lum

FRANCIS C. H. LUM
State Conservationist

cc: R. M. Davis, Administrator, USDA, SCS, P. O. Box 2890, Washington, D. C. 20013
Fowden G. Maxwell, Coordinator of Environmental Quality Activities, Office of the Secretary, USDA, P. O. Box 2890, Washington, D. C. 20013
Council on Environmental Quality, 722 Jackson Place, N. W., Washington, D. C. 20006 - Attn: General Counsel (5 copies)
Ralph Bishop, Area Conservationist, SCS, Santa Rosa, California

3

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230 (202) 377-3111

July 29, 1977

Captain John I. Dick-Peddie
Officer in Charge of Construction
NAVFACENCOM Contracts, Elk Hills
P. O. Box 40
San Bruno, California 94066

Dear Captain Dick-Peddie:

This is in reference to your draft environmental impact statement entitled "Crude Oil Transport Alternatives from Naval Petroleum Reserve No. 1, Tupman, California, Elk Hills/ Coalinga Conveyance System." The enclosed comments from the National Oceanic and Atmospheric A ministration are forwarded for your consideration.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving ten (10) copies of the final statement.

Sincerely,

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Enclosures - (1) Memo, National Ocean Survey, June 12, 1977
(2) Memo, National Oceanic and Atmospheric Administration, June 28, 1977
(3) Memo, National Marine Fisheries Service, June 13, 1977

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

C52/JLR

JUL 14 1977

JUL 12 1977

TO: William Aron
Director
Office of Ecology and Environmental Conservation

FROM: Gordon Lill
Gordon Lill
Deputy Director
National Ocean Survey

SUBJECT: DEIS #7705.12 - Elk Hills/Coalinga Conveyance System

The subject statement has been reviewed within the areas of NOS responsibility and expertise, and in terms of the impact of the proposed action on NOS activities and projects.

The following comment is offered for your consideration.

Geodetic control survey monuments may be located along the proposed pipeline route. If there is any planned activity which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activity in order to plan for their relocation. NOS recommends that funding for this project includes the cost of any relocation required for NOS monuments. a

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Rockville, Maryland 20852

MEMORANDUM

JUL 6 1977

DATE: June 28, 1977

TO: William Aron

FROM: Robert Kifer

SUBJECT: Comment on Elk Hills/Coalings Conveyance System Draft Environmental Impact Statement 7705.12

The Navy is to be commended on the thorough investigation developed for the Draft Environmental Impact Statement regarding pipeline construction and increased tanker traffic from Naval Petroleum Reserve No. 1 at Elk Hills, California. We are most pleased with the efforts to coordinate planning with the California Coastal Commission and the attempts to meet the policies and objectives of the Federal Coastal Zone Management Act and the California Coastal Act.

Approval of the California Coastal Zone Management Program by the Secretary is expected by the end of the year. This may occur by the time the Final Environmental Impact Statement is prepared, requiring any activities which may have a potential impact on the coastal zone to be, to the maximum extent practicable, consistent with the state Coastal Management Program.

Alternatives 1 and 2 show that not all activities and impacts will directly take place inside excluded Federal lands jurisdiction. To the extent that pursuits and dealings, and other actions have a direct and significant impact on the state's coastal zone, Federal consistency may apply. It is recommended that further consultation and coordination take place with the California Coastal Commission regarding these matters. b

The relevancy of this project given the projected surplus of oil on the west coast with the opening of the Alaska pipeline needs to be more thoroughly addressed, especially with regard to potential increased tanker traffic at offloading facilities and other activities which may endanger the coastal zone. c

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Region
300 South Ferry Street
Terminal Island, California 90731

JUN 22 1977

Date : June 13, 1977 FSW33/RSH

To : EE, Office of Ecology and Environmental Conservation

Robert L. Schmidt JUN 21 1977

Thru for: F5, Acting Assistant Director for Scientific and Technical Services

From FOR FSW, Gerald V. Howard, Regional Director, Southwest Region

Subject: Review of DEIS #7705.12 - Elk Hills/Coalinga Conveyance System (DONavy)

The subject DEIS which accompanied your memorandum of May 10, 1977 has been reviewed by the National Marine Fisheries Service. The following comments are offered for your consideration:

General Comments

A variety of projects and proposals concerned with the transportation of petroleum as well as related energy resources (LNG) have been proposed for the California coast. Although many of these projects are expected to have minimal individual impacts on the marine environment, the cumulative effects from all the projects may have significant adverse impacts on fishery resources of commercial and recreational value. Both the Elk Hills to Coalinga and Elk Hills to Port Hueneme Crude Oil Conveyance System alternatives rely on marine transportation as part of each system. Therefore, in order to minimize potential damage to the marine environment, the Elk Hills to SOHIO Pipeline alternative appears to offer the least number of marine impacts, since the system is entirely located on land.

Specific Comments

Volume 1, Elk Hills/Coalinga Conveyance System

II. Existing Environment of Proposed Site

E. Biological Resources.

3. Aquatic Biota, Page 2-23

Information concerning the existing marine biota in the vicinity of Avila Beach and Estero Beach should be included in this

section. Although the proposed pipeline will not directly impact marine resources, existing pipelines (Standard/Chevron and Union) and tankers carrying increased oil volumes could have direct and indirect impacts on the existing marine biota.

IV. Probable Impact of the Proposed Action on the Environment.

E. Biological Resources

3. Aquatic Biota, page 4-27

The possibility of oil spills, either infrequent large volumes or frequent small volumes, and related effects on existing marine resources should be included in this section. Recent investigations by Struhsaker (1977) have indicated that exposure to some aromatic components of crude oil may "lead to significant reductions in fecundity and serious consequences for populations over long chronic exposures." e

VI. Any Probable Adverse Environmental Effects Which Cannot be Avoided Should Proposal be Implemented, Page 6-1

The effects of increased oil spills on marine resources as a result of larger oil volumes passing through Avila Beach and Estero Bay, should be included in this section. f

Volume II, Elk Hills/Port Hueneme Conveyance System

IV. Probable Impact of the Proposed Action on the Environment

E. Biological Resources

3. Aquatic Biology

b. Marine, page 4-30

Consideration should be given as to the effects of chronic, small volume oil spills on the existing marine biota.

Page 4-31

The statement that "There is no evidence, however, that oil-contaminated mammals are adversely affected" is not entirely correct. The Guadalupe fur seal and Northern fur seal both partially rely on their fur for insulation against the cold marine water. Contact with oil could destroy the insulating function of the fur resulting in death by exposure. Similarly, it has been suggested that, "Harbor seals and sea lions could very likely die if heavily covered with oil" (BLM, 1975).

Appendix 2-N

Aquatic Biology

2. Marine

a. Port Hueneme, Page N-17

The results of the fish trawls should be presented in this section. Included in this information should be: a listing of the species caught in the trawls, number of individuals, and size distributions for each species.

References Cited

Bureau of Land Management. 1975. Final environmental statement, proposed 1975 outer continental shelf oil and gas general lease sale offshore southern California (O.C.S. Sale No. 35). Vol. 2, p. 180-181.

Struhsaker, J. W. 1977. Effects of benzene (a toxic component of petroleum) on spawning Pacific herring, Clupea harengus pallasi. Fishery Bulletin, 75:43-49.

(4)

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C. 20330

30 JUN 1977

Captain John I. Dick-Peddie, CEC,USN
Officer in Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
P.O. Box 40
San Bruno, CA 94066

Dear Capt Dick-Peddie:

The Draft Environmental Impact Statement - Crude Oil Transport Alternates from Naval Petroleum Reserve No. 1, Tupman, CA has been reviewed. The proposed action will cause no conflict with current Air Force operations. a

This letter confirms our negative response by phone on 28 June 1977.

Sincerely,

LUIS F. DOMINGUEZ, Colonel, USAF
Chief, Environmental Planning Division
Directorate of Engineering & Services

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

5

DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT, CORPS OF ENGINEERS
650 CAPITOL MALL
SACRAMENTO, CALIFORNIA 95814

REPLY TO
ATTENTION OF
SPKED-W

23 June 1977

John I. Dick-Peddie
Captain, CEC, USN
Officer in Charge of Construction
Naval Facilities Engineering Command
Contracts, Elk Hills
P.O. Box 40
San Bruno, California 94066

Dear Captain Dick-Peddie:

This is in response to your letter of 21 April 1977 requesting comments on your draft environmental impact statement for three alternative route proposals for the construction of a pipeline to convey up to 250,000 barrels per day of crude oil from Naval Petroleum Reserve No. 1 (Elk Hills), Tupman, California to market. Your letter sent to our Chief of Engineers in Washington, D.C. was referred to us for direct reply.

We have coordinated our review with the Corps' Los Angeles District office since two of the proposed routes, Elk Hills/Port Hueneme and Elk Hills/Sohio Pipeline Connection are located in that district. The Los Angeles District will review and provide comments on those two routes. The third route, Elk Hills/Coalinga, is located within the Sacramento District. We have no existing or proposed projects within the study area, and do not believe the proposed project will have any appreciable effect on flood control, navigation, or other programs within our jurisdiction. a

Thank you for the opportunity to review your draft EIS.

Sincerely yours,

GEORGE C. WEDDELL
Chief, Engineering Division

6

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20201

JUN 21 1977

John I. Dick-Peddis
Captain, CEC, USN
Officer in Charge of Construction
NAVFACENGCOM Contracts
Elk Hills
P.O. Box 40
San Bruno, CA 94006

Dear Sir:

We have reviewed the draft Environmental Impact Statement for Crude Oil Transport Alternates from Naval Petroleum Reserve No. 1, Tupman, California.

The draft EIS describes three possible conveyance systems from the Elk Hills reserve.

None of the three will create particular problems related to HEW programs or concerns. Little construction-related population impacts will occur, nor will completion of any of the three alternatives result in long term or permanent population changes.

Air quality standards due to increases in hydrocarbon vapor emissions can be expected to be exceeded, particularly at Pt. Hueneme and Avila Bay. We defer to the EPA findings in this matter since they must conduct a review under the New Source Review requirements.

The possibility of accidental oil spills at Avila Bay and Pt. Hueneme was adequately discussed. The control measures to prevent such spills and the cleanup/containment procedures appear adequate. a

The proposed method of crossing the San Andreas earthquake fault is acceptable practice and meets California standards.

Thank you for the opportunity to review this document.

Sincerely,

Charles Custard
Director
Office of Environmental Affairs

(7)

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

In Reply Refer To:
ER-77/413

June 30, 1977

Captain John I. Dick-Peddie, CEC, USN
Officer in Charge of Construction
Naval Facilities Engineering Command
Contracts, Elk Hills
P.O. Box 40
San Bruno, California 94066

Dear Captain Dick-Peddie:

We have reviewed the draft environmental statement for Crude Oil Alternates from Naval Petroleum Reserve No. 1, commonly known as Elk Hills, Kern County, California. We view this as a lead agency statement to serve the needs of both the Department of the Navy and the Department of the Interior in meeting their responsibilities under the National Environmental Policy Act. The statement must cover the respective actions of each agency in approval of any proposed pipeline routing for this project. In this regard we have some concerns as to suggested routings of the pipeline and the environmental coverage of the statement.

The proposed Elk Hills/Coalinga route would cross or possibly impact on public lands administered by the Bureau of Land Management. We have indicated these lands on the enclosed Xerox copies of C-2, C-3, and C-6; this information should be included in the Summary of Land Requirements. These lands are in the Temblor-Caliente Planning Unit; the Management Framework Plan and planning recommendations for that unit should be referenced as was done in Q-1 of the Elk Hills/Port Hueneme volume. a

The proposed Elk Hills/Port Hueneme route will go directly through two wildlife withdrawal areas in the Temblors and Calientes. These are the Temblor National Cooperative Land and Wildlife Management Area and the Caliente National Cooperative Land and Wildlife Management Area. Wildlife developments, including guzzlers and exclosures, are located near the proposed route through these areas. Impacts on any authorized developments on the public lands should be avoided

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

where possible. If impacts are unavoidable, appropriate mitigation measures should be designed and included in the proposal.

Cultural Resources

The referenced archeological studies and reconnaissance surveys indicate that only portions of the proposed routes were sampled. It is evident from these preliminary investigations that the proposed project may affect cultural resources present in the area. However, adverse impacts that may occur can be significantly alleviated through comprehensive planning in the early stages of project development. Guidelines in Title 36, CFR 800, provide an effective means for dealing satisfactorily with cultural resources. b

Prior to project implementation an intensive on-the-ground survey of all areas to be disturbed should be made by a qualified archeologist. Areas where potential impacts could occur would include the unsurveyed portions of the pipeline right-of-way of the three conveyance systems, sites of tank farms and their auxiliary facilities, and access roads. Any identified cultural resources should be evaluated for significance in accordance with National Register of Historic Places criteria. c

The State Historic Preservation Officer for California is Mr. Herbert Rhodes, Director, Department of Parks and Recreation, State Resources Agency, P.O. Box 2390, Sacramento, California 95811 (phone 916-445-2358). He can be a valuable source of assistance in designing an adequate investigation of the cultural resources, evaluation of significance, and implementation of appropriate mitigation measures, where necessary. d

Copies of any additional archeological reports should be forwarded to the Western Archeological Center, National Park Service, P.O. Box 49008, Tucson, Arizona 85717, so that a more informed evaluation of the final statement will be possible. e

Wildlife

Various portions of the routes considered may involve critical habitat for one or more of the following endangered species: San Joaquin kit fox, California condor, blunt-nosed leopard lizard, brown pelican, and the California least tern. f

This is recognized in the statement and, in some instances, there has been consultation with the appropriate recovery team. Any approvals or construction by Government agencies affecting these areas must be in conformity with Section 7 of the Endangered Species Act of 1973. Continued consultation and coordination with our U.S. Fish and Wildlife Service is required. No actions can be taken which will jeopardize the continued existence of the species or result in destruction or modification of critical habitat.

Recreation

The Elk Hills/Port Hueneme and Elk Hills/SOHIO systems would have impacts on existing recreation lands with the Elk Hill/Port Hueneme system having the more severe impact of the two. Each recreation area, or park, to be impacted should be individually described, and the relative degree of impact and proposed mitigation measures identified. It should be ascertained whether or not such impacted lands have received financial assistance under the Land and Water Conservation Fund Act of 1965, as amended (P.L. 88-578). This information may be obtained through the local park-managing agency.

If an impacted area has received such financial assistance, for either acquisition or development, then the requirements of Section 6(f) of the Act would have to be met. Section 6(f) states in part that no property acquired or developed with these funds can be converted to other than public outdoor recreation use without the approval of the Secretary of the Interior. If such funded lands are to be impacted, there should be consultation with Mr. Herbert Rhodes, Director, Department of Parks and Recreation, liaison officer for the Land and Water Conservation Fund in California. Both routes also traverse areas which have been proposed for future recreation development. We recommend that these areas be avoided, and feel that the implications of this should also be discussed with Mr. Rhodes. g

In the Elk Hills/Coalinga section mention is made of the potential recreation opportunities of the California Aqueduct and a proposed fishing access area on the Aqueduct. However, no location is given for the proposed fishing access area and there is no mention of what agency is to develop the access. An expanded description of this site is warranted. Analysis should include discussion of impacts on the recreation resource and identification of possible mitigation measures that could alleviate degradation of the sites. h

Geologic

Although information on seismicity appears to have been provided for each route, the application of this information to proposed designs of pipelines and other facilities does not appear uniform for the three alternative conveyance systems. As an example, in the case of the Elk Hills/Coalinga Conveyance System, it has been concluded that "All facilities would be designed for accelerations of about 0.5 g in order to minimize adverse effects of seismic movement" (p. 4-6, par. 1, lines 8-10). In the case of the Elk Hills/Port Hueneme Conveyance System, it has been stated that "Tank farms and the marine terminal and wharf renovations would be designed to withstand the expected 25- and 50-year events that could produce 0.15 and 0.30 g acceleration" (p. 4-5, par. 3, lines 2-4). In the case of the Elk Hills/SOHIO Pipeline Connection Conveyance System, it has been stated that "Standard engineering measures would insure that surface facilities and connections between the valves and pumps and the pipeline may withstand horizontal accelerations of 0.2 g or more" (p. 4-7, par. 2, lines 1-3). In the case of the latter two systems, we have found no specific reference to proposed design of facilities to withstand accelerations as high as 0.5 g, yet both of these would cross the San Andreas fault zone as well as three to nine additional faults or fault zones. Consequently, we feel the environmental statement should clarify the seismic design criteria that would be applied to all three alternative systems. i

Concerns in regard to possible impacts on and protection of surface and groundwater resources include:

- The potential for significant impact of oil spills above the underground weir of the City of Ventura on the groundwater supply of Ventura should be more adequately described and evaluated; possibilities for mitigation should be discussed in detail.

- Following pipeline and storage-tank hydrostatic testing, control of the volume of test water discharge to receiving streams should be considered in order to minimize any adverse effect of stream-bed scour or streambank erosion. j

- The details of types of planned cathodic pipeline protection installations should be described more adequately. If installation of cathodic protection wells (deep anodes) is planned, the statement should k

describe the design of such well-type anodes and describe plans to prevent aquifer pollution via the cathodic protection wells.

The Elk Hills/Coalinga route would result in the least impacts to resources under our management, as well as to our programs and concerns. Apparently, any route selected will cross public lands under the jurisdiction of this Department and implementation of the project will require our approvals. To ensure that the final statement covers the full range of Federal actions involved in accordance with CEQ Guidelines, our staffs at the field and Washington Office level will assist as necessary.

Sincerely,

Larry E. Meierotto
Deputy Assistant SECRETARY

Enclosures

Elk Hills/Port Hueneme

1-7 We feel that it would be appropriate to plan for the vapor recovery system as part of the project.

1-11 a. Division of Oil and Gas will not allow discharge of contaminated water in natural drainages. Evaporation ponds would be more acceptable.

b. Impacts of disposing of separated water in natural drainages have not been discussed in Chapter 4.

c. The percent of oil left in the separated water should be addressed.

1-13 The effects of ripping up five miles of oil pipeline across farmlands in the Cuyama Valley should be discussed in Chapter 4.

1-14 The seismic displacement evaluations should be performed prior to choosing the best pipeline route.

1-27, -28 The fifty-foot width (50') may not be sufficiently wide to provide access roads.

1-43 Barren lands. All disturbed lands should be both mulched and reseeded. Critical areas that may need spray or adhesives should be identified in this document, and based on soils erosibility data. In addition, where grazing of livestock occurs, reseeding has been proven to fail unless the reseeded area is fenced for at least two years.

1-58 The BLM may require additional remote controlled block valves to decrease potential spill amounts in the east end of the line where it crosses the Calientes.

1-59 The catchment ditch to keep spillages from getting into lakes, etc. is a good idea and should be incorporated into the project design.

1-64 Although only one pilot is presently on duty per day at Port Hueneme, the proposed project would probably cause an increase to two, thus making the potential for in-harbor accidents more likely.

1-6-1-69 The existing information on West Coast traffic includes present traffic, the increases from the proposed action, normal increases in traffic, plus the LNG proposed increases. This should be sufficient to make some prediction of accident increases and barrels spilled.

Elk Hills/Port Hueneme (Cont'd)

The estimated increased traffic (1-2 tankers per day) from the proposed action will significantly increase West Coast and/or Gulf Coast hazards from oil spills, as well as in the Panama Canal Zone.

2-1 Prairie falcons, fully protected by the State of California, nest in the Calientes and should be given consideration along with the federally classified endangered species.

2-9 The area with the highest potential for slope failure also has the highest potential maximum spill.

2-17 Most of the annual grass growing around the Elk Hills area is arabian grass, Schismus arabicus. It is very common and should be mentioned. Has the route been ground checked or checked by literature research for vegetation?

2-21 The maps should include the State protected prairie falcon habitat in the Caliente Mountains.

2-45 The U.S. Government gets fair market value revenues from pipelines under the Mineral Leasing Act of 1920.

3-2 Our planning system was in effect before the passage of P.L. 94-579.

4-5 The statement would be strengthened by including a discussion of measures to minimize increased soil erosion that may occur during winter or rainy-season pipeline and tank-farm construction.

4-22 The bigcone spruce is a bigcone douglas fir, Pseudotsuga macrocarpa).

4-29 Although the amount of dredging required for this project is relatively small by comparison with previous dredging at Port Hueneme, we found no description of the proposed spoil disposal plan in the draft statement. In the case of the Elk Hills/Port Hueneme Conveyance System, it is stated that California's Coastal Management Act contains such provisions as the need "to properly dispose of dredge spoils according to their toxic substance content" (p. U-3, last par.).

Elk Hills/Port Hueneme (Cont'd)

4-43 Paragraph 1. Direct costs (of spills or other accidents) might be repaid, but losses and delays to other programs would not be mitigated.

4-45 The pipeline would be visible from State Route 166 where it crosses the Calientes.

4-48 The pipeline would open up a route through the Temblors and encourage further off-road use in areas presently not open. This will cause impacts by off-road vehicles to soils, endangered plant and animal species, and vegetation.

5-4 Since the pipeline would probably cross the California aqueducts at existing road crossings, no impacts on these aqueducts are expected.

5-10 What is meant by the term "moderately sloping" - 10 percent, 20 percent, 30 percent, or 40 percent?

5-24 The BLM corridor has service roads in place for the powerlines.

5-26 Considering the existing California capability for refinery output, the California market would likely be glutted by the proposed action, driving prices down low enough to preclude exploration. Alaskan oil will further increase the glut on the market.

6-2 The rare plants should be named and it should be stated whether they are on the Federal Endangered list (Federal Register, June 16, 1976). The status also should be discussed in Chapter 2 on p. 2-19.

D-3 Paragraph 2. The results of the U.S. Department of the Interior's 1974 study on oil spills should not be ignored as mentioned in the last paragraph. Even the most recent oil pipelines have had imperfections which have resulted in spills.

D-21 Impacts to all resources from oil spills should be discussed.

K-26 Although impacts to water resources of using water for construction activities are discussed, the impacts of using 500,000 barrels of water for hydrostatic testing have not been discussed.

Elk Hills/Port Hueneme (Cont'd)

Wildlife

The pipeline will go directly through two wildlife withdrawal areas in the Temblors and Calientes. They are the Temblor National Cooperative Land and Wildlife Management Area and the Caliente National Cooperative Land and Wildlife Management Area. Wildlife developments, including guzzlers and exclosures, are located near the proposed route through these areas.

There was no mention of mitigating measures for wildlife in this volume. This seems inadequate. It is mentioned on 1-27, paragraph 2, that 50 acres within Government lands will be used along the pipeline route, not to mention new access roads to move machinery. Mitigation for these acreages should include the development of an equal number of acres for wildlife.

Visual Quality

There seems to be definite lack of descriptive modifiers in this section. The visual quality is not described. Several roads are labeled scenic but no criteria or justification is included.

Visual sensitivity seems to be correlated to closeness to urban areas, a correlation which is not necessarily true.

The visual qualities need to be described in much greater detail, as more of a description rather than an already completed judgment.

Elk Hills/SOHIO

C-2 The proposed pipeline route in T. 31 S., R. 22 E., Section 20 N 1/2 would directly impact blunt-nosed leopard lizard habitat. During the week of May 23, three blunt-nosed leopard lizards were sighted on this 320-acre parcel of public land.

4-18 Follow through with suggestion in regard to protecting seedling oak trees that would be planted in place of destroyed oak trees along the pipeline.

Explore the possibilities of chaparral seed mixes for pipeline construction in the chaparral zones - no recommendations.

Elk Hills/SOHIO (Cont'd)

Water barring may be a possibility in the chaparral zone to prevent erosion (addressing the anticipated problems).

4-19 The destruction of creosote is probably a trade-off. It should be avoided as much as reasonably possible.

4-20 The riparian vegetation at Pastoria Creek should be protected as well as possible. A 100'-wide strip of disturbance would probably be minimal in comparison to the entire length of the creek. Stream course crossings should be examined carefully.

8

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
U.S. COAST GUARD (G-WEP-7/73)
WASHINGTON, D.C. 20590
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16476/7.b.284
29 JUN 1977

Captain John I. Dick-Peddie
Officer in Charge of Construction
Naval Facilities Engineering Command
Contracts, Elk Hills
P. O. Box 40
San Bruno, California 94066

Dear Captain Dick-Peddie:

Appropriate staff and operating elements of the U. S. Coast Guard have reviewed the draft environmental impact statement for Crude Oil Transport Alternates from Naval Petroleum Reserve No. 1, Tupman, California, and offer the following comments on specific sections.

1. p. 1-5. Markets for tanker cargo may have varied impacts upon safe navigation. Routes, arrival frequency, etc., may be affected. This should be addressed when cargo markets are known.

2. p. 1-7 and 25. Dredging to 35 feet is prescribed in the statement. It is further stated that vessels must meet the 34-foot draft level. This does not provide a good margin of error, i.e., squat, abnormal sea or tide conditions.

3. p. 4-29. Coast Guard concerns here relate to issuance of Local Notice to Mariners during construction phase.

4. p. 5-22. Should some of these major differences be determined appropriate, further studies might be required (i.e., relationship to rules and regulations concerning "Deepwater Ports", etc.).

5. p. D-40 and D-46. The Navy should keep abreast of the status of proposed rules and regulations regarding additional equipment for vessels of 10,000 DWT or more.

6. p. D-41. The section "Vessel Traffic Systems (VTS)" should read "Vessel Traffic Service (VTS) system."

7. p. D-51. There are no definable "acceptable Coast Guard standards" relating to vessel traffic density. Also, Long Beach, California, is in the Eleventh, not the Twelfth, Coast Guard District.

The following general comments are also offered.

1. Addition of 100 vessels per year calling on terminals in Estero Bay may require increases in Coast Guard personnel manning at Port Safety Detachment Morro Bay. At present, two personnel from COTP Monterey man this office. They depend on commercial tug and oil company launch for a

Subj: Comments on draft environmental impact statement for Crude Oil Transport Alternates from Naval Petroleum Reserve No. 1, Tupman, California

transportation to vessels to be inspected. Increased vessel inspections may not only require more manpower, but also may require Coast Guard transportation of personnel to vessels to be monitored, and for increased air/water pollution patrols. The Cape Ledge, stationed at Noyo River, probably would not be able to accommodate these missions adequately.

2. Only Port Hueneme Harbor traffic is considered in discussion of vessel traffic density. Other types of traffic in Santa Barbara Channel such as recreational boating, OCS supply ships, and to a greater degree, LNG vessels should be analyzed.

3. Although potential impact of oil discharged when deballasting water from tankers onloading oil at the marine terminal exists, it appears that sufficient measures (i.e., an oil/water separating system) are planned to avoid negative environmental impacts. Spill prevention control and countermeasure (SPCC) plans under 40 CFR 110 for new tankerage and facilities ashore should be elucidated. However, in the event of an oil spill, these measures do not absolve responsible parties of obligations under the Federal Water Pollution Control Act of 1972, as amended. b

4. The final environmental impact statement should outline requirements for oil companies to reassess their operations manuals, contingency plans, and pollution response equipment (as per 33 CFR 126 and 33 CFR 154-157) in light of increased throughput. The Coast Guard wishes to defer further comment until these revised manuals are prepared. c

5. The Coast Guard wishes to defer comments on the LNG phase of this plan until this phase is more fully developed.

The Coast Guard has no further comments to offer at this time. However, because of projected impact on Coast Guard operations and responsibilities, we wish to be kept informed of developments regarding this project and would appreciate the opportunity to comment further at appropriate stages.

Sincerely,

R. F. Eiden

R. F. EIDEN
Commander, U. S. Coast Guard
Assistant Chief, Marine Environmental
Protection Division
By direction of the Commandant

Copy to:
CCGD11(mep)
CCGD12(mepps)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX
100 CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA 94111

9

D-USN-K03006-CA

John I. Dick-Peddie
Captain, CED, USN
Officer in Charge of Construction
Naval Facilities Engineering Command
Contracts, Elk Hills
P.O. Box 40
San Bruno, California 94066

JUL 26 1977

Dear Captain Dick-Peddie:

The Environmental Protection Agency has received and reviewed the Draft Environmental Statement for the Elk Hills Conveyance System.

EPA's comments on the Draft Environmental Statement have been classified as Category ER-2. Definitions of the categories are provided on the enclosure. The classification and the date of EPA's comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act. Our procedure is to categorize our comments on both the environmental consequences of the proposed action and the adequacy of the environmental statement.

EPA appreciates the opportunity to comment on this Draft Environmental Statement and requests two copies of the Final Environmental Statement when available.

If you have any questions regarding our comments, please contact Patricia Sanderson Port, EIS Coordinator, at (415)556-6266.

Sincerely,

Paul De Falco, Jr.
Regional Administrator

Enclosure

cc: Council on Environmental Quality

Air Quality Comments

The transport of hydrocarbons with the simultaneous production of oxidants and the impact on distant receptors is not sufficiently documented. For example, an increase in oxidants in the vicinity of Santa Maria is probable under Part I. A more detailed meteorological and air quality discussion relative to transport is appropriate. Some mitigation measures are adequately identified but in ambiguous terms as to whether or not they will be instituted (c.f. p. 42). The overall effect of 250,000 barrels/day on emissions beyond pipelines and terminals is not identified. a

In connection with Kern County AQMP and Elk Hills, the Navy had earlier indicated it would participate in this process. No mention of this is found in the DEIS. b

EPA has some major concerns regarding the air quality impacts as presented in the DEIS. EPA's primary concern is to insure that sufficient air quality mitigation measures have been provided for the adverse air quality impacts such that the project will not violate the NAAQS. c

EPA notes with concern that the DEIS indicates that substantial hydrocarbon emissions will result from the marine tanker loading operations for both the Port Hueneme and Coalinga Conveyance System Alternatives.

The DEIS concludes, with respect to the Port Hueneme pipeline alternative, that the estimated oxidant levels in Simi Valley may be increased by as much as 4.8 pphm. The DEIS also states that additional oxidant standard violations and more frequent air quality alerts are expected. The DEIS does not develop or analyze acceptable mitigation measures.

EPA is additionally concerned since the Port Hueneme pipeline alternative is located in a region which exceeds the NAAQS for oxidant by a considerable margin on a significant number of days. Therefore, EPA finds that the Port Hueneme pipeline alternative as proposed in the DEIS is environmentally unsatisfactory and is in conflict with the ongoing Air Quality Maintenance planning efforts.

EPA has some similar concerns regarding the Coalinga pipeline alternative. The DEIS again indicates that the increased tanker loading would cause additional oxidant violations. However, the DEIS concludes that this impact is not expected to produce any significant public health or welfare consequences. This conclusion is a serious understatement of the DEIS findings and additional violations may well violate the accepted criteria of the NAAQS. d

EPA believes that the DEIS does not contain sufficient information to adequately assess the significance of the future air quality impacts for the Coalinga pipeline alternative and therefore EPA expresses environmental reservations with respect to this pipeline alternative.

Our review of the DEIS reveals the following air quality concerns which require further study:

The DEIS does not adequately indicate which air quality mitigation measures will be provided for the various pipeline alternatives. EPA is especially concerned about how effective mitigation measures will be provided for reducing the HC emissions from the loading of the tankers. EPA suggests that the applicant fully identify and list these mitigation measures into the following categories:

(1) Those which will be committed to as part of the proposed alternative

(2) Those which will be enforced by the responsible enforcement agencies e

(3) Those which may be stipulated prior to issuance of any required permits.

In addition, the anticipated effectiveness of each mitigation measure should be cited and documented. A listing of some reasonable mitigation measures are contained in the FEIS for the SOHIO project; however, the applicant is advised to consult with all responsible agencies to develop adequate mitigation measures.

The DEIS, Part One - Elk Hills/Coalinga Conveyance System, notes that "the potential new major sources of air pollutants could affect air quality significantly". (Appendix 1-I page I-14) Although the expected total oxidant concentrations may be lower than those in other air basins, San Luis Obispo County does exceed the NAAQS a few times a year. The DEIS f
does not provide sufficient air quality analysis and mitigation measures to determine if the NAAQS for any pollutant will be exceeded within the next ten years. The suggetion in the DEIS that the oxidant concentrations should be reduced because of emissions controls to motor vehicles and existing stationary sources is unsupported and does not discount the expected oxidant concentration increases for this alternative. Therefore, EPA requests a more detailed air quality analysis for this alternative.

The DEIS, Part Two - Port Hueneme, has neglected to identify the Ventura County Regional Land Use Program (RLUP) under Section III - Relationship of the Proposed Action to Land-Use Plans, Policies, and Controls for the Affected Area. Since the RLUP program is presently developing the Air Quality Maintenance Plan (AQMP) for all of Ventura County, EPA advises that the FEIS identify and discuss the relationship of the Port Hueneme alternative to those plans, policies and controls being developed or considered within the RLUP program.

The DEIS, Part Two, should identify any construction mitigation measures that will be provided to reduce fugitive dust impacts. (Section IV)

The DEIS does not discuss the air quality impacts resulting from purging or tanker ballasting operations. Since these operations may have significant air quality impacts the FEIS should discuss these impacts relative to exceeding the NAAQS. g

EPA has some serious concerns that the reactive hydrocarbon emissions (RHC) as estimated in the DEIS from the tank farm facilities and the tanker loading operations may be conservative and underestimated. EPA's policy regarding the photochemical reactivity of organic compounds was stated in the Federal Register, Vol. 21, No. 25, February 5, 1976. This policy statement declared that the ultimate goals of the State Implementation Plans must be to reduce emissions of <u>all non-methane organic compounds</u> in a region to the degree necessary to meet the NAAQS for oxidant. (emphasis added). h

EPA notes in reviewing the DEIS, Part Two Section IV-page 4-11, that the reaction portion of the hydrocarbon emissions was assumed to be 20% of the total tanker loading operations at the Port Hueneme terminal.

In Appendix 2-S, Photochemical/Diffusion Modeling Results, page S-11, a 30% reactivity figure was applied to determine the RHC for tanker loading operations. In light of EPA's policy statement, the estimated oxidant concentrations as provided in Table 4-3 of the DEIS may be underestimated. Therefore, the FEIS should review the projected ozone concentrations with respect to EPA policy as noted.

EPA also has some concerns regarding the 0.7 and 1.3 lbs/10^3 gal HC emission factors suggested in the DEIS based on the partial filling of tanks and the cleaning of tanks prior to the tanker loadings. Although EPA recognizes that these are viable mitigation measures to reduce air pollution, we caution against accepting these factors as absolute for predicting future oxidant concentrations because it not

certain that such measures can and will be reasonably enforced. EPA expects the FEIS to further identify and determine the effectiveness of all mitigation measures which will be provided for the project's various alternatives.

In addition, the FEIS should update any information subject to substantial changes related to the U.S. Environmental Protection Agency publication "Compilation of Air Pollutant Emission Factors, Supplement No. 7", which will be published shortly. i

The FEIS should indicate what effect the proposed project will have on the Air Quality Maintenance Planning efforts being developed at the local levels by Ventura, Santa Barbara, Kern, San Bernardino, and Los Angeles County officials. If additional measures to attain and maintain the NAAQS as required by the Clean Air Act will result from the Elk Hills project alternatives, the feasibility of implementing such measures needs to be explicitly discussed. j

It is important to understand, for example, that recent reductions in pollutant concentrations are the result of long anticipated actions by local, State and Federal air pollution control agencies to reduce emissions. Moreover, it is necessary to realize that the public health in the critical air basins can only be protected if reductions in continued emissions of reactive hydrocarbons, NO_x, total suspended particulates and other pollutants are achieved. Thus any net increases in emissions as a result of the Elk Hills project will reduce the various options available in the AQMP planning processes now underway.

EPA notes that the DEIS addresses those emissions that are attributed to a new Elk Hills conveyance system of 250,000 B/D. However, Congress, in passing the Naval Petroleum Reserve Production Act of 1976 (PL 94-258) could allow production levels as much as 350,000 B/D. Can the proposed alternatives as suggested in the DEIS be modified to accommodate this higher production rate? What is the likelihood that this may occur? k

EPA is concerned that the DEIS fails to identify the potential markets for the Elk Hills crude oil. EPA is therefore constrained from evaluating all possible air quality impacts which may be attributed to this project. Tables 4-2 and 4-3 of the DEIS, Part Two, may underestimate the maximum primary oxidant concentration. Again, this is based upon EPA's policy regarding the reactivity of organic compounds. Also, EPA believes that some additional surface emissions near the Port Hueneme proposed tanker terminal were not considered in l

the DEIS Air Quality Analysis (Appendix 2-S). These additional emissions can be attributed to SOHIO tanker emissions, a proposed power plant at Ormond Beach and new motor vehicle emission factors. In light of some recent changes to energy development proposals in Southern California, it is unlikely that the maximum ozone concentration would occur as soon as 1979 as estimated in the DEIS, Part Two, page 4-12.

The 1973 emissions inventories provided in the DEIS have been updated. The FEIS should review these more recent inventories and revise any portion of the air quality analysis that would result in substantial differences. m

The DEIS for the Elk Hill alternatives does not identify or discuss cumulative air quality impacts from other proposed energy related developments within the project's vicinity. (i.e., Ormond Beach power plant, LNG, SOHIO, and OCS) These net incremental air quality impacts should be identifed and related to the Elk Hills project. n

Also, the Elk Hills project should be more extensively coordinated with these other energy development projects to identify opportunities in the FEIS for reducing the total air quality impact through the concepts of unitization and consolidation. The Governor's office of Planning and Research and the Joint Industry Governmental Working Group (Santa Barbara's Office of Environmental Quality) are presently investigating these possibilities and should be consulted. o

Water Comments

The Draft EIS states that the Naval Petroleum Reserve No. 1 (NPR-1) already has a production capability of 160,000 barrels per day (pg. 1-4). To provide the reviewer with a more complete environmental setting, there should be some discussion of the existing facilities. Specifically, this discussion should compare the effects of whether or not a transport/intermediate storage system/tank farm exists, and if it does not, what additional construction and renovations are planned, and what environmental impacts will result as a consequence. p

Hydrostatic testing of the integrity of the system is proposed in each of the alternatives. The final EIS should include a detailed testing program for each alternative. This program should discuss the source and availability of test waters (including availability should project completion occur in a drought year), the points of discharge of spent test waters, and the associated environmental impacts.

Port Hueneme

EPA's primary water-related concern with the proposed project is the potentially significant adverse effects of the project on water supplies and water quality in the area. The FEIS should, therefore, contain the following information:

Proposed mitigating measures for spills on surface water bodies, specifically Casitas Reservoir, Ventura River, Matilija Reservoir, Sespe Creek and the Santa Clara River. This discussion should include the status of development of an oil spill contingency plan for the area, which should recognize the relationship between swiftness of reaction and the degree of adverse environmental effects. Additionally, this discussion should expand on the concept (DEIS pg. 4-21) of a diversion system to prevent any spill from reaching the Casitas Reservoir.

Final pipeline design, or as much detail as is possible at the time of printing of the FEIS.

A discussion of measures to be taken to mitigate construction impacts associated with pipeline placement on water crossings.

Specific procedures for replanting and restoration of stream crossings disturbed during pipeline placement.

Identification of the actual source of water to be used for hydraulic testing purposes.

Page 1-5 of the DEIS states "Transportation of the crude oil in tankers out of Port Hueneme to markets is not included since full detail of these markets are not yet defined." Since tanker transport is a critical element of the Port Hueneme alternative, the FEIS should address tanker transport in as much detail as is possible at that time.

Chapter 3 of the DEIS discusses the proposed project's relationship to land use plans, policies and controls for the affected area. EPA notes however, that no discussion is given to the relationship of the proposed project to four of Ventura's County on-going planning processes, specifically the Regional Land Use Program (RLUP), Air Quality Maintenance Planning (AQMP), VCAG Sub-Regional Transportation Planning (a portion of SCAG Regional Transportation Planning), and Areawide Waste Treatment Management Planning (208 Planning). The FEIS should contain an analysis of the compatibility of the proposed project with each of these planning processes.

Environmental Impact of the Action

LO--Lack of Objections

EPA has no objection to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER--Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

EU--Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Adequacy of the Impact Statement

Category 1--Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2--Insufficient Information

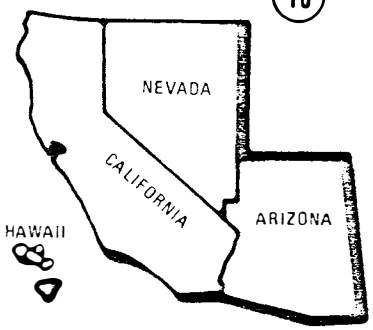
EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.

10



FEDERAL ENERGY ADMINISTRATION
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Captain John I. Dick-Peddie
Officer in Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
Naval Facilities Engineering Command
P.O. Box 40
San Bruno, California 94066

JUN 2 8 1977

Dear Captain Dick-Peddie:

In response to your request of 21 April 1977, we are enclosing our in-house comments and matrix evaluations of the three alternate route Environmental Impact Statements for construction of a pipeline to convey crude oil from the Elk Hills Naval Petroleum Reserve to market. a

It was our opinion that each of the three pipeline routes has distinct advantages and disadvantages, but that when considered overall, probably the Elk Hills to Coalinga route is the most expeditious, technically and economically feasible,as well as most environmentally satisfactory method of transporting the Elk Hills crude oil to market.

The Sohio alternative would help relieve the expected glut of crude oil on the West Coast by moving the Elk Hills oil to the East and Midwest, where it is needed. However, the objections of State authorities to the Sohio tanker terminal and pipeline project may cause interminable delays which could result in the Elk Hills to Sohio connection being an impractical solution to the problem. Also, the Sohio alternative is the most capital intensive of the three routes and may face some strenuous objections from environmentalists.

The Hueneme alternative may be the quickest and most economical way of getting the Elk Hills crude oil to the domestic market, but it has a limited access and distribution potential. Further, there may be opposition from the State Air Resources Board and the California Coastal Commission because of possible increases in air pollution levels and coastal tanker traffic.

The Coalinga alternative offers two modes of transport - tanker and pipeline, and it essentially confines construction and operations to existing oil industry corridors. This route would hasten movement of Elk Hills crude oil to Bay Area refineries, which are designed to process San Joaquin petroleum. The route would probably have the least environmental impact, though increased tanker traffic and hydrocarbon vapor emissions at the

commercial tanker terminals may be the subject of State agencies and environmental organizations objections. The Coalinga route would appear to be the most realistic way to meet the Congressional mandate and aid the Nation in becoming energy independent.

We appreciate this opportunity to work with you on this most vital project.

Sincerely,

Eugene W. Standley

Eugene W. Standley, Director
Energy Resources Development Division

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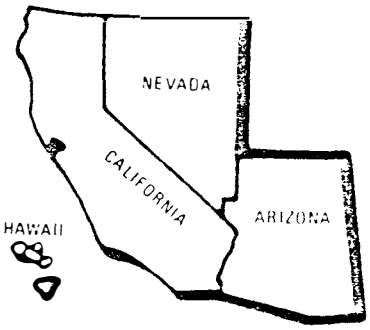
JUN 2 6 1977



FEA'S ASSESSMENT OF ELK HILLS PIPELINE ROUTE ALTERNATES

I. Summary

An FEA in-house assessment was made of the three alternative routes for transporting Elk Hills crude oil to the market place as described in Dept. of the Navy Draft Environmental Impact Statements, 18 April 1977, Crude Oil Transport Alternates from Naval Petroleum Reserve No. 1, Tupman, California.

Under Public Law 94-258 enacted 5 April 1976, the Navy must develop a pipeline capacity for transporting 350-thousand barrels per day of oil from Elk Hills to an appropriate marketing terminal. This capacity must be in place by 5 April 1979.

There is existing pipeline system capacity in the Elk Hills area of up to 150,000-barrels per day, and the Navy is developing plans to establish new pipeline capacity for 200-thousand barrels per day, expandable to 250-thousand barrels per day. This is to be coupled with a million-barrel storage capacity at Elk Hills and at the terminal end.

Three alternate routes are proposed: Elk Hills to Coalinga; Elk Hills to Port Hueneme; and, Elk Hills to SOHIO's proposed line at Colton. The Environmental Impact Statements were reviewed for each route.

The Coalinga route would provide distribution of Elk Hills crude to San Francisco Bay Area, Southern California and Pacific Northwest refineries. A pipeline intertie with commercial lines at Coalinga would take a major portion of the oil to the Bay Area, while branches off the main line connecting with commercial lines to Estero Bay and Avila Beach will allow tanker distribution to other refining centers on the West Coast.

This would appear the most attractive alternative and may have the least environmental impact. It is technically and economically feasible.

The Elk Hills to Port Hueneme route would take advantage of 50-odd miles of existing ARCO natural gas line, which would reduce new pipeline construction to less than 30 miles. It would also use the present Naval base at Hueneme as a site for storage and as a tanker terminal.

The Hueneme route is probably the least capital intensive of the three alternates and could be constructed in the shortest time. It does however have the drawback of allowing for only limited-capacity tanker distribution of the oil to West Coast refineries. There may be some moderate environmental impacts.

The Elk Hills to SOHIO's proposed pipeline route at 157 miles is the longest of the three alternates and would cross the most rugged terrain. It is also the most expensive method of providing for distribution of Elk Hills oil, though it would be entirely by pipeline and it would move most of the oil to the East through southwestern refineries and away from the area of glut.

There are some potential environmental problems with Elk Hills to SOHIO route. Further, the inability of the SOHIO company to obtain a decision from the State of California regarding construction and operation of the tanker terminal and associated pipeline leaves its future in doubt. The SOHIO pipeline may not be built, and if it is put in it may be delayed to the extent that a tie-in would be past the April 1979 deadline for completion of the Elk Hills line.

II. Vital statistics of alternate routes

	Miles/new pipe	Diameter	Cost Millions	Commercial Tie-in
A. Elk Hills/Coalinga	85	30"	$75-80	Pipelines & Tankers
B. Elk Hills/Hueneme	21	26"	$55-65	Tankers
C. Elk Hills/SOHIO	157	28"-32"	$100-120	Pipeline

III. Pertinent environmental impacts

A. Geologic/seismic

1. To Coalinga - inland route, does not cross major active faults, but is in generally unstable area; reasonably level valley lands, topography moderate; landslide potential low; existing commercial laterals to Estero Bay and Avila Beach do cross San Andreas fault; risks low to medium.

2. To Hueneme - inland to coast, crosses San Andreas and other active faults; severe topography with elevations from about sea level to 5,000 feet plus; significant landslide potential; risks medium to high.

3. To SOHIO - inland route, crosses San Andreas and three other major fault zones; topography severe in places; elevations on route to 5,100 feet; significant landslide potential; traverses subsidence areas; risks medium to high.

B. Water resources

1. To Coalinga - streams along route intermittant; encased pipeline in suspension crosses Aquaduct twice; dangers to water resources from pipeline spills low; high consumption of fresh water for tank testing in view of drought conditions; possibility of oil spills in marine environment at coastal tanker terminals.

2. To Hueneme - route crosses over both intermittant and continual flowing streams, and passes near two reservoirs; terminates at coastline near sensitive tidelands; oil spill risks to water low to medium on pipeline, medium to high at tanker terminal; high consumption of fresh water for tank testing in view of drought conditions.

3. To SOHIO - route crosses both intermittent and continual flowing streams; encased pipeline in suspension crosses Aquaduct at two places; dangers to water from pipeline spills low; high consumption of fresh water for tank testing in view of drought conditions.

C. Fish and Wildlife

1. To Coalinga - Elk Hills tank farm and pipeline route is in general habitat area of endangered kit fox and leopard lizard. Some possible displacement of both species during construction but probably not serious; possibilities of oil spills at Estero Bay and Avila Beach could cause temporary damage to fish and wildlife and marine organisms offshore and in intertidal zone; impact low to medium.

2. To Hueneme - Elk Hills tank farm and pipeline route is in habitat area of endangered kit fox, leopard lizard, condor and least tern; western terminus of pipeline and Hueneme tank farm is near Mugu wildlife refuge. Oil spills at or near Hueneme might cause some temporary marine biological damage; some possible displacement of wildlife at Elk Hills tank farm and along new portion of pipeline during construction probably not serious; impact medium.

3. To SOHIO - Construction of Elk Hills and Cajon tank farms and pipeline route may disturb habitats of endangered kit fox, condor, Mohave ground squirrel and desert tortoise. Some possible displacement of these species, but probably not serious; impact medium.

D. Vegetation

1. To Coalinga - route crosses basic valley grasslands; but much of native grasses have been eliminated by grazing and cultivation; construction would temporarily destroy vegetation along narrow pipeline path, but regrowth would soon occur; oil spills could kill vegetation contacted but in most cases vegetation would return; some revegetation after construction may be necessary; impact low.

2. To Hueneme - route crosses grass lands, cultivated areas, passes through chapparal and big cone spruce; construction could destroy some vegetation; important loss would be spruce; reasonably fast regrowth of all but conifers; oil spills could destroy or retard growth temporarily; some revegetation after construction may be necessary; impact low to medium.

3. To SOHIO - route crosses grass lands, cultivated areas, Joshua trees, creosote bushes and cottonwoods, rare and endangered chorizanthe, oak woodlands; some potential for significant damage in construction and from large oil spills; rerouting to bypass some growth may be required; impact medium to high, particularly in desert areas.

E. Archeological/Paleontological

1. To Coalinga - deeper pipeline excavations may expose and/or destroy archeological and paleontological sites. No known sites exist in pipeline corridor, but are present in general area. Impact low.

2. To Hueneme - along route archeological and paleontological resources do exist in valleys and along major streams, and near coast. No known landmarks in path. Excavation could uncover and/or destroy sites. Impact low to medium.

3. To SOHIO - route passes through archeologically rich areas. No State or Federal land marks in path. Excavation could discover artifacts, and care must be taken that they are recorded, and not destroyed if possible. Impact medium.

F. Air

1. To Coalinga - air quality in San Joaquin Valley is frequently poor. However, tank farms at Coalinga and Elk Hills and pipeline probably would not add appreciably to contamination because of vapor control equipment, but if lateral pipelines to Avila Beach and Estero Bay and tanker loadings there are considered part of project, then the hydrocarbon emissions at these two locations might cause a significant increase in air pollution, unless special precautions are taken. Impact medium to high.

2. To Hueneme - air pollution is currently a significant problem in both San Joaquin Valley, Ventura and Santa Barbara Counties. Elk Hills tank farm and pipeline may not add appreciably to emissions because of vapor control systems, but tanker loading at Hueneme might cause an increase in air pollution. Impact medium to high.

3. To SOHIO - while air pollution is frequently a problem along proposed route, effect of the pipeline and Elk Hills and Cajon tank farms would probably be minimal because of vapor control systems on tanks and closed pipeline. Impact low.

G. Visual

1. To Coalinga - minor impact involved; Elk Hills tank farm located in oil-related industry area; Coalinga tank farm and tanks at Kettleman City and Junction Station also within industry-oriented areas; pipeline underground. Greatest visual impact would be from oil spill and this probably only temporary. Impact low.

2. To Hueneme - Elk Hills and Hueneme tank farms both in industrially-oriented areas; pipeline underground through National Forest and elsewhere. Greatest visual impact from oil spill probably in Hueneme harbor area. Overall impact low to medium.

3. To SOHIO - Elk Hills tank farm would be located in an area already containing similar installations; however, Cajon tank farm would alter undisturbed scenic lands adjacent to San Bernardino National Forest; pipeline buried. Oil spills might have significant short-term visual effect particularly in desert area; Impact medium.

H. Land Use

1. To Coalinga - only temporary disruption to agricultural lands; tank-farm sites are in areas devoted to oil-related operations. Coastal Commission may object to increased industrial operations in coastal zone from additional tanker loadings. Impact low.

2. To Hueneme - tank-farm sites in areas devoted to similar industry. Pipeline passes through Bureau Land Management and Forest Service lands. Agencies have some concerns, which probably can be reconciled. Coastal Commission may object to increased industrial operations in coastal zone. Impact low.

3. To SOHIO - Cajon tank farm may be considered incompatible use by local planning agencies on basis it could damage pristine qualities of area. Other land use impacts probably insignificant. Impact medium.

I. Socioeconomics

1. To Coalinga - Employment, population, public service and utilities, recreation, land transportation, fiscal effects, growth inducement will be impacted in only minor ways; advantages small, detrimental effects small.

2. To Hueneme - same as above

3. To SOHIO - same as above.

IV. <u>Overall Evaluation of Pipeline Routes</u>

A. Distribution potential

1. To Coalinga - provides intertie distribution to Union, Shell, and Getty commercial pipelines at Coalinga, which terminate at San Francisco area refineries; also provides for distribution via laterals to Union tanker terminal at Avila Beach and Chevron tanker terminal at Estero Bay. Access for only small 200,000-barrel capacity tankers. Oil distribution to San Francisco, Los Angeles, and Pacific Northwest area refineries. Potential is good.

2. To Hueneme - provides for distribution via small 200,000-barrel capacity tankers (one at a time) at Navy terminal in limited access Hueneme harbor. Oil companies un-named. Distribution probably to San Francisco, Los Angeles and Pacific Northwest refineries. Potential fair to good.

3. To SOHIO - provides for distribution via pipeline tie-in with proposed SOHIO west to east pipeline at Colton. Oil would probably be destined for midwest and Texas refineries. Cooperating oil companies not named. Potential good to excellent, but only if there is some guarantee SOHIO pipeline will be constructed and within time-frame.

B. Technical Feasibility

1. To Coalinga - main route mostly covers relatively level, soft valley alluvials and presents no problem to present pipeline construction technology. Technical feasibility excellent.

2. To Hueneme - because of irregular topography and steepness of terrain over parts of route, construction could be somewhat more difficult. However, existing pipeline over most rugged area will be utilized, thus reducing problem. The project technical feasibility is good.

3. To SOHIO - route will traverse hard-rock mountainous terrain to 5100 feet, as well as desert lands and alluvial valley fill. While some degree of construction difficulties can be expected, the pipeline is within existing state-of-the-art. On a relative basis technical feasibility is fair to good.

C. Economic Feasibility

1. To Coalinga - this is the second least capital intensive of the three proposed routes, at a total estimated cost of $75-$80 million. The cost, in relation to distribution effectiveness, is very reasonable.

2. To Hueneme - the route is the least expensive of the three at $55-65 million, but the estimated costs are apparently only for new construction. Costs of acquiring the existing ARCO pipeline are not described, but it is possible these costs may bring the total for the Hueneme route to near that for the Coalinga route, about $80 million. Based on construction costs only, the Hueneme route is the most attractive, but is probably the least cost-effective with respect to distribution.

3. To SOHIO - at $100 to 120 million this represents the most costly of the alternatives, and in view of the possible delays in construction of the SOHIO tanker terminal and pipeline due to State and environmentalists objections, this could be the highest cost and highest risk project.

D. Construction Time

1. To Coalinga - as the route, two laterals and tank farms are for the most part on relatively level, soft valley alluvials, there are no serious construction problems which could delay completion of project.

2. To Hueneme - only 31 miles of the total 84 miles of pipeline will require new construction, the balance is existing pipeline. The two tank farms will be constructed in easily accessable areas. This represents the system that could probably be put into operation in the shortest period of time.

3. To SOHIO - this is the longest of the three alternates, and part of it traverses severe topography with elevations to above 5000 feet which could slow construction. One of the two tank farms would be constructed in a relatively remote area. It is estimated that of the three routes the SOHIO connection could entail the longest construction period.

E. Legal Constraints

1. To Coalinga - the pipeline, tank farms and laterals will occupy an area that is accustomed to oil-related industries. There should be little opposition from local communities, the public and civic organizations, though some grievances may occur on grounds of possible oil spills and air contamination along route and at tank farms.

   Real problems may come from increasing potential for air pollution, oil spills, and tanker traffic at Estero Bay and Avila Beach, which Coastal Commission may find unacceptable. The Air Resources Board may also object to increased hydrocarbon emissions. While not part of proposed Navy pipeline system, the route's potential depends upon the expansion of the commercial tanker facilities at these two locations.

2. To Hueneme - the route passes through Bureau of Land Management and National Forest lands and some legal problems apparently must be resolved, but they do not appear insurmountable. The passage of the pipeline through a residential area in the Hueneme area may meet some local opposition, but as the livelihood of the residents generally depends upon the Navy port facilities, and oil-related industries, there should be no imposition of constraints.

   The Air Resources Board, may find fault with increased hydrocarbon emissions in the Ventura Basin from tanker-loading operations in Hueneme harbor. The Coastal Commission may support this claim, as well as opposing through the Federal consistency section of the CZMA further industrial development in the coastal zone.

   The State Dept. of Fish and Game, the Sierra Club and other environmental and conservation groups may take some action against the proposal on the basis that it will be detrimental to the habitats of endangered wildlife and that oil spills in Hueneme harbor could adversely affect sensitive tidelands, and that pipeline spills could enter two water reservoirs nearby.

3. To SOHIO - State Dept. of Fish and Game and environmental groups, such as the Sierra Club and Friends of the Earth, may attempt to halt this alternate route on basis it impinges on habitats of endangered wildlife species, and that oil spills could cause permanent damage to fragile desert and wilderness areas. Opposition from suburban and rural residents of lands near the southern end of route may emerge. The location of the tank farm at Cajon may also be rejected by local planning agencies, environmentalists and State authorities as being out of context with the surrounding pristine desert and recreational areas.

F. Environmental Impacts

1. To Coalinga - some possible disturbance of habitat of endangered kit fox and leopard lizard during construction and possible temporary displacement of species should significant oil spill occur. Small possibility of aquaduct contamination by oil spill should severe earthquake rupture pipes at crossing. Greatest possible environmental impact could come not on pipeline or laterals, but at related commercial tanker terminals on coast, where air contamination might occur from hydrocarbon emissions and water pollution might result from accidental spills while loading tankers or from collision of two tankers in adjacent waters.

2. To Hueneme - Elk Hills tank farm and new pipeline construction might disturb general habitat of endangered kit fox and leopard lizard. Existing pipeline crosses habitat of Condor, but there should be little if any impact on endangered bird. Large oil spill from pipeline rupture might damage vegetation and displace wildlife. However, regrowth should occur in most instances and wildlife return after cleanup. Such a spill might contaminate two nearby reservoirs, however, possibilities appear slight that this would happen if appropriate precautions are taken.

   There is a greater possibility that an oil spill may occur from tanker loading, or some accident to tankers while entering or leaving constricted Hueneme harbor. A major spill might cause some damage to sea birds and bottom fauna in nearby Mugu tidelands area and to Hueneme harbor. Air contamination from hydrocarbon emissions while loading tankers is a possibility if not properly controlled.

3. To SOHIO - little chance of significant air pollution exists as system is closed. Construction could disturb habitats of endangered leopard lizard, kit fox, condor, Mohave ground squirrel and desert tortoise. Major oil spills might temporarily displace these species. Cajon tank farm might be accused of upsetting sensitive environmental balance in pristine desert wilderness area. Some irreparable damage might occur to vegetation, such as oaks, chapparal creosote bush and cottonwoods from construction, unless some route alterations are made.

IV. Conclusions - There are advantages and disadvantages to each of the three alternatives. If the prime objective of the pipeline is to move the Elk Hills crude oil to the geographic area where it is most needed (in the most expeditious and economical manner) then the SOHIO route is the most realistic approach, as it would result in transporting the oil to the midwest and East where shortages may develop, and away from the West Coast where a glut could occur with imports and Alaska crude competing with domestic production for refinery capacity.

However, this advantage is offset by the fact that the SOHIO west-to-east pipeline has not been approved as yet by California authorities. Current indications are that the State may impose so many restrictions on construction and use of the proposed pipeline and associated tanker terminal that it may never be built, or if so, it may be delayed for an extended period.

Thus, while the Environmental Impact Statements do not deal with these facts, it is pertinent to consider here the possibility that construction of a Elk Hills to SOHIO link-up could result in a pipeline to nowhere. (Unless it could then connect back to an existing local Los Angeles line).

The Elk Hills to Coalinga alternative may be the most attractive answer in view of the uncertainty over the SOHIO pipeline's future. The Bay Area refineries are designed to process San Joaquin crude and they would have no difficulty refining the Elk Hills oil. Tieing in the Elk Hills pipeline to the Getty, Union and Shell lines at Coalinga is an economical method of transporting the majority of the oil to the Bay Area, and the laterals to Estero Bay and Avila Beach provide some additional flexibility for moving part of the Elk Hills oil elsewhere. Limitations on tanker size at the two commercial facilities probably means that it would not be practical to ship the oil any further than the Pacific Northwest or Southern California.

The Elk Hills to Hueneme route allows only small tanker transport of oil to refineries on a limited access basis, because of the confined berthing at Hueneme. This alternative does not offer the diversity of distribution of the Coalinga pipeline intertie plus Avila and Estero tankerage, nor does it provide a practical means of moving oil to the East as does the SOHIO intertie.

The Elk Hills to Coalinga route is in an oil-industry related area and the pipeline and tank farms would not be out-of-place. Pipelines already exist to Estero Bay and Avila Beach, though some replacement of sections may be required because of age. The route, in terms of construction and new facilities, would probably receive the least governmental and public opposition of the three alternatives.

The SOHIO route is the least objectionable from an air pollution standpoint as it does not involve transfer of oil from pipeline and storage tanks to ships. Both the Coalinga and Hueneme alternatives may result in increased hydrocarbon emissions in basins where air pollution is a distinct problem. Measures can be taken to alleviate emissions when loading tankers through use of on-board vapor recovery systems, but it is understood they are not present as a rule on older small-capacity tankers.

Oil spills, should they occur on the SOHIO route, would be confined to the land mass with a small possibility of stream and aquaduct contamination, while the other routes have a higher potential for spills in the coastal zone.

Indications are that if the work was carried out expeditiously, the time involved to construct the SOHIO line would compare favorably with that for the other two alternatives, though based on miles of pipeline over rugged terrain alone, one would assume the SOHIO route would take longer - all things equal.

The SOHIO route is the most capital intensive. Although the Hueneme route is the least expensive from a construction cost basis, when considered with respect to expense of acquiring the existing ARCO pipeline and new construction, the total cost of the Hueneme route may not differ much from that of the Coalinga route.

ASSESSMENT-ELK HILLS PIPELINE ROUTES

ROUTE	Miles New Pipe/Total Cost	Dist. Potential	Tech. Feasibility	Economic Feasibility	Const. Time	Legal Constraints	Env. Impacts	Total
ELK HILLS/ COALINGA 1/	85 $75-80 million	6	9	6	5	4	6	36
ELK HILLS/ PORT HUENEME	31 (84 incl. old pipe) $55-65 million	5	7	6*	6	4	5	33
ELK HILLS/ SOHIO	157 $100-120 million	7	6	4	4	5	6	32

Rating:
1= Poor
4= Fair
7= Good
10=Excellent

1/ Assessment includes Estero Bay and Avila Beach commercial tanker terminals.
* Based on new construction, plus rough estimate of cost of purchasing existing ARCO pipeline.

ENVIRONMENTAL IMPACTS - ELK HILLS PIPELINE ROUTES

ROUTE	Geo./ Seismic	Water	Air	Fish/ Wildlife	Veg.	Visual	Archeo.	Land Use	Socioec.	Total
ELK HILLS/ COALINGA	6	4	3	5	8	7	7	7	7	54
ELK HILLS/ PORT HUENEME	3	4	3	4	6	6	6	6	7	45
ELK HILLS SOHIO	3	7	9	6	5	5	5	5	7	52

Rating:
1 = Poor
4 = Fair
7 = Good
10 = Excellent

Opposition from State authorities and environmental groups can be expected to all three routes, but the two routes imposing on the coastal zone may be the target of the strongest objections. Because the Navy, with its Congressional directive, may ignore State and local municipality grievances, the only method to successfully delay or halt the construction probably would be through litigation in Federal courts. However, the Estero Bay and Avila Beach laterals to the Coalinga line may be subject to State intervention as they are private industry operations in and/or affecting the coastal zone.

With an expected glut of crude oil in California in 1978 while the balance of the nation may suffer shortages, the completion of any one of the three routes, will be of significance in meeting the Nation's energy needs and developing a lasting Federal self-sufficiency program.

FEDERAL POWER COMMISSION
WASHINGTON, D.C. 20426

(11)

June 14, 1977

Office in Charge of Construction
Naval Facilities Engineering Command
Contracts
Elk Hills, P. O. Box 40
San Bruno, California 94066

Dear Sir:

I am replying to your request of April 21, 1977, to the Federal Power Commission for comments on the Draft Environmental Impact Statement for the Naval Petroleum Reserve No. 1, Elk Hills, Tupman, California. This Draft EIS has been reviewed by appropriate FPC staff components upon whose evaluation this response is based.

The staff concentrates its review of other agencies' environmental impact statements basically on those areas of the electric power and natural gas industries for which the Federal Power Commission has jurisdiction by law, or where staff has special expertise in evaluating environmental impacts involved with the proposed action.

Although there are few comments on the environmental adequacy of this statement, we suggest that consideration be made of portions of the basic proposal and alternatives for marketing the produced crude petroleum.

In the President's National Energy Plan, summary page XVIII, it is stated that:

> "production from Elk Hills Naval Petroleum Reserve would be limited to a ready reserve level at least until the west-to-east transportation systems for moving the surplus Alaskan oil are in place or until California refineries have completed a major retrofit program to enable more Alaskan oil to be used in California."

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The Draft EIS, however, being guided by Congressional directive, PL94-258, suggests the immediate development of the Reserve with conveyance alternatives and rapid expansion.

Alaskan oil, which will be available for delivery to the lower 48 states at the end of 1977, will probably be delivered through the west coast facilities. Available oil is in excess of the present west coast handling facilities and market requirements. a

The Federal Energy Administration (FEA) is presently charged with locating and developing petroleum storage facilities as part of the Strategic Petroleum Reserve Program. This program basically entails the locating of suitable underground storage for crude petroleum in depleted salt domes, limestone cavities and abandoned excavations.

The use of the Elk Hills field as a Strategic Reserve might prove to be more in accordance with the National Energy Plan and this usage should be evaluated as an alternative.

The DEIS conveyance Alternative No. 1 would employ the proposed SOHIO conveyance system. The SOHIO Pipeline project is now pending before the Federal Power Commission. Comments on the merit of this alternative would not be appropriate at this time.

Conveyance Alternative No. 2 suggests a pipeline from Elk Hills to Port Hueneme. This would require 31 miles of new pipeline and the conversion of 53 miles of existing natural gas pipeline with terminal storage and marine export facilities.

Several applications are pending before the Commission for the construction of marine terminals at Port Hueneme/ Oxnard as well as other locations for the importation of petroleum and liquefied natural gas (LNG).

Although the proposed development of the Naval Petroleum Reserve was directed by Congress under Public Law 94-258, b

we believe that conditions and National energy goals have changed sufficiently so that the proposed action as presently envisioned may no longer be beneficial.

Thank you for the opportunity to review this statement.

Sincerely,

Jack M. Heinemann
Advisor on Environmental
Quality

(12)

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Regional Water Quality Control Boards
Energy Resources Conservation and Development Commission
California Coastal Commission
California Conservation Corps
State Coastal Conservancy

THE RESOURCES AGENCY OF CALIFORNIA
SACRAMENTO, CALIFORNIA

JUL 6 1977

John I. Dick-Peddie
Captain, CEC, USN
Officer in Charge of Construction
Naval Facilities Engineering
Command Contracts, Elk Hills
P. O. Box 40
San Bruno, California 94066

Dear Captain Dick-Peddie:

The State of California has reviewed the Draft Environmental Impact Statement (SCH 77050313) on transport alternatives from the Elk Hills Naval Petroleum Reserve which was submitted to the Office of Planning and Research (State Clearinghouse) within the Governor's Office. The review fulfills the requirements under Part II of the U. S. Office of Management and Budget Circular A-95 and the National Environmental Policy Act of 1969.

The review was coordinated with the Departments of Conservation, Navigation and Ocean Development, Fish and Game, Parks and Recreation, Water Resources, Food and Agriculture, Health and Transportation; the State Water Resources Control Board; the San Francisco Bay Conservation and Development Commission, the State Energy Resources Conservation and Development Commission; the Public Utilities Commission; the Air Resources Board; the Coastal Commission and the Division of State Lands.

Under Public Law 94-258, April 5, 1976, Congress directed the Secretary of Navy to secure pipeline capacity for 350,000 barrels per day of crude oil from Naval Petroleum Reserve No. 1 in the Elk Hills area. In addition, crude oil production at the reserve is to proceed at the "maximum efficient rate" for a period not to exceed six years after which production may be continued by the President. The subject draft EIS analyzes the impact of three alternative conveyance systems; (1) "Elk Hills to Coalinga", (2) Elk Hills to Port Hueneme", and (3) "Elk Hills to SOHIO Pipeline Connection."

Depending on ultimate crude oil production levels and route selection, Elk Hills development could have serious consequences in California relative to: availability of natural gas transmission systems critical for delivery of gas to California from the Southwestern United States; in-state natural gas supply; air quality; coastal resource management; San Francisco Bay planning; planning for vessel traffic; offshore facilities and oil spill response; inland habitat values; and the state's ability to market its own heavy crude oil in a time of heavy regional surplus. a

It is critical, therefore, that the Navy's EIS fully analyze the degree to which each of these important state interests may be compromised by Elk Hills development and transportation, and identify all possible measures that might be taken in route selection and design to eliminate or minimize adverse effects to the state while still serving national goals. b

As a final general comment, the President's proposed National Energy Plan calls for bringing the Elk Hills Reserve up to a stand-by, operational condition, with an indefinite production ceiling of 80,000 barrels per day. The Navy's EIS should clearly discuss the proposal, and identify any ways such a program might affect crude oil transportation and decision-making. c

MARKETING CONSIDERATIONS

A thorough analysis of the potential market for crude oil produced in the Elk Hills Reserve should be presented in the Final Environmental Impact Statement (FEIS). The west coast will have an oil surplus by the time the proposed Elk Hills oil is scheduled to come on line. Elk Hills oil will compete with oil produced from the Alaska North Slope and from foreign and various domestic areas. d

The Navy and others should not make final decisions regarding the Elk Hills Reserve and selection of transportation facilities until the market potentials and constraints are thoroughly documented. It seems axiomatic that evaluation of alternative transportation proposals can proceed only upon a full understanding of where the crude oil will be needed. If adequate markets are not found then congressional action may be advisable to modify the directives assigned to the Navy. e

The market analysis in the Final Environmental Impact Statement should address the following:

1. The marketing relationship of Elk Hills crude to the anticipated surplus of Alaskan North Slope crude. f

2. Adequacy of existing pipelines going north, south and west from the Central California area to handle crude flows anticipated in each of these directions. g

3. Effects on existing and anticipated oil transportation activities in and around California coastal and estuarine ports. h

4. The effects of Elk Hills crude availability on marketability of existing California in-state production. i

5. Clear conclusions as to which of the proposals, if any, best meet the market supply needs of the State, Navy and Nation. j

PRODUCTION

Maximum Efficient Rate

The Draft EIS points out that the Navy is in the process of preparing a separate Draft EIS on the "production phase" of the Elk Hills Reserve Project. It is difficult to evaluate the transportation alternatives DEIS, however, without having first seen the DEIS on the production phase. For example, it is assumed in the transportation phase DEIS that the "maximum efficient rate" for Elk Hills petroleum production will be discussed in the "Production DEIS". When that rate has been determined, planning for the conveyance systems may have to be revised significantly. k

Need for Increased Natural Gas Production

The Draft EIS does not adequately consider the alternative of placing more emphasis on production and sale of natural gas instead of oil, and the associated differences in environmental impacts. As you are aware, California is facing the prospect of critical shortage of natural gas in the early 1980s. The state may become highly dependent on liquefied natural gas from both imported and domestic sources. Further, the South Coast Air Basin may become increasingly subject to temporary emergency air pollution episodes, during which there are particularly acute needs for clean-burning fuels such as natural gas. The possibility of Elk Hills natural gas being developed and offered for sale, whether on a sustained long-term basis, on a sustained basis for a definite period, or on an emergency basis, should therefore be fully evaluated in the Final Environmental Impact Statement. There should be a complete description of (1) available natural gas transmission facilities out of the Elk Hills Reserve fields; (2) the additional transmission facilities that would be necessary to connect with existing utility transmission lines; and (3) the ability of existing transmission lines to accommodate additional volumes of natural gas. l

Shallow Zone Production

The DEIS indicated that oil would be produced from both the lower (Stevens) and the upper (Shallow) zones of the Elk Hills Reserve. m

Because of the West Coast market glut of heavy oil, the similarity between the crude from this zone and the Alaskan crude, and California's interest in protecting its own in-state producers of heavy oil, the Navy should consider not producing Shallow Zone crude at this time. Conversely, there is a critical need for the light, lower-sulfur Stevens Zone crude. Since each reservoir is a separate geological entity, and since the enabling legislation is not specific as to the type of oil to be produced, such a consideration could be implemented.

PIPELINE CAPACITIES

Increased Use of Existing Pipelines

Perhaps the most effective mitigation measure available to the Navy in this project is full use of existing pipelines. The DEIS fails to develop the information necessary to evaluate this measure.

The Final EIS should not only inventory existing vacant pipeline capacity that might be used, but should also address the possibility of increasing the throughput capability of existing lines with the addition of pumping stations and heaters. A great deal of information concerning the expansion capability of major crude trunk lines has been brought together by the Santa Barbara County-Ventura County Joint Industry/Government Working Group Study, studying the feasibility of land-pipeline transportation of offshore oil. They have estimated that through the addition of pump and heater stations to compensate for viscosity requirements and pressure limitations of the existing lines a maximum surplus capacity of 216 thousand barrels per day can be achieved within existing trunklines leaving the San Joaquin Valley. The actual feasibility of this approach, however, cannot be determined until a more thorough assessment has been made, and that should be done in the FEIS.

Use of SOHIO Pipeline

The DEIS states that the Elk Hills-SOHIO Pipeline Connection Conveyance System would be infeasible unless Phase II of the SOHIO Project were implemented. The DEIS assumes Phase II to be in operation by 1982, but indicates that the Elk Hills Project would precipitate an early decision to convert the second El Paso Natural Gas Pipeline to SOHIO use for west-east crude oil transport. This is an issue of great concern to California.

Although most natural gas scenarios developed by California state agencies indicate that Phase I of the SOHIO Project can be implemented without serious restriction of the state's ability to receive natural gas through the El Paso System from the Southwestern states, there are numerous strong arguments against commitment of a second of the six natural gas pipelines to oil use. In recent weeks, in particular, discussion of the possibilities of major new gas supply increments California might receive from

Mexico has underscored the importance of the El Paso delivery network during the early 1980s. Not only is it presumptuous to assume any particular timetable for the abandonment of the first El Paso gasline for crude oil (since that issue has not yet been decided by the Federal Power Commission), but it is entirely too soon to make findings regarding probability of abandonment of a second El Paso pipeline to accommodate the proposed SOHIO Phase II. It is worth noting here that abandonment for Phase II implementation would require a separate EIS, and separate permits and approvals from all concerned agencies. The Elk Hills transportation FEIS should more directly address these points.

The DEIS on the SOHIO Pipeline Connection System states that from the 2.0 million barrels Cajon Tank Farm, crude will be able to flow by gravity into the SOHIO pipeline at Colton at a rate of up to 1.2 million barrels per day. This raises two questions. First, it is not known (and the FEIS should state) what maximum pressures the proposed converted Southern California Gas/El Paso Natural Gas Pipeline is capable of enduring. Second, in addition to the Elk Hills crude the SOHIO pipeline will be already carrying a throughput of up to 500,000 barrels per day from Long Beach to Midland, Texas. It is questionable, therefore, whether the SOHIO pipeline, which is rated at 500,000 to 600,000 barrels per day, will be able to handle the peak delivery rates anticipated. If, as a common carrier the SOHIO pipeline must allow Elk Hills crude to enter the line and pre-empt delivery of SOHIO crude from Long Beach at recurrent intervals, there may be a need for additional storage capacity in the SOHIO Project at Long Beach.

Common Carrier Provisions

The FEIS should include additional discussion as to how the Navy intends to implement and enforce the common carrier provisions of P. L. 94-258 as they pertain to the various pipeline systems. o

AIR QUALITY

Analysis of the potential Air Quality effects of the Elk Hills project remains the most difficult aspect of the environmental review. The severe air quality problem in the South Coast Air Basin, and the worsening air quality in the Ventura and Santa Barbara areas, are well known. These are health-related, not merely aesthetic, environmental issues. The Navy should be concerned to take every possible precaution to aid, rather than undermine, California air quality strategies, and the FEIS should reflect such a commitment. p

There are three major areas of concern which must be more adequately addressed in the final EIS. These are (1) Increased emissions resulting from transport and handling of oil. (2) Potential natural gas supply reduction to California resulting from proposed SOHIO inter-tie. (3) Potential for trade off strategies to reduce or eliminate net project emission, such as development of natural gas supplies at Elk Hills. q

Increased Emissions

Transportation of crude oil from Elk Hills directly to Port Hueneme or to Avila Beach and Estero Bay through the Coalinga Route would cause a substantial increase in emissions from transportation operations, storage tanks, tanker loading, tanker transits, and tanker unloading. This is particularly serious at Port Hueneme, Ventura County, where air quality standards for oxidant are frequently and widely exceeded now, and where the Draft EIS estimates that oxidant concentrations will increase by 36% if the Port Hueneme system is selected.

Accordingly, the final EIS should include the following:

1. a specification of strong mitigating measures proposed to minimize emissions. For example: (a) storage tanks should be capable of complying with emissions adopted by the State Air Resources Board. Fixed roof tanks should not be used. Tanks should be equipped with floating roofs with primary shoe-type seals and secondary seals which extend from the roof to the shelves; and (b) tanker loading control techniques should be used similar to those required by Santa Barbara County at the ARCO Elwood marine terminal in granting conditional approval.

2. a specific tabulation of total project emissions in each county;

3. a listing of the emissions anticipated from storage, loading, and unloading operations at all ports potentially involved;

4. a listing of emissions anticipated from tankers in transit in shipping lanes off the South Coast; and

5. a county-by-county listing of daily, annual, mean and maximum ambient emission levels expected both pre- and post-project.

SOHIO Inter-tie

As indicated above, Phase II of the proposed SOHIO project (which could be part of the SOHIO Route) would include abandonment of an additional pipeline presently carrying natural gas to the State of California. If this were to occur, California's natural gas supply would decrease, resulting in an increase in air pollution in the state.

The draft EIS does not address this potential air quality problem resulting from SOHIO Inter-tie. The final EIS should present a thorough analysis of the possible effects to the state, drawing where possible on the SOHIO Project EIR and EIS documents.

Tradeoffs Strategies

The final EIS should discuss all possible mitigating measures, including possible 'tradeoff strategies', such as allowing commercial sale of natural gas production from Elk Hills reservoirs. W

FISH AND WILDLIFE

Regardless of which route is chosen from the Elk Hills Reserve, the pipelines and associated activity will have negative effects on wildlife unless more extensive mitigation measures are identified in the FEIS and then incorporated in the project. X

Rare or Endangered Species

In areas where kit fox dens are likely to be disrupted by pipelines or tank settings, specific mitigation measures must also be discussed and incorporated in the project. These should include provisions for pre-project trapping and transplanting of animals. The Port Hueneme alternative would have substantial impact on the San Juan kit fox population immediately east of the city of Taft. This area is heavily used for denning by the kit fox. Y

More complete surveys to establish the presence, absence or population density of the bluntnosed leopard lizard should be conducted on all areas affected by all alternatives. Any alternatives selected should include mitigation for lost leopard lizard habitat. The most significant potential mitigation strategy would be to place all project facilities on currently developed land. If leopard lizard habitat must be included within the project area, mitigation efforts should include purchase and preservation of threatened habitat occupied by leopard lizards. Z

Big Game Species

The SOHIO Pipeline Connection route crosses the Tejon Ranch properties, which are inhabited by a large population of deer and an increasing herd of Rock Mountain Elk. If this alternative is selected, there are some important mitigation or enhancement measures not considered in the DEIS. The project right-of-way could provide an excellent opportunity to improve the habitat for both of these species, as follows: (a) selective revegetation of the right-of-way with plant species that would prevent regrowth of dense brush could provide a more diverse food selection and more habitat 'edge'; (b) proper fencing of the right-of-way plantings would allow use by deer, and exclude undue competition from domestic livestock. (c) an all-weather project road adjacent to the pipeline would enhance commercial deer hunting operations on the ranch by improving hunter access to areas now relatively inaccessible, and would provide the means to better utilize the annual surplus of deer from the Tejon deer herd.

The FEIS should identify and evaluate such mitigation measures.

OIL SPILLS

The alternative transportation routes present variant hazards of oil spill. All three system options pose problems of onshore pipeline breaks, valve leaks, etc. The Port Hueneme option, and to some extent the Coalinga option, offer similar onshore spill risks, but these also pose substantial risk of spills at loading and unloading marine terminals and along the coast at sea. It is difficult to tell from the Draft EIS whether or not appropriate mitigation measures are incorporated into the project to reduce, prevent, and react immediately to oil spills and breakages of pipelines. aa

Onshore Pipeline Spills

The FEIS should discuss (1) the minimum response time in the event of a major pipeline break; (2) the amount of oil that will be released in the time between notification of the break and the closing of the appropriate manual block valve; (3) the amount of oil that would escape from the line even after the valve closed; and (4) the natural and wildlife resources along the path of the route that are most susceptible to damage resulting from an oil spill; and (5) clean-up techniques and capability along each route, particularly in areas near vulnerable resources. bb

An analysis by the Office of Planning and Research indicates that 90% of the equipment-related ruptures of buried lines occur on lines that are buried less than 40 inches from the surface. The draft EIS indicates the pipelines will be buried at 36 inches instead of 40. The FEIS should consider the greater depth, and evaluate the cost-effectiveness of such a measure. cc

Offshore Spills

Use of either the Port Hueneme option or the Coalinga option with a spur to the Central California coast adds the possibility of coastal oil spills during marine loading, vessel transit, or offloading in San Pedro Harbor or the San Francisco Bay system. The FEIS should discuss (a) oil spill probabilities at the various locations and along the vessel routes, (b) the natural and wildlife resources most vulnerable to spills from these operations; (c) anticipated oil spill trajectories; and (d)the adequacy of the response capability (both containment and clean-up) at critical points. dd

Much of the information necessary to such discussion is available in the SOHIO EIR and EIS documents just completed, and in the draft Outer Continental Shelf study nearing completion in the Governor's Office of Planning and Research.

VESSEL TRANSPORTATION

The DEIS gives consideration to the increased shipping traffic associated with any marine aspect of the various alternatives.

The report seems to assume, however, that because of strict inspection requirements for American vessels, only safe vessels will call at the coastal ports. This assumption is undercut by two factors. First, given the anticipated full use of the available fleet of small coastal tankers distributing the West Coast crude oil surplus over the next three to four years, it is not clear that an adequate number of such tankers will be available to serve Port Hueneme. California is concerned that if the Navy should determine that insufficient tankers are available to distribute the Elk Hills crude oil at currently mandated production rates, substandard World War II vintage tankers would be called back into service for use along the coast. Second, existing or anticipated U. S. Coast Guard inspection programs intended to maintain clean operations could be overwhelmed by the four-fold increase in tanker traffic now anticipated in the immediate future. ee

The possible use of older tankers and the difficulty anticipated in establishing adequate inspection programs thus raises many concerns regarding air pollution problems and oil spill risks that should be more fully addressed in the FEIS.

Additional consideration also should be given to interaction between existing civilian and Navy ship traffic within the inner harbor. The FEIS should provide a clear description of vessel traffic measures to be used at Port Hueneme, San Pedro Harbor, Avila Beach and Estero Bay. ff

SEISMICITY

It cannot be determined from the Draft EIS whether or not appropriate seismic and other geological studies have been conducted. This information is critical not only to insure design and engineering adequate to protect the integrity of the delivery system, but also to identify the risk of crude oil spills, the need for mitigation measures, and the need for specific spill response capabilities. gg

The final EIS should indicate:

1. all earthquakes that traverse the proposed pipeline routes; hh
2. their epicenters, magnitudes, accelerations and other relevant characteristics; ii
3. facilities design criteria used relative to seismic safety; jj
4. types of soil and geology and overall foundation conditions in or near any harbor where tanks and pipelines will be located; and kk
5. probable need for mainland lock-valves, preferably remote controlled, at the Los Gatos Creek Pipeline crossing and at other points where pipeline crosses are at suspected or known fault zones. ll

STATE AGENCY JURISDICTION

The FEIS should provide a clear, detailed description of the jurisdictions of both the California Coastal Commission and the State Lands Commission, and should identify the relationship of the Port Hueneme Project alternative and the Central California Coast Spur of the Coalinga Project alternative to these jurisdictions. The FEIS should clearly identify any conflicts with present programs and standards of these jurisdictions that the Navy considers unavoidable. mm

RELATIONSHIP OF ELK HILLS PLANNING TO STATE AND COUNTY OCS-RELATED PLANNING

In planning for transportation of crude oil produced offshore in the Santa Barbara Channel on state lands and on the Outer Continental Shelf, the Coastal Commission and Santa Barbara and Ventura Counties have focused heavily on use of land pipelines rather than tankers in transporting crude oil to market. This strategy is designed to eliminate both air quality emissions related to tanker loading, and oil spill risks associated with marine terminal operations and increased vessel traffic. One possible pipeline strategy under intensive examination proposes use of the same natural gas pipeline the Navy proposes to convert for use in transporting oil from Elk Hills to Port Hueneme. It would be ironic if the Navy were to select the Port Hueneme system at the same time the state and county had arrived at a strategy proposing use of the same pipeline flowing in the opposite direction. Not only would the Navy be precluding state and county efforts to clean up existing and projected OCS-related development, but it would be actually compounding coastal air and water quality problems by the same action.

The FEIS should specifically recognize the effects of the Santa Barbara-Ventura County Task Force to plan for on-shore pipeline transportation of crude oil produced off-shore, and should describe task force findings made to date. The FEIS should then discuss ways in which the Navy might coordinate its Elk Hills transportation efforts with the state and county offshore oil transportation work, and should clearly delineate areas of conflict.

ALTERNATIVES

As indicated previously the Draft EIS evaluates three major alternative conveyance systems from the Elk Hills area. The Final EIS should supplement the present analysis by presenting a cost comparison of alternatives. nn
The final document should also consider: (a) variations and combinations of the various alternatives; (b) full use of the condemnation process conferred on the Secretary by the 1976 Act to make the fullest possible use of existing pipeline, and minimize the need

for capital expansion; and (c) increased emphasis on natural gas production and sale, either in addition to or in place of emphasis on crude oil production, with resulting need for natural gas transmission facilities.

CONCLUSIONS

With respect to our areas of special concern, the state has the following specific recommendations:

1. The Final EIS should contain a thorough analysis and justification for the project based on regional and national marketing considerations, and on recent national energy policy developments. oo

2. The Final EIS should incorporate natural gas production and commercial sale as a project alternative. pp

3. The Navy and other decision makers should not approve the Port Hueneme alternative unless it is demonstrated that an improvement in air quality will occur in Ventura County and in the San Joaquin Valley Air Basin by the implementation of offsetting mitigation measures, and that natural gas supplies to the Mandalay power plant will not be jeopardized.

4. The Navy and other decision makers should not approve the Coalinga or SOHIO alternatives unless it is demonstrated that an improvement in air quality will occur in San Joaquin Valley Air Basin, at Avila Beach, Estero Bay and in San Bernardino County, as a result of offsetting mitigating measures. qq

5. The FEIS should discuss the relationships and possible conflicts between the Navy's planning for Elk Hills crude transportation and state and county planning for transportation of Santa Barbara Channel offshore oil, and should make every effort to resolve any conflicts in a manner consistent with attainment of state and county resource management goals.

The State of California respectfully requests that all concerns and issues described in these comments be given full consideration in the FEIS and in any future decisions implementing the mandate of the 1976 Act.

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement.

Sincerely,

Richard E. Hammond

Richard E. Hammond
Deputy Secretary for Resources

cc: Office of Planning and Research

STATE OF CALIFORNIA

EDMUND G. BROWN JR., Governor

AIR RESOURCES BOARD
1709 – 11th STREET
SACRAMENTO 95814

May 5, 1977

John J. Dick-Peddie
Captain, CEC, USN
Officer in Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
P.O. Box 40
San Bruno, California 94066

Dear Captain Dick-Peddie:

Subject: Elk Hills DEIS; Your Reference H40: LGB: Sar, Ser H40/116

This is in response to your April 21, 1977 request for comments on your Draft Environmental Impact Statement (DEIS) "Crude Oil Transport Alternatives from Naval Petroleum Reserve No. 1."

Thus far, we have evaluated only the portions of the DEIS which deal with storage tanks. The fixed roof with internal floating covers and selected use of vapor recovery described in the DEIS are not the best alternative for your project for several reasons. A much better choice would be open-top floating roof tanks with primary metallic shoe-type seals and secondary seals extending from the roof to the tank shell which allow easy inspection and maintenance of the primary seals. This choice is: 1) safer, by reducing the chance of developing explosive mixtures in the system; 2) easier to maintain and 3) far less costly to operate. a

If you have any questions concerning this matter, please contact Jim Loop at (916) 322-2739.

Sincerely,

Harmon Wong-Woo, Chief
Stationary Source Control Division

by,

Alan R. Goodley

Alan R. Goodley, Chief
Energy Projects Evaluation and
Control Strategy Development Branch

State of California

THE RESOURCES AGENCY

Memorandum

To : Mr. Huey D. Johnson
Secretary for Resources
Resources Agency
1416 Ninth Street, Room 1311
Sacramento, CA 95814

Attn: Mr. L. Frank Goodson

Date : JUL 7 1977

From : STATE WATER RESOURCES CONTROL BOARD

Subject: REVIEW OF NOTICE OF INTENT: SCH 77050313
Draft Environmental Impact Statement - Crude Oil Transport Alternatives from Elk Hills

Review of the subject project has been coordinated with the California Regional Water Quality Control Boards - Central Coast, Los Angeles, Central Valley, Lahontan, and Santa Ana Regions. The attached comments have been developed.

ORIGINAL SIGNED BY
LARRY F. WALKER

Larry F. Walker
Executive Director,
Water Quality

cc: Department of the Navy
P. O. Box 40
San Bruno, CA 94066

Attachments (2)

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF PLANNING AND RESEARCH

Comments on Crude Oil Transport
Alternatives from Elk Hills

Recommendations:

1. The project sponsor should contact the individual Regional Boards responsible for the areas that the various proposed conveyance system routes pass through to determine if National Pollutant Discharge Elimination System (NPDES) permits, waste discharge requirements, and/or a certificate of conformance with federal water quality standards will be required. A map of the Regional Board boundaries is attached. Those portions of the project dealing with such things as dredging in Port Hueneme Harbor and the discharge of wastewater (including hydrostatic test water) to other than community sewers will require permits. Application for the relevant waste discharge requirements and permits must be made to the appropriate Regional Board at least 180 days before dredging or discharge is planned to begin. Early contact with the Regional Boards will aid the sponsor in obtaining the permits required, and will aid the Regional Board in obtaining any further detailed information it may require before it can accept the permit application. a

2. It is suggested that development of oil spill contingency plans be coordinated with Regional Board oil spill response plans in particular, as one of the appropriate state and federal plans. b

3. Small chronic leaks could be more damaging to groundwater aquifers than a larger, more visible spill. In porous areas the soil beneath the pipeline could be permeable enough to allow oil to penetrate downward faster than or equal to the rate at which it is leaking. This condition would be classified as severely destructive or irreparable with long-term degradation of large portions of the recharged aquifer. In these areas, an additional mitigation measure should include lining the pipeline trench with impervious material to force any potential fugitive oil to the surface as rapidly as possible and facilitate visual detection. Additional mitigation is suggested for rupture-prone areas near fault zones through the use of automatic and manual line valves. It is suggested that these mitigation measures be included as contract requirements in view of the potentially severe impact on water quality in areas heavily dependent on their groundwater resources. c

General Comments:

1. The discussion of wastewater disposal does not include a discussion of the applicability of "Effluent Limitations Guidelines for the Onshore Subcategory of the Petroleum Category" promulgated by the Environmental Protection Agency pursuant to the Federal Water Pollution Control Act Amendments of 1972. d

2. Should disposal sumps be considered due to the imposition of regulations on the disposal of wastewater pursuant to Comment No. 1, the Department of the Interior's NTL-2B regulations may have to be satisfied. e

3. The Draft EIS gives special attention to the difficulty of cleaning up oil spills in remote mountainous areas, and properly calls attention to the need for close monitoring of the pipeline to detect leaks. We concur that frequent (annual) hydrostatic testing of the pipeline may avoid oil spills from the pipeline and thereby prevent adverse impacts on water quality as a result of leaks. f

4. The Draft EIS presents interesting data on water quality conditions in Port Hueneme Harbor. However, the piling fauna survey, which was limited to 0.02^2m on each of five pilings, should not be taken as a complete description of the piling fauna, nor should the failure to catch fishes in the inner harbor be taken as indicating an actual lack of fishes there. This EIS does not represent a complete description of the marine environment that might be impacted by an oil spill. The description of the benthic fauna that would be affected by dredging is somewhat more complete than the other biological data.

5. The section dealing with Cultural Resources appears to be deficient. The Elk Hills Reserve area is recognized as an extremely important area both archeologically and paleontologically, having supported a very high prehistoric population density. Archeological and paleontological surveys for the Elk Hills Reserve area and the various conveyance routes should reflect the potential severity of these construction impacts to the resource and an adequate mitigation program must be provided to minimize or eliminate any adverse impacts identified. g

Specific Comments:

1. Volume 1, Page 1-5

   Supply a detailed description of how crude oil will be transported from Port San Luis and Estero Bay. h

2. Page 1-14 & 20

   Provide details on new storage capacity at Estero Bay and Avila. i

3. Page 1-60

The Standard line should have inlet/outlet monitoring equipment installed to provide faster leak detection time, especially since some of the line was installed in 1929. j

4. Page 1-66

Middle paragraph states that tankers carried approximately 7 million barrels of petroleum or petroleum products at the Union terminal in Avila Beach during 1976, whereas on Page 1-18 it states that the throughput for 1976 was 8.7 million barrels. Please explain the difference. k

5. Page 1-66

(Bottom paragraph.) A 25 percent increase in shipping activities for Port San Luis appears to be more than a "slight incremental increase". If another mooring was added, the increased risk for accidents would be greater than 25 percent. l

6. Page 1-68

Wouldn't a loaded tanker accident be worse than a ruptured submarine pipeline? The spill could certainly exceed 1000 barrels. m

7. Page 1-69

Even though the tanker traffic at Estero Bay is low compared to heavily trafficked ports, a 35 percent increase appears to be significant. n

8. Volume 2, Page K-7

Groundwater storage in Cuyama Valley should be 40,000 acre-feet (out of a total storage capacity for the Santa Maria Sub-basin of 2,100,000 acre-feet) instead of 2,100 acre feet.

9. Volume 3

Little information is supplied regarding the proposed Cajon Tank Farm where 21 million gallons of oil would be stored. Measures to prevent spills and the extent of clean-up efforts in the event of spills should be provided.

Attachment

REGIONAL BOARDS' ADDRESSES

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
P. O. Box 100, Sacramento, California 95801

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS

NORTH COAST REGION (1)
1000 Coddingtown Center
Santa Rosa, California 95401
(707) 545-2620

SAN FRANCISCO BAY REGION (2)
1111 Jackson Street, Room 6040
Oakland, California 94607
(415) 464-1255

CENTRAL COAST REGION (3)
1122-A Laurel Lane
San Luis Obispo, California 93401
(805) 549-3147

LOS ANGELES REGION (4)
107 South Broadway, Room 4027
Los Angeles, California 90012
(213) 620-4460

CENTRAL VALLEY REGION (5)
3201 S Street
Sacramento, California 95816
(916) 445-0270
Fresno Branch Office
3374 East Shields Avenue
Fresno, California 93726
(209) 488-5116
Redding Branch Office
1815 Sacramento Street
Redding, California 96001
(916) 442-6376

LAHONTAN REGION (6)
2092 Lake Tahoe Boulevard
P.O. Box 14367
South Lake Tahoe, California 95702
(916) 544-3481
Bishop Branch Office
633 North Main Street
Bishop, California 93514
(714) 873-7111

COLORADO RIVER BASIN REGION (7)
73-271 Highway 111, Suite 21
Palm Desert, California 92260
(714) 346-7491

SANTA ANA REGION (8)
6833 Indiana Avenue, Suite 1
Riverside, California 92506
(714) 684-9330

SAN DIEGO REGION (9)
6154 Mission Gorge Road, Suite 205
San Diego, California 92120
(714) 286-5114

APPENDIX D

REVISION NO. 1
JUNE 1976

(15)

PLANNING DEPARTMENT

4499 E. KINGS CANYON ROAD FRESNO, CALIFORNIA 93702 PHONE 488-3842

June 28, 1977

Officer in Charge of Construction
Naval Facilities Engineering Command Contracts
Elk Hills
P.O. Box 40
San Bruno, California 94066

Re: OOH, 21 April, 1977, Elk Hills/Coalinga Conveyance System

Gentlemen:

Thank you for the opportunity to review the above-referenced project. Upon review of this document by County agencies, we find that the project will have no significant impact upon Fresno County. Accordingly, we have no further comments to offer. a

Very truly yours,

Thomas W. Yarbrough

Thomas W. Yarbrough
STaff Analyst II

TWY:cc

LEAGUE OF WOMEN VOTERS
OF SAN LUIS OBISPO, CALIFORNIA

June 28, 1977

Captain John I. Dick-Peddie
Officer in Charge of Construction
Naval Facilities Engineering Command Contracts, Elk Hills
P. O. Box 40
San Bruno, California 94066

RE: Comments on Draft Environmental Impact Statement for Crude Oil Transport Alternatives from Naval Petroleum Reserve No. 1, Tupman, California.

Dear Captain Dick-Peddie:

A. Publicity and Distribution of Document.

During the public hearing, May 23, 1977, in San Luis Obispo, we expressed our concern about the lack of prior publicity and the few copies of the Draft report in our County.

We thank you for the Navy's very immediate response. We received a copy of the Draft E.I.S. soon after and have made it available to others. We also received an immediate answer to our verbal comments.

B. Alternative 1, Elk Hills/Coalinga Conveyance System.

1. Air Quality - We are very concerned about the increased hydro-carbon emmissions which would be generated by the proposal.

There are now no extensive studies about the air basin's characteristics such as wind and dispersion patterns and the inversion layer. The basin's pollution carrying capacity is unknown. San Luis Obispo County has only a few monitors operating and limited base line data. Projected pollution levels based on anticipated population growth have not been calculated. a

No one knows how significant the pollution increment added by the proposed project will be to San Luis Obispo County. The subject document should recognize this lack of basic information and it should be taken into account when the final decision is made.

2. Growth Inducement - The increased tanker activity in San Luis Obispo County may have growth inducing effects not noted in the subject report. Since the early 1970's Estero Bay has been considered as a potential supertanker facility. Existing development with its concommitant social and economic infrastructure is often a compelling reason for siting like new activities. Will this 109 additional tankers annually be reason for more port development in the future ? b

3. California Coastal Commission Plan - This alternative is in conflict with the CCC's main policies to preserve Avila Beach for recreational use and to give preference to overland oil transport routes. c

4. Markets - The Draft E.I.S. states "There is now no firm indication that California demand for Elk Hills crude will approach its availability at full production." (p. Q-21, all volumes). Given this statement plus the projected West Coast Alaskan crude surplus, we question the need for immediate production of Elk Hills oil. d

Based on the subject document, we feel the impacts on San Luis Obispo County are unacceptable.

Sincerely,

Lauretta Rice

Lauretta Rice
President, League of
Women Voters of San Luis
Obispo

League of Women Voters
of San Luis Obispo
1638 Carla Court
San Luis Obispo, CA 93401

(17)

Serving Monterey, Santa Cruz & San Luis Obispo Counties

MISSION COAST LUNG ASSOCIATION

A Member of the Clean Air Coalition

June 22, 1977

1101 NORTH MAIN STREET
SALINAS, CALIFORNIA 93901
PHONE (408) 424-1220

7000 SOQUEL DRIVE
APTOS, CALIF. 95003

1216 MORRO STREET
SAN LUIS OBISPO, CALIF. 93101

Officer in Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
P.O. Box 40
San Bruno, Ca. 94066

Dear Sir:

The Clean Air Coalition of San Luis Obispo is concerned about the proposal to sell Elk Hills oil and the subsequent alternative marketing routes under consideration. We recommend legislation to retain Elk Hills oil for emergency use only, designating it as a strategic ready reserve. With increased supplies from Alaska and the uncertainty of foreign supplies, we oppose the use of Elk Hills oil for current domestic consumption and support measures designed to make Elk Hills oil available in times of emergency. a

We do favor the development of a capability to transport such oil in times of emergency. In considering the three alternative routes described in your Draft Environmental Impact Statement (EIS), we support Alternative 3, the all-pipeline hookup with the SOHIO Long Beach pipeline to Texas because:

1. With the increased oil supplies on the California market due to Alaskan oil, it makes sense to move the oil to the East and Midwest as expediently as possible where oil is most needed.

2. All-pipeline routes, while more expensive initially, are less expensive in the longrun and less environmentally damaging in terms of future pollution loads and costs.

We oppose the Coalinga Conveyence system (Alternative 1) for the following reasons:

1. Increased hydrocarbon emissions would raise oxident levels in the county degregating air quality. While it is true the Federal Ambient Air Quality Standards for oxidents are presently exceeded in this county fewer times than in some areas of the state, the county is vunerable to air pollution for the following reasons: San Luis Obispo County has a small air pollution control office which is understaffed, a rapid rate of growth, and limited air quality data

Your Christmas Seal Association

FORMERLY MISSION COAST TUBERCULOSIS & RESPIRATORY HEALTH ASSOCIATION

at this time. There are few air pollution tradeoffs available and most importantly we have one of the lowest persistant inversion layers in the state.

Since the "Elk Hills/Coalinga Alternative would afford the least marketing flexibility of the three proposed transportation alternatives"(p. Q-18 EIS) and since full details of the markets serviced by this route "are not yet defined" (p 1-5), it does not make long range sense to unnecessarily degradate clean air to ship oil out to sea to "unknown" markets when the oil is needed in the Eastern states.

2. Increased tanker traffic, especially at Estero Bay, has associated with it an increased risk of tanker accidents and oil spills. Although the record for Estero and Avila is good, such a record is based on "the low traffic density" (p 1-69). The coast south of Estero Bay where oil spills would flow is environmentally sensitive because of recreational facilities, wildlife habitates and fishing grounds.

3. The pipelines from Kettlemen City and Junction Station to Avila and Estero Bay have been in existence for some time and do not reflect best available technology (i.e., lack of inlet/outlet monitoring system on Standard Oil's line).

Furthermore, the Clean Air Coalition sees the following points in the Draft Environmental Impact Statement need more detailed analysis and further substantiation:

1. On page 1-5 the EIS states "transportation of the crude oil out of the Coalinga area, Avila Beach, and Estero Bay to markets is not included since full details of these markets are not yet defined." Before pipelines are considered and increased tanker traffic contemplated, it is important that specific plans for marketing this oil should be formulated. **b**

2. On pages 1-18 and 1-20 the report speaks of additional storage facilities which may be needed at Avila and Estero Bay. However, there is no information concerning the technology which will be required to insure minimum hydrocarbon emission. **c**

3. On page 1-64 there is an admission of the limited data available concerning oil spills "associated with small offshore terminal operations." The discussion needs to further pursue the relationship of increased tanker traffic at Avila and Estero Bay on the risk statistics. **d**

4. On page G-7 it is stated that emissions from Estero Bay would be dispersed "owing to the complex winds in the area" and that "emissions from Estero Bay and Avila Beach most likely affect different areas." To our knowledge no extensive study of wind patterns and dispersal patterns have been done for this county. **e**

5. The possible effects on Atascadero and Paso Robles's oxident levels is not discussed. f

6. There are several statements which leave the reader with the impression that air quality in San Luis Obispo County would not be affected by such sources. Little is known about projected effects on air quality of such new pollution sources and more study is needed in this area. g

We would appreciate inclusion of the above comments in your consideration of the alternate marketing routes for Elk Hills oil and written comments on these points. Thank you.

Sincerely,

Beryl Reichenberg

Beryl Reichenberg
for the Clean Air Coalition
of San Luis Obispo County
1216 Morro Street
San Luis Obispo, Ca. 93401

(18)

June 27, 1977

To: Officer in Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
P.O. Box 40
San Bruno, CA 94066

Subject: Draft EIS on Elk Hills Oil Pipeline Project, Comments.

It is requested that you consider the following as public comment on subject Environmental Impact Study.

The Save our Coast Coalition of the California Central Coast strongly opposes, in light of our understanding of today's need and the future projection of need for additional West Coast oil development, the construction of any oil pipeline from Elk Hills to a transportation terminal. We feel that the Elk Hills Reserve should not be brought into production in the forseeable future. But rather it should remain as a reserve, with the oil still in the ground, until a demonstrable West Coast need arises. Legislation must be enacted to reverse the decision made in 1976 to bring the reserve into production. a

If a choice were to be made between the three alternative routes delineated in the draft EIS, we feel that the tie-in directly with SOHIO's Long Beach-to-Texas pipeline makes the best sense from an environmental and air quality point of view. We have considerable concern over expanded use of oil tankers, particularly the larger ones, because increased tanker traffic means increased potential for oil spillage and greater attendant air pollution due to hydrocarbon emmissions. In other words, an oil transportation system that does not use tankers is preferable.

Sincerely,

John P. Forrest

John P. Forrest
Chairman

cc: President Carter
Senator Alan Cranston
Senator S. I. Hayakawa
Representative Robert Lagomarsino
Representative Leon Panetta
James R. Schlesinger

FOUNDED IN 1892

SIERRA CLUB ~ SANTA LUCIA CHAPTER

June 8,1977

Officer in Charge of Construction
N.A.V.S.A.C.E.N.G.C.O.M.
Contracts Elk Hills
P.O. Box 40
San Bruno, Ca. 94066

Dear Sir;

The Executive Committee of the Santa Lucia Chapter of the Sierra Club strongly urges the restoration of the Elk Hills Navy oil resource to its original reserve status. The 1976 law which permitted use of Elk Hills oil was passed hastily during a period of crisis. The Environmental Impact Statement for the Elk Hills Reserve indicates that the potential market and use for this oil is uncertain especially with the project of North Shore oil and additional off-shore oil at Santa Barbara coming on line later this year. a

The proposed Elk Hills oil pipeline to storage facilities at Avila and Estero Bay and the additional tanker traffic are not only unnecessary but could be seriously detrimental to the environment. It would seem more logical to reserve the oil underground in its present location than to disrupt and possibly contaminate the environment of an ecologically valuable shoreline.

Preserving the Elk Hills oil for future defense needs makes far more sense than making it available to the whims of the current market. b

Respectfully yours,

Jan Clucas

Jan Clucas, Secretary
San Luis Obispo, Ca.

100% RECYCLED PAPER

. . . To explore, enjoy, and protect the nation's scenic resources . . .

(20)

Sierra Club

Southern California Regional Conservation Committee

Please respond to :

1333 B. Brunner St
San Diego, Ca.92110

June 27, 1977

Officer in Charge of Construction
Naval Facilities Engineering Command Contracts
Elk Hills, P.O. Box 40
San Bruno, Ca 94066

Dear Sir,

Herewith are the comments on the DSYS Elk Hills Oil Transport. The comments were compiled by Hamilton Parhydte, and Freeman Allen on behalf of the Sierra Club. If you have questions regarding their input we would be glad to respond.

Yours sincerely,

Susan Steigerwalt

Susan Steigerwalt - Chair.
Southern California Regional
Conservation Committee

Sierra Club Regional Vice President

Review of Vol. 1. of DEIS Elk Hills Oil Transport. SOHIO Pipeline Conveyance System.

These DEIS do not make any statements relative to cost, or how the oil will be routed once it arrives at the pipeline terminals, or anything else which would contribute to a "big picture" understanding on how this project meshes with a total oil flow pattern to supply this country's oil needs in the future. a

Assuming that public law 94-258 will prevail and thus that the pipeline will be built and operated at capacity for a period of not less than 6 years, it becomes a matter of selecting the "best " route and determining that the pipeline is built with a minimum deleterious environmental impact. If SOHIO puts a pipeline into operation from Long Beach to the east, and if this pipeline has the capacity to absorb the Elk Hills output in addition to the oil throughput from Long Beach, then the pipeline from Elk Hills to Colton may be preferable. If this is not the case, then the pipeline from Elk Hills to Coalinga would be preferable. b

The pipeline to Colton is preferable since it eliminates marine pollution by providing a complete pipeline route east and eliminating transfers to and from tanker vessels. The entire length of the pipeline passes through or close to areas that are already heavily man altered. One concern for Colton pipeline route is that the transfer to Sohio terminal occurs in an area heavily impacted by air pollution, and all possible precaution should be taken to minimize air pollution.

The entire length of the pipeline to Coalinga passes through or close to areas that are already heavily man altered. The capacity of the existing facilities at Avila Beach and Estero Bay would not have to be enlarged to handle the additional volume of oil. The DEIS makes a big point that maximum rate of air pollution would not be increased. However, it is obvious that the total volume of air pollution would be increased. (We estimate by approximately 170% using tanker loading rates given in DEIS.) The combined emission rates at Estero Bay and Avila Beach presently account for 54% of the county total emission rate of 3.133 pounds per hour. c

We assume that the route of the proposed pipeline to Port Hueneme would generally follow Highway 33 from Taft to Ojai through the Los Padres National Forest. This route crosses the San Andreas Fault and passes close to two condor sanctuaries, and condor foraging areas. However, the area immediately adjacent to Highway 33 is mildly man altered over much of the route including roughly one-half the distance through Los Padres National Forest by the presence of farms and ranches. There are no existing major alterations in the category of high speed highways, railroads, aquaducts, high capacity electric transmission lines etc. The tanker facilities at Port Hueneme would have to be substantially enlarged to accommodate the throughput from the new pipeline.

Once a route is selected the remaining concern is that the pipeline be constructed to minimize environmental impact. Perusal of the DEIS suggested that the usual steps such as X-raying of welds; replanting, fertilizing, and watering of disturbed areas; re-establishment and stabilization of stream banks; etc. will be considered. d

The automated leak detection and shutoff system appears satisfactory, but once a leak is detected, the pumps stopped, and the shutoff valves activated. Still the entire length of the pipeline must be visually checked to find the location of the leak. Adding more sensors along the pipeline could significantly shorten the time and effort required to locate a leak. e

The pipeline authorities plan to depend on local firefighting authorities to control any fire or explosion hazard. There is no mention of any plan to determine if these authorities have appropriate equipment and to reimburse the local communities the expenses of providing standby services and actual hazard combat. f

The proposed new storage tank construction involves fixed roof tanks with internal double sealed floating covers. For such seals to be fully effective the tanks must be constructed with flush welds to provide a smooth and continuous surface. g

The DEIS cannot be considered complete until the entire transport route to ultimate storage location and its environmental impact is examined, and until a no development impact is discussed. A sound route selection cannot be made without this information. h

The Navy may wish to consider a fourth alternative that fulfills the ultimate interest of Public Law 94-258., namely the creation of a military strategic oil reserve east of the Rocky Mountains, in a somewhat different manner. Specifically, recover the gas in the Elk Hills field, rather than the oil, supply the gas to local California public users, who would in turn provide an equivalent amount of oil to the Navy from other sources for the eastern oil reserve. The Elk Hills oil can be recovered at a later date by steam injection. Meanwhile the Navy has in effect increased the size of their strategic oil reserve and California has reduced its near term need for imported natural gas. i

Review of Part 3 of DEIS Elk Hills Oil Transport, SOHIO Pipeline Conveyance System.

There is doubtful justification for this project. If the SOHIO pipeline can handle the oil, this alternative could be acceptable, if modified by movement to the South, as mentioned on page 5-23 and 5-24. This relocation increases the danger of earthquake damage, but avoids the Condor range (apparently) and would have generally less environmental impact. There may be less hydrocarbon emissions in the South Coast Air Basin under this alternative since there would be less new construction at the SOHIO juncture. The alternatives which involves transfers to tankers are unacceptable because of the potential for air and water pollution in the tanker operations which seem so difficult to control.

This is one of three pipeline alternatives listed (a alternative for rail transport has apparently already been dismissed). The two other alternatives are shorter and produce less environmental insult to endangered species and vegetation, but have much greater potential for air pollution because they involve transfer to tankers and the construction and/or use of existing port facilities. Thus none of the choices to construct are very attractive.

The SOHIO alternative has the following major objections

1. It is several times longer than the other routes so that there will be more net use of land for the project.

2. The route includes ten miles in the critical California Condor habitat.

3. There is some intrusion on the Kit Fox habitat (an endangered species).

4. There will be long-term damage to oaks (in the Tejon Ranch area), to Chaparral in the Tehachapi Mountains, and to ancient creosote communities and Joshua trees.

5. The possibilities of ruptures of the pipeline in the Lytle Creek Santa Ana River areas could contaminate local water resources.

6. It is not clear that the SOHIO line will be in place and able to handle this added capacity without addition of 2nd phase which would require abandonment of 2nd natural gas pipeline which might adversely affect supply of natural gas to California.

   There means of conveyance for increased production from Elk Hills field should not be provided because 1) the estimates of peak production from Elk Hills would not be sufficient to utilize all of its increased capacity and 2) there may be economic and other benefits in reserving this source of crude oil for a later date when shortages may be even more critical.

   On page 0-1, Vol.3, the point is made that peak Elk Hills production will be only 57-8% of the total pipeline capacity, depending on whose estimate is used. The existing Elk Hills pipeline facilities can handle 150,000 B/D. Legislation mandated the additional 200,000 B/D, even though the total of 350,000 B/D exceeds production prospects, and an act of congress would therefore be necessary to stop the project. It is less than reasonable to develop our oil reserves now

at maximum rate when they are likely to be even more valuable to us in the future. The proven Prudhoe field reserves and Elk Hills both have a project life of approx. 20 years at full production capacity and the North Slope oil alone is more than we can handle on the West Coast at this time.

There is one possible advantage of the Elk Hills Crude: some if it is low sulfur like the Indonesian crude we import, and will continue to import, because there is less pollution by sulfur dioxide when it is burned. (This applies only to the Stevens Zone crude).

To comment on the contents of the DEIS itself:

The tank farm at Elk Hills will emit hydrocarbon (non-methane) at an estimated rate of 43.9 lb/hr. This amounts to 0.3% of the total hydrocarbon emission in Kern County, and will impact areas in the county which already fail to meet National Ambient Air Quality Standards many days each year. There is no modeling to predict what the impact will be on the more heavily impacted areas (for oxidant) such as Visalia. Therefore, we recommend that a vapor recovery system be included in this tank farm as is apparently already in use on other tanks at Elk Hills.

There is a small tank (10,000 B) planned for the junction facility at the SOHIO pipeline. There is no mention of the emission from this tank which is in Colton. In fact, there is no mention of the air quality impact on the South Coast Air Basin. The major emissions in the SCAB would probably be from this tank, and it would probably not be large, but it is also in a very heavily impacted air basin, and deserves analysis.

There is no analysis of the air pollution from secondary sources producing the energy to power the electric pumps. The magnitude and location of such emissions should be mentioned, together with the energy consumption for the pumping operation.

South Bay Conservation Group

(21)

LOS OSOS, CALIFORNIA 93401

Officer-in-Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
P.O. Box 40
San Bruno, California 94066

Dear Sir:

In the consideration of the Elk Hills Oil Fields, we strongly urge it be returned to a reserve status to counter possible crisis in our energy supply. a

We also urge extending present pipeline systems to provideeastward overland transport of future supplies; more specifically, Alaskan oil. b

Respectfully,

George Taylor

GEORGE TAYLOR
Chairman
South Bay Conservation Group
Los Osos, California 93402

100% RECYCLED STOCK

AtlanticRichfieldCompany

Transportation Division
515 South Flower Street
Mailing Address: Box 2679 - T.A.
Los Angeles, California 90051
Telephone 213 486 2533

Lodwrick M. Cook
Vice President

(22)

June 17, 1977

Officer-In-Charge of Construction
Naval Facilities Engineering
Command Contracts
Elk Hills P.O. Box 40
San Bruno, California 94066

Re: Alternative Pipeline Routes from Naval Petroleum Reserve No. 1 (Elk Hills)

Dear Sir:

In response to your notice of hearings and testimony on the captioned subject contained in the Federal Register, Volume 42, No. 82, the Atlantic Richfield Company submits the enclosed comment on the Draft Environmental Impact Statement for your consideration.

The Atlantic Richfield Pipe Line Company, already involved in transporting Elk Hills crude, has plans and programs for pipeline projects which would increase the capacity to handle additional volumes and open new markets for Elk Hills crude. A brief description of these systems is contained in the enclosure.

Atlantic Richfield Company thanks the Department of the Navy for this opportunity to offer commentary. If there is a desire for a more detailed discussion on any point, it can be arranged at your convenience.

Sincerely,

L. M. Cook by Jrdr.

Enclosure

WRITTEN COMMENT ON

DRAFT ENVIRONMENTAL IMPACT STATEMENT

CRUDE OIL TRANSPORT ALTERNATES

FROM NAVAL PETROLEUM RESERVE NO.1

ATLANTIC RICHFIELD COMPANY

TRANSPORTATION DIVISION

JUNE 1977

/1/

Atlantic Richfield appreciates the opportunity to comment on the Navy's plans for transporting Elk Hills crude. Our comments are aimed primarily at the potential for expansion of existing systems because their potential was not discussed in the Draft Environmental Impact Statement (DEIS).

Atlantic Richfield already plays an important part in transporting Elk Hills crude. Since the opening of the reserve last July, Atlantic Richfield has transported crude purchased by some of the successful bidders from Elk Hills to Bakersfield and Los Angeles. We offer a current capacity of about 45 thousand barrels per day (MBD) to Los Angeles area buyers in our 14-inch system. This system can be expanded to handle about 75 MBD of Elk Hills crude to Los Angeles. Should the Navy be willing to enter into a throughput agreement to support such an expansion, the 30 MBD additional capacity could be installed in 12 to 18 months at an expenditure of about $5 million. The estimated initial cost of this expansion increment is only 65% of the lowest cost (Port Hueneme) alternate in the DEIS. Although this expansion when added to expansion potential of other existing systems would not yield a capacity adequate to transport the additional 250 MBD, it does provide an opportunity to maintain production at higher levels until major west to east pipelines are in service.

In his proposed energy plan, President Carter has suggested that Elk Hills production be reduced to 80 MBD or to an amount needed for local consumption, during the projected West Coast surplus or until west to east pipelines are in service. We suggest that with a production rate restriction, consideration should be given to the availability of the 30 MBD expansion capacity of our 14-inch system.

Atlantic Richfield has several projects in various stages of development that can impact Elk Hills crude transportation.

*

FOUR CORNERS

The Four Corners Pipe Line Company, a wholly owned subsidiary, is pursuing plans to reverse its 16-inch trunk line which runs from Los Angeles to Aneth, Utah. The reversal, with initial capacity of 30 MBD, is expected to be completed early in 1978. Four Corners is connected to Atlantic Richfield's 14-inch system mentioned earlier. This connection will allow New Mexico refiners to bid on Elk Hills crude if they so desire. Moreover, the reversal will allow Elk Hills crude to move to strategic reserve storage on the Gulf Coast and to mid-continent refiners by connecting pipelines. The ultimate capacity of the reversed Four Corners system, planned for late 1979, is 140 MBD. Provisions will be made for maintaining the Stevens Zone crude separate from other high sulfur content crude.

/3/

*

TRANS MOUNTAIN

Atlantic Richfield is actively involved in plans to reverse Trans Mountain Pipeline. This system can supply crude to Northern Tier states which are losing traditional Canadian supplies. It is connected to Puget Sound refineries which have also lost their Canadian supply. By keeping the Stevens Zone crude segregated, the Navy could play an important role in the supply picture of Washington State and Northern Tier states. If the Stevens Zone crude can be delivered by ship to the Cherry Point dock of the Trans Mountain Project, it could partially displace sweet foreign crude currently being used by nearby refineries. Vancouver refiners, also connected to the Trans Mountain System, use sweet Albert crude which if displaced by Stevens Zone crude, could be available to Northern Tier states on an exchange basis. In order to take advantage of the Trans Mountain potential, the Port Hueneme alternate would be desirable. Port Hueneme also offers better flexibility than other alternates to reach other crude marketing areas, and is the lowest cost of the three. The environmental question of hydrocarbon emissions during tanker loading is recognized as a handicap of the Port Hueneme alternative.

*

TRANSPORTATION COSTS

A comparison of alternative project transportation costs was not noted in the DEIS. Overall economics and maximum revenue to a

the Navy will be enchanced by maintaining flexible transportation alternatives and by being in a position to offset some of the high cost sweet foreign crude imports needed by many refineries on the West Coast.

*

NORTH SLOPE

A correction on page 21, Appendix P, Coalinga alternative is noted. Atlantic Richfield's latest estimate is that Valdez Terminal receipts will be at 600 MB/D by August 1977, and will reach 1.2 MMB/D in January 1978. Thus, the effects of a West Coast crude surplus would be manifested before recognized in the DEIS.

*

AIR EMISSIONS - STORAGE TANKS

Recent studies conducted by Chicago Bridge and Iron, and ongoing studies sponsored by the Western Oil and Gas Association (WOGA) indicate that API methods for calculating hydrocarbon emissions from floating roof tanks overstate the actual emissions. Use of secondary seals and other special features reduce hydrocarbon emissions to 10 or 20% of that calculated by using API Publication 2517.

REFINERS · MARKETERS · PETROLEUM PRODUCTS

BEACON OIL COMPANY 525 WEST THIRD STREET, HANFORD, CALIFORNIA 93230
AREA CODE (209) PHONE 582-0241

(23)

June 15, 1977

Officer in Charge of Construction
Naval Facilities Engineering Command Contracts Elk Hills
P. O. Box 40
San Bruno, Ca 94066

Dear Sir:

This has reference to your Draft Environmental Impact Statement (DEIS) for the construction of a pipeline to convey up to 250,000 barrels per day of crude oil from Naval Petroleum Reserve No. 1 (Elk Hills), Tupman, California, to market.

In your DEIS, our company is referred to as being located at Bakersfield, California. a

Our refinery and main office is situated at Hanford, California, which is 90 miles north of Bakersfield.

Appreciate your adjusting your records to reflect our correct location.

Thank you.

Very truly yours,

BEACON OIL COMPANY

K. W. Bridwell
Manager of Supply

KWB:dk

Chevron U.S.A. Inc.
575 Market Street, San Francisco, CA 94105

D. L. Bower
President

June 29, 1977

Crude Oil Transport Alternates
From Naval Petroleum Reserve No. 1

Office in Charge of Construction
Naval Facilities Engineering Command Contracts, Elk Hills
Post Office Box 40
San Bruno, California 94066

Dear Sir:

Chevron U.S.A. is pleased to be given this opportunity to comment on the subject of pipeline systems being considered for transporting crude oil from Naval Petroleum Reserve No. 1 (Elk Hills).

The Naval Petroleum Reserves Production Act of 1976 requires that the Navy provide a crude oil transportation system capable of handling 350 MBD of Elk Hills crude by April 1979. This is incongruous with the requirement to produce at MER.

The Current Maximum Efficient Rate (MER) of production from the Elk Hills Field is expected to be substantially less than 350 MBD. Production experience since open-up has demonstrated a lower productive capacity than previously envisioned. The MER will probably decrease by 1980 because of ongoing production. It is our conviction that Elk Hills production cannot be substantially increased without detriment to ultimate economic recovery and that additional pipeline capacity may be uneconomic and unnecessary.

We strongly recommend that the Department of the Navy seek an amendment to the Naval Petroleum Reserves Production Act of 1976 modifying Congress' mandate to provide 350 MBD of pipeline capacity and request that the wording be changed to provide that pipeline capacity be that which is required for producing Elk Hills at MER. It should be brought to the attention of Congress that a sound MER of production has not yet been established through reservoir engineering studies and that continued production history will be necessary for expert consultants to derive an MER which will meet the mandate of the law.

Very truly yours,

D L Bower

CHARLES W. QUINLAN
URBAN PLANNER • ARCHITECT A.I.A.

Officer in Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
San Bruno, CA. 94066

Dear Sir:

This is a letter in opposition to the use of Elk Hills oil for current domestic consumption. As proposed in President Carter's energy plan, the oil should be used for emergency only. When the oil must be used, it should be transported by an all-pipeline hookup to the SOHIO Long Beach pipeline which connects to the Midwest and East. This method will be least environmentally damaging and, since Alaskan oil will more than meet west coast needs, it only makes sense to transport the oil by the safest method to other U.S. domestic markets.

Thank you for your interest.

Sincerely,

Charles W. Quinlan

Charles W. Quinlan
174 Del Norte Way
San Luis Obispo, CA. 93401

26

June 14,1977

Officer in Charge of Construction

NAVFACENGCOM Contracts, Elk Hills

P.O.Box 40

San Bruno, Ca.,94066

Dear Sir:

It has come to our attention that oil from Elk Hills is to be moved out for domestic market use. We are also hearing that oil from the Alaska Pipeline will be flowing this month. Recent reliable reports say that world oil will run out sooner than we think, 5 years has been quoted.

Would it not be wise to continue the Elk Hills oil in its original status as a Naval Petroleum Reserve. If this oil must be moved for some reason not publicly known please direct it away from our beautiful central coast, we are supposed to have plenty of oil in California from the reports we read.

We hope we will read favorable reports on Elk Hills oil in the near future.

Best wishes with your work

sincerely,

E.Craig and Eileen P.Cunningham
8707 Casitas Rd.,
Atascadero,Ca.,93422

E. Craig Cunningham
Eileen P. Cunningham

cc Pres. Carter
James R.Schlesinger
Senator Alan Cranston
Senator S.I.Hayakawa
Congressman L.Panetta

a

(27)

George H. Floyd
295 Weymouth Street
Cambria, California 93428

June 16, 1977

Officer in Charge of Construction
NAFACENGCOM Contracts, Elk Hills
P.O.Box 40
San Bruno, CA 94066

Dear Sir:

I strongly oppose alternatives one and two of the four alternatives suggested in the Navy's Draft Environmental Impact Statement on transport of Elk Hills oil.

Use of tankers to transport a strategic material such as oil, throws an additional and unnecessary defense burden on the already overburrdened Navy, to protect the tankers on the sea. a

Alternative three would not impose this unnecessary additional burden on the Navy, but would still make the oil available for Navy and domestic use.

Sincerely, George H. Floyd

Copies to: President Carter, James R. Schlesinger, Alan Cranston, S.I.Hayakawa, Leon Panetta

28

Mr. and Mrs. Theodore Foster
743 Meinecke St.
San Luis Obispo, CA 93401
June 26, 1977

Officer in Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
P.O. Box 40
San Bruno, CA 94066

Dear Sir;

We are opposed to the use of Elk Hills oil for domestic purposes. We feel that it should remain in the ground as a reserve for emergency use. We understand from the EIS that there are no defined markets for this oil and with Alaskan oil coming in to the west coast it seems unneccesary to use the Elk Hills reserve. We are very strongly opposed to any increase of the use of the tanker ports a Avila and Estero Bay in San Luis Obispo County. Heavier use would result in greater air pollution and increase the possibilities of oil spills and development of these ports. a b c

It does seem that the easiest and least damaging way of moving the oil in case of emergency would be a hookup with the SOHIO Long Beach east-west pipeline. d

Sincerely;

Theodore Foster

Theodore Foster

Roberta Foster

Roberta Foster

San Luis Obispo, Ca.
May 20, 1977

Officer in Charge of Construction
Naval Facilities Engineering Command Contracts
Elko, Nev.

Officer in Charge,

In regard to local hearings on using of different sites for transporting oil from the Naval Elk Hills oil fields for shipment to the Central and Eastern U.S.; Hopefully you will consider the Avila Beach and Estero Bay Route. This location seems more practical, as it would mean increased local employment and economic activity. Also adding oil to the National supply.

Having lived in Paso Robles, often visit there; the economy is better than in this County. Having lived here for the past 18 years, I'm familiar with the weather conditions, which are good strong winds to remove the fear of any air pollution. This County seems to be a stopping place for many crusading young environmentalist. The group recently caused San Luis Obispo to place a 910 bobby needed ships.

Since San Joaquin Valley is an agricultural area and would be affected most, if indeed

a

it is seriously considering. A Navy spokesman said recently there is no favored route, at least for the present.

I ask you seriously consider San Luis Obispo County. I feel we need the local employment and economic activity more than the other places.

It also might help the group of crusaders to move elsewhere, since I personally know most of them do not own property or pay taxes in this county. Also they are a group who have lived in the area for only a short time, mostly students who would like to stay in the county and take control.

Thank you very much for any concern you might give to San Luis Obispo County.

Yours Sincerely
Mr. L. W. Gahagan
491 Lawrence Dr.
San Luis Obispo, Ca. 93401

30

Officer in Charge of Construction
NAVFACENGCON Contracts, Elk Hills
P.O. Box 40
San Bruno, Ca. 94066

June 26, 1977

Gentlemen:

We are unalterably opposed to opening up the Elk Hills oil reserves. This supply should be kept for emergencies as originally planned.

There is no definite need for the oil at this time since the Alaskan oil will soon be reaching markets. a

Why should air pollution be increased along with the possibility of increased oil spills! b

Sincerely,

Constance Hendricks

Constance Hendricks

William C. Hendricks

William Hendricks
549 Jeffrey Drive
San Luis Obispo, Ca.
93401

cc: President Carter
Alan Cranston
Leon Panetta
James Schlesinger
S.I. Hayakawa

(31)

May 19 77

Dear Sirs,

After reading tonights paper I thought I'd write a note to express ~~my~~ my opinion about tanker traffic.

I'm a resident & home owner in Cayucos located at the northern end of Estero Bay. I'm firmly opposed to any further tanker traffic in our bay for fear of further inevitable pollution.

Andy Hingsdale

(32)

137 "C" St.
P.O. Box 15
Fellows, CA 93334

Officer in Charge of Construction
Naval Facility
Engineer in Command of Contracts
Elk Hills
P.O. Box 40
San Bruno, CA 94066

Reference: Crude Oil Transport Alternatives from Naval Petroleum Reserve No. 1, Tupman, CA. EIS

Sirs:

As a native of the westside and a member of a family which settled in Fellows, CA in December 1909, and whose family has worked the oilfields since that time, I would like to comment on the above EIS. There are many descrepancies in terminology, prehistory, wildlife, history, illustrations, and paleontology which should be corrected prior to implementation of the proposed project. Basically, the EIS seemed to have been done hurriedly and the result certainly shows. a

Let me illustrate a few examples. Figure 2-1 refers to Carrizo Plain as Carrizo Plains, never is it Plains (plural) since it is a singular geological and geographic entity. Check your topo map or Twisselman (1956 and 1967). This type of error frequently occurs when local persons are bypassed during initial data collecting.

Figures are extremely poorly represented, often being so poorly copied or reduced to such a nonsensical scale as to be non-legible. Examples are figures 1-35, and 1-36. What US BLM document (1976) is being referenced? I attempted to track this document down but was unable to locate even the source. Such poor referencing is unprofessional and academically in poor taste. b

Question? What and who is an URS company? It is quite obvious that they utilized no local experts and consulted no individual interested in Westside resources. Bakersfield Community College has various experts in the fields of archaeology and biology who are interested in the Westside yet they were not even consulted. Why? I find the statement (2-1) that "Wildlife is scant" to be ridiculous/scant wildlife? Compared to what, Kenya? or the San Diego Zoo? c

It is the habitat of the kangaroo rat. Even Elk Hills is a game preserve where the kit fox and kangaroo rat are protected animals. During hunting seasons the oil fields are alive with hunters after chukar, quail, dove, pheasants, rabbits, and even deer in the Temblor Mountains. The Westside is the flyway for the California Condor (eastern extent). As a youth I witnessed the Condor flying over the Temblor Mountains on many occasions. The statement is even more ridiculous when one realizes that this document is being prepared for the US government which is legislatively mandated to objectively evaluate the impacts on all resources. Scant wildlife is anything but objective. It is ludicrous.

No mitigating measures are specificly proposed for the impacts to vegetation. Construction practices can be modified to reduce or eliminate these impacts. Topsoil can be removed and stockpiled for redistribution over disturbed areas after construction. This statement is fine on its face value, but where will the topsoil originate? How long before the scars are eradicated? How are the disturbed areas to be mitigated? Reseeding is one way but it is not proposed by the consultant. d

The proposed wildlife mitigating measures are wholely inadequate. With a total of only 7 paragraphs, it is impossible to adequately mitigate impacts to wildlife. e

Who worked on the EIS? A list of individuals along with their qualifications and academic background should be provided so these people could be examined more thoroughly by the reader. It seems as if minimal original data was collected, but that URS simply relied upon tertiary data, much of which was out of date. f

Who performed the paleontological survey? According to EO 11593, the 1966 Archaeology and Historic Sites Preservation Act, and the latest Solicitor General's ruling, paleontological resources are protected by the 1906 American Antiquities Act and since the Westside contains numerous fossiliferous deposits and strata, some of which are identified in the EIS, any destruction of fossil sites may be aviolation of the 1906 act and punishable by law. How do you propose to ensure that no paleontological sites are destroyed? g

Why under climate is only sumer climatic data given? Have any of the consultants ever spent a winter on the Westside in the damp fog? Air pollutants and the damp winter climate are also conducive to further air quality degradation. With increased industrialization in the Bakersfield area the air quality of the Westdide is increasingly being impacted and the addition of further pumping stations and their resultant byproducts do nothing to slow the air quality degradation. How do you propose to mitigate winter air quality degradation? h

Archaeology-This portion of the EIS is extremely poorly summarized. It may be that the "qualified archaeologists" submitted a professional report but the summarization in the EIS is so poor that the reader cannot make that assumptive statement. What portion of the route was surveyed by Holman and Chavez? How could they decide to survey only stream crossings? This makes no professional sense as there are no stream crossings on the Westside, only areas which carry runoff from the Temblors and series of small hills during rainstorms. The pattern of aboriginal occupancy centered around lakes and sloughs, sites are also common where Monterey Chert is exposed in the Temblors or at spring locations but no where else. A better manner would have been to conduct a systematic random sample of the project area then to construct a predictive model based upon those results for the remainder of the unsurveyed route. Undoubtedly there are unrecorded sites along the survey route, many are historic oil exploratory sites, oil leases, and isolated homesites, graves, etc. None of these items were mentioned in the archaeological section. A statement on page 2-26 indicates that "no historic sites lie within the project vicinity." What is the project vicinity? I find this hard to believe even if vicinity is defined as 500 feet each side of the pipeline's center line. How is historic site defined by the consultants? Generally, archaeologists in California define a historic site as anyplace having a date of greater than 50 years or a place where a significant local event occurred no matter what age the site is. I have always been under the impression that project vicinity was external to the project side by 5 to 10 times the size of the project. Yellows, Derby Acres, McKittrick, Reward, and numerous leases are historic sites in the project vicinity and should be addressed as such.

Much as was the case with Carrizo Plain, Yokuts is always Yokuts (see Latta, Kroeber, Hester, etc.) it is never Yokut. Unfamiliarity with the professional literature by Holman and Chavez or sloppy editing by URS staff is responsible for this type of error. These errors would not have been in a legal document had URS taken more time to prepare the document and double check this type of entry.

What type of mitigating measures is proposed for archaeological resources? Monitoring is not a mitigating measure mitigation should be full and total survey of the pipeline course and pipeline plants, as well as areas the construction workers will park construction-related vehicles and will themselves camp during construction. Mitigation of specific sites should then be proposed.

Were the extension of the existing railroad system from Taft to Elk Hills surveyed or the 10 miles of new power poles necessary for the pumping station surveyed for cultural resources? If the old railroad route from Taft to Elk Hills is going to be used it certainly has some historic

value and should be assessed as such.

What is the title of Holman and Chavez's archaeological report? Why was it not cited in the Bibliography for Volume 1? Where is this report available for public review? It is not at Bakersfield City College. m

Volume II summarized the archaeology somewhat better than volume 1, however the same research methods were used which makes me doubt the validity of the archaeological report. Although in the Cuyama River Valley there are legitimate "stream crossings" where sites were located. This is due to the nature of the aboriginal settlement pattern and not due to the cursory archaeological data recovery methods which were used in the Cuyama Valley. Again, this entire area warrants a 100% archaeological and historical sites survey to comply with NEPA, section 106 of the 1966 Historic Sites Preservation Act, and EO 11593. This should be done immediately and not during pipeline construction.

In sum, the opportunity was afforded URS and their consultants to present data gathered from an area sorely needing environmental research, yet URS seemed to dwell on tertiary sources, only did a partial job, then poorly summarized the reports of professional people whom they had hired. I would think that this EIS would not live up to the legal or moral responsibilities of NEPA and certainly is not objective nor does it propose adequate mitigating measures for any resource. Please send me a copy of the revised EIS when it becomes available for further comment. n

Respectfully,

Russell L. Waldenberg

Russell L. Waldenberg
137 "C" St.
Follows, CA 92234

June 16, 1977

Dear Sir:

I am opposed to the transport of Elk Hill oil through San Luis Obispo County and espically if that means tanker facilities at Avila and Estero. I have lived in this county for seven years and in that short time, I have witnessed a drastic ~~change~~ increase in the amount of oil on the beaches. Its digusting and sad.

If you must transport this oil (that is, if you find that there is indeed a market) then at least have the insight to see that the all-pipeline hook up to SOHIO Long Beach pipeline connecting to Midwest and Eastern U.S. is the safest and beyond a doubt, the only choice you have.

Chris Kennington
Morro Bay

(34)

Route 2, Box 773 K
Arroyo Grande, Ca. 93420
June 27, 1977

Officer in Charge of Construction
MAFACIMCOM Contracts, Elk Hills
P.O. Box 80
San Bruno, Ca. 94066

Dear Sir;

This letter is to be enclosed in your public comments regarding the transportation and disposition of the oil from the Elk Hill Naval Reserve in the compilation of the final EIS on same.

As a pair of locally active citizens, we oppose the transportation of Elk Hills oil via the Central California coast ports. Our area is subject to an extremely low inversion layer and any increase in emissions will bother the multitude of asthmatic retirees who have fled the cities for their health. Due to the physical conformation of the San Luis Bay, and noting the growth-oriented community of Santa Maria at its southerly margin, we feel that any added tanker traffic will only serve to bring more as the importation of oil by water continues on the West Coast. a

Our area has for years been an important agricultural one, many crops being extremely sensitive to photochemical smog. Neither the city and town governments nore the various regional agencies are adequately staffed to cope with industrially-oriented expansion: there is, for instance, no evacuation plan nor waste disposal facilities for the reality of an operating nuclear power plant- although we have Diable Canyon constructed and in the licensing phase- and it's built 21/2 miles from a known earthquake fault.

The unfortunate fact seems to be that oil transportation facilities do not provide jobs for local already settled workers. Diable Canyon's construction brought in a great many outside workers creating housing problems, and adding a serious burden to already poor local school districts. We feel certain that some of the same problem will be repeated with an Elk Hills oil pipeline construction to the central coast area. b

Finally, with a projected glut of oil from Alaska due within a month or two at West Coast refineries, the only sane disposition of the Elk Hills oil is to leave it 'in situ' as a National Reserve. c

Thank you for your inclusion of our letter in your compilation.

Yours very truly,

Wm. C. Langworthy

Dr. and Mrs. W.C. Langworthy

R. D. RICE, M.D.
DIPLOMATE
AMERICAN BOARD
OF FAMILY PRACTICE

E. N. PLATT, M.D.
FAMILY PRACTICE

HALCYON MEDICAL GROUP, INC.
336 SOUTH HALCYON ROAD
ARROYO GRANDE, CALIFORNIA 93420
TELEPHONE 805-489-9000

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C. W. O'BRIEN, M.D.
GENERAL SURGERY

M. A. CRANE, M.D.
ORTHOPEDIC SURGERY

June 20, 1977

Officer in Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
P.O. Box 40
San Bruno, California 94066

Dear Sir:

My concern in writing this letter is twofold. First, I oppose having the Elk Hills oil reserve tapped for domestic use at this time. Second, I oppose the possible increased tanker traffic that would result if either of the first two alternatives suggested by the Naval Department's Environmental Impact Statement were instituted. a

The Elk Hill reserve was established with a specific purpose in mind and it is to our good to maintain this purpose for as long as is possible. President Carter has suggested that we keep Elk Hills as an emergency reserve to draw from only when all other alternatives are no longer available. If and when that time comes, I propose that Alternative 3 of the Naval Department's EIS be utilized as the best choice for transporting the oil. This particular mode of transporting the oil would eliminate much concern over possible oil spills, unwanted increased tanker traffic along the California coast, and further pollution of our already over polluted environment. b

It is essential, during these critical economic periods, that we do not make hasty decisions from which we may not recover, and finding after the fact that we should have taken more time and given more consideration to finding the best workable solution.

Thank you for your consideration.

Sincerely,

C. W. O'Brien, M.D.

X-112'

/lk
cc: President Carter
James R. Schlesinger
Alan Cranston
S.I. Hayakawa

36

532 Morro Bay Blvd.
Morro Bay, Cal, 93442
May 27, 1977

Officer in Charge of Construction
Naval Facilities Eng. Comm. Contracts
Elk Hills
P.O. Box 40
San Bruno, Cal, 94066

The enclosed headline says it all but does not say why so few people spoke. On May 19 in one small piece in one local newspaper, the residents heard for the FIRST time about this Navy plan. Were we really expected to study the five volume EIR and have intelligent imput by May 23, just FOUR days later? Two of the men who did speak (Bud Meyer and Don Parham) are retired and rushed down to the library, devoting all day Saturday to try to understand some of the details. We who are working people are no less concerned, but had no chance at all. The people in the towns bordering Estero Bay (Morro Bay, Cayicos, Baywood Park, Los Osos) successfully fought Standard Oil of Calif. when they wished to further pollute and industrialize our area. We are currently fighting Standard Oil if Ohio on their request to deterirate any one of three bays in this region. Now do we have to prepare to fight our OWN navy? We will fight to preserve what we consider to be a statewide asset.

a

The enclosed article also states this is the first area in which any of the plans have been questioned. Some area residents have become very aware of each and every threat and knowledgable in the problems. Other areas welcome more oil, more industry, more money, more jobs. Let them have it. But let us have our (relatively) clean water and air. That way you'll please two areas--how can you expect better.

Although, due to poor notification as I have explained, the protests here were few, if this Elk Hills project should more sericusly consider this area it is beyond doublt that you will have a fight on your hands.

NAVY, GO HOME!

Jane Orvis

Jane Orvis

San Luis Obispo Telegram Tribune May 24 '77

Oil hearing

Handful of residents in SLO hit port plan

By Jeanne Huber
Staff Writer

The Navy should leave its oil in the ground at the Elk Hills Naval Reserve rather than sell the supply for domestic use.

And the Navy should not develop a pipeline and shipping facility in San Luis Obispo County, or anywhere else, unless it knows where the oil will be used.

That's what a handful of citizens told Navy officials Monday at a public hearing in San Luis Obispo.

The purpose of the Navy hearing was to get comments on the environmental impact of three proposed routes to distribute much of the stimated one billion gallons of crude oil in the Navy's Kern County reserve near Taft.

One of the routes includes a new 85-mile pipeline to Coalinga. It would connect to existing pipelines — including two which bring oil to San Luis Obispo County ports at Estero Bay and Avila Beach. If this alternative is chosen, tanker traffic in those ports — and the resulting air pollution and chance of a spill — could be doubled, the Navy's environmental report indicates.

The other alternatives are a pipeline to Port Hueneme near Oxnard and a pipeline to connect at Colton to Standard Oil of Ohio's proposed transcontinental pipeline.

The Navy might share some of the San Luis Obispo County residents' feelings that is should leave its oil reserve alone, but it is powerless to halt pumping plans because Congress ordered them last year, said Commander Philip Parisius, environmental director for the Navy's Western facilities engineering division.

Harry "Bill" Meyer of the North Coast Audubon Society and Donald [illegible] of the Environmental Center of San Luis Obispo County said the West Coast will have a surplus of crude oil if Alaskan oil begins to be shipped south as expected.

The Navy will have to "beat the bushes to find buyers" for the Elk Hills oil, Meyer said.

"Why burn all the oil as fast as we can?" Smith asked. "Right now we're working on a plan to waste energy."

One of those who conducted the hearing and helped write the environmental impact reports, Milton Stackmann, vice president of URS Co. of San Mateo, said San Luis Obispo residents were the first to question the wisdom of selling the Elk Hills oil.

Those who spoke at earlier public hearings in other cities had other concerns, he said. He said persons who spoke in Coalinga "wanted more" because they thought the pipeline would bring more jobs, those in Bakersfield wanted the line to skirt Palmdale, and those in Taft objected to listing the San Joaquin kit fox as an endangered species apt to be disturbed by any of the pipe routes. More hearings are to be held today in Oxnard and Thursday in San Bernardino.

Stackmann said the Coalinga-San Luis Obispo alternative ranks first in the number of construction jobs it would create (690 vs. 455 for Port Hueneme and 585 for Colton); second in the number of permanent jobs (32 vs. 41 and 31); first in environmental impact (two endangered species could be affected, vs. about half a dozen for the other alternatives, and no new areas would be exposed to oil spills); second in cost ($75 million vs. $95 million and $100 million); and second in impact on air quality (the Colton route would be best).

If the West Coast does end up with a surplus of crude oil, the Coalinga-San Luis Obispo route would be the first in terms of [illegible] because San Francisco [illegible] refineries could [illegible] help. [illegible] Coalinga, Stackmann said.

R. D. RICE, M.D.
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C. W. O'BRIEN, M.D.
GENERAL SURGERY

M. A. CRANE, M.D.
ORTHOPEDIC SURGERY

June 16, 1977

Officer in Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
P. O. Box 40
San Bruno, California 94066

Dear Sir:

As a resident of central California, this letter is submitted to you in order to make known my feelings regarding the use of Elk Hills oil and tanker traffic off the coast of California.

I am strongly opposed to using the Elk Hill oil at this time for anything other than a reserve. Consumption by the domestic market should be examined more closely and those needs re-evaluated. The domestic market has become the "unruly, self-indulged child" who needs to be disciplined for its own welfare. Hindsight, in this instance, will not suffice. The President has proposed to keep this available as a ready reserve to be used for emergency situations and it is extremely important to all of us to know we have a reserve if and when the time comes for us to use it. a

In 1912, when, by Executive Order, Elk Hills was made into a reserve, it was done with accurate projection of logic and understanding and it would be our own undoing to ignore the reasoning which created this reserve. If, indeed, we find that it is necessary to transport the oil, then we must choose the method which would accomplish this in the best possible way. If we are able to project the same logic and understanding as was done in 1912, then the only choice would be to use an all-pipeline hookup such as the linkup with the SOHIO in Long Beach. Preserving the environment is of no less importance and it accomplishes nothing to destroy one irreplaceable item in order to obtain another. b

Since we are still able to make choices, let's make the right ones!

Sincerely,

R. D. Rice, M.D.

/lk
c c: President Carter
James R. Schlesinger
Alan Cranston
S. I. Hayakawa
Leon Panetta

X-116

FRED A. SCHENK, JR.
Attorney at Law
745 HARBOR STREET
MORRO BAY, CALIFORNIA 93442
(805) 772-8363

June 15, 1977

Officer in Charge of Construction
NAVFACENGCOM Contracts, Elk Hills
PO Box 40
San Bruno, CA. 94066

Re: Use of Elk Hills oil

Dear Sir:

My wife and I hereby register our protest against the use of Elk Hills oil for current domestic consumption, and we support President Carter's energy plan to make Elk Hills a strategic ready reserve to be used for EMERGENCY ONLY.

We abhor the idea of madly pumping out as fast as possible all oil reserves in this country, thereby encouraging further waste of our resources by domestic consumers. If we pursue this policy, which can only benefit oil companies in their pursuit of further excessive profits (and which companies, I am sure, have quite a lobby organization in Washington, D.C.), we will find some day in the not-too-distant future that we have no oil reserve in event of a military threat to this nation. a

If civilian vehicular and military nonessential traffic must be curtailed, even by rationing if necessary, this is preferable to draining out our last remaining military reserves. Perhaps a law should be considered to prohibit exportation and sale of oil produced domestically, including Alaskan oil, to ensure that oil companies do not drain out this country's oil, which belongs to all Americans, to sell on a foreign market for gain. b

We unequivocally oppose the use of terminals (Avila and Estero Bay) in this county to transport oil, since this would increase air pollution and possibilities of oil spills. This county has one of the lowest air ceilings (much less than the Los Angeles area) and thus can tolerate much less pollution. We have a unique wildlife breeding ground in the sandspits and shallows of this area which would be endangered by such spills, and which cannot be duplicated in any other area of this country.

Sincerely,

Fred A. Schenk, Jr.

Janice C. Schenk

Janice C. Schenk

TO OFFICER IN CHARGE OF CONSTRUCTION
NAVFACENGCOM CONTRACTS
ELK HILLS, P.O. Box 40
SAN BRUNO, CALIF. 94066

DATE JUNE 16, 1977

SUBJECT Pumping oil from
Elk Hills Reserve.

Dear Sir;

To say it simply.... The best place to keep the oil from the Elk Hills Naval Oil Reserve, is in the ground in Elk Hills. a

That saves the trouble of transporting this not needed oil, and keeps it intact for when it will be needed.

We would appreciate all you could do to implement this important step as part of a National Energy program.

Sincerely,
Mr. + Mrs. R. Stern + Family
Rt. 3 Box 274..San Luis Obispo..
Calif. 93401

cc: James Schlesinger
Leon Panetta
Alan Cranston

Form NEL 3 1972 The Drawing Board Inc Box 505 Dallas Texas

XI. RESPONSES TO WRITTEN COMMENTS

XI. RESPONSES TO WRITTEN COMMENTS

A. Organization

Written comments on the Elk Hills/Coalinga Conveyance System are answered in the following pages. (Comments which pertain only to the Elk Hills/Port Hueneme or Elk Hills/SOHIO routes are not addressed here. Comments on the SOHIO route have been addressed in Volume II of its FEIS, while the Port Hueneme comments will not be addressed since that alternative has been abandoned.) The numbers at the beginning of each set of comments refer to the numbers assigned to each of the letters received, which are reproduced in Section X. The comments within each letter are answered in the order in which they appeared in the letter.

B. Responses

Following are responses to written comments received on the Elk Hills/Coalinga Conveyance System DEIS.

1. Advisory Council on Historic Preservation

a. C The Council must have evidence that compliance with Section 106
b. of the National Historic Preservation Act of 1966 has been followed.

R During the time of preparation of this EIS, no one transportation system for Elk Hills petroleum was chosen. For this reason, it was decided to perform a preliminary survey of cultural resources for each of the three routes being considered. Once a route is selected, surveyed, and staked, the archaeologists will perform a survey of the route, search the

National Register, and work with the State Historic Preservation Officer to determine if there are any resources along the route eligible for inclusion in the National Register. The government will fulfill all of the requirements for the National Historic Preservation Act at that time, but is is too early in the decision and design process to accomplish these objectives at the time of publication of this FEIS.

c. C Contact with the State Historic Preservation officer must be established by the government.

R Throughout the cursory archaeological survey conducted, the State Historic Preservation office was consulted and use made of their maps for record site locations prior to field observations. Mr. Herb Rhodes himself was not contacted, but will be at the time of the comprehensive Archaeological Impact Evaluation.

2. United States Department of Agriculture, Soil Conservation Service (SCS)

a. C Recommendations that an erosion control and revegetation plan be developed in consultation with the Bakersfield office of the SCS.

R The government agrees to coordinate with the district conservationist of the Bakersfield office regarding an erosion control and revegetation plan for the pipeline route. This plan will recognize the possibility of failure and provide for additional planting, if needed.

3. U.S. Department of Commerce

a. C Geodetic control survey monuments may be located along the proposed pipeline route. If there is any planned activity which will disturb or destroy these monuments, the National Oceanic and Atmospheric Administration, National Ocean Survey, requires not less than 90 days' notification in advance of such activity in order to plan for their relocation.

R The government agrees to coordinate with the staff of the National Ocean Survey and will give proper notice in cases where pipeline construction infringes on survey monuments.

b. C In all cases where proposed Coalinga conveyance system impacts lands of the coastal zone, consultation and coordination should take place with the California Coastal Commission.

R The government has already contacted the Coastal Commission and will continue to coordinate with the commission as the project progresses.

c. C The relevancy of this project given the projected surplus of oil on the west coast due to the opening of the Alaskan pipeline needs to be more thoroughly addressed.

R Current market analyses do indicate that surplus conditions will exist following the opening of the Alaskan pipeline. Nonetheless, the government has been directed by Congress in Section II of the Naval Petroleum Reserves Production Act (Appendix A of the FEIS) to develop at maximum efficient rates. Any revision to this operating concept would require an Act of Congress.

d. C Information concerning the existing marine biots in the vicinity of Avila Beach and Estero Beach (sic) should be included in Section II (Existing Environment).

R The construction of tank farms at Kettleman City and Junction Station and the use of existing pipelines from those locations to the San Luis Obispo coast have been dropped from the government's Elk Hills/Coalinga Conveyance System proposal. The construction and use of these facilities is treated as a rejected alternative in the Final EIS. There were extensive environmental problems associated with increased tanker loading operations and tanker traffic in San Luis Obispo County. While adequate pipeline capacity exists north of Coalinga to transport Elk Hills oil, use of this capacity would displace other California crude oils currently using these pipelines.

Should purchasers of Elk Hills crude wish to attempt to transport any portion of this oil to the San Luis Obispo coast despite recognized environmental problems, each purchaser of Elk Hills crude would be subject to applicable state and federal safety and pollution abatement regulations on the handling and disposal of his share. Existing industry-owned pipelines to the coast could transport about 20,000 barrels per day of Elk Hills crude, or about 10 percent of the throughput of the government's trunk line.

The possible transport of marketed oil through industry-owned pipelines to the Avila and Estero marine terminals will not create any new threats of oil spills. The potential for oil spillage and related effects at these facilities already exists.

e. C The possibility of oil spills and related effects on marine resources should be included in Section IV (Probable Impact).

R See response to 3.d. above. The project no longer includes any handling of oil in a marine environment. If purchasers of Elk Hills oil choose to transport this oil to small established ports like Estero Bay, such a project would by itself cause no new biologic impacts. The existing marine terminal facilities already have the potential for oil spill effects, including varying degrees of contamination and mortality of plankton, fish, benthos, intertidal organisms, seabirds and marine mammals. Transfer of marketed Elk Hills oil through these facilities would not influence either the magnitude or nature of these existing or potential impacts.

f. C. The effects of increased oil spills on marine resources as a result of larger oil volumes passing through Avila Beach and Estero Bay should be included in Section VI (Probable Adverse Environmental Effects).

R See response to 3.d. above.

4. Department of the Air Force

a. C There will b no conflict with Air Force Operations.

R No response is necessary.

5. Department of the Army, Corps of Engineers

a. C This office has no existing projects along the Coalinga route. The Port Hueneme and SOHIO alternative will be handled by the Los Angeles District Office.

R No response is necessary.

6. Department of Health, Education, and Welfare

a. C The document is adequate.

R No response is necessary.

7. U.S. Department of the Interior, Office of the Secretary

a. C The proposed Elk Hills/Coalinga route would cross or possibly impact on public lands administered by the Bureau of Land Management. This information should be included in the Summary of Land Requirements. The Management Framework Plan and planning recommendations for the Temblor-Caliente Planning Unit should be referenced.

R This information has been added as requested. See "Summary of Land Requirements" and "Appendix R, Bureau of Land Management, Management Framework Plan" in the FEIS.

b. C Guidelines for dealing with cultural resources in Title 36, CFR 800 should be followed.

R As pointed out in this comment, the function of the preliminary investigations was to delineate areas of high archaeological potential.

It is agreed that adverse impacts that may occur can be significantly alleviated through comprehensive planning in the early stages of project development. Realistically, however, such comprehensive planning can only take place when the project route has been determined by the government, as well as surveyed and staked by engineering survey crews. Site Specific Archaeological Evaluations would certainly be prepared with a full awareness of the Guidelines of Title 36, Code of Federal Regulations 800 (revised July 1, 1976).

c. C An intensive survey of all areas of cultural resources should occur prior to project implementation.

R It is fully agreed that prior to any project implementation and as soon as a decision is made as to which pipeline route is to be utilized, the locations of all portions of pipeline right-of-way corridors, sites of tank farms, pumping stations, access roads and auxiliary facilities should be surveyed by qualified archaeologists. Evaluation of impacts and recommendations of mitigations can be made at that time and such evaluations can then be made in regard to significance in accordance with National Register of Historic Places criteria.

d. C The State Historic Preservation Officer for California should be contacted.

R The State Historic Preservation Office in Sacramento will be fully informed as to the nature and extent of follow-up archaeological evaluations of the designated pipeline routes and facility locations. Assistance in the evaluation of significance, and implementation of appropriate mitigative measures will be sought of this agency, as well as other appropriate agencies and individuals, as may seem necessary at that time.

e. C The Western Archaeological Center should be informed of additional archaeological work.

R The Western Archaeological Center, National Park Service, Tuscon, Arizona (as well as all other appropriate review agencies) will be furnished with copies of the final field

investigation report, when such an investigation and accompanying documents have been prepared.

f. C Any construction by a government agency should be in conformance with Section 7 of the Endangered Species Act of 1973.

R Following submittal of this Final Environmental Impact Statement, the government will initiate consultation with the Fish and Wildlife Service, as recommended in the "Proposed Provi= sions for Interagency Cooperation," Federal Register v. 42(17), January 26, 1977. In accordance with these guidelines, the government will conduct assessments of the impacts of the proposed project upon the critical habitats (as defined by the Recovery Teams) of the San Joaquin kit fox and blunt-nosed leopard lizard. These assessments will be submitted to the Fish and Wildlife Service.

g. C If an impacted park area has received financial assistance under the Land and Water Conservation Fund Act, for either acquisition or development, then the requirements of Section 6(f) of the Act would have to be met. If such funded lands are to be impacted, there should be consultation with Mr. Herbert Rhodes, Director, Department of Parks and Recreation, liaison officer for the Land and Water Conservation Fund in California.

R There are no impacted parklands which have received financial assistance under the Land and Water Conservation Fund Act of 1965 as amended.

h. C No location or development agency was given for the proposed California Aqueduct fishing access point mentioned in the DEIS. An expanded description of the site is warranted. Analysis should include a discussion of impacts on the resource and possible mitigation measures.

R See response to 3.d. The fishing access point was near an arterial line that has been deleted from the government's project. Should private industry pursue use of this line, the site would still not be impacted.

i. C The EIS should clarify the seismic design criteria that would be applied to all three pipeline alternatives.

R The text in Section IV was a summary of the seismic hazards evaluation contained in Appendix F, but some oversimplifications were made and inaccurate conclusions resulted from the summarizing process in the DEIS. As discussed in Appendix F, the evaluation of ground shaking along the pipeline route was based on calculations made for the Elk Hills Tank Farm site. The following comments have been added to the text in the mitigation section of Geological Resources.

There are no prescribed criteria for selection of design peak ground acceleration based upon probability of occurrence. However, a frequently used practice in earthquake resistive design is to select a 0.16 probability of exceedance, and for the pipeline, a 25-year period of use may be estimated. The design peak ground acceleration for areas not close to fault zones would then be 0.5 g (from Table F-2, Appendix F).

At points along the route within a few miles of active faults, recurrence rates might be 50 to 100 percent greater than those given for the Elk Hills Tank Farm site (Table F-2). Consequently, a higher level of design peak ground acceleration would be required near faults. Elsewhere along the route the ground motion expectancies would be about the same as those calculated for Elk Hills.

When final earthquake resistive design criteria are prepared they will take into account the approximate differing response to earthquake ground motions of alluvium or other geologic formations.

j. C The release of hydrostatic test water to receiving streams should be controlled in order that streambed scour and streambank erosion may be kept to a minimum.

R None of the water originating from the hydrostatic testing will be released until all applicable discharge regulations (i.e., water quality regulations) are first met. The method of release will be such that stream scouring and erosion will be kept to a minimum (e.g., the releases will be done gradually and will not be excessively large or beyond the channel capacity of the receiving stream involved).

k. C Cathodic pipeline protection should be described more adequately.

R The cathodic protection system will meet all standards outlined under Department of Transportation Title 49, Part 195 - Transportation of Liquids by Pipeline, A & S1 - B 31.4 - 1974. These standards should suffice to insure that aquifer pollution will not occur. Further, the pipeline runs almost entirely through terrain which has a very deep water table and where rainfall is minimal.

8. U.S. Department of Transportation, Coast Guard

a. C Additional Coast Guard personnel may be required at the Port Safety Detachment Morro Bay due to the addition of 100 more tankers per year calling on the terminal in Estero Bay.

R See response to 3.d. Tanker loading operations at Estero Bay resulting from transport of Elk Hills oil to Estero Bay by purchasers of that oil would be under the control of Chevron U.S.A. Inc. and appropriate coordination with this operation should be undertaken by the Coast Guard.

b. C Spill prevention control and countermeasure (SPCC) plans for the new tankerage and facilities ashore should be described.

R See response to 3.d. Since no new facilities are anticipated to be needed if the purchaser of a portion of Elk Hills crude chooses to transport this crude to the coast, and since existing tanker loading operations will continue in the future, updated SPCC plans do not appear to be required.

c. C The FEIS should outline requirements for oil companies to reassess their operations manuals, contingency plans, and pollution response equipment in light of the increased throughput.

R See response to 3.d. above. If a purchaser of a portion of Elk Hills crude chooses to transport this oil to the coast, appropriate revisions must be made to manuals, contingency plans, and equipment by the involved oil companies and coordinated with the U.S. Coast Guard, as necessary.

9. U.S. Environmental Protection Agency, Region IX

a. C The transport of hydrocarbons with the simultaneous production of oxidants and the impact on distant receptors is not sufficiently documented. Commitments to specific mitigating measures are not made.

R The DEIS does not treat the impact of oxidants in a rigorous manner. The government will, however, comply with all local, state, and federal air quality requirements in the San Joaquin Valley, as discussed in the FEIS.

b. C Will the government participate in AQMP process?

R Upon receipt of a request from the Environmental Protection Agency or Kern County indicating the type of assistance required, the Officer in Charge, Naval Petroleum Reserve No. 1 (Elk Hills) will provide appropriate assistance in the formulation of the Kern County Air Quality Maintenance Plan.

c. C Are there sufficient mitigating measures such that the project will not violate the NAAQS?

R Mitigating measures that will be implemented were listed in Section IV of the DEIS. In addition, potential measures are listed which could further mitigate emissions. The potential measures that will be necessary to prevent violation of the NAAQS will be defined in the New Source Review (NSR) Procedure. The government will comply with all applicable Federal, state, or local NSR procedures.

d. C The DEIS understates the impact of tanker loading emissions regarding oxidants and the consequences on public health and welfare.

R See the response to 3.d. The additional emissions due to potential tanker loading of Elk Hills crude brought to the coast by the purchaser of the crude would undoubtedly cause several additional days of the oxidant standard violation. However, these emissions are not expected to increase the maximum oxidant concentration. Their effect on public health and welfare would, therefore, be limited to the additional periods of time that the public is exposed to oxidant concentrations exceeding the NAAQS.

e. C List the mitigation measures in terms of following categories: committed, enforced by responsible agencies, stipulated prior to permit issuance. Also state the effectiveness of various measures.

R The mitigation measures on the petroleum storage tanks can be categorized as follows:

(1) <u>committed</u> - painting the Elk Hills tanks white, double seal floating-roof tanks with primary metallic shoe-type seals and secondary seal extending from the roof to the tank shell.
(2) <u>enforced by responsible agencies</u> - double-seal floating-roof tanks.
(3) <u>stipulated prior to permit issuance</u> - potential measures include vapor recovery and emissions offsets within the same air basin. Although vapor recovery was originally considered as a mitigating measure, it was dropped as recommended by the California Air Resources Board and the South Coast Air Quality Management District.

Best available control technology for crude oil storage has been determined to be floating-roof tanks with a metallic shoe seal and an independent secondary seal. The design proposed for this project is in accordance with this determination.

The effectiveness of possible mitigating measures were listed and documented in the Air Quality Mitigating Measures section, Chapter IV, of the Elk Hills/SOHIO Conveyance System DEIS.

f. C The DEIS does not provide sufficient air quality analysis and mitigation measures to determine if the NAAQS for any pollutant would be exceeded in the next 10 years. A more detailed analysis is requested.

R See the response to 3.d. Private purchasers may choose to transport Elk Hills crude to San Luis Obispo County. The Air Resources Board has recently published a long-term emission inventory estimate for San Luis Obispo County, as well as for other California counties. This inventory does indeed predict that mobile source reactive hydrocarbon emissions will decrease through 1990. It determines, however, that hydrocarbon emissions from stationary sources, particularly petroleum-related sources and large combustion sources, will increase through 1990. The net effect will be little change in future hydrocarbon emissions. Therefore, concentrations in San Luis Obispo County will remain relatively constant in the absence of any private transport of Elk Hills crude to the coast.

g. C The DEIS does not discuss the air quality impacts resulting from purging or tanker ballasting operations.

R See the response to 3.d. The air quality analysis in the DEIS assumed that the MacKensie and Raw (1976) emission factor approximates a worst-case situation in which hydrocarbon purging is done in port. However, normal operating procedure is to conduct the purging operations at sea for safety and air quality reasons. Therefore, the emission factor used was overly conservative.

Ballasting in port is not necessary since the tankers would be coming into the port to load crude oil, not unload it. Therefore, there would be no emissions from ballasting since no ballast is assumed to be present upon loading and the crude oil cargo would, in fact, be the ship's ballast for the tip and out of the port. These emissions are included in the 1.9 pounds per 1,000 gallons loaded emission factor.

h. C Concern has been raised regarding hydrocarbon emissions from the tank farms and from tanker loading operations. All non-methane hydrocarbons should be considered reactive as stipulated in the Federal Register, Vol. 21, No. 25, February 5, 1976.

R See response to 3.d. The hydrocarbon emissions in the FEIS for storage tanks have been recalculated to reflect EPA emissions factors contained in Supplement No. 7. As noted in the DEIS, only a portion of total hydrocarbon emissions (e.g., C_3 and above parafins) are moderately to highly photochemically reactive according to a scheme developed by the California Air Resources Board. Based on the constituents of the vapor phase

for both Shallow and Stevens crude oil, the C_3 and above hydrocarbons represent approximately 95 percent of the total mass loss. Therefore, moderate to highly reactive hydrocarbons comprise about 95 percent of the total hydrocarbon emissions. Including all nonmethane hydrocarbons as reactive (i.e., including ethane) would increase the reactive hydrocarbon portion by less than 1 percent by mass. This would represent a negligible increase.

i. C The FEIS should use Supplement No. 7 to calculate hydrocarbon emissions.

R The hydrocarbon emissions have been changed in the FEIS to reflect emission factors found in Supplement No. 7 for storage of petroleum liquids in floating-roof tanks with double seals.

j. C A description of the effects of the project on the Air Quality Maintenance Planning Process (AQMP) should be provided.

R Discussions with officials involved in the AQMP process in Kern County revealed that the AQMP's are now in their initial stages of development. The AQMP's will concentrate on transportation and land-use planning as well as major new developments that could affect air quality. The general concensus was that any new source that falls under the current provisions of the New Source Performance Standards and the New Source Review would not have any significant effect on the AQMP process.

The Elk Hills and Coalinga tank farms will be subject to the New Source Performance Standards and applicable New Source Review Processes, therefore they are not expected to affect the AQMP process significantly.

However, the 1977 Clean Air Act Amendments do require that any new or modified source in a nonattainment area (that is, where ambient air quality standards are already exceeded) must apply best available control technology if emissions of the nonattainment pollutant with the exception of carbon monoxide exceed 15 pounds per hour or 150 pounds per day. If the emissions exceed 25 pounds per hour or 250 pounds per day, emission offsets must be undertaken. Since the San Joaquin air basin is a nonattainment area for oxidants and total hydrocarbon emissions for the project would exceed the 25 pounds per hour and 250 pounds per day limits, emission offsets will be required if the project is implemented.

k. C The DEIS treats a conveyance system of 250,000 bbl/day, but production could be 350,000 bbl/day. Can the alternatives be modified to accommodate higher production?

R There is currently capacity in existing pipelines in the Elk Hills area to transport about 150,000 bbl/day to California refineries. The government currently has commitments with refineries in California to deliver 142,000 bbl/day. Therefore the proposed project covers the additional capacity needed to meet the Congressional mandate.

l. C The DEIS fails to identify potential markets for Elk Hills oil.

R The government currently has commitments with refineries in California to deliver 142,000 barrels of Elk Hills crude per day through existing pipelines. The direction of Congress for the government to provide for transportation of up to 350,000 barrels per day of Elk Hills crude by 1979, and the expected surplus of crude on the west coast dictates that the government must provide for shipment of some of this crude outside California. The major market for this crude will be east of the Sierra Nevada which can be reached by either pipelines or tanker shipping.

m. C More recent emission inventories than 1973 are now available.

R The new, updated emission inventories prepared by the ARB have been included in the FEIS.

n. C The DEIS does not identify or discuss cumulative air quality impacts from other proposed energy developments.

R The proposed energy developments mentioned do not directly affect the area proposed to be impacted by the Coalinga conveyance alternative. However, cumulative impacts due to tertiary recovery operations and a possible supertanker port in the San Luis Obispo County Coast were addressed in the DEIS.

o. C The Elk Hills project should be better coordinated with other energy development projects.

R Of all the conveyance alternatives, the SOHIO conveyance alternative offers what is probably the greatest degree of coordination possible with other energy projects. It makes maximum use of another proposed energy facility, the SOHIO pipeline, and moves Elk Hills oil to markets where it is potentially more needed than in California. In addition, the Joint Industry Governmental Working Group of Santa Barbara has identified the SOHIO conveyance system as a possible link in a system to move OCS oil to eastern markets.

On the other hand, both the Elk Hills/Coalinga and Elk Hills/Port Hueneme alternatives do present conflicts with other

energy projects, especially with regard to the oil surplus situation in California.

p. C The Draft EIS does not address the effects of the production and/or intermediate storage of the oil prior to its pickup at the Elk Hills Tank Farm. The hydrostatic testing program should also be described in more detail.

R As noted on page 1-5 of the DEIS, this report does not include the production of oil at Elk Hills or the transport and intermediate storage of this oil prior to its arrival at the Elk Hills Tank Farm. These items and their environmental assessment were covered in a separate document, the Draft Environmental Impact Statement for Production at Petroleum at Maximum Efficient Rate, which was published in April 1978. For this reason, these items are not addressed in this EIS.

With regard to the source and discharge of the hydrostatic test waters, the final decision on this matter will be made at some later date. However, it should be noted that it is our intention to abide by all relevant regulations that pertain to the acquisition and disposal of this water, including any applicable permits. While the possibility for impacts cannot be completely dismissed until after the testing program has been presented in detail, the probability of impact will be substantially reduced by this process.

10. Federal Energy Administration, Region IX

a. C The FEA has conducted an in-house evaluation of the project.

R No response is necessary.

11. Federal Power Commission

a. C Elk Hills Petroleum Reserve should not be developed, but be retained as a strategic Reserve under the Federal Energy Administration's program.

R Please refer to Section II of the Naval Petroleum Reserves Production Act (Appendix A of the FEIS) in which Congress directed the government to develop and produce Elk Hills petroleum at maximum efficient rates. Any revision to this operating concept would require an Act of Congress.

b. C We believe that conditions and national energy goals have changed sufficiently so that the proposed action may no longer be beneficial.

R Please see the response to comment a. above.

12. The Resources Agency of California

a. C Elk Hills development could have serious consequences relative to a number of issues.

R Specific response will be made on these issues in the following comments.

b. C It is critical that the government's EIS fully analyze the consequences of Elk Hills development on a number of issues. All possible measures to mitigate adverse effects while still serving national goals should be taken.

R Specific responses will be made on these issues in the following comments.

c. C The proposal for a production ceiling of 80,000 barrels per day from Elk Hills should be discussed.

R Until the proposals are implemented by Congress into new laws, the government must proceed under the present law. Regardless, the President's proposed energy plan does not indicate any decrease in the requirement for the government to be able to move up to 350,000 barrels a day as required by Public Law 94-258. Nor does it propose a change in the time frame for accomplishment of that goal. It provides only that some ceiling be placed on production until facilities are available to handle the expected west coast surplus and the government's crude.

d. e. f. C Market analysis should be presented in the FEIS. Final decisions should not be made until market potentials and constraints are thoroughly documented. Specifically, what is the market relationship of Elk Hills crude to the anticipated surplus of Alaskan crude?

R The government has undertaken a new market analysis at the request of Congressional committees. This study was conducted concurrently with the FEIS preparation and was completed in September 1977. Preliminary reviews of the study show that conclusions will be similar to those of earlier government studies, i.e., as long as there is a surplus of Alaskan North Slope crude on the west coast, the national interest will be best served by marketing Elk Hills oil east of PADD V. In any event, Public Law 94-258 requires that transportation capability for 350,000 BPD be developed by April 5, 1979; so the project described in this FEIS must proceed based on the market analyses now available.

g. C Are existing pipelines going north, south, and west adequate to handle crude flows?

R Existing oil lines near Elk Hills, including those currently carrying Elk Hills crude, are near capacity in all directions. Small additional capacity could be developed. However, it does not appear feasible to pursue the necessary addition of pumps and heaters at total government expense in order to marginally increase the capacity of these industry-owned pipelines.

h. C The market analysis should describe the effects of Elk Hills crude transport on existing and anticipated oil transportation activities in and around California coastal and estuarine ports.

R See response to 3.d. Due to the uncertainty of the markets for the crude oil, specific receiving ports cannot be identified. It appears, however, that the markets for Elk Hills crude oil would be primarily located outside of California.

i. C The market analysis should address the effects of Elk Hills crude availability on marketability of existing California in-state production.

R Continued availability of Elk Hills Crude would exert price pressures on some crude production in California.

j. C Clear conclusions should be drawn regarding which proposal, if any, would best meet the market supply needs of the state, government, and nation.

R Such conclusions have been made in Section V, Alternatives, where it was indicated that these Elk Hills/Coalinga and Elk Hills/Port Hueneme alternatives would make Elk Hills crude oil available on the west coast. However, more likely markets for Elk Hills crude oil would be in the eastern and central U.S., which the SOHIO alternative would serve more directly.

k. C The production DEIS is necessary to provide information to assess the pipeline DEIS.

R The production maximum efficient rate (MER) is anticipated to be 260,000 BPD by the end of 1981. The MER is then expected to decline by approximately 15 percent per year to depletion. Although the production MER could vary from the rate programmed by the government, the intent of Congress and P.L. 94-258 is extremely clear with regard to the amount of transportation capacity to be secured from Elk Hills. This was an item that was fully considered by the Congress during debate on this law, and it would seem inappropriate at this time for the government to take any other action.

l. C The production, sale, and transport of Elk Hills gas needs to be addressed in the DEIS.

R The natural gas produced in association with the crude oil and nonassociated gas is planned to be used for injection to secure maximum ultimate recovery as mandated by law. When this gas has accomplished its purpose, it may then be made available for sale. Nonetheless, any sale or transport of natural gas from Elk Hills would require additional environmental analysis which is not within the scope of this crude oil pipeline EIS.

m. C Oil should be produced from the Stevens Zone vs. the Shallow Oil Zone in view of the better quality and likely better ability to market Stevens crude.

R As noted earlier, it is not the purpose of this statement to cover production from Elk Hills which will be the subject of the separate Environmental Impact Statement on the production aspects of Elk Hills. The design of the pipeline takes into consideration that the oil would be batched by zones and the proposed pipelines can handle both the Stevens Zone and Shallow Zone crudes.

n. C The most effective mitigating measure available to the government in this project is full use of existing pipelines. The DEIS fails to develop information necessary to evaluate this measure. The Final EIS should not only inventory existing vacant pipeline capacity that might be used but also address the possibility of increasing the throughput capability of existing lines with the addition of pump stations and heaters. A great deal of information concerning the expansion capability of major crude tank lines has been brought together by the Santa Barbara County, Ventura County Joint Industry/ Government Working Group.

R The government has previously investigated the pipeline capacity out of the San Joaquin Valley and has determined that it is not feasible to add heaters and additional pump stations within the time frame required. It should be pointed out that additional connections, heaters, and pump stations required for increase would be a total government expense. In view of the uncertainty as to the time or rate of production, this alternative is probably not economically justified.

o. C Implementation of the common carrier provision of Public Law 94-258 should be discussed.

R Any pipeline constructed or purchased by the government would be a common carrier for Elk Hills crude. Private lines transporting Elk Hills crude would be common carrier lines as far as Elk Hills production is concerned.

p. C The FEIS should reflect the government's commitment to aid air quality strategies.

R The design of storage tanks for this conveyance system alternative will meet all applicable federal, state, or local regulations. In addition, requirements of the federal, state, or local New Source Review process will require that the government not interfere with the attainment or maintenance of air quality standards. Potential mitigation measures that could be used to meet NSR requirements are listed in Section IV of the FEIS.

q. C There are two major areas of concern: (1) increased emissions from transport of oil and (2) potential for tradeoff strategies through natural gas production at Elk Hills.

R These comments are answered in detail in the responses to comments r. through y.

r. C Transportation of crude oil to ports for tanker loading would have the most serious air quality consequences.

R This is correct. See response to 3.d. Should purchasers of Elk Hills production move a portion to the San Luis Obispo coast for tanker loading, this alternative would entail considerably greater hydrocarbon emissions than the SOHIO alternative.

s. C The FEIS should specify strong mitigation measures for storage tanks such as double-seal floating roofs with primary shoe-type seals and secondary seals whch extend from the roof to the tank shell.

R The tank design has been changed to reflect the above design requirements.

t. C The FEIS should provide a specific tabulation of emissions in each county.

R See response to 3.d. For the Coalinga conveyance alternative, the major air pollution sources are the Elk Hills Tank Farm in Kern County, and the Coalinga Tank Farm in Fresno County. Hydrocarbon emissions by county have been tabulated in Tables O-1, O-2, and O-6 in the DEIS. Emissions of other pollutants by county are also included in the FEIS.

u. C Provide a listing of emissions from storage, loading, and unloading operations at all ports involved in the Coalinga alternative.

R See response to 3.d. Tanker loading hydrocarbon emissions will occur as a result of this project only if a portion of Elk Hills crude is purchased and shipped through existing industry terminals. Storage emissions from this type of industry action would be negligible since no new tanks are to be built and only the throughput would be increased. Tanker unloading emissions would also be negligible since purging would be conducted at sea for safety and air pollution reasons.

v. C The FEIS should include a county-by-county listing of daily, annual, mean and maximum emission levels pre- and post-project.

R County emissions listings were addressed in the response to comment t. Storage tank emissions are calculated based on a correlation developed by the American Petroleum Institute. The method correlated annual hydrocarbon losses with average annual oil temperature and wind speed. Therefore, annual average losses are the only losses that can be reliably estimated using the correlation. The lbs/hour estimates presented in the FEIS are unit conversions from barrels/year estimates made by the correlation.

w. C The FEIS should discuss tradeoff strategies, such as production of natural gas at Elk Hills.

R The natural gas produced in association with the crude oil and nonassociated gas is planned to be reinjected to secure maximum ultimate recovery as mandated by law. When this gas has accomplished its purpose, it will then be made available for sale if the government so directs. Nonetheless, any sale or transport of natural gas from Elk Hills would require additional environmental analysis which is not within the scope of this crude oil pipeline FEIS. Alternatives to this use are discussed in the Draft Environmental Impact Statement for Production of Petroleum at Maximum Efficient Rate, April 1978.

x. C There will be negative effects of the pipeline on wildlife
y. unless more extensive mitigation is proposed and identified
z. in the FEIS.

R Regarding the negative effects on wildlife, in particular endangered species, the government will conform to the stipulation of the Endangered Species Act of 1973. See response to letter 7.f. for more extensive response.

aa. C Indicate what appropriate mitigation measures are incorporated into the project to reduce, prevent, and react immediately to oil spills or breakage of pipeline.

R The design of the pipeline will be such as to reduce, and in some cases prevent, oil spills. Thus, block valves will be placed at intervals to insure that the maximum design spill (that is a worst-case condition) is not out of keeping with the terrain in which the spill might occur. The input-output monitoring system will insure that pipeline operation will cease within a few minutes after any detected leak -- large or small (and detection can be accomplished in 2 minutes or less). A contingency plan will be prepared for the entire length of the pipeline and an SPCC plan will be developed for the tank farms prior to initiation of operations. This contingency plan will include a detailed definition of each mile of the pipeline indicating direction of flow of oil in the event of a break or leak, and sensitive environments which could be affected. (The Environmental Atlas of Appendix C outlines in more general terms the "spill corridor," based upon the design spill, and indicates the sensitivity of the environment along the route.) The contingency plan will also indicate appropriate cleanup methods along the entire route, local contractors who may be retained in the event of a spill and the procedures in reporting the spill to pipeline personnel and appropriate regulatory agencies both within the State and in the Federal government.

bb. C Information is requested on: (1) the minimum response time in the event of a major pipeline break; (2) the amount of oil that would be released in the time between notification of a break and closing the appropriate manual block valve(s); (3) the amount of oil that would escape from the line even after the valve was closed; (4) the natural and wildlife resources along the path of the route that are most susceptible to damage resulting from an oil spill and (5) cleanup techniques and capabilities along the route, particularly along areas of vulnerable resources.

R Regarding the first three parts, in the event of a major oil spill the input-output system would alert the supervisory control center at Elk Hills and the pipeline would be promptly shut down. All remote valves would be closed immediately and crews would be dispatched to determine the exact location of the rupture if this were not known. At the same time these crews would close any manual block valves to lessen drainage. In most cases, block valves could be closed within an hour but for purposes of calculating the design spill, shown in Figure 1-18, a 2-hour closure was assumed. Line drainage during this 2-hour period is estimated to be less than 20,000 barrels over most of the route and would be appreciably less when block valves were located close to the site of the break.

Oil would continue to flow from the pipeline even after valves were closed. However, heavy equipment could be brought into

play within a matter of an hour or so in most locations to provide berms to contain this oil or prevent further spread. Stopples can also be inserted into the broken line, shutting off all flow. Pooled oil would be salvaged by vacuum trucks.

Parts 4 and 5 of this comment have been answered in response to part aa. above.

cc. C Ninety percent of the equipment-related ruptures occur on lines less than 40 inches below the surface. The DEIS indicates the pipeline will be buried at 36 inches.

R Equipment-related ruptures (third party accidents) do predominate in lines with less than 40 inches of cover. However, third party accidents involving heavy equipment occur most frequently in the State of California where deep plowing (sub-soiling) is practiced in agricultural activities. In areas of agricultural activities through which the pipeline passes, it would be buried at least 48 inches. In other areas, such deep burial would result in more disturbance of the terrain and should be avoided.

dd. C The FEIS should discuss oil spill probabilities, vulnerable natural resources, oil spill trajectories, and oil spill response capabilities.

R See response to 3.d.

ee. C The report assumes that only safe vessels will transport the oil from the coastal ports. Yet, it is not clear whether enough new tankers exist to handle this oil in light of the expected west coast surplus. Moreover, anticipated U.S. Coast Guard vessel inspection programs could be overwhelmed by the proposed increase in tanker traffic. The use of older, less safe, vessels without adequate inspection may therefore be necessary and raises concerns regarding additional air pollution problems and oil spill risks.

R See response to 3.d.

ff. C A clear description of vessel traffic measures to be used at Avila Beach and Estero Bay should be included in the FEIS.

R See response to 3.d. If the purchaser transports Elk Hills crude to San Luis Obispo County, the purchaser would follow existing vessel traffice measures. According to the U.S. Coast Guard, the traffic density in both of these ports is so very low that unrestricted movement is permitted. No shore-based radar is used, but most incoming vessels are equipped with two radars to assist in movement when the weather is inclement. Further, in the case of Estero Bay, all incoming

tankers to the Chevron Marine Facility (the major generator of traffic in the port) are boarded by a mooring master at a sea buoy approximately 4 miles offshore; the mooring master, who is familiar with the inner passage, then is available to assist the captain of the tanker in bringing the vessel into a designated offshore mooring. If conditions are unsuitable, the mooring master will not permit the hookup with shore to be completed. If weather conditions are bad or all the moorings are occupied, shops can anchor offshore in the large expanse of Estero Bay until space is available.

Similar procedures are followed at Avila Beach where the mooring master boards the tanker outside the port and oversees the loading or unloading operation. Two hazard buoys are placed in Port St. Louis (Avila Beach).

gg. C It cannot be determined from DEIS whether or not appropriate seismic and other geological studies have been conducted.

R Full-scale geological and seismological studies have not been conducted. This will be done, where necessary, when the final pipeline route is chosen and approved. Design criteria of the pipeline relative to seismic safety is responded to in comment 8.i.

hh. C List all earthquakes that traverse the proposed pipeline route.

R See Figures F-1 and F-2 in the DEIS.

ii. C Describe epicenters, magnitudes, accelerations and other relevant characteristics.

R See Figures F-1 and F-2 and Tables F-1 and F-2.

jj. C List facilities design criteria.

R See response to comment 7.i.

kk. C Describe the types of soil and geology and the overall foundation conditions found in or near any harbor where new tanks and pipelines will be located.

R See response to 3.d. The facilities associated with the privately owned Avila Beach and Estero Bay tanker onloading operations already exist. Moreover, these facilities appear to have sufficient capacity to handle the portion of Elk Hills oil that could be transported through existing pipelines to these facilities. Thus, the construction of new tanks or pipelines at these locations will not be required.

ll. C List main line block valves at points where the pipeline crosses suspected or known fault zones.

R The main pipeline to Coalinga does not cross any suspected or known fault zones.

mm. C The FEIS should provide a clear, detailed description of the jurisdictions of both the California Coastal Commission and the State Lands Commission, and should identify the relationship of the Port Hueneme Project alternative and the Central California Coast Spur of the Coalinga Project alternative to these jurisdictions. The FEIS should clearly identify any conflicts with present programs and standards of these jurisdictions that the Navy considers unavoidable.

R Both the Draft and Final EIS include such discussion for the California Coastal Commission in Chapter III and in Appendix Q. The Final EIS also addresses the State Lands Commission jurisdiction in Chapter III.

nn. C Compare costs of alternatives, with consideration given to (1) variations and combinations; (2) full use of the condemnation process; and (3) increased emphasis on natural gas production.

R The total construction dollar amounts involved for each alternative are: Elk Hills/Coalinga, about $80 million; for Elk Hills/Port Hueneme about $60 million; and for Elk Hills/SOHIO about $110 million.

(1) Variations of each alternative have been considered. Combinations of alternatives, however, have not been considered under the scope of this proposed project. In general, use of two or more alternative pipelines would yield greater, overall adverse environmental effects, while not providing any essential additional benefits.

(2) Government discussions with the owners of various pipelines available to carry oil from Elk Hills have indicated there is available capacity for up to 150,000 barrels a day of oil through existing lines. However, it does not appear feasible to pursue the addition of pumps and heaters on these available industry lines at government expense to marginally increase the capacity, and still meet the Congressional mandate to obtain a total capacity of 350,000 BPD by 1979.

(3) The transportation alternatives in the EIS are not intended to cover impacts of gas production from Elk Hills. Regarding pipeline construction, the EIS discusses only the requirements to transport oil, not gas.

oo. C Thorough analysis of justification for the project based on regional and national marketing considerations and national energy policy developments should be completed.

R Thorough analysis of justification of the project is found in Public Law 94-258 which establishes the scope and time for completion of this project. See also response 12.d.e.f.

pp. C Final EIS should incorporate natural gas production and commercial sale as project alternatives.

R See response to nn above, part (3).

qq. C Government decision-makers should not approve Coalinga alternative unless it is demonstrated that a net improvement in air quality will occur.

R The government concurs and this EIS and all subsequent actions work toward that end, within the framework of current federal, state, and local regulations.

13. Air Resources Board

a. C A recommendation is made to change the tank design to open-top floating-roof tanks with primary metallic shoe-type seals and secondary seals extending from the roof to the tank shell.

R All tanks to be constructed will now conform to the above design recommendations. The change is reflected in the FEIS.

14. California State Water Resources Control Board

a. C The project sponsor should contact the individual Regional Boards responsible for areas traversed by the pipeline to determine what discharge permits are required.

R The government will coordinate its acquisition of discharge permits through the Environmental Protection Agency and will meet state standards. No discharges will be made until all appropriate permits have been obtained.

b. C The development of oil spill contingency plans for the pipeline should be coordinated with the Regional Board oil spill response plans.

R A complete oil spill contingency plan will be prepared before the pipeline becomes operational. It will be coordinated with the Regional Board oil spill response plans and with any other appropriate state and Federal response plans.

c. C Small chronic leaks from the pipeline could be more damaging to groundwater aquifers than a larger, more visible spill. In porous areas, consideration should be given to the construction of an impervious trench lining. Such a lining would effectively force any potential fugitive oil to the ground surface where it could be more easily detected. Also, automatic and manual line valves should be installed in rupture-prone areas.

R In general, the movement of oil through the soil column is governed by the soil's permeability and the oil's viscosity. While a particular soil's permeability is a relatively fixed parameter, the viscosity of an oil, once it is spilled, is subject to change. In particular, spilled oil tends to become more viscous through the loss of its lighter fractions via evaporation and microbial action. Thus, even in cases where highly porous soils favor oil penetration, this degradation will tend to limit the extent of an oil's downward movement. For this reason, it is not expected that small chronic leaks, even in porous soils, will achieve sufficient soil penetration to cause groundwater contamination.

With regard to line valves in rupture-prone areas, such as the San Andreas Fault area, such devices have already been included in the project's design.

d. C The discussion of wastewater disposal does not include any discussion of the applicability of EPA Effluent Guidelines for the Onshore Subcategory of the Petroleum Category.

R These particular EPA guidelines were not discussed in the report because they are applicable only to water pollution associated with oil/gas production, field exploration, drilling, well completion, and well treatment.

e. C If EPA Effluent Guidelines apply and a disposal sump is required, the Department of the Interior's NTL-2B regulations may have to be satisfied.

R Since the above guidelines are not applicable to the project addressed in the DEIS, the NTL-2B regulations of the Department of the Interior do not need to be satisfied.

f. C Annual hydrostatic testing of the pipeline could prevent adverse impacts from an oil spill in remote mountainous areas.

R The shortage of water and lack of treatment facilities along the route of the pipeline preclude annual hydrostatic testing which is not required under present regulations.

g. C There is a deficiency in the Cultural Resources section.

R See response to letter 1, parts a. and b.

h. C The FEIS should supply a detailed description of how the Elk Hills crude will be transported from Avila Beach and Estero Bay.

R See response to 3.d. Specific markets for the Elk Hills crude oil are unknown at this time; however, it is likely that the primary market will be outside of California.

i. C Details should be provided on the new storage capacity at Estero Bay and Avila Beach.

R See response to 3.d.

j. C The Standard line from Kettleman City to Estero Bay should have a leak detection system, particularly since the line was installed in 1929.

R See response to 3.d. Should private industry purchase a portion of Elk Hills crude and wish to use the Kettleman City-Estero Bay pipeline, that line would need to be fully upgraded and tested by the owner prior to any movement of oil through it. While the installation of a leak detection system would be desirable, the risks associated with this operation, as indicated by the government's design spill analysis, are relatively low.

k. C There is a discrepancy between the amount of oil which passes through the Union terminal in Avila Beach during 1976.

R See response to 3.d.

l. C A 25 percent increase in shipping activity through Port St. Louis is more than a "slight incremental increase," particularly if another mooring were added.

R See response to 3.d. Private industry could purchase a portion of Elk Hills crude and transport it to Port St. Louis. Port St. Louis (Avila Beach) is presently so under-utilized by normal traffic standards (only 43 tankers per year) that a 25 percent increase represents no measureable increase in probability of collision between tankers. An increased risk attributable to ramming and/or grounding is present, but since no such accidents have occurred in the past, the risk is still considered minimal. The development of a second mooring at some future time is at best conjectural, and would not be precipitated by the movement of any Elk Hills oil purchased by private industry through the port.

m. C Wouldn't a loaded tanker accident be worse than a ruptured submarine pipeline?

R See response to 3.d. Yes, a loaded tanker accident (possible only on the outgoing voyage) could cause a spill far in excess of 1,000 barrels if private industry purchases Elk Hills crude and transports it through San Luis Obispo County harbors. However, because of the deep bottom and low traffic density, the probability of an accident of this nature is very low.

n. C A 35 percent increase in tanker traffic at Estero Bay appears to be significant.

R See responses to 3.d. and 14.l. As with Avila Beach, Estero Bay is under-utilized so that a 35 percent increase does not represent an increase in risk of serious accident to significant levels overall.

15. Fresno County Planning Department

a. C The project would have no significant impact upon Fresno County.

R No response is necessary.

16. League of Women Voters of San Luis Obispo, California

a. C The League is concerned about increased hydrocarbon emissions and the lack of baseline data necessary to estimate the impact of these emissions.

R It is very true that there is not enough suitable baseline data available for San Louis Obispo County to allow a vigorous treatment of the impact of hydrocarbon emissions. Thus, it is hard to know exactly where and how much impact will occur. The government would, however, seek to effect emission offsets in the air basin for all increased emissions resulting from the project.

b. C The increased tanker activity in San Louis Obispo County may have growth-inducing effects not noted in the subject report. Since the early 1970's Estero Bay has been considered as a potential supertanker facility. Existing development with its concommitant social and economic infrastructure is often a compelling reason for siting like new activities. Will this 109 additional tankers annually be reason for more port development in the future?

R See response to 3.d. The need for increased social and economic infrastructure from the potential private transport of marketed Elk Hills crude through San Luis Obispo is minimal. No new facilities would be required. Very few additional employees (perhaps one at Estero Bay) would be needed for the loading operation. Ship crews would not be debarking or spending money locally. The ships would not be fueling at Estero Bay or Avila Beach. In short, infrastructure increases would be so minor that the question of induced growth does not apply.

c. C This alternative is in conflict with the Coastal Commission's main policies to preserve Avila Beach for recreational use and to give preference to overland oil transport routes.

R See response to 3.d. If private industry were to transport Elk Hills crude to the Avila Beach area, this action would be in conflict with Coastal Commission policies.

d. C There is no indication that California demand for Elk Hills crude will approach its availability at full production. The need for this additional oil is questioned in light of a proposed west coast Alaskan surplus.

R Please refer to Section II of the Naval Petroleum Reserves Production Act (Appendix A of the FEIS) in which Congress directed the Secretary of the Navy to develop and produce Elk Hills at maximum efficient rates. Any revision to this operating concept would require an Act of Congress.

17. Mission Coast Lung Association

a. C The Association recommends legislation to retain Elk Hills oil for emergency use only, designating it as a strategic ready reserve.

R Please see response to letter 16.d.

b. C Specific plans for the marketing of Elk Hills crude via the Coalinga conveyance system should be formulated.

R Specific markets for MER production of Elk Hills crude oil have not yet been identified. However, it is likely that such markets will exist primarily outside of California. See also response to 3.d.

c. C No information is given on the technology needed to reduce hydrocarbon emissions from new storage facilities at Avila Beach and Estero Bay.

R See response to 3.d. Private transport of marketed Elk Hills crude through San Luis Obispo would not require construction of any new storage facilities at either of these locations. Thus, no new sources of hydrocarbon emissions would occur.

d. C Further discussion on the relationship of increased tanker traffic at Avila Beach and Estero Bay on risk statistics is desired.

R See response to 3.d. As indicated, there are limited data available concerning oil spills associated with small offshore terminal operations. Based upon the known accident history at small ports the probability of serious accident leading to oil outflow approaches zero. Considering the generally safe nature of these harbors and their low traffic density, attempts to further quantify, based upon a very limited data base, the probable accident rate are not warranted.

In a similar vein, the Coast Guard monitored the movement of vessels through the Santa Barbara Channel for a period during the spring of 1977. They found that the maximum traffic (both directions) was 14 to 17 ships per 24 hours. This level of activity was deemed to be low by normal standards so that no other action, aside from the official establishment of separation lanes in July 1977 through the Santa Barbara Channel, was undertaken.

e. C No extensive study of wind patterns and dispersal patterns has been done for San Luis Obispo County.

R See response to 3.d. It is true that meteorological information for the coast of San Luis Obispo County is limited.

f. C Possible effects on Atascadero and Paso Robles's oxidant levels are not discussed.

R See response to 3.d. Should the purchaser of Elk Hills crude choose to transport it through Estero Bay the City of San Luis Obispo appears to be the most likely area affected by hydrocarbon emissions from tanker operations. There are no geographical barriers and the city is close to the terminal site. It is possible that oxidant levels at Atascadero and Paso Robles could be affected by the emissions, but the degree to which this would occur is not known. It is expected, however, that the effect would be small.

g. C Little is known about the projected air quality effects of new pollution sources and more study is needed.

R Se response to 3.d. We agree with the statement. Further study is needed in San Luis Obispo County regarding the potential effects of new air pollutant sources.

18. Save Our Coast Coalition

a. C The Elk Hills Reserve should remain as a reserve and not be brought into production.

R Please see response to letter 16.d.

19. Sierra Club, Santa Lucia Chapter

a. C The 1976 law was passed hastily in a period of crisis. The potential market for Elk Hills crude is uncertain, especially with North Slope oil and additional oil at Santa Barbara later this year.

R The government currently has commitments with refineries in California to deliver 142,000 barrels of Elk Hills crude per day through existing pipelines. However, discussions to date with various refineries in California have been sufficient to indicate that a market for all available Elk Hills crude does not exist in the state. The direction of Congress for the government to provide for transportation of up to 350,000 barrels per day of Elk Hills crude by 1979, and the expected abundance of crude on the west coast dictates that the government must provide for shipment of some of this crude outside California. The major market for this crude will be east of the Sierra Nevada which can be reached by either pipelines or tanker shipping. It does not seem that these conditions will change in the near future, nor would they be greatly affected one way or the other by a detailed market study.

b. C Make Elk Hills oil available for future defense needs rather than current market whims.

R Please see response to letter 16.d.

20. Sierra Club, Southern California Regional Conservation Committee

a. C The EIS does not make any statements relative to cost or provide a "big picture" understanding of how this project meshes with a total oil flow pattern to supply future oil needs.

R Comparative construction costs for the three pipeline alternatives are given in response to letter 12, part nn. As indicated in Section I, Introduction of the FEIS, this document does not include an environmental assessment of transportation of crude oil beyond the interim destination of the project.

Regarding the relationship of the proposed project to the total energy picture, please see the Project Description and response to letter 12, parts d., e., and f.

b. C A determination of the best route is made.

R No response is necessary.

c. C The Coalinga alternative would increase the total volume of air pollution in San Luis Obispo County.

R See response to 3.d. It is true that the total volume of hydrocarbon emissions in San Luis Obispo County would increase by a substantial amount if private industry transports marketed Elk Hills crude to San Luis Obispo County.

d. C Concern was expressed with suggested mitigation measures only being considered.

R The best mitigation measures to minimize adverse effects during construction will be developed prior to and during construction in conjunction with the BLM, Soil Conservation Service, U.S. Forest Service, and U.S. Fish and Wildlife Service.

e. C Quicker detection of leak location by use of additional sensors in the input/output monitoring system would be desirable.

R The proposed automatic leak detection system would, in almost all cases, be capable of locating a leak within a 20-mile segment of the pipeline. Additional sensors would not increase this sensitivity greatly. A most probable source of a major spill is a third-party accident and, in almost all such incidents, the point of the incident is reported by the perpetrator, who usually also takes corrective action if possible. Locations of spills by aerial or surface surveillance can usually be accomplished within 1 to 1-1/2 hours maximum which allows corrective action to be taken before appreciable line drain has occurred (see Fig. 1-18).

f. C The pipeline authorities plan to depend on local firefighting authorities to control any fire or explosion hazard. There is no mention of any plan to determine if these authorities have appropriate equipment and to reimburse the local communities the expenses of providing these services.

R Local firefighting authorities will <u>not</u> have the primary responsibility for controlling fires or explosions. Their assistance may be needed, and Section IV.H.3 states that local fire agencies would be used on a backup basis. In addition,

fire agencies in all counties were contacted to determine where oil firefighting equipment is available, and this information is contained in Appendix 1-N of the FEIS.

g. C Flush welds must be used on the tanks to provide an effective seal with the internal floating roofs.

R Such welds will be used in tank construction.

h. C The EIS cannot be considered complete until the entire transport route and impact is examined and also until a no development impact is discussed.

R The FEIS only covers the project from the Elk Hills Reserve to the Coalinga Tank Farm. Beyond these interim destinations, the impacts are not discussed because of the undefined markets for the oil. A no development alternative is discussed in Section V of the FEIS.

i. C The Sierra Club suggests that the government consider a fourth alternative to recover the gas at the Elk Hills reserve rather than the oil.

R The natural gas produced in association with the crude oil and nonassociated gas is planned to be used for reinjection to secure maximum ultimate recovery as mandated by law. When this gas has accomplished its purpose, it will then be made available for sale if directed to do so by the President and Congress. Nonetheless, any sale or transport of natural gas from Elk Hills would require additional environmental analysis which is not within the scope of this crude oil pipeline EIS.

21. South Bay Conservation Group

a. C The South Bay Conservation Group urges that Elk Hills oil fields be returned to a reserve status.

R Please see response to letter 11, part a.

b. C The Group recommends extension of present pipeline systems.

R Existing pipelines do not have sufficient capacity to meet the requirements of P.L. 94-258. Addition of heaters and pumps to existing pipelines would provide only a marginal increase in capacity.

22. Atlantic Richfield Company

a. C ARCO has several on-going pipeline projects, not discussed in the DEIS, which can substantially increase Elk Hills crude transport potential and reduce the need for new pipelines.

R The expansion of ARCO's line to the Los Angeles area would involve government investment in a private pipeline and would not assure the government the required throughput to comply with Public Law 94-258. As noted by ARCO, the Four Corners line will allow movement of Elk Hills crude in small quantities to the Mid-Continent area if sales are consummated. One of the government pipeline options addresses a line from Elk Hills to Colton, California, to tie into the proposed "SOHIO" pipeline from Long Beach, California, to Midland, Texas. If this option is selected, an additional tie-in could be made to ARCO's Four Corners pipeline to move additional crude to the Mid-Continent. Plans for this tie-in are being developed. The environmental impact will be addressed separately.

b. C Atlantic Richfield's latest estimate is that Valdez Terminal receipts will be 600 MB/D by August 1977 and 1.2 MMB/D by January 1978.

R Atlantic Richfield's latest estimate that Valdez Terminal receipts will reach 1.2 MMB/D by January 1978 is supported by FEA, which states that throughput is planned to be increased from 600 MB/D to 1.2 MMB/D in "November 1977 - early 1978."* A correction has been made to the text on page P-21.

23. Beacon Oil Company

a. C The DEIS incorrectly stated the location of oil company main offices in Bakersfield.

R The FEIS has been changed to indicate that the refinery and main office are located at Hanford, California.

24. Chevron U.S.A., Inc.

a. C Elk Hills production cannot be substantially increased without detriment to ultimate economic recovery and the additional pipeline capacity may be uneconomic and unnecessary.

R As noted by Chevron, the government is mandated to have 350,000 B/D pipeline capacity by 5 April 1979. The Navy is also mandated to obtain maximum ultimate recovery, not the maximum economic recovery mentioned by Chevron U.S.A., Inc.

25. Charles W. Quinlan

a. C Opposition is expressed to use of Elk Hills oil for domestic consumption.

*U.S. Federal Energy Commission, North Slope Crude/Where To? - How?, 1976.

R Please see response to letter 11, part a.

26. E. Craig and Eileen Cunningham

a. C Leave Elk Hills oil in its present status as a Naval Petroleum Reserve.

R Please see response to letter 11, part a.

27. George H. Floyd

a. C Only the Elk Hills/SOHIO route would not impose the additional burden on the Navy of protecting tankers on the sea.

R This is the government's preferred route, but depends upon SOHIO's obtaining approval for their project.

28. Mr. and Mrs. Theodore Foster

a. C The oil should remain in the ground.

R Please see response to letter 11, part a.

b. C There are no markets for oil.

R Please see response to letter 12, parts e. and f.

c. C Heavier use of the Avila Beach and Estero Bay terminals would result in greater air pollution and an increase in the possibility of oil spills.

R This statement is true, but use of these facilities is no longer part of the proposed project. See response to 3.d.

d. C The easiest and least damaging way of moving oil in an emergency would be a hookup with the SOHIO Long Beach east-west pipeline.

R The government concurs with this assessment.

29. Mrs. I. W. Gahagan

a. C The Coalinga conveyance system would benefit the local economy of San Luis Obispo.

R See response to 3.d.

30. Constance Hendricks and William J. Hendricks

a. C There is no need for Elk Hills oil and why should air pollu-
b. tion and the potential for oil spills be increased.

R Please see response to letter 11, part a.

31. Andy Hinsdale

a. C Additional tanker traffic would cause more pollution.

R This statement is true, but additional tanker traffic is no longer part of the proposed project. See response to 3.d.

32. Russell L. Kaldenberg

a. C Basic displeasure with DEIS was expressed.

R The appropriate corrections will be made in the responses to follow.

b. C What BLM document (1976) is being referenced?

R The figures were incorrectly referenced. They were from the DEIR, "SOHIO West Coast to Mid-Continent Pipeline Project," Volume 2, Part 1, prepared by the Port of Long Beach and the California Public Utilities Commission, September 1976, pp I-10 and I-11. Corrections have been made to the text.

c. C Concern was expressed about the use of the phrase "wildlife is scant." Also, the archaeology study is inadequate.

R This statement was used in the introduction to Section II of the Coalinga alternative only. A discussion of wildlife is provided in Section II.E. Regarding archaeology, please see the response to letter 1.

d. C There are no mitigating measures for vegetation.

R Mitigating measures for vegetation are discussed in Section IV.E.1.C. Measures to be employed include minor realignment of the corridor to avoid large trees or significant stands of small plants wherever possible, transplanting seedlings to disturbed sites, and reseeding. Measures will be selected according to local conditions. Similarly, the time required for recovery of disturbed areas will vary according to the

type of community present and the restoration measures applied. Grasslands could be restored in 2 to 3 years while woodlands would require 10 or more years.

e. C Wildlife mitigating measures are inadequate.

R The discussion of mitigating measures for wildlife given in Section IV.E.2.C. is intended to provide a general discussion of the potential for mitigation and the range of restoration techniques. Due to the length of the pipeline, and the variety of local conditions which will be encountered, it is not possible to discuss the details of mitigation in the text. The government will provide mitigation according to specifications provided by California Fish and Game, other resource management agencies, and land owners. Also see the response to letter 7, part g regarding mitigating measures for rare and endangered species.

f. C Who worked on the EIS?

R URS Company assisted the government in the preparation of the EIS.

g. C Who performed the paleontological survey? How do you propose to ensure that no paleontological sites are destroyed?

R URS Company assisted the government in preparation of the DEIS. A qualified archaeologist/paleontologist would be on the construction site to make a determination of the proper methods to protect any archaeological or paleontological remains uncovered by construction activities.

h. C Why is only summer climatic data given? How is winter air quality proposed to be mitigated?

R Summer climatic data are emphasized because summer is the season with the greatest potential for photochemical pollution, which is caused by hydrocarbon emissions. The HC emissions from the tank farm at Elk Hills would cause no air quality problems during the winter months. Therefore there are no impacts to mitigate during the winter due to the project.

i. C Why were only stream crossings surveyed? What is the project vicinity? How is a historic site defined by the consultant?

R The random sampling technique was used in the initial archaeological survey because of time and budgetary constraints; stream or creek crossings were chosen because it was believed they held the most potential for sites. Any sites found would help in better identifying areas and types of sites to be

found in other parts of the route. As recommended in the consulting archaeologists original report, a more detailed survey -- using random sampling techniques and more intensive coverage -- of areas that contain environmental settings conducive to prehistoric cultural activities will be made after the pipeline route has been surveyed and staked. Strictly speaking, the project vicinity is that area that could be affected by the pipeline construction, generally within several hundreds of feet on either side of the proposed route. A historic site, for purposes of legal definition, is defined as any site listed on the National Register of Historic Places. Once the proposed route has been staked, a final determination will be made as to the location of any historic sites within the pipeline corridor.

j. C The reference to Yokut should be Yokuts.

R Holman and Chavez agree that this is the correct usage and the text has been corrected to reflect this fact.

k. C What type of mitigation measures are proposed for archaeological resources? A full survey should be conducted.

R The report was intended to be an indication of the archaeological sensitivity of the considered pipeline alternatives and not a comprehensive evaluation based on a site-specific archaeological survey. However, when the government specifically designates the location of all facilities and pipeline corridors, a complete archaeological investigation will be conducted, specific impacgs identified, and mitigative measures designated.

l. C Was a survey conducted of the existing railroad system from Taft to Elk Hills or for the 10 miles of new power poles?

R No, these routes were not surveyed.

m. C What is the title of Holman and Chavez's archaeological report.

R It is entitled "An archaeological reconnaissance of the proposed pipeline route from the Elk Hills naval petroleum reserves, to Coalinga and Port Hueneme, California Phase I," and "An archaeological reconnaissance of the proposed pipeline route from the Elk Hills Naval petroleum reserves to the Redlands facilities, California Phase II." Copies of these reports were sent to Robert Schiffman at Bakersfield College.

n. C Concern was expressed over the use of tertiary sources and the poorly summarized report of the consultants.

R A complete archaeological survey will be prepared when the final pipeline route is chosen. Please see response to letter 1. Every attempt was made during the preparation of the EIS to contact all parties with information pertinent to the project. Because of the immense size of the task, it is conceivable that various sources of primary information were overlooked.

33. Chris Kennington

a. C If Elk Hills oil must be transported, then hookup to SOHIO Long Beach pipeline is the safest choice.

R See response to letter 27.

34. Dr. and Mrs. W. C. Langworthy

a. C Concern is raised with regard to the effect of increase emissions within the context of future growth and their effect on a sensitive population.

R See response to 3.d. If the purchaser transported Elk Hills oil to San Luis Obispo County, increased hydrocarbon emissions would have an adverse effect on air quality in San Luis Obispo County and therefore would adversely affect sensitive populations.

b. C Oil transportation facilities do not provide jobs for local workers. The construction of the Diablo Canyon facility resulted in housing shortages and crowded schools. We feel certhat these problems would also occur from the construction of the Elk Hills pipeline to the central coast.

R See response to 3.d. Although it has not yet been determined for certain whether or not additional facilities will be needed at Avila Beach or Estero Bay, at this time it appears that potential private transport of Elk Hills crude to these harbors will not foster any new construction.

c. C Leave Elk Hills oil "in situ."

R Please see response to letter 11, part a.

35. C. W. O'Brien, M.D.

a. C President Carter has said we should keep Elk Hills as an
b. emergency reserve.

R Please see the response to letter 11, part a.

36. Jane Orvis

a. C Local notification on the government's proposal to build the Coalinga conveyance system did not appear until 4 days before the public hearing.

R Notice of the hearing date was placed in local papers several weeks before the actual hearing by the government. Also, it should be noted that the purpose of the hearing was actually twofold: (1) to provide information on the project and, (2) to provide a mechanism for receiving comments both at that time and in the future. Thus, the hearing did not constitute the only opportunity for local residents to voice their concern (i.e., written comments were solicited and responsed to up until June 28, 1977).

37. D. D. Rice, M.D.

a. C Opposition is expressed to using Elk Hills oil at this time for anything other than a reserve.

R Please see response to letter 11, part a.

b. C Our preference is for use of the SOHIO pipeline at Long Beach.

R See response to letter 27.

38. Fred A. and Janice C. Schenk

a. C Opposition is expressed to pumping Elk Hills oil.

R Please see response to letter 11, part a.

b. C Elk Hills oil should be saved, even if the shortage of oil required that all auto traffic must be curtailed. We should not sell domestic oil to a foreign market for a gain!

R The government has been directed by Congress to expand the production of Elk Hills crude oil, and only a further action by Congress could reverse this direction. Public Law 94-258 prohibits the sale of this oil to foreign countries. Please refer to Section II of the Naval Petroleum Reserves Production Act (Appendix A of the FEIS).

39. Mr. and Mrs. R. Stern and Family

a. C Keep Elk Hills oil in the ground.

R Please see response to letter 11, part a.

XII. PUBLIC HEARINGS

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A. Introduction

1. Purpose of Hearings

Public hearings were held in seven locations for the Draft Environmental Impact Statement on the government's three alternative petroleum conveyance systems. The purpose of these hearings was twofold. First, the hearings provided an opportunity to inform the public about the details of government alternatives for transporting Elk Hills crude oil. Second, they gave the public an opportunity to provide input into both the decision-making process and the Environmental Impact Statement. As an example of public input, suggestions for alternate routes through the Antelope Valley from these public hearings and from written correspondence provided a basis for a series of six alternative routes considered by the government for the Antelop Valley leg of the Elk Hills/SOHIO Conveyance System.

2. Dates and Locations

The following table gives the dates and locations of each hearing held by the government for the Draft EIS's.

May 18, 1977 1:00 p.m. and 7:00 p.m.	City Council Chambers Coalinga, California

May 20, 1977 9:00 a.m. and 2:00 p.m.	City Council Chambers Bakersfield, California
May 21, 1977 9:00 a.m.	Auditorium of "The Fort" Taft, California
May 23, 1977 2:00 p.m. and 7:00 p.m.	City Council Chambers San Luis Obispo, California
May 24, 1977 9:00 a.m., 2:00 p.m., 7:00 p.m.	Hilton Inn Oxnard, California
May 26, 1977 9:00 a.m., 2:00 p.m., 7:00 p.m.	Convention Center San Bernardino, California
June 29, 1977 2:00 p.m. and 7:30 a.m.	City Hall Palmdale, California

3. Availability of Public Record

The hearings were transcribed by a court reporter who accompanied the government and URS Company personnel to each of the hearing locations. The hearing transcripts are available for perusal by the public at the following locations:

Department of the Navy
Officer in Charge of Construction, Elk Hills
P. O. Box 40
San Bruno, California 94066
(415) 877-7064

Department of the Navy
Office of Naval Petroleum and Oil Shale Reserves
Crystal Plaza #6
Washington, D.C. 20585
(202) 692-0600

4. Participants

The hearing panel at each of the hearings included Commander Philip J. Parisius, Environmental Program Officer, Western Division, Naval Facilities Engineering Command, Chairman; Mr. Milton Staackmann, Vice-President, URS Company of San Mateo, California; and Mr. Leo Bellarts, Director of Engineering, Naval Facilities Engineering Command, Contracts, Elk Hills. The hearings were recorded verbatim by Dee Segalia, Official Reporter, Wm. E. Henderscheid and Associates. Other URS Company staff present included William Van Horn and Jack Jenkins.

The following persons spoke or read statements at the hearings.

Coalinga 1:00 p.m.

C.H. Corwin

Coalinga 7:00 p.m.

Ms. Bunker
Mr. Allen

Bakersfield 9:00 a.m.

James Woo, Lancaster

Bakersfield 2:00 p.m.

James Hunt, Palmdale
Dev Vrat, Santa Barbara Office of Environmental Quality
Pat Pourchat, Bureau of Land Management, SOHIO project

Taft 9:00 a.m.

Ed Johnson, U.S. Navy
Jack Lardy, Kern County

San Luis Obispo 2:00 p.m.

H. W. Meyer, Morro Coast Audubon Society
Donald Smith, Environmental Center of San Luis Obispo County
Don Parham, Los Osos
Harold Weber, Mariposa

Bob Carr, San Luis Obispo County Air Pollution Control District
Janet Kovrakis, San Luis Obispo League of Women Voters
Ian McMillan, San Luis Obispo County
John McNeil, Atascadero

San Luis Obispo 7:00 p.m.

Donald Smith, Environmental Center of San Luis Obispo County
Ms. Reichenberg, Clean Air Coalition
Jim Rodgers

Oxnard 9:00 a.m.

Rae Richerson, Santa Barbara
Richard Floch, City of Oxnard
Robert Yamasaki, BLM Pacific OCS Office
Michael Kuhn, City of Simi Valley
John English, Air Pollution Control District, Santa Barbara County
George Hottle, Oxnard Shores Community Association

Oxnard 2:00 p.m.

Ray Flether, Oxnard Harbor Commission
Phil White, Ventura County Concerned Citizens Committee
Albert Reynolds, Environmental Quality Coordinator, Santa Barbara County

Oxnard 7:00 p.m.

Harry Lyon, USA Petroleum Corporation

San Bernardino 9:00 a.m.

Emmett Beman, San Bernardino County
Okla Armstrong, San Bernardino County
Mrs. Okla Armstrong, San Bernardino County
Sam E. Taylor, Pinion Hills
Jack Chaney, Littlerock

San Bernardino 2:00 p.m.

Bill Greenberg, Sun Telegram
John Freeman, San Bernardino County
Sara Hoffman, San Bernardino County

San Bernardino 7:00 p.m.

Lewis J. Walker, Environmental Improvement Agency, San Bernardino County
Richard Troyer, Phelan Chamber of Commerce
Cindy Crandall, Fontana

Palmdale 2:00 p.m.

Assemblyman Larry Chimbole, Lancaster
James Hunt, Palmdale
Carol Barber, Palmdale Board of Realtors
Warren Harwood, South Coast Air Quality Management District
Sylvia Robinson, Antelope Valley Archeological Society, Inc.
Dennis Cannon, Sunnyside Property Owners Association
Nick Nemer, Wrightwood
Curtis J. Crawford, Quartz Hill
Leo A. Seltzer, Encino
T. C. Gibson, Encino
Denver F. Cook, Palmdale
Nathan Starr, Palmdale

Palmdale 7:30 p.m.

Gary Howell, Palmdale
David Hellman, Pinion Hills/Phelan area
Jean Hellman, Pinion Hills
John Kubasak, Lancaster
Forrest Hull, San Bernardino County
Arthur Helsinger, Palmdale
Clint McBroome, Highland
Art Wallace, Palmdale
Zella Gwinn, West Side Property Owners Association
Ben Oman, Palmdale
Cal Bostwick, Palmdale
Joe Mastro, Littlerock
Mike Nesel, Palmdale

5. Summary of Main Issues

Commander Parisius opened each public hearing by explaining the history of the Naval Petroleum Reserve No. 1 at Elk Hills. He then explained the requirements of Public Law 94-258, enacted by Congress in April, 1976, and the government's program to meet those requirements. He spoke of the role of the National Environmental Policy Act of 1969 in the government's program, and described the public hearing process.

Mr. Staackmann of URS Company then briefly described each of the three transportation alternatives the government is considering. He summarized the positive benefits from these alternative transportation

systems, and then described the adverse effects of each of the three alternatives.

Speakers at the hearings spoke to a variety of issues, ranging from "Leave the oil in the ground as a military reserve" to suggestions for alternate routes and appropriate markets. The major issues, those expressed frequently during the hearings, are summarized below, for the Elk Hills/Coalinga route only.

There was much concern over the impacts of further marine terminal development in Estero Bay and Avila Beach. In particular, local residents feared the effects of increased air pollution on San Luis Obispo County and the risk of oil spills. Because of this concern, many individuals were opposed to the routing of Elk Hills crude oil through San Luis Obispo County. (The use of existing pipelines from Kettleman City and Junction Station has since been dropped from the government's Elk Hills/Coalinga Conveyance System proposal.

Many persons also questioned the marketability of the oil or suggested local markets for it. Others suggested the oil be left where it is now.

There were questions on the detection, cleanup, and impact of oil spills.

Finally, there were questions on the effects of the conveyance corridor on local land owners and on land use in the right-of-way.

The following section responds to these concerns and to other pertinent issues brought out at the hearings.

B. Response to Public Hearing Comments

1. Organization

The following responses are organized according to the public hearing location and the page number of the hearing transcripts. Comments specifically about the Port Hueneme and SOHIO alternatives are not answered in this FEIS (see paragraph 3, page 1-4, Volume I).

2. Responses

Bakersfield, May 20, 1977

Dev Vrat, Santa Barbara Office of Environmental Quality

Comment: (p. 53) The Coalinga pipeline option causes problems for a proposed Santa Barbara land pipeline route. If the government uses pipelines from the San Joaquin Valley to San Francisco for Elk Hills oil, then there will be no room for Santa Barbara oil shipped to the San Joaquin. Thus, Santa Barbara oil would need to be shipped by sea, threatening serious environmental damage.

Response: The pipelines, which would be used to transport Elk Hills oil, are all common carriers. Thus, such lines could be used by the Santa Barbara oil in a manner equal to that of other customers, including Elk Hills oil. In addition, it is likely that the Santa Barbara oil, along with the Elk Hills oil, would displace the oils currently flowing through these pipelines due to its lower economic cost.

Comment: (pp. 53-54) Only the SOHIO alternative is consistent with Santa Barbara pipeline plans and comprehensive national energy development planning. Santa Barbara channel oil could be shipped through the government's pipeline to SOHIO too. The EIS should address the implications of the routing decision for comprehensive national energy development planning.

Response: The government's pipeline would be a common carrier, and the scenarios you describe, which foresee the Elk Hills pipeline being used for channel oil, are quite possible. The relationship of route selection to national energy policy is outside the scope of this EIS.

Taft, May 21, 1977

Mr. Johnson

Comment: (p. 19) Is there an estimate for the kit fox population in the Elk Hills area?

Response: Yes, there is an estimate of the kit fox population. The Department of Fish and Game conducts frequent censuses.

Jack Lardy

Comment: (p. 19) The kit fox is not a wild animal.

Response: Inasmuch as the kit fox is not a domestic animal, it is treated in this report as a wild animal, even though it may be seen in or around buildings, roads, etc.

Comment: (p. 20) Can't the gases emanating from the tanks be collected and used for energy at the tank farm?

Response: The best availabe control technology for the storage tanks has been determined to be floating-roof tanks. Such design does not permit recovery of hydrocarbon emissions, but does considerably reduce the actual vapor loss.

San Luis Obispo, May 23, 1977

H. W. Meyer, Morro Coast Audubon Society

Comment: (p. 26) The government will have to initiate a selling campaign and beat the bushes to peddle an important military asset of Elk Hills crude.

Response: The government is already selling approximately 120,000 barrels per day to local markets. The alternative transportation routes were chosen to substantially improve marketability of this crude.

Donald Smith, Environmental Center of San Luis Obispo County

Comment: (p. 28) The overall oil picture in California must be considered. California has more crude oil than its refineries can handle. We don't need more oil.

Response: It is true that the west coast has a crude oil surplus. The most likely markets for Elk Hills oil are in the midwestern or eastern United States and the oil could be shipped to these areas from California ports.

Don Parham

Comment: (p. 32) Are there any markets Avila Beach or Estero Bay will supply?

Response: Please turn to Section XI, p. XI-3, and see response to 3.d. Due to the west coast oil surplus, the primary markets for Elk Hills oil would be the midwestern or eastern United States. Both of these areas could be reached, at least in part, by tankers originating from Avila Beach or Estero Bay, should private industry purchase Elk Hills crude and transport it to these ports.

Harold Weber

Comment: (p. 33) It doesn't seem wise to give up the Naval reserve storage "to increase the nation's security."

Response: Congress has instructed the government to develop the reserve. Please refer to Section II of the Naval Petroleum Reserves Production Act (Appendix A of the FEIS). Any revision to this operating concept would require an Act of Congress.

Bob Carr, San Luis Obispo County Air Pollution Control District

Comment: (p. 38) Is there some effect from emissions in Estero Bay on Paso Robles or other parts of north San Luis Obispo County?

Response: Please turn to Section XI of this volume, p. XI-3, and see response to 3.d. The effect of increased hydrocarbon emissions on Paso Robles from private transport of Elk Hills crude through Estero Bay is of some concern since the highest oxidant concentrations recorded in the county occur there. It was reasoned that emissions at Estero Bay would be less likely to affect Paso Robles than San Luis Obispo because of significant topographical barriers (about 1,500 feet) between Estero Bay and Paso Robles. Unfortunately, there is little or no meteorological information to support this hypothesis. Therefore, it appears possible that emissions at Estero Bay could affect oxidant concentrations at Paso Robles.

Comment: (p. 41) The DEIS concludes there will be a downward trend in oxidant levels in San Luis Obispo County because of automobiles equipped with increased emission controls. But at some point in time won't the emissions outgain the effect from controls in the county because of the increase in the number of vehicles?

Response: In general, it is expected that more stringent automobile HC and NO_x emissions controls will generally reduce overall emissions until the mid 1980's. At that time, growth in the number of automobiles (given current trends) should overcome the emission controls benefits, leading to an increase in HC and NO_x emissions and increasing oxidant concentrations.

Ian McMillan

Comment: (p. 46) Is it wise to take oil out of the reserve at this time?

Response: Please see the response to Harold Weber's comment above.

Comment: (p. 47) The pipeline should not go through San Luis Obispo County because it's mainly agricultural, one of the last unspoiled counties, and already has all the pipelines and power plants any county should need.

Response: Please turn to Section VI, p. XI-3, of this volume and see response to 3.d. It should be pointed out that a new pipeline is not needed through San Luis Obispo County. Only existing pipelines might be used by private industry to transport marketed Elk Hills oil to the coast and only existing loading facilities would be used for its loading onto tankers. It is admitted that such a possibility would load a larger annual volume of oil onto tankers and tanker traffic would increase.

John McNeil

Comment: (p. 48) Does the public law spell out that the oil will be drilled and sent out on these pipelines in any particular quantity and any particular time?

Response: The specific words in the law, which is included in Appendix A of Volume I, are "Pipelines and associated facilities constructed at or procured for Naval Petroleum Reserve No. 1 pursuant to this subsection shall have adequate capacity to accommodate not less than 350,000 barrels of oil per day and shall be fully operable as soon as possible, but not later than three years after the date of Naval Petroleum Reserves at the maximum efficient rate consistent with sound engineering practice for six years". From the information available, the government has determined "maximum efficient rate" to be between 240,000 and 260,000 barrels per day.

Comment: (p. 51) The purchasers of the oil should determine the route, not vice versa.

Response: The government conducted a marketing analysis for the crude oil. They surveyed refineries to see where in the U.S. crude oil of the Elk Hills type could be refined. All three of the proposed routes will satisfy existing markets and get the oil to a refinery.

Donald Smith

Comment: (p. 53) Are you selling the 250,000 barrels per day, which the proposed pipeline would handle, now?

Response: No. It won't be sold until the pipeline is constructed.

Don Parham

Comment: (pp. 56-57) Could you produce 35 barrels per day and comply with the law? Must you produce 350,000 barrels per day?

Response: The law says the petroleum must be produced at maximum efficient rate. At this time, maximum efficient rate is estimated to be between 240,000 and 260,000. There will be a reservoir study to better define the reservoirs, and this should establish more firmly what the maximum efficient rate is.

Donald Smith

Comment: (p. 75) The California coast is expected to have a glut of oil from Alaska for several years. Elk Hills oil should be kept as an emergency reserve for military and domestic purposes.

Response: Please refer to Section II of the Naval Petroleum Reserves Production Act (Appendix A of the FEIS) in which Congress directed the government to develop and produce Elk Hills petroleum at the maximum efficient rate. Any revision to this operating concept would require an Act of Congress.

Comment: (pp. 75-76) The addition of 100 oil tankers of the 200,000-barrel class will seriously threaten an already fragile marine environment.

Response: This statement is true and has been discussed in the DEIS.

Ms. Reichenberg, Clean Air Coalition

Comment: (p. 79) Will there be any additional construction at Estero Bay or Avila Beach?

Response: Please turn to Section XI, p. XI-3, in this volume and see response to 3.d. It is possible that additional storage capacity would be required by private industry if they purchase Elk Hills crude and transport it to San Luis Obispo County, but sufficient details to define this need are not available.

Jim Rodgers

Comment: (p. 81) Will a new 200,000-barrel tank need to be constructed at Avila Beach?

Response: Please turn to Section XI, p. XI-3, in this volume and see reponse to 3.d. It is possible that a new tank would be required at Avila Beach if private industry purchases Elk Hills crude and transports it to Avila, but sufficient details to define this need are not yet available.

Comment: (p. 81) If such a tank were built, the FEIS should indicate what amount of hydrocarbons would expectably be emitted.

Response: Please turn to Section XI, p. XI-3, in this volume and see response to 3.d.

Comment: (pp. 83-84) Shouldn't your FEIS recommend that the Standard Oil Pipeline, which transports oil to the coast and which does not now have input/output monitoring, be equipped with it soon?

Response: Please turn to Section XI, p. XI-3, in this volume and see response to 3.d.

Oxnard, May 24, 1977

Phil White

Comment: (p. 73) Is there any interest in the purchase of this oil?

Response: The Elk Hills Reserve is presently producing 142,000 barrels of oil a day, which is being sold to local refineries. Any of the alternative pipelines, once constructed, would substantially improve the marketability of Elk Hills oil.

Harry Lyon, USA Petroleum Company

Comment: (p. 135) We're currently purchasing oil from the Elk Hills Reserve. Can there be taps put on the pipeline once it is constructed?

Response: The Director of Naval Petroleum Reserves will continue to consider any feasible alternatives or modification to the pipeline as presently planned for the purpose of enhancing marketing potential.

San Bernardino, May 26, 1977

Emmett Beman

Comment: (p. 21) Anything that will contaminate water is not good.

Response: The routine operation of the pipeline would not have any significant effects on water quality anywhere along the route. Abnormal operations, such as oil spills due to pipeline failure, could have adverse effects depending on the location of the mishap. Such accidents are mitigated against through a variety of means as described by Volume I.

Comment: (p. 22) Are there any mitigating measures to reduce tank fumes?

Response: Yes. Double seal, floating-roof tanks will be used at the recommendation of the California Air Resources Board.

Comment: (p. 23) How wide is the construction right-of-way?

Response: Fifty feet.

Okla Armstrong

Comment: (p. 24) You can't build anything over the 50-foot right-of-way. You destroy the whole parcel.

Response: No structures could be built over the right-of-way, but they could be bui t immediately adjacent to it.

Emmett Beman

Comment: (p. 26) How deep will the pipeline be buried?

Response: The pi eline will be buried a minimum of 3 feet below grade with the two following exceptions: (a) the pipeline will be buried at least 4 feet below grade in farmland; and (b) the pipeline will be buried at least 18 inches below grade in rocky, mountainous areas.

Comment: (p. 26) In case of a spill does the oil soak into the sand? What happens to the sand?

Response: Yes, the oil does soak into the sand although if the spill is very large it will also form pools on the surface. After the pipeline has been shut down and any pools of oil removed in vacuum trucks, all oil-soaked sand would be removed and replaced with clean fill. The contaminated sand would be disposed of in a segregated site in accordance with government regulations.

Comment: (p. 27) The minimum spill detectable would be about one barrel a minute?

Response: The leak detection system to be used on the pipeline would identify a leak of as little as a barrel a minute. Smaller leaks, that is pin hole leaks, could occur and would probably be detected only when oil reached the surface. Under the worst conditions, the total leakage might be as much as 1,200 barrels.

Comment: (p. 28) How do you determine there is a leak?

Response: The leak detection system uses both pressure and flow sensors and the data processing capability of a high-speed computer to measure the quantity of oil entering the pipeline vs. that leaving the pipeline. Variations of greater than one barrel per minute will be detected and reported, leading to the shutdown of the pipeline until corrective action has been taken. Very small leaks will probably be detected by visual means and similar corrective action taken. Aerial and ground inspection would detect surfaced oil.

Comment: (p. 29) Are maintenance stations close enough so that someone can fly over to determine damage and take corrective action?

Response: Pipeline operating personnel would be dispatched from the Elk Hills Supervisory Center to fly the section of the pipeline where the leak is known or suspected to have occurred. Large leaks are easily identified from the air and oftentimes are also reported by ground observers. Small leaks (around a barrel per minute) that have not yet surfaced are difficult to find and may require pressurization of each segment of the pipeline. In any type of identified leak, the pipeline will remain inoperational until the leak is fixed. Local contractors, identified in the contingency plan for the pipeline, will be used for repair and restoration efforts.

Emmett Beman

Comment: (p. 31) We may be shipping oil in from the Far East and shipping our oil to Japan. Does this make sense?

Response: There is no proposal to ship Elk Hills oil to Japan. The purpose of each of the government's three alternatives is to get the oil to domestic markets.

Comment: (p. 33) Why can't Los Angeles Water and Power and Edison Company get oil from here [Elk Hills] instead of getting it from the other places, paying about $14 a barrel?

Response: By law, the way the government markets the oil is to offer lots or amounts of oil to the highest bidder. What they do

with the oil is determined by the buyer. Anywhere they transport it for refinement are determinations based upon the current market situation.

Comment: (p. 34) What's the government going to do when we need oil and don't have it?

Response: Please refer to Section II of the Naval Petroleum Reserves Production Act (Appendix A of the FEIS) in which Congress directed the government to develop and produce Elk Hills petroleum at maximum efficient rates.

Sam E. Taylor

Comment: (pp. 35-37) How close to an easement can we build? This will affect the value of the property. If you can't build within 50 feet of the right-of-way, it's effectively a 100-foot right-of-way.

Response: Structures may be built right up to the edge of the easement, but not on top of it.

Mr. Greenberg

Comment: (p. 60) What provisions have been made where the pipeline crosses fault zones?

Response: Historically liquid pipelines have been found to survive extremely well in earthquake zones, including fault crossings. The proposed pipeline will be buried underground with sufficient slack to account for anticipated movement. Further, the wall thickness will be designed to take anticipated stresses.

John Freeman

Comment: (p. 62) How deep will the pipes be buried?

Response: Please see the response to Emmett Beman's third question, p. 26 of the San Bernardino Public Hearing.

Comment: (p. 63) Once a route is selected, will detailed county maps be available with the route plotted carefully?

Response: The detailed routes can be found in the Final Environmental Impact Statement, which will be available in local libraries. More detailed information will be available to property owners affected by the proposed project.

Lewis Walker

Comment: (p. 113) What input does the public or the government itself have on making final decisions?

Response: The public has provided formal comments, either written or in a public statement, which have been considered in the preparation of the final impact statement. The Director of the Naval Petroleum and Oil Shale Reserves is the individual making a recommendation to the government based upon the environmental impact statement process and the comments received. A number of recommendations and comments will be adopted while others won't. All comments, however, have been answered by the government in the FEIS.

Basic policy decisions on the rate and timing of oil production from Elk Hills are included in Public Law 94-258 and, therefore, are not a matter of government discretion.

Palmdale, June 29, 1977

Nick Nemer

Comment: (p. 39) The best alternative is to market the oil locally.

Response: The basic drawback is limited refinery capacity and the oil with which the Elk Hills oil would be competing with. The government doesn't control this situation. The government can only offer the oil to a successful bidder, who, in turn, decides where that oil will be refined and sold.

Forrest Hull

Comment: (p. 103) What restrictions will there be on the use of the land in the pipeline right-of-way?

Response: The land may be used for farming, grazing, parking areas, driveways, or roads. No structures may be built over it.

Arthur Helsinger

Comment: (p. 111) How much footage will be required for construction equipment?

Response: The construction equipment will stay within the 50-foot right-of-way.

Clint McBroome

Comment: (p. 120) Is Alternative 3 (the Elk Hills/SOHIO pipeline) the preferred route?

Response: Yes. Although there has been no decision made at this time. After a route is selected, the government has to complete pipeline design and negotiations with landowners and, finally, commence and complete construction before April 5, 1979. Currently, however, the government is publishing the FEIS for both the Elk Hills/SOHIO and Elk Hills/Coalinga alternatives.

Mr. Bostwick

Comment: (p. 123) Assuming that 350,000 barrels a day are pumped out of the reserve, how long would it take to deplete the field?

Response: The pumping rate would not be sustained at the 350 MBD rate. As the field becomes depleted, the rate would decrease. In order to recover the maximum amount of oil, you have to reduce the maximum pumping rate as the field becomes depleted. And the Congressional mandate states that "Best engineering practices [should be used] in removing the oil." If 350,000 barrels per day were pumped until depletion, the reserve would be depleted in about 8 years.

Gary Howell

Comment: (p. 125) When were the pipeline routes designed?

Response: A tentative route selection for each of the three alternatives has been made. However, the pipeline itself and the associated facilities have not been designed. The study report from which the routing selections were made was completed on March 28, 1977.

Mr. Nesel

Comment: (p. 126) Is there currently a preference for any of the routes?

Response: Although the SOHIO route is presently preferred by the Navy, it depends on SOHIO obtaining the necessary permits for its pipeline.

Nick Nemer

Comment: (p. 129) Since the government's pipeline is to be a "common carrier," will the government be paid for the use of their line?

Response: If another firm connected to the government's pipeline, there would be a tariff for the oil involved. This subject area will be covered in the EIS on Elk Hills oil production.

Mr. Nesel

Comment: (p. 131) Are there revegetation plans?

Response: Yes, there are revegetation plans. Please see Section IV. E.1.c. in Volume I of this FEIS for a listing of mitigating measures. The government will also coordinate with the Soil Conservation Service, Forest Service, BLM, and the Fish and Wildlife Service to determine the most appropriate revegetation plans.