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

ENERGY AND MINERALS
DIVISION

October 26, 1981

B-200780

The Honorable Philip R. Sharp
Chairman, Subcommittee on
Fossil and Synthetic Fuels
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

Subject: Issues Affecting Shutdown or Continued Production of the Elk Hills Naval Petroleum Reserve (EMD-82-14)

This is in response to your request of September 15, 1981, that we examine the consequences of the continued production or shutdown of the Elk Hills, California, Naval Petroleum Reserve, a decision called for in provisions of the Naval Petroleum Reserves Production Act of 1976 (P.L. 94-258). (See enc. II.)

Although our analysis was limited by time constraints and delays in obtaining certain key documents, we did identify several issues that should be useful to your Subcommittee in its hearings and deliberations on continued Elk Hills production. We considered impacts on national security, the local economy, and the budget. Summarized below, and discussed in more detail beginning on page 10 of enclosure I, are the pros and cons of what we believe to be major options. In developing these options, we considered the following points:

--Elk Hills, if used for reserve purposes, could help meet vital national security needs and supplement the Strategic Petroleum Reserve (SPR).

--If production continues at the current maximum efficient rate (MER) of 170,000 to 180,000 barrels per day (bpd), Elk Hills will decline quickly as an in-place reserve. Only a full or partial shut-in or allocation to the SPR would maintain the integrity of the reserve concept.

--Compared to a partial shut-in, a full shut-in would cut day-to-day maintenance costs, but would increase startup costs and delay full production in an emergency. Present law authorizes production only at MER or a level sufficient to preserve ultimate reservoir recoverability, which the Department of Energy (DOE)

has determined is about 8,000 bpd. (The administration had considered a somewhat higher rate of production to maintain equipment and operations in a state of readiness.)

--The administration's present plans to allocate the Government's share of Elk Hills production to Department of Defense (DOD) requirements could result in the consumption of most Elk Hills oil in peacetime, nonemergency situations.

--The administration's plans do not include a set-aside for small refiners.

--Any degree of shut-in of Elk Hills would cost the Government substantial revenues.

With these considerations in mind, we believe that there are at least four options:

Option 1--Near-total shut-in (about 8,000 bpd) 1/

Pros--The reserve would be maintained.

--Minimal operating costs would be incurred.

Cons--Estimates indicate that at least 6 months and perhaps as much as 18 months would be needed to bring the reserve back to full production.

--There would be $12 million in mothballing and restart costs.

--DOD and small refiner requirements would not be met through Elk Hills oil.

--$1.6 billion in annual revenues would not be available to offset the current budget deficit.

Option 2--Partial shut-in (about 28,000 bpd)

Pros--The reserve would not be significantly depleted.

--Production could be brought back to MER in 90 days.

--No large startup expense would be incurred.

1/The 8,000 bpd would not be possible initially because the Standard Oil Company of California (Chevron)--which owns about 20 percent of the reserve--is entitled, under the terms of a unit contract, to a minimum of 20,000 bpd for about 18 months.

--Surge capability of about 280,000 bpd (about 100,000 bpd over MER) could be achieved quickly and maintained for about 30 days.

Cons--The majority of annual revenue would not be available to offset the current budget deficit.

--Operating and maintenance costs would not be greatly reduced.

--DOD and small refiners would have limited access to the oil.

Option 3--Full or near-full production with DOD allocation and no small refiner set-aside (present administration proposal)

Pros--DOD might have a secure supply of a portion of its jet fuel requirements, but in significant quantities for only a few years.

--$1.6 billion in revenues would be maintained to reduce the current budget deficit.

Cons--The reserve would be depleted quickly.

--The reserve could be depleted in peacetime, non-emergency situations, when crude surplus might be available for DOD needs.

--Local small refiners might not be able to participate.

--Surge capacity would be negligible (about 10,000 bpd over MER).

Option 4--Full or near-full production with continued 100,000-bpd SPR exchange, and DOD emergency access, along with remaining Federal production available for small refiner allocation

Pros--The integrity of the reserve concept would be maintained.

--Production could be readily diverted to DOD to assure ready access to a secure supply of oil (in the short term).

--Revenues would be maintained.

--Small refiners would have more time to adapt to the eventual loss of Elk Hills supply.

Cons--Surge capacity would be negligible (10,000 bpd over MER).

--Use of Elk Hills oil would occur when other current crude surplus is available and could be utilized to fill the SPR.

--It has not been demonstrated that the exchange is the most cost-effective means of filling the SPR.

There are undoubtedly a number of other options, or variations of the above options, that could be considered. For example, one possible option, which has not been actively considered by the administration, would be open market sales of Elk Hills oil at full production. This would allow for optimal free market activity, and need not be at odds with the national security objectives of options 1 through 4 above if the revenue generated were used to purchase oil for the SPR or DOD. Another possible option would be to produce at some appreciable level, but at less than MER. This would reduce the rate at which Elk Hills would be depleted, but would still make some oil available to meet the needs of the small refiner, or contribute toward current national security needs. Also, most of the options listed above could be modified by instituting a small refiner set-aside.

Small refiner allocations should have little negative effect on national security. Although any oil small refiners consume (indications are that they use about 50,000 bpd of Elk Hills oil) will deplete our reserves, the proceeds of small refiner sales could be used by the Government to purchase SPR oil or even DOD fuel. In this regard DOD apparently believes the viability of the small refiner is a national security factor. (See enc. I, p. 4.) In addition, the small refiner allocations should have no marked budgetary impact as long as their bid prices remain competitive, and receipts go to the treasury.

In summary, no one option completely satisfies all concerns:

--If long-term national security is deemed paramount, then the partial shut-in would probably be favored. A partial shut-in would maximize the strategic value of Elk Hills because not only would the resource be preserved, but also, in the event of an emergency, operations could be resumed in 90 days, and surge capacity would be greater than under any other option.

--Short-term national security considerations might dictate that production be allocated to DOD or the SPR. The past option of exchanging Elk Hills oil for SPR oil enhanced national security because most of the Government's reserve oil was being exchanged for oil for the SPR. The planned DOD exchange for jet fuel would help assure DOD a secure short-term supply, but any oil consumed might not be available for a future supply disruption or emergency.

--If budgetary factors are predominant, then of course full or near-full production would be favored.

--If the small refiner is considered important from either a national security or economic viewpoint, then a small refiner set-aside would be favored.

The legal ramifications of some of the various production levels would have to be considered (discussed on p. 10 of enc. I), because some would require modification of existing legislation. In addition, DOD's proposal to exchange Elk Hills crude for equal quantities of jet fuel might be disadvantageous to some small refiners who are unable to provide the requested amounts of jet fuel and also supply their existing gasoline markets. The impact of this might better be determined after the award of the first solicitation (anticipated in early November 1981), to see to what extent the small refiners are able to compete.

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In carrying out this review, we contacted officials of the Office of Management and Budget, DOE, and DOD in Washington, D.C., and in Elk Hills, California. We also talked with selected oil industry representatives at both of these locations, and with community representatives in the vicinity of Elk Hills. Due to the time constraints for our review, our work relied more heavily than normal on oral evidence and data developed by others. Also, DOE did not make available certain key documents until our review was essentially complete and our report was being processed. These documents contained analyses of such matters as local area economic impacts, financial cost and employment impacts of a shut-in level of operation, and DOE's basis for recommending continued production or shut-in.

In view of the limited time frame, we did not obtain agency comments on this report. As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of the report until 30 days from the date of its issuance to you. At that time we will send copies to the Departments of Energy and Defense, the Office of Management and Budget, interested committees, and Members of Congress, and make copies available to others upon request.

Our observations on the matters you asked us to examine are discussed more fully in enclosure I.

Sincerely yours,

J. Dexter Peach
Director

Enclosures - 2

 ENCLOSURE I

ISSUES AFFECTING SHUTDOWN OR CONTINUED PRODUCTION OF THE ELK HILLS NAVAL PETROLEUM RESERVE

BACKGROUND

The Naval Petroleum Reserve at Elk Hills, California (NPR-1), originally established as a reserve in 1912, has been in a productive status since passage of the Naval Petroleum Reserves Production Act in 1976. Elk Hills production would have ceased automatically on April 5, 1982, had the President not certified the need for continuation. This certification was delivered to the Congress on October 6, 1981. Either house of the Congress may disapprove such continuation of production within 90 days of receipt of this certification.

About 500 million barrels of NPR-1 oil have been produced to date, with remaining recoverable reserves estimated to be nearly 1 billion barrels. The U.S. Government owns 80 percent of the NPR-1 oil. The Standard Oil Company of California (Chevron), because it originally owned land within the area of the reserve, receives about 20 percent of Elk Hills' production and participates in the operation of the reserve with the Government through a unit plan contract.

The Elk Hills production comes from two different zones--the Stevens and the Shallow Oil Zones. The crude from the Stevens Zone is light, high-quality crude oil (30 degrees American Petroleum Institute gravity and above), whereas the crude oil from the Shallow Oil Zone is heavy, lower quality crude oil. About two-thirds of the total production comes from the Stevens Zone and about one-third from the Shallow Oil Zone.

Most documents we examined place the current Federal share of total Elk Hills production at 134,000 bpd, with 100,000 bpd allocated to the Strategic Petroleum Reserve (SPR), and 34,000 bpd provided to the small refiners. 1/ Total Elk Hills production, both Federal and non-Federal, reached 180,000 bpd in mid-1981, and Department of Energy (DOE) documents project a 180,000-bpd level in 1982. Some officials told us that while 190,000 bpd might possibly be reached, 180,000 bpd may have been peak production. If production continues at the maximum efficient rate (MER), it will soon be difficult to classify Elk Hills as a major petroleum reserve, as most of its holdings will have been depleted. Using a peak level of 180,000 bpd, and assuming a 10-percent annual decline, we calculated that in only about 6 years, production will have dropped by almost half, as shown below.

1/As a result of a redefinition of the reserve boundaries, Chevron is entitled to a portion of the Federal share for approximately 1 year, reducing the Federal share by about 12,000 bpd.

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Projected Elk Hills Production

Year	Approximate total production at MER	Federal share of production
	(thousand bpd)	
1981	180	144
1982	162	130
1983	146	117
1984	131	105
1985	118	94
1986	106	85
1987	96	77
1988	86	69
1989	77	62
1990	70	56
1995	41	33
2000	24	19

The daily operations at Elk Hills are handled by 1,000 to 1,500 employees--65 Federal, 600 contracted, and 400 to 900 subcontracted. The two primary activities are production and sales, and exploration and development. Actual and planned revenues for fiscal years 1980 to 1983 are shown below:

Revenues and Expenditures, NPR-1

Fiscal year	Revenues ($ billions)	Expenditures ($ millions)
1980	$1.4	$129
1981	1.7	173
a/1982	1.8	196
a/1983	1.9	175

a/DOE projections.

PRESENT AND PLANNED PRODUCTION ACTIVITIES

Since October 1980, most of the Elk Hills production has been used to fill the SPR through contract exchanges, but allocation of the entire Federal share to the Department of Defense (DOD) is planned by the administration.

Although the SPR transfer from one reserve (NPR) to another (SPR) obviously does not enhance our total reserve situation, it has some merit in that oil stored in the SPR can be extracted much more quickly in time of emergency, and is in a better geographical

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location to replace lost imports. However, a previous GAO report 1/ found that DOE had not demonstrated that using Elk Hills was the most effective way to fill the SPR. Another GAO report 2/ found that the Government has paid a premium ranging from $4.00 to $11.15 for transportation and other adjustments for each barrel of oil that has gone into the SPR. A total of $284 million in premiums has been paid for oil contracted for under October 1980 solicitations. These exchange contracts expire on October 31, 1981, and we have been advised that they will not be re-let. If production continues, all Elk Hills production will be allocated to DOD, and all SPR requirements will be purchased on the open market.

Thus, Elk Hills activities will no longer have an impact on the SPR unless the SPR fill rate falls below an average of 100,000 bpd. In such an event, section 802 of the Energy Security Act provides that Elk Hills production may not be sold or otherwise disposed of except directly to, or by exchange of oil for, the SPR. This requirement does not apply to Elk Hills production for small refiner set-asides, minimal amounts to maintain reservoir protection, or national defense purposes, if authorized by a joint resolution of the Congress.

In February 1981, the Secretary of Defense requested that the 34,000-bpd small refiner set-aside be made directly available to DOD to assure a timely, secure access to oil in the event of an emergency. DOD will buy JP-4 jet fuel from suppliers and in turn will use Elk Hills crude oil to provide those suppliers with a portion of their crude oil requirements. This request was approved, and the contracts should be awarded in November 1981.

Officials of DOD's Defense Fuels Supply Center told us that the 1973 Arab embargo caught the Department unprepared. Elk Hills was in a mothballed status and could not be made fully operational for 9 months. Meanwhile, DOD had to resort to the Defense Production Act and then to DOE's Mandatory Petroleum Allocation Program to satisfy its crude oil requirements.

We were told that problems arose again in 1979, during the Iranian crisis, when bids to supply DOD needs, particularly for jet fuels, decreased. Military readiness inventories were seriously reduced while DOD competed for jet fuel with civilian customers desiring motor gasoline.

These events contributed to the recent allocation agreement between DOE and DOD.

1/"Using Elk Hills and Alaskan North Slope Oil to Supply the Strategic Petroleum Reserve," EMD-81-4, Oct. 21, 1980.

2/"Status of Strategic Petroleum Reserve Activities," EMD-81-37, Dec. 22, 1980.

Such transfers are authorized by section 804(c) of the Energy Security Act, which added a new provision to 10 U.S.C. 7430:

> "* * * The Secretary, at the request of the Secretary of Defense, may provide any portion of the United States share of petroleum so produced to the Department of Defense for its use, exchange, or sale in order to meet petroleum product requirements of the Department of Defense."

The conference report on this legislation stated that:

> "* * * The Conferees would encourage the Department of Energy to abide by existing procurement laws and regulations where they deem it consistent with the objective of this section. It is not the intention of the conferees to prohibit or discourage DOD from abiding by the small business preference provisions of 15 U.S.C. 644 where use of such preferences would not inhibit provision of crude oil from the naval petroleum reserves to the Department of Defense for the purposes of this subsection."

(The relevant portions of 15 U.S.C. 644 provide essentially that small-business concerns shall be awarded contracts when "in the interest of maintaining or mobilizing the Nation's full productive capacity" or to assure that "a fair proportion of the total sales of Government property be made to small-business concerns.")

In making this request, DOD stated its intention of providing the oil to small refiners "to ensure a secure source of crude for our most vulnerable suppliers," and in approving the request, the Secretary of Energy pointed out that this action would "alleviate any adverse market disruptions to these [small] refiners." However, OMB subsequently directed that there be no small refiner set-aside in order to be consistent with the free-market philosophy of the administration.

On July 29, 1981, the Secretary of Defense requested that the remaining Elk Hills production, amounting to 100,000 bpd, also be transferred to DOD, stating that the combined 138,000 bpd 1/ would provide DOD with about one-half of its peacetime requirements of JP-4. On August 24, 1981, DOE agreed in principle to DOD's request. However, because of the approaching decision on shut-in versus continued production at Elk Hills, the Secretary of Energy suggested a transfer date of April 5, 1982. As mentioned, the administration has recommended proceeding with full production, and if the Congress does not disapprove, the sale to DOD could proceed.

1/Consisting of the 134,000 bpd from Elk Hills and about 4,000 bpd from NPR-3 at Teapot Dome, Wyoming.

This exchange would offer two benefits. For every three or more 1/ barrels of crude oil needed to make one barrel of JP-4, DOD would be able to guarantee the refiner one-third of his crude used to produce JP-4. But perhaps more importantly, the exchange would have the effect of tripling the amount of refined product that DOD could control with its crude supplies.

Ironically, this could have both positive and negative effects on national security. DOD would have a secure supply of crude oil available for emergencies, but at the same time would be using oil that could otherwise be placed in the SPR or left in the NPR.

With NPR production previously being exchanged for oil for the SPR, NPR production was not degrading our total reserve posture, being merely transferred from one reserve to another. Now, however, if NPR production were to be consumed for defense needs, our total reserve situation would worsen unless the SPR fill rate were increased by at least the 100,000 bpd formerly coming from the NPR. In addition, our overall reserve situation could improve if Elk Hills oil were to be preserved concurrent with an increase in the SPR fill rate. In pointing out these possibilities, we recognize that the Energy Security Act requires Elk Hills production to be used for this purpose if this minimum fill rate is not achieved, and that currently DOE has taken actions to substantially increase the SPR fill rate.

Possible shut-in plans

DOE is not considering a total shutdown of operations. Although the documents supporting this were not made available to us until too late to analyze, we were told DOE considered cutting the operation down to either 8,000 bpd or a higher level of 25,000 to 28,000 bpd. At the 8,000-bpd level, mothballing of equipment would occur, at a cost of about $5 million. Another $7 million, and 6 to 18 months, would be needed to reactivate. The majority of the employees would be let go, and, as a result, the technical expertise would be lost. The 8,000-bpd level would not be possible initially because under the unit contract, Chevron would receive a minimum of 20,000 bpd for about 18 months.

Another option considered by DOE was to stay at a level of 25,000 to 28,000 bpd. This would maintain the facilities in a state of readiness whereby full production rates could be achieved within 90 days. Technical expertise would be maintained, as DOE estimates that only half (300) of the contract employees would be let go. There would be no mothball or startup costs, but no appreciable

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1/We were provided figures by industry and Government officials ranging from three to six barrels of crude oil to make one barrel of JP-4, the range presumably being influenced by the properties of various crudes and the particular refineries.

reduction (and possibly an increase) in operating and maintenance costs. Again, Chevron would be entitled to 20,000 bpd for about 18 months.

DOE's Office of Naval Petroleum and Oil Shale Reserves, in its study of courses of action available, recommended this latter option. Its analysis, which was not made available to us until our report was in final processing, but which we did discuss with DOE officials, recommended a shut-in to a minimum level of 25,000 to 28,000 bpd in April 1982. DOE officials advised us that while this option would not reduce operating costs appreciably, it would enable them to achieve full production within 90 days in the event of an emergency, and they could "surge" Elk Hills to 280,000 bpd for 30 days if needed. They recommended that a shut-in to 25,000 to 28,000 bpd be maintained until the SPR levels were substantially higher, in about 1985. However, we were told that it was determined at the Secretarial level that the economic costs of a shut-in, and the lost revenues, were of greater importance, and the recommendation was made to continue at full productive levels. Office of Naval Petroleum and Oil Shale Reserves officials told us they endorse this decision.

LOCAL AREA SITUATION

We were also asked to examine the local economic situation in the vicinity of Elk Hills, particularly the reliance of refiners on NPR-1 production. We cannot attempt to present the situation as it affects every local small refiner. However, our limited work suggests that the decision of whether or not to produce, and the use to be made of any production, could have a significant impact on their operations.

Kern County, in which Elk Hills lies, is experiencing a booming growth. The population has grown by nearly 25 percent since 1970. In the city of Bakersfield the growth has been even more dramatic. Its growth of 52 percent over the same period has placed it among the 13 fastest growing cities of over 100,000 population. In addition, Kern County contributes well over half of the State of California's oil production. As of mid-1980 Kern County produced nearly 530,000 bpd. This production employed well over 12,000 people. Elk Hills, with its 170,000 to 180,000-bpd production, contributes nearly one-third of the locally produced oil.

Even though Elk Hills contributes a significant portion of the local oil production, the local economy is growing rapidly and the petroleum industry is strong enough that it appears a shut-in, and particularly a partial shut-in, would not severely damage the economy. In fact, we were told that Elk Hills has had difficulty retaining qualified personnel because of the growth of petroleum operations in the area and the corresponding demand for qualified personnel. Therefore, the loss of jobs would not seem a serious matter. The indirect effects on the local economy in terms of impacts to related industries such as manufacturing are difficult to trace, but again the fact that Bakersfield is growing so rapidly

indicates that demand for goods and services within the area would not be greatly affected by a shut-in at Elk Hills. However, if local small refiners eventually began shutting down, that would perhaps be a more serious matter.

Although we were unable to fully analyze their financial situation, it appears a shut-in of NPR-1 could impose severe hardships on the local small refiners with whom we spoke. And, even if production continues, the reserve could not support their needs indefinitely--as shown on page 2 of this enclosure, production will drop off dramatically, decreasing by half in about 6 years. Further, continued production as envisioned by the administration could present them with serious difficulties.

The production at Elk Hills has placed a considerably higher quantity of light crude oil on the market. As a result, rather than being forced to adjust their production or refineries, the small refiners have relied on Elk Hills production to supply their light crude needs. The current situation, then, finds the small refiners almost totally reliant upon Elk Hills oil with few viable alternatives for other sources of light oil.

Small refiners in the local area have been major users of oil from NPR-1 since production began in 1976. (Currently small refiners use over 50,000 barrels of Elk Hills oil per day--the majority obtained through competitive bid, and the remainder purchased secondhand from other bidders.) They need the high-gravity, "sweet" oil to mix with the locally produced heavy crude in order to refine it into the needed products. Without sweet, light oil such as that from Elk Hills' Stevens Zone, the small refiners would be forced to process the heavier crude. Due to their limited heavy crude refining capability, production of profit-making lighter fuels would be reduced by 60 to 70 percent. In addition, emission standards would not allow them to refine as much of the high-sulfur, heavy crude as they could the lighter Elk Hills crude. Thus, they would have to cut back refining volume.

If NPR-1 production were to cease, the local small refiners could not simply return to their pre-Elk Hills operating situations. Since 1976, local production of light crude from non-Elk Hills sources has steadily declined as the reservoirs have been depleted (local refiners say on the average of 10 percent per year). Currently non-Elk Hills light crude represents only about 5 percent of the local crude supply. At the same time heavy crude has become more plentiful but less attractive due to the tightening of air emission standards mentioned above.

Local small refiners told us they cannot turn to oil markets outside of the local area to meet their light crude needs because there are no common carrier pipelines bringing oil in. The small refiners contend the cost of constructing an incoming pipeline would be prohibitive--they estimate $250 million over a period of 3 to 5 years. (Another local need for Elk Hills light crude is to mix

with the local heavy crude to facilitate oil movement through pipelines.) As a result there are no plans to construct such a pipeline. Thus, apparently the only way the small refiners could get the lighter Indonesian or possibly Alaskan oil would be to truck it in--a proposition that they say adds approximately $2 to the price of each barrel of oil.

If the local small refiners had sophisticated hardware to refine heavy crude, their need for Elk Hills oil would be eliminated. This would also mean they could refine residual fuel oil into lighter, more marketable fuels. However, few small refiners have this capability, and retrofitting these refineries would be very expensive. The small refiners estimate that with the purchase of the equipment and the additional tankage and piping required, the price tag would range from $60 million to $100 million. Even if capital were available and interest rates were lower, the small refiners told us the huge up-front investment and high operating costs would make such a venture uneconomical for companies of their size. One way the local small refiners see to enhance their refining capability is to enter into joint ventures to purchase the necessary equipment. We were told that some of the refineries had already begun to explore the possibility of joint ventures to modify their plants. However, they said that any action they might take in this direction would require a minimum of 3 years' lead time due to the stringent State permitting process.

The DOD allocation could also hurt the small refiners. First, it would replace their set-aside--they told us it would be difficult for them to compete in a worldwide market or gain access to foreign oil, and second, they could not, for the most part, participate in the DOD exchange. The local refiners said they can produce about one-third barrel of JP-4 for each barrel of Elk Hills light crude oil. According to industry officials, lower quality crudes yield a maximum of only one-fifth barrel of JP-4. Thus, in the barrel-for-barrel exchange, small refiners told us they would have to go to the open market and buy two-thirds of a barrel of JP-4 or devote twice as much of their refining capacity and feedstock supplies to JP-4 production. As shown below, a refiner with a capacity of 18,000 bpd would have to devote his entire capacity to producing JP-4 just to receive 4,000 barrels of Elk Hills light crude:

Crude oil refined		Jet fuel yield
4,000 bpd of Elk Hills @ 30% yield	=	1,200 bpd of JP-4
14,000 bpd of other crudes @ 20% yield	=	2,800 bpd of JP-4
18,000 bpd of crude oil refined	=	4,000 bpd of JP-4

The major companies could participate in the barrel-for-barrel exchange because they have the sophisticated refining capability to further refine the residual fuel oil into more marketable products. In addition, most of the local small refiners currently produce gasoline, but could no longer do so if they were to

begin producing JP-4. (The components of JP-4 are gasoline products.) Therefore, they told us they would not be able to supply the local service stations and businesses with the gasoline they have contracted for, nor would they be utilizing the expensive new equipment they installed to meet the recent Environmental Protection Agency requirement to produce unleaded gasoline.

Local small refiners, then, not only would have lost their set-aside but also would have limited accessibility to the DOD portion of the NPR-1 oil. They contend the barrel-for-barrel exchange would exclude nearly all the local small refiners from participating. Thus, the small refiners, as in the SPR exchange, would have to purchase Elk Hills oil second-hand and at a higher price from the major companies who are able to participate.

IMPACT OF ELK HILLS ON THE FEDERAL BUDGET

Since 1976, when the Naval Petroleum Reserve Production Act mandated 6 years of Elk Hills production, deliveries of NPR-1 crude oil have helped cut import dependency. In addition, revenues received from the sale of the oil have improved the balance of payments. Receipts from NPR-1 oil sales also have become a recurring budget item. In fiscal year 1981 they brought in $1.66 billion in Federal revenues; corresponding expenditures were only $173 million. Even for the Federal budget, such income is obviously significant. It aids the administration's recent attempts to move toward a balanced budget, and provides impetus for continued production at Elk Hills.

For the past year, the NPR and SPR have been linked by contracts in which Elk Hills production was exchanged for oil to be placed in the SPR. This link will be eliminated, however, by expiration of the NPR-SPR exchange contracts in October 1981. (See p. 2 of this enclosure.) NPR-1 oil will be used to provide DOD with jet fuel. We were told DOD will buy the Elk Hills oil for this procurement from DOE with budgeted, appropriated funds, and in accordance with its agreement with DOE, DOD will "make appropriate reimbursement to DOE for petroleum transferred to DOD, which reimbursement shall reasonably reflect the fair market value of such petroleum." In addition, the 1981 Omnibus Budget Reconciliation Act of August 13, 1981, has removed SPR funding from the budget. Under terms of section 1034 of the act, the Secretary of the Treasury will establish a special off-budget SPR account of not over $3.9 billion for fiscal 1982 for the acquisition, transportation, and injection of petroleum into the SPR, and the drawdown and delivery from the SPR.

We are opposed to off-budget Federal expenditures such as those for the SPR in fiscal year 1982, since they tend to weaken, from an accounting viewpoint, the true picture of Federal receipts and outlays. However, DOE's plan to no longer link SPR fill to NPR production eliminates the possible fiscal year 1982 accounting inconsistency of counting NPR-1 receipts on budget but keeping SPR expenditures off budget--the two will no longer be related.

LEGISLATIVE IMPLICATIONS

In considering the various production level possibilities, several provisions of title 10 of the United States Code are relevant. Section 7422(c) directs that production from Elk Hills during a 6-year period beginning in 1976, and any extensions thereof, be at the "maximum efficient rate." This rate is defined as the "maximum sustainable daily oil or gas rate from a reservoir which will permit economic depletion of that reservoir without detriment to the ultimate recovery." Other parts of section 7422 in essence provide that the naval petroleum reserves, which include Elk Hills, shall be used and operated to protect, conserve, maintain and test the reserves, when production from the reserves is not authorized.

In theory, then, there should be only one suitable production volume and one conservation (shut-in) level. Existing legislation is apparently more restrictive than the various options the Congress may wish to consider.

OPTIONS

There seem to be no easy options available that can completely satisfy the needs of DOD, the SPR, and the small refiners, and yet optimize our national reserve and budgetary situation. The following considerations are paramount:

--Elk Hills, if maintained as a reserve, could help meet vital national security needs and supplement the SPR.

--If production continues at a maximum efficient rate, Elk Hills will decline quickly as an in-place reserve. Only a full or partial shut-in or allocation to the SPR would maintain the integrity of the reserve concept.

--Compared to a partial shut-in, a near-full shut-in of about 8,000 bpd would cut day-to-day maintenance costs, but would increase startup costs and delay full production in an emergency. The administration considered a somewhat higher rate of production (25,000 to 28,000 bpd) to maintain equipment and operations in a state of readiness.

--The administration's present plans to allocate all Elk Hills production to defense requirements could result in the consumption of most Elk Hills oil in peacetime, nonemergency situations.

--The administration's plans do not include a set-aside for small refiners.

--Any degree of shut-in of Elk Hills would cost the Government substantial revenues.

The Naval Petroleum Reserve Production Act offers two basic options for NPR-1--production at MER, or a near-total shut-in. DOE actually considered two shut-in options--a near-total shut-in with production at 8,000 bpd or a partial shut-in with production at 25,000 to 28,000 bpd.

The executive branch has since decided to continue to produce Elk Hills, and it has discretion over the distribution of the oil, such as allocating it to DOD or the SPR, or other distribution, such as open market sales. As discussed, the administration favors allocations to DOD. In addition, there is at least one other option which DOE apparently did not consider, involving a continued SPR exchange.

The pros and cons of these several options as they affect national security, the budget, and the local economy are discussed below.

Option 1--Near-total shut-in
(about 8,000 bpd)

In accordance with P.L. 94-258, Elk Hills could be shut in if the Congress disapproves the administration's certification of the need for continued production.

Pros

The Elk Hills oil would be left intact as a future resource, strengthening our national security posture. In addition, operating costs would be minimal during the shut-in phase.

Cons

The total shut-in option would be very costly from a budgetary viewpoint. The revenue from Elk Hills oil sales would be lost, while costs to mothball and then, if necessary, reactivate equipment are estimated at $12 million. National security would be jeopardized in the short term because at least 6 and perhaps as much as 18 months would be required to bring the equipment out of mothball status and to recruit and train employees. DOD's emergency needs could not be met in a timely fashion under this scenerio, nor could the Nation's need for emergency supplies of petroleum. The small refiners, as well, would be hurt, as their major source of light crude would be removed.

Option 2--Partial shut-in
(25,000 to 28,000 bpd)

This option is similar to one considered by the Office of Naval Petroleum and Oil Shale Reserves at DOE under which most Elk Hills production would be terminated as an interim measure until the SPR becomes a more viable emergency crude oil source.

Pros

The partial shut-in option would target production at 25,000 to 28,000 bpd. This would maintain the facilities in a state of readiness whereby production rates at MER could be achieved within 90 days, and would not significantly deplete the reserve. Technical expertise would be maintained, as DOE estimates that only half of the contract employees would be let go. There would be no mothball or startup costs. National security needs would be best met under this option because most of the oil would be preserved, yet full production could quickly be achieved if circumstances required.

Partial shut-in would have another benefit. DOE estimates that if Elk Hills were shut in now, surge production of about 280,000 bpd could be reached quickly and maintained for 30 days.

Cons

There would be no appreciable reduction (and possibly an increase) in operating and maintenance costs, compared to total shut-in. In addition, the budgetary impacts of a partial shut-in would be keenly felt. The majority of the revenues from oil sales would be lost. Even the proceeds from the 25,000 to 28,000 bpd would not go into the treasury immediately because Chevron is entitled, under the terms of the unit plan contract, to 20,000 bpd for 18 months. Costs, on the other hand, would remain very high, as much of the operations would be continued.

The partial shut-in option could be better for DOD's and the small refiners' immediate needs than the total shut-in because at least some oil would be produced. Thus, once the Chevron requirement were met, DOD and the small refiners could have access to the Federal share as deemed appropriate. On the other hand, DOD and small refiner access to the oil would be more limited than under the production options discussed below.

Option 3--Full or near-full production with DOD allocation and no small refiner set-aside (the administration's plan)

This option would provide the entire Federal share of Elk Hills production to DOD, who would use it to acquire jet fuel. This is the course of action the administration will take if production continues.

Pros

The allocation of Elk Hills oil to DOD will enhance DOD's immediate needs for a timely and secure source of oil. The budgetary impact of a DOD allocation should not be significant, assuming the unique exchange contracts do not affect the prices bid. DOE would sell the oil to DOD and deposit the receipts in the treasury. DOD, having bought it from DOE, would sell it to the refiners and, in effect, use the proceeds to help pay for its jet fuel.

Cons

Allocation to DOD would be a temporary measure over the long run. With a production decline of 10 percent a year, Elk Hills' contribution to DOD requirements would be halved within about 6 years. DOD would thus eventually be forced to look elsewhere for a feedstock source. In addition, this provision to DOD of a peacetime source of oil would be done during a crude oil surplus and at the expense of maintaining additional crude oil in reserve for a time of emergency, either by placing Elk Hills oil in the SPR, or leaving it in place in the Naval Petroleum Reserve. The high surge rate would also be lost.

The local refiners would apparently suffer--perhaps to the point of not being able to bid successfully for the oil--if the DOD allocation were used as envisioned, i.e., exchanged for an equal quantity of refined jet fuel. Nor would a small refiner set-aside necessarily help their position appreciably, since having to devote a great deal of their capacity to jet fuel is part of their problem. The small refiners would apparently still be able to purchase some Elk Hills crude from the remaining bidders--although obviously at a higher price than if they bid directly on it.

Option 4--Full or near-full production with continued 100,000-bpd SPR exchange, and DOD emergency access, along with remaining Federal production available for small refiner allocation

One possible course of action is to continue to place Elk Hills oil in the SPR, presumably at the 100,000-bpd rate, with continued DOD access in the event of an emergency. The small refiner set-aside could also be continued for production in excess of 100,000 bpd.

Pros

This approach would eliminate the concern of all Elk Hills production being consumed in a nonemergency situation, and it would maximize the retention of oil in one reserve capacity or another, short of a shut-in. Production could be readily diverted to DOD to assure access to a secure supply of oil in the short term. Also, the small refiners would be given time to adapt to changing circumstances.

The Elk Hills revenues could also be available to make SPR purchases, although experience suggests this might be an expensive approach.

Cons

Under this option, depletion of Elk Hills would occur when other current crude surplus is available and could be utilized to fill the SPR. Surge capacity would be negligible.

There are also considerable costs in extracting Elk Hills oil, versus leaving it in place as a reserve, particularly considering the high premiums the Government has been paying under the current SPR exchange to get the equivalent amount of oil into the SPR. Another consideration is that it would be difficult, if not impossible, we understand, to transport SPR oil to the West Coast. And in the event of an emergency, DOD might still be faced with its previous problems of competing with the private sector, and would likely lose the advantage given it by the barrel-for-barrel exchange idea.

The relief to the small refiners would be relatively short range and would decline as production levels dropped towards 100,000 bpd, quickly eliminating any small refiner set-aside (although some of the small refiners could presumably buy the remaining production second-hand from those who could participate, as has been the case in the current SPR exchange).

Other options

There are undoubtedly a number of other options, or variations of the above options, that could be considered. For example, one possible option, which is among those which apparently have not been actively considered by the administration, would be open market sales of Elk Hills oil at full production. This would allow for optimal free market activity, and need not be at odds with the national security objectives of options 1 through 4 above if the revenue generated were used to purchase oil for the SPR or DOD. Another possible option is to produce at some appreciable level, but at less than MER. This would reduce the rate at which Elk Hills would be depleted, but would still make some oil available to meet the needs of the small refiner, or contribute toward current national security needs.

Also, most of the options listed above could be modified by instituting a small refiner set-aside. Small refiner allocations should have little negative effect on national security. Although any oil these refiners consume (indications are that they use about 50,000 bpd) depletes our reserves, the proceeds of small refiner sales could be used by the Government to purchase SPR oil or even DOD fuel, and DOD apparently believes the viability of the small refiner is a national security factor. In addition, the small refiner allocations should have no marked budgetary impact as long as their bid prices remain competitive, with the receipts going into the treasury.

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In summary, no one option completely satisfies all concerns:

--If long-term national security is deemed paramount, then the partial shut-in would probably be favored. A partial shut-in would maximize the strategic value of

Elk Hills because not only would the resource be preserved, but also, in the event of an emergency, operations could be resumed in 90 days, and surge capacity would be greater than under any other option.

--Short-term national security considerations might dictate that the production be allocated to DOD or the SPR. The past option of exchanging Elk Hills oil for SPR oil enhanced national security because most of the Government's reserve oil was being exchanged for oil for the SPR. The planned DOD exchange for jet fuel might help assure DOD a secure short-term supply, but would not be available for a supply disruption or emergency.

--If budgetary factors are predominant, then of course full or near-full production would be favored, but the options for distribution could have some effect on other considerations.

--If the small refiner is considered important from either a national security or economic viewpoint, then a small refiner set-aside would be favored.

The legal ramifications of some of the various production levels would have to be considered, because some would require modification of existing legislation. Current law authorizes only production at MER, or at a shut-in level, when MER production ceases. If the Congress were to prefer a different level of production, such as the 28,000-bpd standby level or any other appreciable level of production above or below MER, title 10 of the U.S. Code would have to be amended.

In addition, DOD's proposal to exchange Elk Hills crude for equal quantities of jet fuel might be disadvantageous to some small refiners who are unable to provide the requested amounts of jet fuel and also supply their existing gasoline markets. The impact of this might better be determined after the award of the first solicitation (anticipated in early November 1981), to see to what extent the small refiners are able to participate.

ENCLOSURE II

U.S. HOUSE OF REPRESENTATIVES

SUBCOMMITTEE ON FOSSIL AND SYNTHETIC FUELS

COMMITTEE ON ENERGY AND COMMERCE

WASHINGTON, D.C. 20515

September 15, 1981

Mr. Milton Socolar
Acting Comptroller General
General Accounting Office
441 G Street, N. W.
Washington, D. C. 20548

Dear Mr. Socolar:

As you are aware, production must cease for the Naval Petroleum Reserve at Elk Hills, California on April 5, 1982 unless the President certifies the need for continuation. This certification must be delivered to the Congress before October 6, 1981; otherwise, production automatically stops. After receipt of certification, Congress has 90 days to adopt a resolution for disapproval; otherwise, the President's certification stands.

Elk Hills generates over $2 billion dollars a year in revenue for the government. Therefore, its impact on the government and its operations is significant. I would appreciate it if your staff would complete a policy and audit review of the consequences of the continued production or shutdown of the Naval Petroleum Reserve. Topics you should address should include, but not be limited to:

1) $2 million in receipts will be lost to the government. To what extent should this revenue loss be considered in the decision to continue or to stop production?

2) The California small refiners have become very dependent on Elk Hills sweet crude over the past six years. Is it appropriate to continue production to satisfy their needs during this period of crude oil surplus?

3) Elk Hills is a crude reserve; therefore, is it advisable to deplete a national petroleum reserve during a time of crude surplus while continuing to purchase oil to fill the Strategic Petroleum Reserve?

4) Is it logical or consistent, from a budgetary perspective, to fill the SPR with off-budget expenditures while depleting the NPR and counting these receipts on-budget?

ENCLOSURE II

Mr. Milton Socolar
September 15, 1981

5) Elk Hills is very near its maximum production and in a year or two will start on its production decline curve. For national security, should the Reserve be shut in while at its maximum production rate?

6) What are the problems with an extended shutdown of the NPR? Would the facility deteriorate over a period of time if not properly maintained?

7) If Elk Hills were shut down, what would the cost be to the government in terms of force reductions and other operating expenses?

I would appreciate it if you would complete your staff report in two to three weeks. Early in October, the Subcommittee intends to hold a hearing on this issue.

At that time, I will ask the General Accounting Office to provide a witness to further discuss this issue and respond to questions on that subject. My staff will advise you on the time and place for this hearing.

If you should need additional information to respond to this request, please contact Roger Staiger of the Subcommittee staff at 225-0320. Your continued work for this Subcommittee is sincerely appreciated.

Cordially,

Philip R. Sharp
Chairman

PRS/rs