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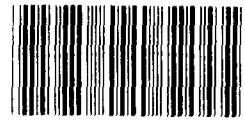
Fact Sheet for the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives

November 1987

NAVAL PETROLEUM RESERVE-1

Government and Industry Comments on Selling the Reserve



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United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-208196

November 23, 1987

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

Dear Mr. Chairman:

As requested in your January 29, 1986, letter and in subsequent discussions with your office, this fact sheet discusses (1) the need for the Elk Hills, California, Naval Petroleum Reserve (NPR-1) as an oil reserve for the Department of Defense and (2) the potential impacts the proposed sale of the government's ownership interests could have on industry groups that purchase or use NPR-1 light crude oil. It also presents information on potential impacts of such a sale on California's energy security and on the possibility that a foreign interest may buy the reserve. These same matters are discussed in the Department of Energy's June 1987 report to the Congress entitled Divestiture of the Naval Petroleum Reserves.

In summary, we found the following:

- The Defense Department maintains that in the event of an oil supply disruption, quick access to a source of oil is important to maintain military readiness. Defense views the Naval Petroleum Reserve (NPR) as a preferred supply source because other emergency provisions require approvals that are external to its control. The Energy Department, however, believes that market forces and emergency options available to Defense other than NPR-1 would be sufficient to meet defense fuel supply needs.
- Pipeline companies, independent producers, and small and independent refiners where NPR-1 is located are concerned that the sale of the reserve may force some refiners to reduce or cease production, and that pipelines may be restricted in the amount of oil that they can transport. The Energy Department acknowledges this concern, and further points out that even if only 4 or 5 percent of the state's independent refining capacity was lost due to the loss of NPR-1 oil, competition would be affected in the highly concentrated California market.
- California state energy officials expressed little concern about the proposed sale's impact on the state's energy security. They do not expect

NPR-1 to be shut-in under a different owner and believe that from a state energy security perspective, any reductions in NPR-1 production can be made up by increased shipments from Alaska or other import sources.

- Energy's current sales plan for NPR-1 includes soliciting offers from foreign as well as domestic buyers. Under existing federal laws, however, NPR petroleum production may not be exported in the absence of a Presidential finding that exports of domestically produced oil will not diminish the total quantity or quality of petroleum available to the United States.

To obtain the information you requested, we interviewed officials located at the NPR-1 site in California from Energy; Chevron, U.S.A.; and Bechtel Petroleum Operations, Inc., who conduct the day-to-day maintenance, operations, and management of NPR-1 through a contract with Energy. We interviewed Energy and Defense officials in Washington, D.C. Interviews were also conducted with officials representing pipeline companies, independent oil producers, and small and independent refiners, as well as the various associations affiliated with these organizations; officials of the Department of Commerce and Energy Information Administration; and various California state and county officials.

In addition to interviewing officials of the above organizations, we reviewed pertinent agency files and documents. We also reviewed reports provided by the oil industry and the state of California. We discussed the accuracy of this fact sheet's contents with federal and nonfederal officials and made revisions as appropriate.

As arranged with your office, unless you publicly announce its content earlier, we plan no further distribution of this fact sheet until 30 days from the date of issuance. At that time we will send copies to the Secretaries of Energy and Defense, and interested congressional committees. We will also make copies available to others upon request.

If you have any questions about this fact sheet, please call me at (202) 275-8545. Major contributors are listed in appendix II.

Sincerely yours,

Flora H. Milans

Flora H. Milans
Associate Director

Contents

Abbreviations

AIRA	American Independent Refiners Association
DOD	Department of Defense
DPA	Defense Production Act
GAO	General Accounting Office
MER	Maximum Efficient Rate
MMP	Master Mobilization Plan
NPR	Naval Petroleum Reserve
NPR-1	Naval Petroleum Reserve, California
P.L.	Public Law
RCED	Resources, Community and Economic Development Division (GAO)
SPR	Strategic Petroleum Reserve

Introduction

NPR-1, located in the San Joaquin Valley in Kern County, California, is the seventh largest domestic producing oil field and is jointly owned by the federal government and Chevron, U.S.A., Inc. The government owns about 78 percent and Chevron about 22 percent of the field. They participate jointly in the operation of NPR-1 through a unit plan contract which specifies how the ownership and the production, revenues, and expenses from the operation are shared.

NPR-1 was originally established in 1912 to provide a source of petroleum for the Navy as vessels were being converted from coal to oil power. Crude oil production from the field started in 1919 and continued at various levels. After World War II, the field was shut-in or it produced at the minimum level necessary to prevent damage to the field. Following the Arab oil embargo in 1973-74, production was restarted in 1976. Appendix I presents additional background information concerning NPR-1.

The administration's proposed budget for fiscal year 1988 has included revenues of about $3.3 billion from the sale of NPR-1 (and the smaller Naval Petroleum Reserve in Wyoming). The Energy Department suggests that the government's ownership interest be sold to several buyers. About 30-40 percent would be sold to an industry buyer who would be the operator of the field; another 30-40 percent would be sold at a sealed bid auction in 1-percent increments with a minimum purchase of 2 percent; and the remaining 20-30 percent would be sold in a public offering through a royalty trust arrangement.

NPR-1's Value as a Defense Department Oil Reserve

Defense officials believe that quick access to a supply of crude oil or refined products during a supply disruption is critical in maintaining military readiness. Four primary legislative and management measures are currently available to Defense, including access to NPR oil, to help it obtain necessary fuel supplies if another oil shortage should occur. However, because the implementation of all of these measures except NPR access is dependent on elements that are external to Defense and not under its control, Defense officials stress the importance of retaining the NPR unless an alternate supply of oil of comparable size and availability can be assured.

The Energy Department, however, disagrees with Defense's assessment. The Energy Department believes that Defense requirements for refined products represent only a relatively small part of U.S. overall energy security requirements and that with the other options available, Defense's fuel requirements can be met in normal and emergency periods without continued federal ownership of the NPR.

Defense Department's Views on the Sale of NPR-1

On May 5, 1987, Energy requested the Defense Department's views on the proposed sale of NPR, and on September 21, 1987, the Secretary of Defense responded. In his response, the Secretary stated that as part of an NPR sale, Defense must have access to crude oil reserves under terms and conditions that currently exist for NPR oil. He further stated that immediate access to crude oil during the earliest stage of a supply disruption is necessary to minimize effects on critical operations and to protect military war reserve stocks.

While the Secretary of Defense proposed that an alternate source of crude oil could be the Strategic Petroleum Reserve (SPR), he expressed concern about the availability of SPR oil early in an oil shortage because an SPR drawdown decision is contingent on a Presidential finding that must take into account competing domestic and international considerations. The Secretary noted that it is because of the uncertainties attached to a drawdown decision that access to the NPR remains part of the Defense Department's Master Mobilization Plan (MMP), as its value to Defense lies in its quick accessibility. The Secretary further stated that to expect SPR oil to be available within the same time frame in which NPR oil can be obtained is unrealistic unless separate administrative and possibly statutory arrangements are provided.

NPR-1 Production Is Still Relevant to Meeting Defense Fuel Needs

Defense recognizes that NPR-1 is a depleting resource and production will decline in future years. (See table I.1 in app. I.) According to an official in the Defense Energy Policy Office, Office of the Secretary of Defense, however, NPR-1 could provide significant assistance to Defense under continued government ownership in meeting its petroleum requirements during periods of crisis. Defense's position is contained in its MMP and Defense Energy Management Plan, dated September 1985. The plan contends that at the current rate of production, NPR-1 crude oil provides Defense with reasonable supply assurance. Defense demonstrates this by comparing its 1979 fuel procurement shortfall with the government's share of NPR-1 oil production. In the midst of that crisis, Defense experienced a 29-percent shortfall (about 21 million barrels of product) in offers to its domestic and overseas fuel solicitations. If the 21-million-barrel product shortfall in contract coverage is translated into consumption, this equates to about 60,000 barrels per day. On a barrel-for-barrel basis, this was only half of the government's share of NPR production at that time. Even though the NPR production rate has declined to yield the government about 90,000 barrels a day, the 1979 Defense fuel procurement shortfall equates to only two-thirds of this amount. Expressed in terms of Defense's current petroleum product consumption of 485,000 barrels a day, which is comparable to the 1979 period, NPR-1 production (on a barrel-for-barrel basis) represents about 19 percent of Defense's worldwide consumption and almost 50 percent of its West Coast and Pacific requirements.

Crude Oil Shortfalls Are Still a Possibility

Defense further stated that despite the current availability of crude oil, shortages in the near future are still possible and a shortfall in fuel procurements similar in magnitude to the 1979 experience could be repeated. Two recent reports have pointed out that the United States is still vulnerable to oil supply disruptions. The first is Energy's March 1987 report to the President titled Energy Security, which points out that oil supply disruptions caused by revolutions, regional wars, or conflicts instigated by outside powers in the Middle East could again disrupt oil supplies and cause economic hardship for the United States and other countries. In most severe cases, it states our military preparedness could be affected. The second is a National Petroleum Council February 1987 report titled Factors Affecting U.S. Oil and Gas Outlook that points out that concentration of oil reserves in the politically unstable Middle East increases the likelihood of supply disruptions in the future. According to the National Petroleum Council, these potential supply disruptions create great concern about U.S. national security from the standpoint of

defense, diplomatic options, and the economic well being of the American people.

Measures Available to Defense to Access Petroleum Products

Following the 1979 experience with an oil supply disruption, the Congress acted to improve the Defense Department's capability for responding to an energy emergency by supplementing authority already available under the 1950 Defense Production Act (DPA). These authorities, and administrative action available to Defense with respect to the SPR, serve as the basis for Defense's current plan to expand its energy supplies in the event of a mobilization from peacetime preparedness to a war-fighting position and/or a petroleum supply disruption.

A discussion of each of the measures available to Defense is provided below. As viewed by Defense, these measures are incremental in nature and are based on ascending levels of Defense and Defense-related industry requirements.

Waiver of Procurement Restrictions for Any Petroleum Purchases

The Secretary of Defense is authorized by 10 U.S.C. 2404(a) to waive the application of any provision of law prescribing procedures to be followed in the formation of contracts. This authority can be exercised if the Secretary determines that (1) market conditions have adversely affected (or will in the near future adversely affect) Defense's acquisition of petroleum and (2) the waiver will expedite or facilitate the acquisition of petroleum for government needs. The waiver authority extends to purchases of both crude oil and refined petroleum products. Defense officials view this waiver provision as the first measure to be used in an energy emergency.

Drawdown of the NPR

If Defense's petroleum product requirements are not met by exercising its procurement waiver authority, Defense plans to exercise its authority under 10 U.S.C. 7430, as amended by the Energy Security Act (P.L. 96-294). This law authorizes Defense to request Energy to transfer (with reimbursement) any portion of the government's share of NPR's authorized production. Defense would then offer this crude oil to refiners in exchange for petroleum products.

Drawdown and Use of SPR Oil

If an oil supply disruption is not severe enough for Energy to already be withdrawing and selling SPR oil, the Secretary of Defense can recommend that the Secretary of Energy take the necessary actions that

would lead to a drawdown and competitive sale of SPR oil. If this action does not result in sufficient crude oil flowing into the private sector for refiners to meet Defense's product needs, the Secretary of Defense could further request that all or part of the 10 percent of the total monthly volume sold that the Secretary of Energy has discretion to dispose of be distributed to Defense. This quantity would then be exchanged with refiners for petroleum products similar to arrangements for the NPR oil.

Use of the Defense Production Act

If enough crude oil or petroleum products are not available after Defense has tried the above authorities, Defense would request the Secretary of Energy to invoke the DPA. Under this act, refiners with defense contracts would be directed to meet defense requirements on a priority basis and refiners without contracts would be directed to accept new defense contracts and cover minimum essential military petroleum product requirements stated therein on a priority basis. Defense officials said that when military forces are deployed, or in wartime, the act would be invoked for energy priority assistance. This would assure that military fuel requirements would be met.

Energy and Defense Have Different Views Over NPR Need

The Energy Department's report on Energy Security notes that Defense uses about 2 to 3 percent of total petroleum product consumption for peacetime military use. It also points out that while this percentage would increase by two or three times during a conventional military conflict, military fuel use would still represent a relatively small proportion of total U.S. consumption.

In its June 1987 report on Divestiture of the Naval Petroleum Reserves, Energy recognizes the defense requirements issue and addresses three of the four mechanisms available for satisfying defense fuel requirements. Energy's views on these mechanisms and Defense's counter responses, where applicable, are discussed below.

Waiver of Procurement Regulations

Both agencies agree that Defense experienced some difficulty in obtaining adequate fuel supplies in past oil disruptions and that Defense has authority to streamline its procurement process in times of fuel shortages to enhance its competitive position in the petroleum products marketplace. While Energy postulates that procurement waiver authority would enable Defense to acquire products more easily on the open market than under normal procurement procedures, Defense officials are not as optimistic. These officials point out that the waiver authority

has never been tested in a crisis situation and it is not possible to quantify the additional amount of fuel that would be made available by using this authority.

Use of SPR Oil

The Energy Department states that drawdown of the SPR can provide substantial assurance that defense fuel needs are satisfied. Three direct or indirect benefits are postulated. The Energy Department views SPR oil as (1) increasing the level of supply available to the marketplace thus making it easier for suppliers to meet defense contract deliveries, (2) facilitating procurement and reducing the cost of defense purchases, and (3) providing Defense or its suppliers with direct access to all or part of the 10 percent of an SPR drawdown available to the Secretary of Energy for distribution.

Defense has recognized the benefits of adding SPR oil to domestic supplies and the potential for direct access to part of the SPR oil. However, Defense officials also recognize that an SPR drawdown is contingent upon a Presidential finding that such action is necessary to meet a severe supply disruption and, at the present time, there are no special provisions for allocating any crude oil to Defense for use during a shortage.

Use of the DPA

While Defense considers obtaining fuel products under the DPA as a last resort, Energy views it as the primary mechanism for guaranteeing that fuel needs for Defense are met during a shortage. Energy's report states that both the priority rating orders and priority performance orders that can be authorized under DPA can be applied on a case-by-case basis for localized shortages and on a programmatic nationwide basis.

Defense officials agree that the DPA would be invoked to meet fuel requirements when military forces are deployed or in wartime. During a peacetime or premobilization energy shortage, however, they believe that Defense may not be successful in its bid to have the DPA invoked for energy priorities assistance. Supporting Defense's concerns is the Energy Department's Federal Energy Resource Management Manual, which contains procedures to be followed in submitting a request for invoking the DPA for energy priorities assistance. The manual emphasizes reliance on the marketplace in responding to energy emergencies and states that Energy will first seek to meet Defense's fuel requirements by encouraging voluntary actions.

Use of the NPR

Energy's report on divestiture did not consider retaining the NPR as a source of crude oil to help meet Defense's fuel needs in a shortage situation. Instead, Energy has taken the position that the Department of Defense

> "has priority access to oil supplies under conditions established by Congress and the President, and in an emergency DOD [Department of Defense] requirements will be fully met as a matter of national policy. Satisfaction of these requirements is not dependent on a dedicated source of crude oil such as NPR-1 and NPR-3."

As stated previously, Defense officials believe that a dedicated source of crude oil is critical in meeting Defense fuel requirements. Consequently, the Secretary of Defense has communicated to the Secretary of Energy that access to crude oil reserves is an issue which needs to be resolved in any NPR sale.

Views of Industry, State, and Local Groups on the Impacts of Selling NPR-1

NPR-1 produces crude oil, natural gas, and natural gas liquids, but the major concern of small and independent refiners, pipeline companies, and independent oil producers is continued access to NPR-1 oil. NPR-1 crude oil is used primarily in central and southern California since most of the oil moves by pipeline to the Bakersfield, California, area or to the Los Angeles area, where it is delivered to refiners along the pipeline. If production were reduced, shut-in, or retained by a new owner, then small and independent refiners, pipeline companies, and independent oil producers believe they could be adversely affected since they depend on the availability of NPR-1 light oil in their operations.[1] Energy's June 1987 report to the Congress also recognizes this and suggests a "multi-market" sales approach that would avoid potentially anticompetitive consequences by offering the government's interest to several categories of buyers, which would include small and independent refiners.

Figure 3.1 shows the name and location of the refiners and common carrier and privately owned pipeline companies that could be affected.

Information on Small and Independent Refiners

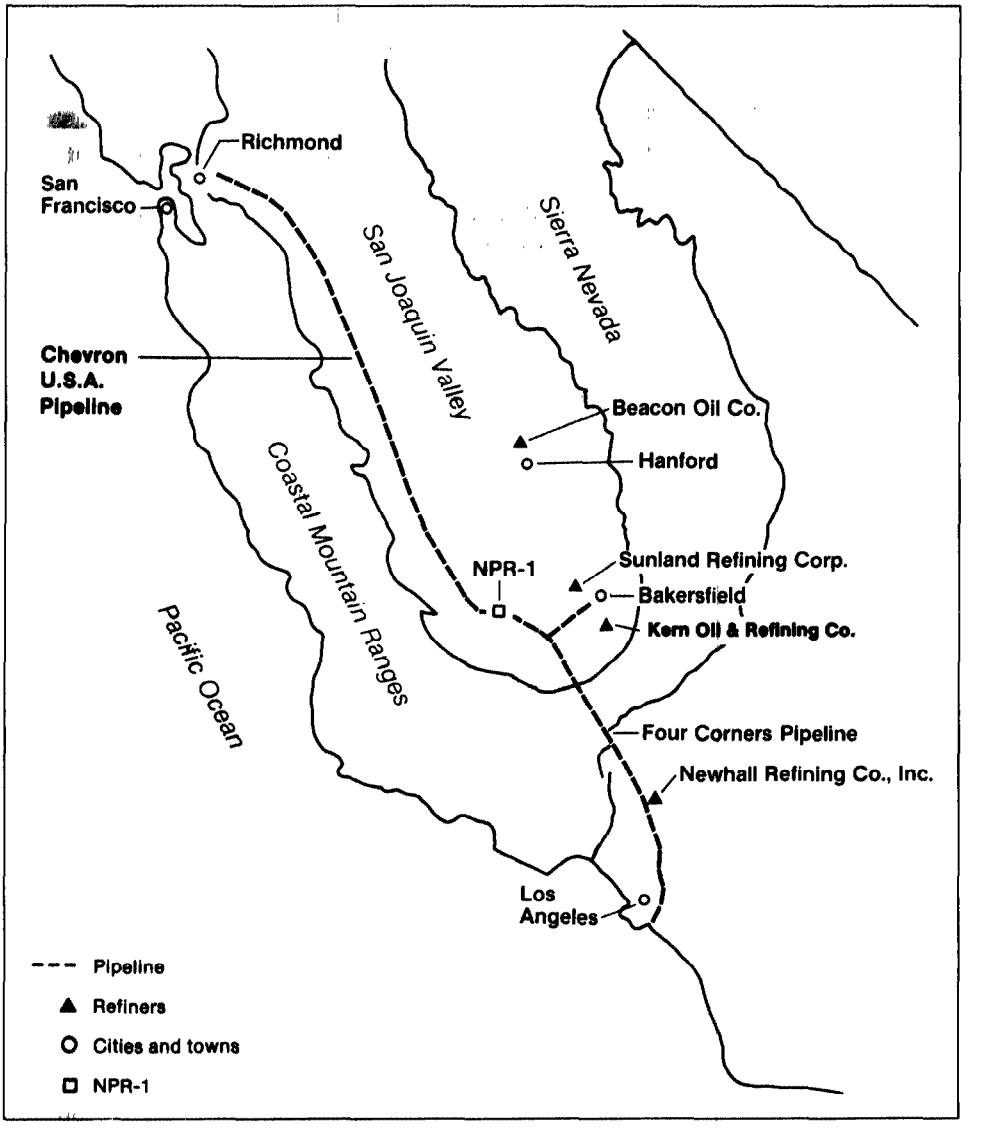
Industry and state officials were of the opinion that the sale of NPR-1 could affect small and independent refiners in central and southern California who have been the major purchasers of NPR-1 crude oil. For some refiners, particularly the landlocked San Joaquin Valley refiners, NPR-1 crude oil has been the largest single source of high-quality, light crude oil. Crude oil of similar quality and quantity is in limited supply in the central/southern part of California.

From November 1981 through March 1987, small and independent refiners purchased about 53 percent of the NPR-1 crude oil sold by the government, and at times purchases were as high as 82 percent. The American Independent Refiners Association (AIRA), West Coast Division,[2] estimated that during this period, small and independent refiners, through purchases from resellers or exchanges with other refiners, acquired as much as an additional 25 percent of NPR-1 crude oil production. AIRA further estimated that up to four inland refiners, with total refining capacities of about 72,000 barrels per day, may be forced to close if NPR-1 oil is not available to them. (Table 3.1 shows NPR-1 crude oil purchases by the

[1]Our report Naval Petroleum Reserve No. 1—An Assessment of Production Alternatives (GAO/RCED-84-180, July 30, 1984) reported similar information.

[2]A national trade association of independent petroleum refiners. Its West Coast Division has 11 members.

Figure 3.1: Map of NPR-1 Showing the Location of the Essential Pipelines and the Four Principal Refiners That Depend on NPR-1 Light Oil.



Source: Prepared by GAO based on information from industry sources.

four refiners that could be affected most by a sale of NPR-1 and their total refining capacities.)

The main reason why inland refiners may be forced to close mentioned by AIRA and officials of the four refiners was that the inland location limited these refiners' access to imported crude, which includes access to Alaskan crude. The imported crude would have to be transported by trucks since there are no inbound pipelines. This requirement may not

be economically feasible for the inland refiners. California state energy officials we contacted generally agreed with the impacts cited by AIRA.

Table 3.1: NPR-1 Crude Oil Purchases by Four Refiners Identified as Those Most Affected If NPR-1 Is Sold

		Contract period				
Refiner	Refining capacity[a]	10/1/85 to 4/1/86	4/1/86 to 10/1/86	10/1/86 to 1/1/87	1/1/87 to 4/1/87	4/1/87 to 7/1/87
Beacon Oil Company	17,300	5,000	1,000	9,220	2,500	9,500
Kern Oil & Refining Co.	21,000	12,000	9,279	(c)	(e)	(f)
Sunland Refining Corp.	12,000	4,000	(b)	(d)	(b)	(b)
Newhall Refining Company, Inc.	21,400	8,307	15,000	9,500	4,130	6,000

[a]Crude capacity is shown in barrels per calendar day.

[b]The company did not submit a bid; however, an affiliated company submitted winning bids for NPR-1 oil for use by Sunland for two of the three sales periods.

[c]A bid for 13,000 barrels per day was submitted, but the company did not win an award. Part of this amount was subsequently purchased from traders. The refinery operated at reduced capacity during this period.

[d]A bid for 8,000 barrels per day was submitted, but the company did not win an award.

[e]A bid for 10,000 barrels per day was submitted, but the company did not win an award. Part of this amount was subsequently purchased from traders. The refinery operated at reduced capacity during this period.

[f]A bid for 8,000 barrels per day was submitted, but the company did not win an award. However, 4,000 barrels per day of NPR-1 oil was obtained from an affiliated company.

Note: Officials of the four refiners that could be affected most by a sale of NPR-1 said that when they did not receive an NPR-1 oil contract award or received an award for less oil than they bid on, (1) light crude was obtained during the above periods from affiliated companies (parent, subsidiary, etc.) and trading companies which had purchased light oil from NPR-1 or other sources or (2) they temporarily operated at a reduced capacity. Two of these officials stated that prior to 1976, they obtained light crude from fields whose production has since decreased or from fields whose production is now controlled by major oil companies. One refiner converted to light crude refining in 1981 and has since been dependent on NPR-1 for oil.

Energy's June 1987 report points out that the California crude oil market is dominated by seven major oil companies, while the refining sector is also concentrated—with a substantial share of the market in the hands of eight companies, seven of which are the major crude producers. The major companies account for about 76 percent, while the independents account for about 24 percent of the state's refining capacity. Further, small refiners represent about 4 to 5 percent of California's total refining capacity and about 17 to 20 percent of independent refiners' capacity. The report emphasizes that while 4 to 5 percent of the state's refining capacity might be considered low in a more competitive market, a 4- to 5-percent loss in the independent sector would raise a concern about competition in the state's highly concentrated market.

Information on Pipeline Companies and Independent Producers

NPR-1 light crude is blended with heavy crude to facilitate the movement of heavy crude through unheated pipelines. If NPR-1 were sold to a buyer who did not sell NPR-1 crude oil in the open market, pipeline companies and independent heavy crude oil producers who use the pipelines would be affected by the reduction in the amount of heavy crude that could be transported by pipeline. The Four Corners Pipe Line Company is the only common carrier pipeline available for moving crude oil from the San Joaquin Valley to the Los Angeles Basin area; the company moves oil of 25 degrees gravity[3] or higher.[4]

According to a Four Corners Pipe Line Company official, about 43,000 barrels of government and Chevron NPR-1 oil is moved daily through its line to the Los Angeles area, most of which is the oil the government sold. This official indicated that for every two barrels of NPR-1 light oil, about one barrel of heavy oil can be blended and transported in the pipeline. The importance of the light crude to the pipeline company was pointed out by this official when the government cut production at NPR-1 20,000 barrels a day in June 1986. As a result, the pipeline company reduced its daily volume by 30,000 barrels per day. Similar comments were provided by the California Independent Producers Association on the need to make NPR-1 crude oil available to the pipeline company so that the heavy crude oil produced by its members can be transported.

Information on California's Energy Security

The impacts of a sale of the government's interest in NPR-1 on California's energy security again depends on who purchases NPR-1 and how it is used. As shown in appendix I, the government's share of NPR-1 crude oil production (about 86,000 barrels per day in 1986) amounts to about 8 percent of California's production and 12 percent of production in the San Joaquin Valley. While concerns have been expressed that new buyers could reduce production or not make production available to current customers, industry and California state energy officials indicated to us that they believe production would continue or possibly be increased under new ownership. They generally believe that the petroleum would still be available in the state although the sales and distribution pattern could be different.

[3]Gravity is the standard adopted by the American Petroleum Institute for measuring the density of a liquid, expressed in degrees.

[4]The company also moves NPR-1 light crude oil to the Bakersfield area, almost all of which is from the government's share of NPR-1. This oil is blended with heavy oil by refiners in Bakersfield and used by the refiners or put back in the pipeline for shipment to the Los Angeles Basin.

If production were reduced, a California state energy official stated that the shortfall would be made up by Alaskan, Outer Continental Shelf, and to a much lesser degree, imported oil. He stated, however, that these sources would not help the inland refiners, who do not have pipeline access to these oil supplies or cannot use oils of these qualities in their refineries.

Effects of a Potential Sale to a Foreign Buyer

Concern was expressed by the AIRA that a sale to a foreign affiliated company which elected to export the crude oil could deprive the local market of a much needed crude oil supply. The Energy Department has identified foreign affiliated companies as potential buyers of NPR-1. According to preliminary figures compiled by the Energy Information Administration, as of December 31, 1986, about 16 percent of domestic crude oil and natural gas liquids reserves are owned by foreign-affiliated companies. They account for about 15 percent of total United States production of crude oil and natural gas liquids.[1]

The export of NPR-1 oil, however, does not appear to be a matter for concern. Under existing federal laws, NPR-1 petroleum production may not be exported in the absence of a Presidential finding that exports of domestically produced oil will not diminish the total quantity or quality of petroleum available to the United States. Also, the President is authorized to impose general restrictions on the export of domestically produced petroleum.

A petroleum official at the Department of Commerce and a California energy official stated that it was highly unlikely that permission would be granted to a foreign-affiliated company or a U.S. company to export oil from NPR-1. In addition, an Energy emergency preparedness official pointed out that from a military fuel needs standpoint, it would make no difference who owns NPR-1. If the DPA were invoked, Defense would get access to NPR-1 production.

[1]The Energy Information Administration uses the Department of Commerce definition of a foreign-affiliated company as a U.S. business enterprise in which a single foreign investor owns at least 10 percent of the voting securities or the equivalent.

Background on NPR-1

Following the Arab oil embargo in 1973-74, the Naval Petroleum Reserves Production Act of 1976 (P.L. 94-258, Apr. 5, 1976) was enacted to authorize crude oil production at NPR-1 at the maximum efficient rate (MER) for 6 years.[1] After 6 years, the President could extend production in intervals of up to 3 years after certifying that continued production is in the national interest. In accordance with the act, the President informed the Congress in 1981, and again in 1984, of his certification that it was in the national interest to continue production of NPR-1 at the maximum efficient rate for another 3 years. The current 3-year period ends on April 5, 1988.

Petroleum production at NPR-1 can be used, stored, or sold. If the government determines that the petroleum should be sold, its share of petroleum is offered at public sale to the highest qualified bidder(s) without regard to federal, state, or local regulations controlling sales of petroleum products.

NPR-1 Production

NPR-1 crude oil production comes primarily from two geologic zones—the Stevens Zone (a light, high-quality crude oil) and the Shallow Oil Zone (a heavier, lower quality, crude oil). The zones also produce natural gas and natural gas liquids. Actual production for fiscal years 1985 and 1986 and production estimates by Energy in its current long-range plan for fiscal years 1987 through 1993 are shown in table I.1.

[1]The maximum sustainable daily rate that permits economic development and depletion of the reservoir without detriment to ultimate recovery.

Table I.1: NPR-1 Production

Fiscal year average	Oil (barrels per day)	Natural gas (million cubic feet per day)	Natural gas liquids (thousand gallons per day)
1985	131,000	369	683
1986	115,525	349	633
1987 (est.)	113,055	378	546
1988 (est.)	120,555	415	609
1989 (est.)	121,580	418	615
1990 (est.)	117,565	413	610
1991 (est.)	115,308	403	596
1992 (est.)	115,250	391	580
1993 (est.)	104,991	365	541

Note: The estimated petroleum production figures are based on normal MER production declines adjusted for the application of enhanced oil recovery methods where appropriate. If the enhanced oil recovery applications are not as successful as envisioned or are not utilized due to budget constraints, NPR-1 production will decline at a faster rate than estimated. In that case, fiscal year 1993 oil production is estimated to be about 56,000 barrels per day based on Energy's fiscal year 1985 long-range plan.

NPR-1 Oil Sales

During the period December 1981 to December 1986, part of the government's share of oil production was sold to the Department of Defense as a test of its ability to exchange crude oil for finished petroleum products.

The government sells its non-Defense share of NPR-1 crude oil production on the open market by competitive bidding. Under current procedures, the Department of Energy solicits bids from interested parties every 3 months through an invitation for bid and awards contracts to the highest responsible bidders until all available oil is sold. Prior to October 1, 1986, the contract period was for 6 months.

In addition to Defense, purchasers of NPR-1 oil have included major refiners, small and independent refiners, and trading companies. The mix of purchasers varies by sale. For the most part, however, buyers have been small and independent refiners that are located on or near the Four Corners Pipe Line in central and southern California. For example, during the period April through September 30, 1986, Energy awarded contracts to 16 companies for the purchase of about 82,000 barrels of NPR-1 oil per day.[2] Four trading companies received about 16,300 barrels, nine small

[2]At the time the contract awards were made, NPR-1 production was about 126,000 barrels per day. Of this amount, Chevron's share was about 28,000 barrels and Defense's share was about 16,500 barrels.

business refiners received about 44,700 barrels, and three independent refiners received about 21,000 barrels. Natural gas and natural gas liquids produced along with the crude oil and not used in field operations are also sold competitively on the open market.

Role of NPR-1 in San Joaquin Valley, and California Production

NPR-1 crude oil and natural gas is a relatively important segment of California's energy production. For calendar year 1986, table I.2 shows NPR-1 production as compared with that produced in the San Joaquin Valley and in the state. It shows that NPR-1 crude oil accounted for about 15 percent of production in the San Joaquin Valley and 10 percent in the state. In addition, NPR-1 light crude oil accounted for about 45 percent of the state's light crude oil production.

Table I.2: NPR-1 Production Compared With San Joaquin Valley and California Production for 1986

Crude oil production	Barrels per day	Percent
California	1,116,254[a]	
San Joaquin Valley	739,829	
NPR-1:	109,637	
Percentage of California		10
Percentage of San Joaquin Valley		15
Government share of NPR-1:	85,517	
Percentage of California		8
Percentage of San Joaquin Valley		12
Natural gas production	**Thousand cubic feet per day**	**Percent**
California	1,508,546	
San Joaquin Valley	656,783	
NPR-1:	327,399	
Percentage of California		22
Percentage of San Joaquin Valley		50
Government share of NPR-1:	265,193	
Percentage of California		18
Percentage of San Joaquin Valley		40

[a]According to the Annual Review of California Oil and Gas Production 1986, crude oil was produced on a ratio of about 79 percent heavy oil (using a gravity of less than 25 degrees) and 21 percent light oil (using a gravity of 25 degrees and above). NPR-1 thus provides about 45 percent of California's light crude oil.

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