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WASHINGTON, D.C. 20548

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ENERGY AND MINERALS  
DIVISION

July 17, 1981

B-203117

The Honorable James McClure  
Chairman, Committee on Energy  
and Natural Resources  
United States Senate



115916

The Honorable John Dingell  
Chairman, Committee on Energy  
and Commerce  
House of Representatives

Subject: Status of Strategic Petroleum Reserve  
Activities--July 1981 (EMD-81-118)

This is the seventh in a series of status reports requested by members of the Senate Committee on Energy and Natural Resources and the House Committee on Energy and Commerce on the administration's activities to implement title VIII of the Energy Security Act. (See enc. II for the July 23, 1980, letter requesting these reviews.) Title VIII requires the President to fill the Strategic Petroleum Reserve (SPR) at an average rate of at least 100,000 barrels per day for fiscal year 1981 and each succeeding fiscal year.

Our most recent report on the status of SPR fill activities (EMD-81-107, June 19, 1981) noted that, since passage of the Energy Security Act, the Government had issued contracts for about 81 million barrels of oil to be delivered to the SPR during fiscal year 1981. This is equivalent to an average fill rate of about 222,000 barrels per day for the entire fiscal year.

Our June 1981 report also noted that about 32 million of the Department of Energy's (DOE's) 251-million-barrel Phase I capacity was not available to receive oil. The 32 million barrels of capacity consisted of an 8-million-barrel storage cavern involved in the September 1978 fire at West Hackberry and the 24-million-barrel Sulphur Mines facility. DOE expected to have the West Hackberry cavern available during July 1981. At Sulphur Mines, DOE planned to have about 5.6 million barrels of capacity available during July, and 19.0 million barrels available during August 1981.

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This report discusses the status of SPR storage facilities and the Government's activities to contract for SPR oil as of July 10, 1981. It is based on our review of DOE and Defense Fuel Supply Center (DFSC) SPR program documents, and of publications and studies related to the program. We also interviewed officials in DOE and DFSC. We did not verify the available capacity of SPR storage facilities nor the volume of oil received by DOE.

Between our June status report and July 10, 1981, two major events have occurred:

- The Government awarded contracts for an additional 14.2 million barrels of oil to be delivered to the SPR during July and August 1981. On June 26, 1981, DFSC, which is DOE's oil purchasing agent for the SPR, completed evaluating 19 offers to sell about 83 million barrels of oil to the SPR and awarded contracts for about 9 million barrels of oil. About 2 weeks later, on July 10, 1981, DFSC completed evaluating 14 offers which had been received or reinstated by oil companies since June 26, 1981, and awarded contracts for about 5.2 million barrels of oil. These latest contracts bring total oil acquired for the SPR for fiscal year 1981 to about 94.9 million barrels. This is equivalent to an average rate of about 260,000 barrels per day for the entire fiscal year. So far this fiscal year, DOE has received oil at an average rate of about 249,000 barrels per day. (See enc. I.)
  
- DOE has completed testing and final preparation of the 8-million-barrel West Hackberry cavern and the 5.6-million-barrel Sulphur Mines cavern scheduled to come on-line during July 1981. According to DOE officials, as of July 10, 1981, both caverns were ready to receive oil. DOE's completion of work on these two caverns brings total available SPR storage capacity to about 232 million barrels. (See enc. I.)

Enclosure I also provides additional details on the volume of oil received by SPR facilities and DOE's schedule for bringing additional storage capacity on-line. According to DOE, as of June 30, 1981, SPR facilities had received about 163 million barrels of oil. During June 1981, DOE received about 12.9 million of the 163 million barrels, which is equivalent to an average fill rate for the month of about 433,000 barrels per day.

Based on DFSC's June 26, 1981, and July 10, 1981, contracts, an average of about 444,000 and 357,000 barrels per day should be delivered to SPR facilities during July and August 1981, respectively. DFSC officials stated that they contracted for a smaller volume of oil than was offered for delivery during these 2 months because they believe crude oil prices will be the same or will drop by the date of the next awards. DFSC expects to make additional awards for August and September deliveries on July 21, 1981.

Concerning the status of the remaining 19.0 million barrels of Phase I storage capacity at Sulphur Mines which is not now available to receive oil, DOE continues to project that this capacity will become available during August and September 1981.

In regard to funding for the SPR, on June 5, 1981, the President signed the Supplemental Appropriations and Rescission Act of 1981 (P.L. 97-12) which provides an additional \$1.3 billion for the SPR. Assuming a price of about \$35 per barrel DOE could use the supplemental appropriations to purchase about 37.1 million barrels of oil. This is about 102,000 barrels per day if delivered over a 1-year period.

According to a DOE official, DOE intends to use the \$1.3 billion fiscal year 1981 supplemental appropriation to purchase additional oil through spot and long-term contracts. 1/ DOE will continue its spot market purchases under the January 1981 open continuous solicitation as long as spot market prices compare favorably with prices being offered for long-term contracts. However, the Government is also planning to issue a solicitation for long-term purchases of oil to be delivered during fiscal year 1982. A DOE official stated that he expects the Government's long-term solicitation will be issued by September 1, 1981.

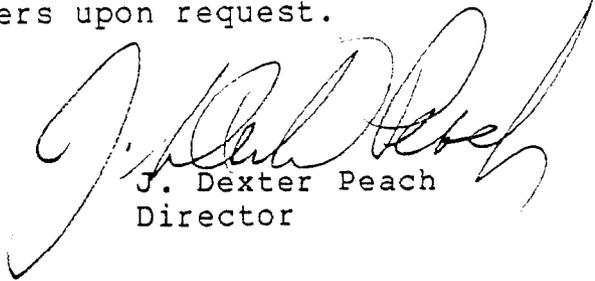
The Government could use either spot market purchases of oil to be delivered after October 1, 1982, long-term advance purchases of oil for fiscal year 1982 deliveries, or a combination of both to meet the Energy Security Act's fiscal year 1982 minimum 100,000-barrel-per-day supply requirement.

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1/Spot market purchases generally involve buying specific cargoes of oil to be delivered within 6 months of the contracts' award dates. Long-term purchases generally involve contracts for delivery over a period of 6 months or more after contracts are signed.

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In order to meet the requested report time frames, we did not obtain official agency comments. As requested by your office, we are sending copies of this letter to the Ranking Minority Members of the Senate Committee on Energy and Natural Resources and the House Committee on Energy and Commerce. Unless you publicly announce its contents earlier, we plan no further distribution of this report until 10 days after its date of issuance. At that time we will send copies to the Department of Energy and other interested parties and make copies available to others upon request.



J. Dexter Peach  
Director

Enclosures - 2

Tables and Graphs on the Status of  
The Strategic Petroleum Reserve

Table

- 1 Summary of SPR contracting activities
- 2 Contracts awarded under open continuous solicitation
- 3 Volume of SPR oil stored in caverns and other facilities
- 4 Status of Phase I SPR storage capacity
- 5 Status of Phase II SPR storage capacity
- 6 Status of funding for the SPR

Figure

- 1 Availability and projected utilization of SPR storage capacity
- 2 Alternative fill rates and projected utilization for SPR storage capacity
- 3 Average daily SPR oil receiving rate

Table 1  
Summary of  
SPR Contracting Activities

<u>Activity</u>	<u>Number of contracts</u>	<u>Value of contracts</u> ( <u>millions</u> )	<u>Date of contracts</u>	<u>Volume of oil contracted for</u>	<u>Oil delivered as of 6/26/81</u>	<u>Remaining Deliveries (note a)</u>		
						<u>Third quarter FY '81</u>	<u>Fourth quarter FY '81</u>	<u>First quarter FY '82</u>
----- (millions of barrels) -----								
Competitive Exchange	6	\$1,441.5	9/18/80 to 10/31/80	36.6	35.0	0	1.6	b/ 0.2
Open Continuous Solicitation	21	<u>2,116.6</u>	2/13/81 to 7/10/81	58.3	33.3	2.9	23.4	c/ 0
Total	<u>27</u>	<u>\$3,558.1</u>		<u>94.9</u>	<u>68.3</u>	<u>2.9</u>	<u>25.0</u>	<u>0.2</u>

a/Based on DOE's projections of oil cargoes to be received.

b/For the 6 contracts, oil delivered plus DOE's projection of remaining deliveries is about 200,000 barrels more than the volume of oil indicated on contracts. According to a DFSC official, DFSC has the option of accepting more than the contracted volumes and increasing proportionately the amount paid to the contractor. However, for each contract, if the volume remaining after the last scheduled delivery is less than the volume that can be shipped economically, DFSC may also accept less than the contracted volume.

c/Oil delivered plus DOE's projection of remaining deliveries is about 1,300,000 barrels more than the volume contracted for. The contracts allow companies the options to deliver up to plus or minus 10 percent of their contracted volumes of oil.

Table 2

Contracts Awarded UnderOpen Continuous Solicitation

<u>Contract date</u>	<u>Supplier</u>	<u>Total barrels to be delivered</u> (millions)	<u>Annualized daily fill rate</u>	<u>Type of oil (note a)</u>	<u>Delivery Dates</u>	
					<u>First</u>	<u>Last</u>
2/13/81 to 6/09/81	Various b/	44.1	68,220 52,675	Sweet Sour	3/81	8/81
6/26/81	Derby	.9	2,466	Sweet	7/81	7/81
		2.7	7,397	Sour	7/81	8/81
	Houston Oil and Refining U.S. and S.A.	1.0	2,740	Sour	7/81	8/81
	Enterprises, Inc.	1.0	2,740	Sour	7/81	8/81
	Coastal Bermuda	1.0	2,740	Sour	7/81	7/81
	Amoco Oil Co.	.8	2,192	Sour	7/81	7/81
	Exxon International	.55	1,507	Sweet	7/81	7/81
	Listo Energy	.55	1,507	Sweet	8/81	8/81
	Texaco U.S.A.	.5	1,401	Sour	7/81	7/81
7/10/81	Mobil Oil Corp.	1.9	5,205	Sour	7/81	8/81
	Exxon U.S.A.	1.5	4,110	Sour	7/81	8/81
	Exxon International	1.0	2,740	Sweet	8/81	8/81
	Texaco U.S.A.	.8	2,192	Sour	8/81	8/81
Total		<u>58.3</u>	<u>159,832</u>			

a/Sweet crude for the SPR is defined as having less than 0.5 percent sulfur content, sour crude is defined as having between 0.5 percent and 1.99 percent sulfur content.

b/Information on individual contracts is presented in our May 4, 1981, and June 19, 1981, SPR status reports.

Table 3

Volume of SPR Oil Stored in  
Caverns and Other Facilities

<u>GAO reporting period</u>	<u>Volume of oil at start of period</u>	<u>Deliveries</u>	<u>Volume of oil at end of period</u>	<u>Average receiving rate</u>	
				<u>For reporting period</u>	<u>Since 9/23/80 (note a)</u>
		(millions of barrels)		(barrels per day)	
9/23/80 to 6/02/81	91.2	b/ 59.9	151.1	236,759	236,759
6/03/81 to 6/26/81	151.1	9.0	160.1	c/ 375,000	248,736

a/DOE completed receiving the first shipment of oil resulting from the fiscal year 1981 competitive exchange on September 23, 1980.

b/Deliveries include 641,490 barrels of Elk Hills Naval Petroleum Reserve oil delivered to the SPR via pipeline by Pacific Refining Company.

c/Total deliveries for the month of June were 12.9 million barrels. This is equivalent to an average fill rate for the month of about 433,000 barrels per day.

Table 4

Status of Phase I SPR Storage Capacity

<u>SPR site</u>	<u>Capacity constructed</u>	<u>Capacity ready to use (note a)</u>	<u>Volume of oil in underground storage as of 6/26/81</u>	<u>DOE's estimated completion date for additional capacity</u>	<u>Brief description of work to be done</u>
Weeks Island, LA	75.0	75.0	25.6	Completed	None
Bayou Choctaw, LA	41.5	41.5	32.4	Completed	None
Sulphur Mines, LA	24.6	5.6	0	August 15, 1981-- 5.9 million barrels	Caverns and wells to be recertified in phases. Initial tests of pipes, computer controls, and other equipment to be completed.
West Hackberry, LA	48.2	48.2	40.2	Completed	None
Bryan Mound, TX	<u>61.8</u>	<u>61.8</u>	<u>59.7</u>	Completed	None
Total	<u>251.1</u>	<u>232.1</u>	<u>157.9</u>		

a/Storage facilities certified ready to receive oil.

b/Additional 2.2 million barrels of oil is in pipelines and tanks. This brings total oil in the SPR system to 160.1 million barrels.

Table 5

Status of Phase II SPR Storage CapacityAs of July 1, 1981 (note a)

(Millions of Barrels)

<u>SPR site</u>	<u>Total planned storage capacity</u>	<u>Volume of oil injected (note b)</u>	
		<u>Planned</u>	<u>Actual</u>
Bryan Mound, TX	120	.3	.05
West Hackberry, LA	160	(c) 0	0
Bayou Choctaw, LA	<u>10</u>	(d) <u>0</u>	<u>0</u>
Total	<u>290</u>	<u>.3</u>	<u>.05</u>

a/Source: DOE December 1980 baseline leaching schedule and July 1, 1981, monthly report of cavern leaching at Bryan Mound and West Hackberry.

b/DOE is injecting oil into new caverns as capacity becomes available. DOE plans to create capacity by leaching underground salt caverns--a process involving injecting water into a salt formation to dissolve the salt, and removing the salt-saturated water, or brine. However, during leaching, only part of each new cavern can be used to store oil.

c/Leaching began in May 1981. No oil is being injected at this stage of leaching.

d/Drilling of wells which will be used for leaching started March 1981, leaching to begin November 1981.

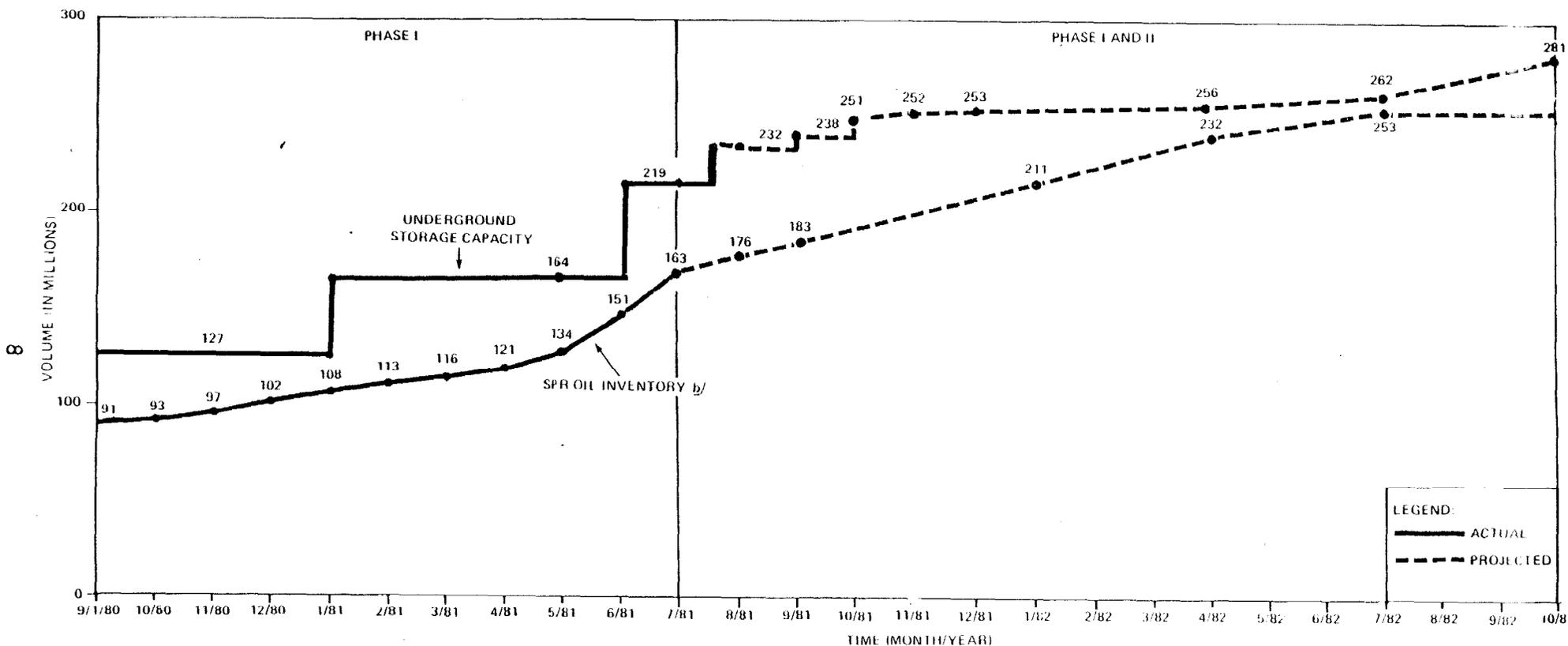
Table 6  
Status of Funding for the SPR  
 (Billion \$)

<u>Funds available for fiscal year 1981</u>		
--Prior years' funds		\$2.093
--Fiscal year 1981 appropriations		1.383
--Entitlements (earned on fiscal year 1981 deliveries prior to decontrol on January 28, 1981)		.542
--FY 1981 Supplemental Appropriations		a/ <u>1.300</u>
Total funds available for fiscal year 1981 oil purchases		b/ <u>5.318</u>
 <u>Contracts as of July 10, 1981</u>		
--Competitive exchange (36.6 million barrels)	\$1.441	
--Open continuous solicitation (58.3 million barrels)	<u>2.117</u>	
Total value of contracts as of July 10, 1981		<u>3.558</u>
 <u>Funds remaining for oil purchases</u>		 <u><u>\$1.760</u></u>

a/President signed the Supplemental Appropriations on June 5, 1981, for \$1.3 billion.

b/As of April 24, 1981, DOE had transferred \$4.018 billion to DFSC for SPR oil acquisitions.

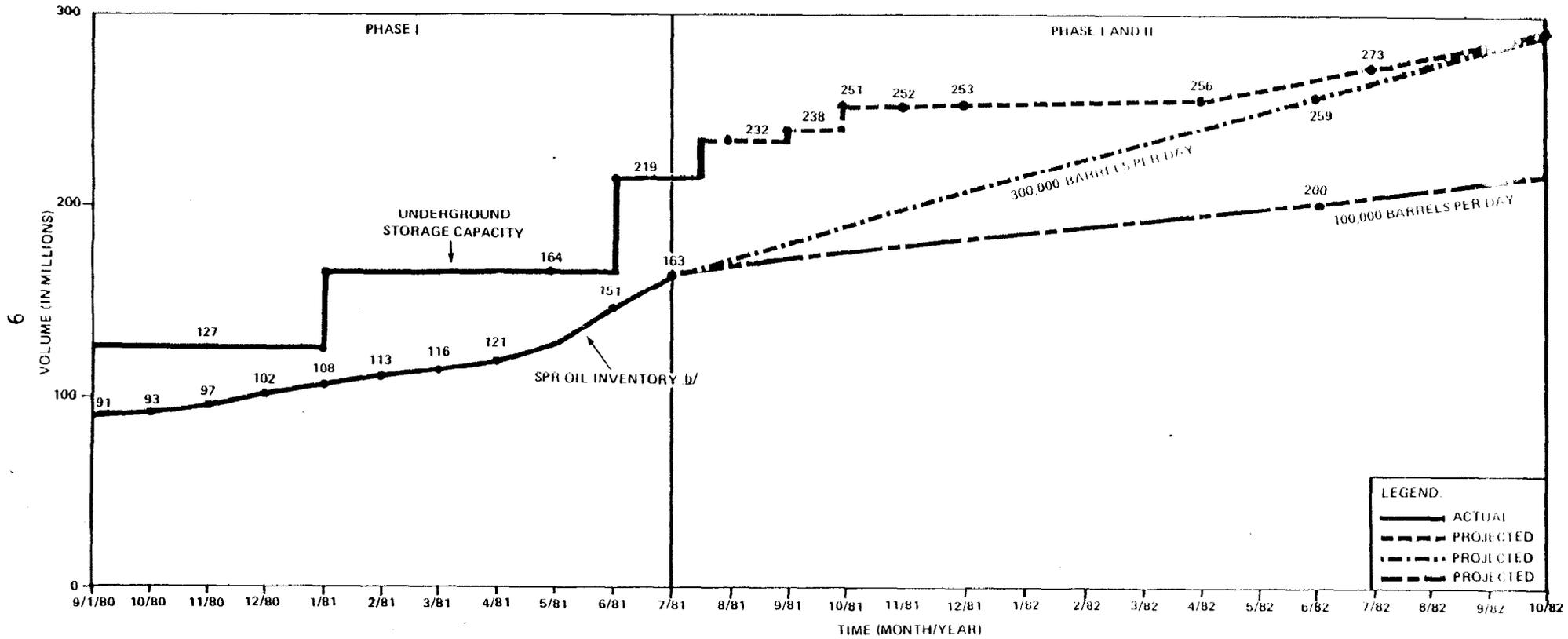
FIGURE 1  
 AVAILABILITY AND PROJECTED UTILIZATION  
 OF SPR STORAGE CAPACITY (Note a)



a/ GAO's projections of SPR capability assumes that DOE meets its schedules for bringing Phase I facilities on line and for creating Phase II capacity. Our projections of SPR oil inventory are based on DOE's proposed delivery schedules for existing contracts and DOE's proposed 230,000 barrels per day Fiscal Year 1982 Fill Rate.

b/ This represents oil in underground storage facilities plus oil in tanks and pipelines. The projected quantities do not include the awards of 7/10/81.

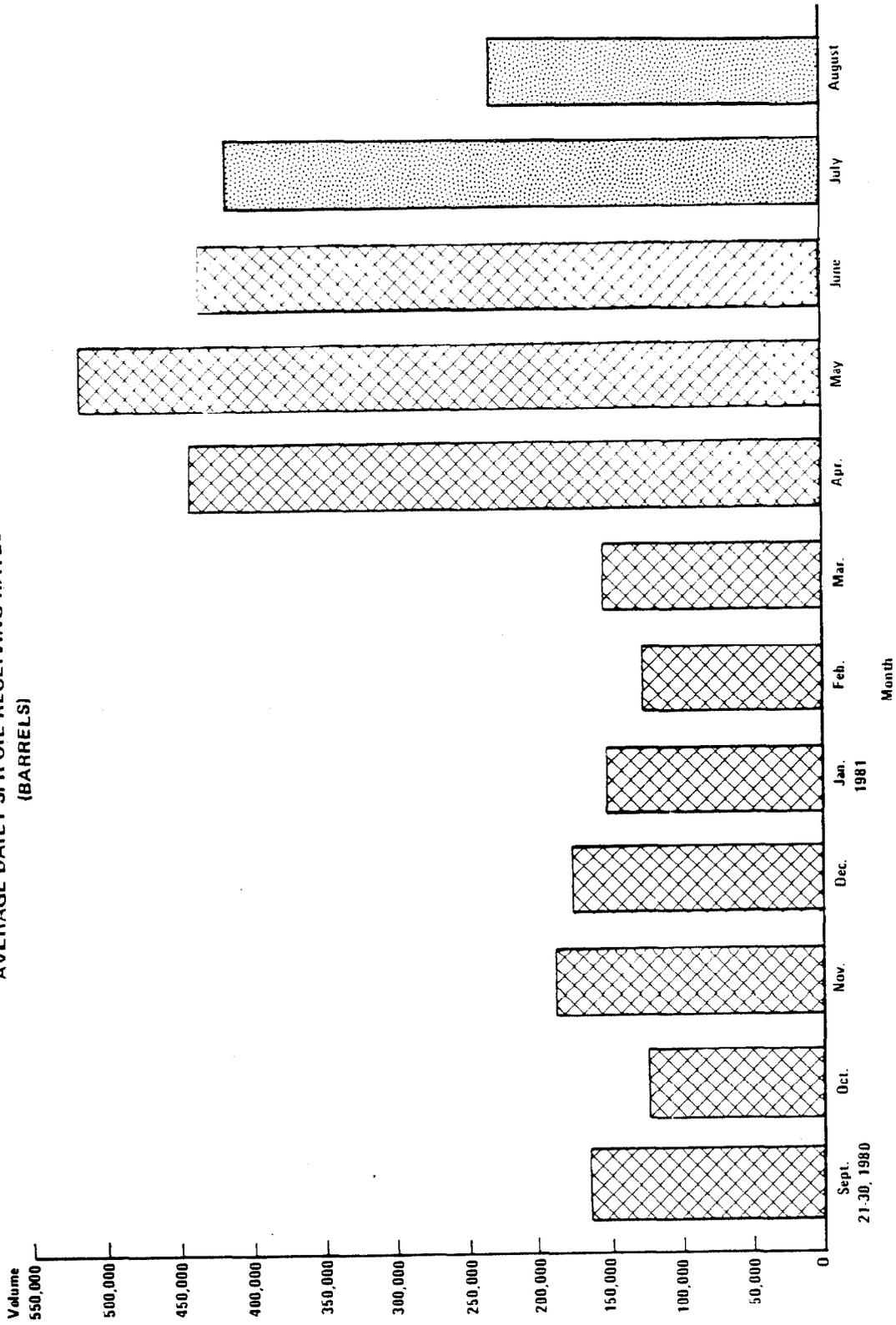
FIGURE 2  
 ALTERNATIVE FILL RATES AND PROJECTED  
 UTILIZATION FOR SPR STORAGE CAPACITY (Note a)



a/ GAO's projections of SPR capability assumes that DOE meets its schedules for bringing Phase I facilities on line and for creating Phase II capacity.

b/ This represents oil in underground storage facilities plus oil in tanks and pipelines.

FIGURE 3  
AVERAGE DAILY SPR OIL RECEIVING RATE<sup>a/</sup>  
(BARRELS)



<sup>a/</sup> DAILY RECEIVING RATES FOR JULY & AUGUST CALCULATED FROM DOE PROJECTIONS AS OF JUNE 30, 1981

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## United States Senate

COMMITTEE ON  
 ENERGY AND NATURAL RESOURCES

WASHINGTON, D.C. 20510

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 STEVEN G. HICKOK, STAFF DIRECTOR FOR THE MINORITY

July 23, 1980

Honorable Elmer B. Staats  
 Comptroller General of the United States  
 GENERAL ACCOUNTING OFFICE  
 441 G Street, N.W.  
 Washington, D. C. 20548

Dear Mr. Staats:

On June 30, 1980 the President signed the Energy Security Act (Public Law 96-294). Title VIII of this Act is intended to provide for a resumption of purchases by the United States government of crude oil for the Strategic Petroleum Reserve authorized in 1975 by the Energy Policy and Conservation Act. Purchases of oil for this purpose have been suspended for well over a year, despite the fact that the present level of the SPR is clearly inadequate insurance against any contemplated interruption in petroleum imports.

The Congress attaches a high priority to the timely implementation of the provisions of title VIII. Both the language of the Act and the accompanying joint statement of managers are very emphatic on this matter. Accordingly, we are asking that you assist Congress in monitoring implementation of this title by the Executive Branch.

In particular we request that the General Accounting Office report by letter on a monthly basis to the Senate Committee on Energy and Natural Resources and the House Committee on Interstate and Foreign Commerce describing the activities taken by the Executive Branch under the provisions of title VIII of the Energy Security Act. This report should include GAO's evaluation of these activities in relation to the clear intent of Congress, expressed in the Act, to resume as soon as possible the filling of the SPR. These monthly reports should continue through October, 1981. We are further requesting that GAO provide Congress by January 1, 1982 with a comprehensive report on activities of the Executive Branch under title VIII for the period July, 1980 through October, 1981.

Please let us know if the Senate Committee on Energy and Natural Resources or the House Committee on Interstate and Foreign Commerce can be of assistance in carrying out this request.

Sincerely yours,

Harley O. Staggers  
MEMBER OF CONGRESS

J. Bennett Johnston  
U. S. SENATOR

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