



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

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**ENERGY AND MINERALS
DIVISION**

RELEASED

B-203117

JUN 19 1981

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



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

Subject: [Status of Strategic Petroleum Reserve
Activities--June 1981] (EMD-81-107)

This is the sixth 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 resume filling the Strategic Petroleum Reserve (SPR) at an average rate of at least 100,000 barrels per day for fiscal year 1981 and succeeding years.

Our most recent report on the status of SPR fill activities (EMD-81-85, May 4, 1981) noted that, since passage of the Energy Security Act, the Government had issued contracts for about 75 million barrels of oil to be delivered to the SPR during fiscal year 1981. This is equivalent to an average fill rate of about 205,000 barrels per day for the entire fiscal year. However, on April 24, 1981, the Department of Energy (DOE) postponed purchases of additional oil for the SPR for about 30 days because it hoped to take advantage of expected decreases in crude oil prices during the period.

Our May 1981 report also noted that about 32 million of DOE's 251-million-barrel phase I capacity was not available to receive oil, and that a potential storage capacity problem had emerged at DOE's 75-million-barrel Weeks Island

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facility. 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 11.5 million barrels of capacity available during July and 13.1 million barrels available during August 1981.

At DOE's Weeks Island salt mine, incoming oil was compressing gases within the mine, causing pressure to build up. At that time, the mine's seals had been successfully tested at the equivalent of 7 pounds per square inch. In order not to exceed this pressure level, DOE would either have to complete installation of a flaring system, vent the gases without flaring, or limit the amount of oil to be stored there to about 20 million barrels. DOE expected to install a manually-operated flaring system by May 15, 1981, which would be converted to an automatic system at a later date.

This report discusses the status of SPR storage facilities, oil deliveries to SPR facilities, and the Government's activities to contract for SPR oil as of June 11, 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 volume of oil received by DOE nor the available capacity of SPR storage facilities.

Between our May status report and June 11, 1981, three major events have occurred:

--On May 22, 1981, DOE completed installation and testing of equipment to vent and flare gases at the Weeks Island mine. Since our May report, DOE has continued to deliver oil to Weeks Island. Also, on May 13, 1981, DOE confirmed to Congressman W. J. Tauzin that it would not operate the mine at a pressure above 7 pounds per square inch until flaring equipment was operational, and has used the equipment to relieve pressure caused by oil deliveries. According to DOE officials, the maximum pressure recorded within the mine has been 6.9 pounds per square inch. This occurred on May 22, 1981, during final testing of the flaring equipment. Since then, DOE has used the equipment to reduce the mine's pressure to about 6.2 pounds per square inch. As of June 2, 1981, when this pressure was recorded, about

22.0 million barrels of oil had been delivered to the facility.

--By June 2, 1981, DOE had received about 151 million barrels of oil at SPR facilities. According to DOE officials, about 15.9 million barrels of oil were delivered during the month of May 1981, which is an average receiving rate of about 513,000 barrels per day. This is the highest average receiving rate for a 1-month period in the SPR's history. It brings the average receiving rate so far for fiscal year 1981 to about 236,000 barrels per day. (See enc. I.)

--On June 9, 1981, the Government awarded contracts for about 5.5 million barrels of oil to be delivered during July and August 1981. These contracts bring total oil acquired for the SPR for fiscal year 1981 to about 80.7 million barrels. (See enc. I.) DFSC, which is DOE's oil purchasing agent for the SPR, awarded these latest contracts after receiving and evaluating 31 offers to sell about 160 million barrels of oil to the SPR. According to DFSC officials, they did not award additional contracts on June 9, 1981, because they expect crude oil prices to be the same, or to drop, by the date of the next awards. DFSC plans to make additional awards on June 23, 1981.

Enclosure I also provides additional details on the status of DOE's West Hackberry and Sulphur Mines storage facilities. In summary, DOE continues to project that the 8-million-barrel cavern at West Hackberry, which is not now available to receive oil, will be available by July 15, 1981. DOE has adjusted its schedule for Sulphur Mines and now plans to have available during July about half of the 11.5 million barrels of storage capacity it planned to have available during the month. The remainder of Sulphur Mines' 24-million-barrel storage capacity is expected to be on line during August and September 1981. According to DOE officials, additional time needed to locate and repair leaks in wells used at Sulphur Mines, and additional time for planning tests for the cavern which was originally planned to come on line during August 1981, were the principal reasons for these revised availability dates.

Concerning the reasons for the 30-day postponement of SPR purchases, our May 1981 report stated that other factors in addition to declining crude oil prices could have influenced the decision to temporarily postpone purchases.

Existing SPR facilities could not receive more oil than was already under contract for delivery through June 1981. The postponement would give DOE more time to bring on line usable storage capacity. Also, in April 1981, the Oil Minister of Saudi Arabia publicly called for oil consuming countries to temporarily postpone building up oil inventories until after discussions of oil prices were completed by the Organization of Petroleum Exporting Countries (OPEC). At that time, OPEC representatives were scheduled to meet on May 25, 1981.

On May 19, 1981, we wrote the Secretary of Energy requesting additional information on the April 1981 postponement of oil purchases. We also asked the Secretary to provide us with memoranda and records related to all meetings or discussions within DOE, between DOE and DFSC and between DOE and other agencies or the White House documenting the reasons for postponing SPR oil purchases.

In his June 2, 1981, response to our letter, the Deputy Assistant Secretary for the SPR stated that the sole reason for postponing purchases was to take advantage of declining crude prices. According to the Deputy Assistant Secretary, the other factors mentioned in our May 1981 report were not a consideration in the decision to postpone SPR purchases.

DOE and DFSC memoranda of meetings at which the April 28, 1981, round of SPR contracting was discussed, and the Deputy Assistant Secretary's response to our letter, indicate that the Commanding Officer, DFSC, made the decision to postpone SPR purchases on April 23, 1981, and notified DOE's Deputy Assistant Secretary about the decision that day. The Deputy Assistant Secretary concurred with DFSC's decision and discussed it with the Secretary of Energy later that day. The Secretary of Energy also concurred with DFSC's decision.

The memoranda and letter we reviewed do not indicate a direct connection between the April 1981 request by the Oil Minister of Saudi Arabia and DFSC's April 1981 decision to postpone oil purchases.

DFSC had received 19 offers, involving about 51 million barrels of oil, for that round of awards. However, according to DFSC officials, despite indications that spot market prices would continue to decline, companies offering to sell oil were not lowering their prices. Because contracts negotiated based on these offers would have been for July and August deliveries, DOE and DFSC officials believed that

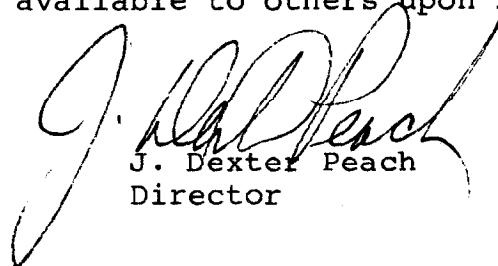
there was a high probability that prices paid for oil contracts issued then would have exceeded market prices at the time of deliveries.

DFSC's April 1981 assessment of crude oil spot market price trends has proved to be accurate. Prices paid for the June 9, 1981, contracts are about \$3.85 to \$7.60 less per barrel for the same type of crude oil compared to the previous March 31, 1981, round of awards.

Because of the lower prices that have resulted from current market conditions, the Government is paying about \$25.6 million less for the 5.5 million barrels of oil contracted for on June 9, 1981, than would have been paid if the contracts were awarded on March 31, 1981.

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In order to meet the requested report time frames, we did not obtain official agency comments. 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. As requested by your office, 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 Projected availability and utilization of SPR storage capacity
- 2 Projected availability and utilization of SPR storage capacity assuming alternative fill rates
- 3 Average daily SPR oil receiving rate

Table 1
Summary of
SPR Contracting Activities

Activity	Number of contracts	Value of contracts (millions)	Date of contracts	Volume of oil contracted for	Oil delivered as of 6/02/81	Remaining Deliveries (note a)		
						Third quarter FY'81	Fourth quarter FY '81	First quarter FY '82
----- (millions of barrels) -----								
Competitive Exchange	6	\$1,441.5	9/18/80 to 10/31/80	36.6	34.7	.5	1.6	b/ 0
Open Continuous Solicitation	14	1,652.3	2/13/81 to 6/09/81	44.1	24.6	11.8	8.9	c/ 0
Total	<u>20</u>	<u>\$3,093.8</u>		<u>80.7</u>	<u>59.3</u>	<u>12.3</u>	<u>10.5</u>	<u>0</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. For each contract, if the volume remaining after the last scheduled delivery is less than the volume that can be shipped economically, DFSC may exercise its option and accept less than the contracted volume.

c/Oil delivered plus DOE's projection of remaining deliveries is about 1,200,000 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 Under
Open 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 3/31/81	Various <u>b/</u>	38.6	63,288 42,467	Sweet Sour	3/81	8/81
6/9/81	U.S. and S.A. Enterprises, Inc.	.8	2,192	Sweet	6/81	8/81
	Exxon	3.0	8,219	Sour	7/81	7/81
	Chevron	.7	1,989	Sour	7/81	8/81
	Conoco	<u>1.0</u>	<u>2,740</u>	Sweet	8/81	8/81
Total		<u>44.1</u>	<u>120,895</u>			

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

b/Information on individual contracts is presented in our May 4, 1981, SPR status report.

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>
				(barrels per day)	
9/23/80 to 4/20/81	91.2	b/ 38.4	129.6	182,857	182,857
4/21/81 to 6/02/81	129.6	21.5	151.1	500,000	236,759

(millions of barrels)

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.

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 6/02/81</u>	<u>DOE's estimated completion date for additional capacity</u>	<u>Brief description of work to be done</u>
	(millions of barrels)				
Weeks Island, LA	75.0	75.0	22.0	Completed	None
Bayou Choctaw, LA	41.5	41.5	29.4	Completed	None
Sulphur Mines, LA	24.6	0	0	July 15, 1981-- 5.6 million barrels August 15, 1981-- 5.9 million barrels September 30, 1981-- 13.1 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	40.5	39.9	July 15, 1981-- 7.7 million barrels	Wells and cavern involved in September 1978 fire to be recertified.
Bryan Mound, TX	<u>61.8</u>	<u>61.8</u>	<u>57.3</u>	Completed	None
Total	<u>251.1</u>	<u>218.8</u>	b/ <u>148.6</u>		

a/Storage facilities certified ready to receive oil and all operational start-up tests have been successfully completed.

b/Additional 2.5 million barrels storage capacity is in pipelines and tanks. This brings total oil in the SPR system to 151.1 million barrels.

Table 5

Status of Phase II SPR Storage CapacityAs of June 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	.2	.06
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>.2</u>	<u>.06</u>

a/Source: DOE December 1980 baseline leaching schedule and June 1, 1981, monthly reports of well 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, which dissolves 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 \$)

Funds available for fiscal year 1981

--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)		<u>.542</u>
Total funds available for fiscal year 1981 oil purchases		a/ \$4.018

Contracts as of June 9, 1981

--Competitive exchange (36.6 million barrels)	\$1.442	
--Open continuous solicitation (44.1 million barrels)	<u>1.652</u>	
Total value of contracts as of June 9, 1981		<u>3.094</u>

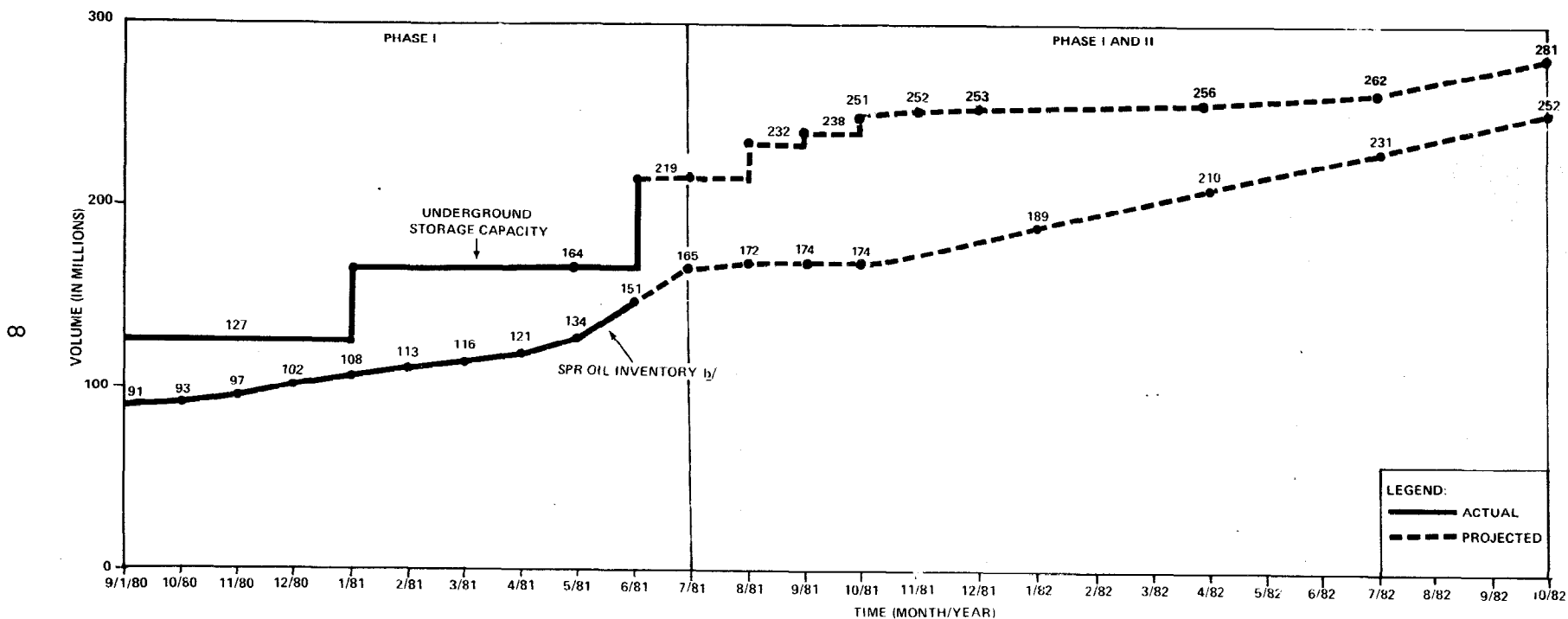
Funds remaining for oil purchases

b/ \$.924

a/As of April 24, 1981, DOE had transferred all funds available to DFSC for SPR oil acquisitions.

b/DOE has requested \$1.3 billion supplemental appropriation for fiscal year 1981. If the supplemental is approved by Congress, DOE will have a total of \$2.4 billion available for fiscal year 1981 purchases.

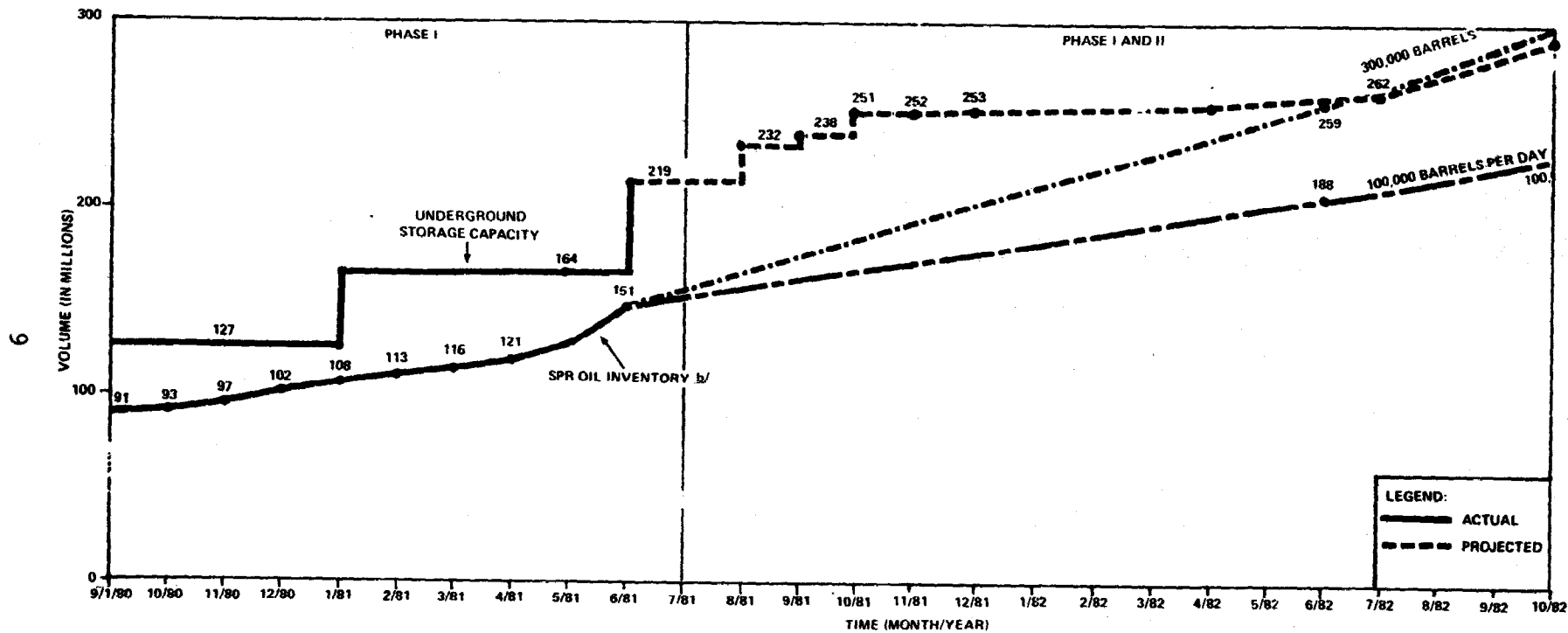
FIGURE 1
 AVAILABILITY AND PROJECTED UTILIZATION
 OF SPR STORAGE CAPACITY (Note a)



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.

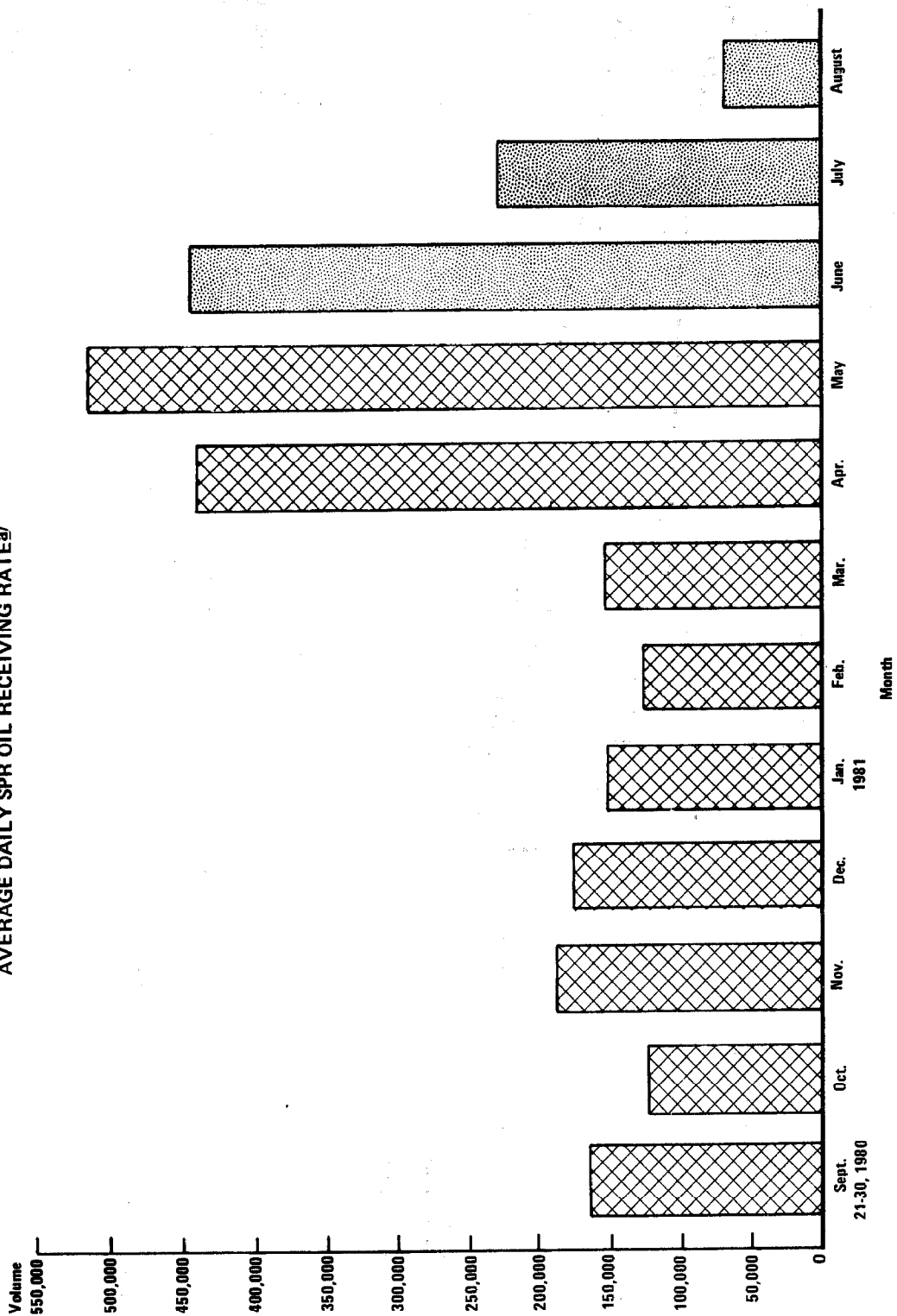
FIGURE 2
 ALTERNATIVE FILL RATES AND PROJECTED
 UTILIZATION FOR SPR STORAGE CAPACITY (Note a)



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^{A/}



^{A/}DAILY RECEIVING RATES FOR JUNE, JULY & AUGUST CALCULATED FROM DOE PROJECTIONS AS OF 6/11/81.

HENRY M. JACKSON, WASH., CHAIRMAN
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United States Senate

COMMITTEE ON
 ENERGY AND NATURAL RESOURCES

WASHINGTON, D.C. 20510

July 23, 1980

DANIEL A. DREYFUS, STAFF DIRECTOR
 D. MICHAEL HARVEY, CHIEF COUNSEL
 STEVEN G. HICKOK, STAFF DIRECTOR FOR THE MINORITY

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.

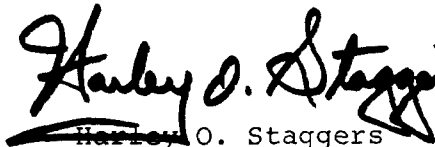
The Congress attaches a high priority to the timely implementation of the provisions of title VIII. Both the language of the Act and the accompanying joint statement of managers are very emphatic on this matter. Accordingly, we are asking that you assist Congress in monitoring implementation of this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

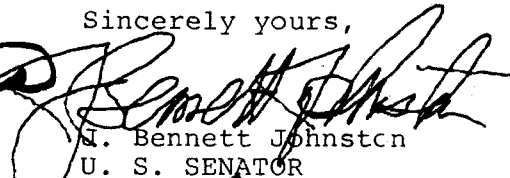
In particular we request that the General Accounting Office report by letter on a monthly basis to the Senate Committee on Energy and Natural Resources and the House Committee on Interstate and Foreign Commerce describing the activities taken by the Executive Branch under the provisions of title VIII 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.


Honorable Elmer B. Staats
Page Two
July 23, 1980

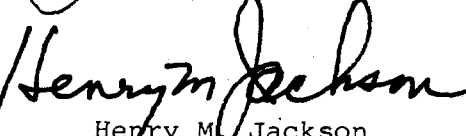
Please let us know if the Senate Committee on Energy and Natural Resources or the House Committee on Interstate and Foreign Commerce can be of assistance in carrying out this request.

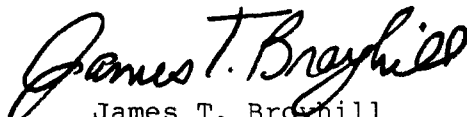
Sincerely yours,


Harley O. Staggers
MEMBER OF CONGRESS

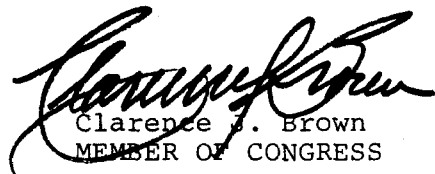

G. Bennett Johnston
U. S. SENATOR

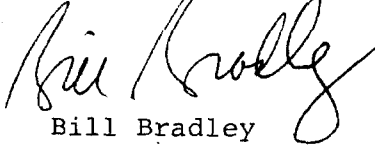

John D. Dingell
MEMBER OF CONGRESS



Henry M. Jackson
U. S. SENATOR

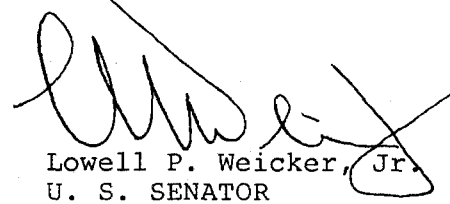

James T. Brown
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