

# Strategic Petroleum Reserve Quarterly Report



August 15, 1990

**U.S. Department of Energy**  
Assistant Secretary for Fossil Energy  
Office of Petroleum Reserves  
Washington, DC 20585

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## EXECUTIVE SUMMARY

The Strategic Petroleum Reserve was created pursuant to the Energy Policy and Conservation Act (Public Law 94-163), approved on December 22, 1975, and extended in July 1985, June 1989 and March 1990, to reduce the impact of disruptions in petroleum supplies and to carry out obligations of the United States under the Agreement on an International Energy Program. The Strategic Petroleum Reserve Quarterly Report is submitted in accordance with section 165(b) of the Energy Policy and Conservation Act, as amended, which requires that the Secretary of Energy submit quarterly reports to Congress on activities undertaken with respect to the Strategic Petroleum Reserve. This August 15, 1990, Strategic Petroleum Reserve Quarterly Report describes activities related to the site

development, oil acquisition, budget and cost of the Reserve during the period April 1, 1990, through June 30, 1990.

The Strategic Petroleum Reserve storage facilities development program is proceeding on schedule. The Reserve's capacity is currently 600 million barrels. Four facilities have been completed and two facilities, Big Hill and Bayou Choctaw, are continuing to be developed to increase the Reserve to 750 million barrels.

The total inventory of crude oil stored in the Strategic Petroleum Reserve reached 586,678,484 barrels during the quarter ending June 30, 1990. The average fill rate during this quarter was 48,344 barrels per day, and the average fill rate for the first three quarters of fiscal year 1990 was 34,974 barrels per day.

## **I. SITE DEVELOPMENT**

### **Development Plan**

The development plan for the Strategic Petroleum Reserve involves the construction of six underground crude oil storage facilities in salt domes along the coasts of Texas and Louisiana to achieve 750 million barrels of storage capacity. These sites are Bryan Mound and Big Hill in Texas, and West Hackberry, Sulphur Mines, Bayou Choctaw and Weeks Island in Louisiana.

The Bryan Mound site is located in Brazoria County, Texas, approximately three miles south of Freeport. The Department of Energy acquired this storage site in 1977 and converted four existing brine caverns to oil storage. The Department developed sixteen additional 10-million-barrel storage caverns between 1980 and 1987 at Bryan Mound, providing a total site storage capacity of 226 million barrels.

The West Hackberry site is located in Cameron Parish, Louisiana, approximately twenty-two miles southwest of Lake Charles. The Department of Energy acquired this storage site in 1977 and converted five existing brine caverns to oil storage. The Department developed seventeen additional 10-million-barrel storage caverns between 1981 and 1988 at West Hackberry, providing a total site storage capacity of 219 million barrels.

The Sulphur Mines site is located in Calcasieu Parish, Louisiana, approxi-

mately twelve miles west of Lake Charles. The Department of Energy acquired this storage site in 1979 and converted three existing brine caverns with a capacity of 26 million barrels to oil storage. Development and fill of this site were completed in 1983. The Department plans to decommission the Sulphur Mines facility in 1992, following completion of the development of replacement storage capacity at the Big Hill and Bayou Choctaw storage sites.

The Big Hill storage site is located in Jefferson County, Texas, twenty miles southwest of Beaumont. The Department of Energy acquired this undeveloped site in 1982 with plans to develop fourteen 10-million-barrel caverns. In 1985, the Department amended the Big Hill development plan to increase the site's storage capacity to 160 million barrels by expanding the caverns to 11.5 million barrels each.

The Bayou Choctaw site is located in Iberville Parish, Louisiana, approximately twelve miles southwest of Baton Rouge. The Department of Energy acquired this storage site in 1977 and converted four existing caverns to oil storage. The Department of Energy acquired a fifth existing cavern in 1985 through an exchange agreement with Union Texas Petroleum Company. The Department plans to develop an additional 16 million barrels of capacity at the Bayou Choctaw site, providing a total storage capacity of 72 million barrels.

The Weeks Island site is located in Iberia Parish, Louisiana, approximately ninety-five miles southwest of New Orleans. The Department of Energy acquired this storage site in 1977 and converted the existing conventional salt mine with a capacity of 73 million barrels to oil storage. Development and fill of this site were completed in 1982.

### **Facility Development Status**

Facility development activities have been completed at four of the six storage sites; development is still in process at Bayou Choctaw and Big Hill. Other major activities include planning for the future decommissioning of Sulphur Mines, improvements to the Weeks Island Mine and permanent repairs for the Bryan Mound brine disposal pipeline.

At Bayou Choctaw, the Department initialed the planned enlargement of Cavern 18 in April. Fresh water is being injected into Cavern 18 to move that cavern's crude oil inventory into Cavern 101. Once the oil transfer has been completed, Cavern 18 will be leached to a capacity of 16 million barrels, which will increase the site's total storage capacity to the planned 72 million barrels.

At Big Hill, cavern leaching continued on schedule, achieving approximately 146 million barrels of total cavern volume at the quarter's end. Storage capacity development is now approximately 81 percent complete. Leaching has been completed on three

of 14 caverns, and certification of their availability for oil fill is expected next quarter. The planned total site capacity of 160 millions barrels will be completed by September 1991. During the past quarter, construction and installation of the physical protection system was completed, and system testing and training of personnel were initiated.

In preparation for divestiture of the SPR's Sulphur Mines storage facility, the Department announced in June that it will conduct a site tour of the Sulphur Mines storage facility on July 10, 1990, for interested potential purchasers. The Department anticipates issuing a formal Request for Proposals to sell the Sulphur Mines storage facility in September or October of 1990. In addition to selling the facility, the stored oil may be offered in exchange for similar oil to be delivered to another Strategic Petroleum Reserve site. In the event the oil is not exchanged, plans have been made to transfer the site's inventory to the Big Hill storage site during 1991.

At the Weeks Island site, construction and installation of an air dryer system, designed to reduce water vapor condensation within the manways and shafts of the mine areas above the oil storage chamber, was initiated in 1989. Construction of the system is 80 percent complete and is expected to be finished and operational in the fourth quarter of 1990. The design of an isolation bulkhead to be constructed in the Markel Mine shaft was completed and is scheduled to be advertised for bid during the next quarter.

The Bryan Mound brine disposal pipeline which was repaired in 1989 is operating at reduced pressure and is adequate for current and near term needs for oil fill. A permanent repair plan for this pipeline has been prepared which recommends the relocation of the brine diffuser from 12.5 to 4 miles into the Gulf of Mexico. Approval of this plan has been delayed until additional data on corrosion rates for quiescent conditions are obtained. Relocation of the brine diffuser is also contingent upon a modification to the National Pollutant Discharge Elimination System permit.

#### **Distribution Enhancement Status**

The SPR has a current distribution capability of 3.5 million barrels per day. Distribution enhancement projects are planned or in progress to increase this capability to 4.5 million barrels per day for the 750 million-barrel Reserve.

Last quarter, the Department awarded a contract for modifications to the on-site pumping systems at Bryan Mound to increase the site's drawdown/distribution rate from 1.1 million barrels to 1.25 million barrels per day. Construction is currently in progress and approximately 13 percent complete as of June 30, 1990. Project completion is scheduled for mid-1991.

The Department's newly constructed meter station at the terminus of the West Hackberry-to-Lake Charles distribution pipeline is under-

going final operational testing. During June, crude oil was circulated through the custody meter station for acceptance testing and calibration of the crude oil meters and automatic samplers. Operational testing is scheduled for completion in July 1990; however, the system is fully operational should a draw down of the SPR become necessary.

SPR distribution plans provide for further increases to the Texoma system distribution capabilities through the acquisition of commercial terminal distribution services. The Department plans to reissue a competitive solicitation next quarter for up to 700,000 barrels per day of commercial marine/pipeline terminal distribution services. Based on a market assessment and industry comments on the previous unsuccessful solicitations, the new solicitation will permit a wider range of offers and allow industry a longer proposal response time.

#### **Current and Projected Storage Capacity**

As of June 30, 1990, the SPR's total available storage capacity was 600 million barrels. The gain in capacity with the completion of Bayou Choctaw Cavern 101 was offset by the temporary subtraction of Bayou Choctaw Cavern 18 from available capacity during the latter's enlargement. A total of 16.5 million barrels of new gross cavern volume was developed at Big Hill and Bayou Choctaw this quarter as shown in Table I-1.

Projected storage capacity and oil fill capability by fiscal year are shown in Table I-2. Storage capacity will increase by 46 million barrels in the next quarter with the certification of four

caverns at Big Hill. The maximum oil fill capability will be limited in FY 1990 and FY 1991 by cavern completions late in each year and by site fill rate limitations.

TABLE I-1

STRATEGIC PETROLEUM RESERVE  
CAPACITY DEVELOPMENT  
(Million Barrels)

Storage Facility	1990 APR - JUN Gross Volume Created	1990 APR - JUN Storage Volume Created	Cumulative Storage Capacity June 30, 1990
Big Hill	15.4	0.0	0.0
Bryan Mound	-	-	226.0 <u>1/</u>
West Hackberry	-	-	219.0 <u>1/</u>
Bayou Choctaw	1.1	0.0	56.0
Weeks Island	-	-	73.0 <u>2/</u>
Sulphur Mines	-	-	26.0 <u>2/</u>
TOTAL	16.5	0.0	600.0

1/ Storage development completed and oil fill in progress.

2/ Storage development and oil fill completed.

TABLE I-2

CURRENT AND PROJECTED  
AVAILABLE STORAGE CAPACITY  
(Million Barrels)

	Projected Storage Capacity	Maximum Oil Fill Capability
End of FY 1990	646	627
FY 1991	750	665
FY 1992	750	750

## II. OIL ACQUISITION

The Strategic Petroleum Reserve was filled at a rate of 48,344 barrels per day during the calendar quarter ending June 30, 1990. As of June 30, 1990, the total Strategic Petroleum Reserve crude oil inventory was 586,678,484 barrels. Table II-1 summarizes the Strategic Petroleum Reserve crude oil inventory and delivery statistics as of June 30, 1990. During the calendar quarter, 3,403,843 barrels of sour crude oil (sulfur content greater than 0.5 percent) and 1,001,599 barrels of sweet crude oil (sulfur content not exceeding 0.5 percent) were delivered to the Strategic Petroleum Reserve terminals. The

weighted average prices of the sour and sweet crude oils delivered to the Strategic Petroleum Reserve during this period were \$17.76 and \$18.42 per barrel, respectively, excluding Superfund taxes, customs duties and costs for administration and terminalling.

During this calendar quarter, the crude oil deliveries to the Strategic Petroleum Reserve were competitively acquired from the world oil market by the Defense Department's Defense Fuel Supply Center (DFSC). DFSC maintains a continuous open solicitation for offers to deliver crude oil to the Strategic Petroleum Reserve, and offers are evaluated on a triweekly basis.

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TABLE II-1

STRATEGIC PETROLEUM RESERVE OIL  
INVENTORY AND DELIVERY STATISTICS  
(As of June 30, 1990)

Total Strategic Petroleum Reserve Inventory	586,678,484 Barrels
Amount of Oil in Transit	0 Barrels
Amount of Oil Under Contract for Delivery in Fiscal Year 1990	0 Barrels *
Fill Rate for Reported Calendar Quarter	48,344 Barrels Per Day
Fill Rate for Fiscal Year 1990 to Date	34,974 Barrels Per Day
Projected Fill Rate for Next Calendar Quarter	43,000 Barrels Per Day

\* Contracted amount was increased to 3,000,000 barrels on July 9, 1990



### **III. BUDGET AND COST**

This section provides the financial information required by section 165(b) of the Energy Policy and Conservation Act, as amended.

#### **Funds Available for Obligation**

Estimated funds available for obligation in fiscal year 1990 consist of \$376 million in the SPR Petroleum Account and \$224 million in the Strategic Petroleum Reserve Account. Included in the SPR Petroleum Account are an estimated \$60 million to be deposited in the account in the last quarter of fiscal year 1990. These deposits will consist of excess receipts of Naval Petroleum Reserves Numbered 1 and 3 (NPR-1 and -3), as defined in the Department of the Interior and Related Agencies Appropriations Act for fiscal year 1990 (Public Law 101-121). Initially, the total of these excess receipts and the resulting total deposits in the SPR Petroleum Account were estimated at \$120 million; however, petroleum and associated product prices have been lower than initially projected and the volume of production available for sale from NPR-1 has been somewhat less than anticipated. Funds available in the Strategic Petroleum Reserve Account include \$31 million carried over from fiscal year 1989 and \$193 million provided in Public Law 101-121. The Department of Transportation and Related Agencies Appropriations Act for fiscal year 1990 (Pub-

lic Law 101-164) set a limit of \$147.1 million on the outlays that can be made in fiscal year 1990 from the funding provided in P.L. 101-121 for oil acquisition and transportation.

#### **Oil Acquisition and Transportation (SPR Petroleum Account)**

This activity includes financing for: (1) the Strategic Petroleum Reserve crude oil procurements; (2) associated transportation costs for pipeline and tanker shipments and terminaling; (3) U.S. customs duties and Superfund taxes; and (4) other miscellaneous costs, such as Defense Fuel Supply Center administration costs associated with acquiring and transporting the oil. In the event of a drawdown and sale, this activity also would fund the Federal cost of drawing down Strategic Petroleum Reserve oil from storage and transporting it to the point where purchasers would take title. Proceeds from a sale create additional resources for refilling the Reserve.

#### **Financial Transactions. Third Quarter of Fiscal Year 1990**

During the third quarter of fiscal year 1990, approximately \$3 million were obligated from the SPR Petroleum Account. Fiscal year 1990 obligations through the third quarter were \$235 million. Net disbursements (outlays) from the Account during the same period amounted to approximately \$197 million.

### **Planned Use of SPR Petroleum Account Funds**

Of the estimated \$376 million of SPR Petroleum Account funds available for obligation, approximately \$141 million were not obligated at the end of the third quarter. These funds will support oil acquisition and transportation activities through fiscal year 1990 and into fiscal year 1991.

### **Storage Facilities Development and Operations and Management (Strategic Petroleum Reserve Account)**

Storage Facilities Development and Operations funding provides for the Strategic Petroleum Reserve facilities program, including the construction, operation, and maintenance of the Strategic Petroleum Reserve sites. Management funding provides for analyses pertinent to major issues concerning the development and use of the

Strategic Petroleum Reserve and for the salaries and expenses necessary to plan and manage the Strategic Petroleum Reserve.

### **Financial Transactions, Third Quarter of Fiscal Year 1990**

Of the \$224 million available for fiscal year 1990 for obligation for Storage Facilities Development and Operations and Management, \$11 million were obligated in the third quarter. Cumulative net obligations for fiscal year 1990 were approximately \$149 million at the end of the third quarter.

### **Planned Use of Facilities and Management Funds**

The remaining \$75 million available for Storage Facilities Development and Operations and Management is currently planned for obligation by the end of fiscal year 1990.

## IV. SPECIAL TOPICS

### Strategic Petroleum Reserve Training Exercise with Industry

The Department is planning to conduct a Strategic Petroleum Reserve training exercise with industry during the period October 22 through December 7, 1990. The exercise, named SPRINT-90, will involve a simulated, competitive sale of Strategic Petroleum Reserve crude oil with the objectives of (1) familiarizing industry with the Department's competitive sales process which would be used to distribute the Reserve's oil in the event of an oil supply disruption requiring a drawdown of the Reserve, and (2) providing training to the Strategic Petroleum Reserve organization in performing its necessary functions to sell and distribute the oil. In general, the exercise will consist of the Strategic Petroleum Reserve issuing a simulated Notice of Sale; industry participants submitting bids at current market prices under the assumption that the Reserve is their only source of crude oil; and the Strategic Petroleum Reserve evaluating the bids, simulating awarding of contracts and exercising the delivery scheduling process with participants. At the end

of SPRINT-90, the participants will be asked to submit their comments on both the exercise and the Department's sales process.

### Sale of Sulphur Mines

During the quarter, the Department initiated the process for selling the Sulphur Mines SPR facility. Current plans are to sell the facility in fiscal year 1992 as a way of streamlining the SPR system and improving oil distribution capability. Replacement capacity is being created at the Big Hill and Bayou Choctaw sites.

The Environmental Assessment for the sale was published in January 1990 and the Department approved the plan to sell the facility in April 1990. In June 1990, a Department task force was created to manage the sale and on June 7, 1990 the Department published a notice in the Commerce Business Daily inviting prospective purchasers to attend a briefing and a tour of the site. The site tour was held on July 10, 1990 for approximately 21 persons representing 14 commercial organizations. The task force is drafting a solicitation which will be issued in or about the September - October 1990 time frame.

**END**

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