

# **Strategic Petroleum Reserve Quarterly Report**

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**Department of Energy  
Assistant Secretary for Fossil Energy  
Office of Strategic Petroleum Reserve**

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**Department of Energy  
Assistant Secretary for Fossil Energy  
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Washington, DC 20585**

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## EXECUTIVE SUMMARY

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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, March 1990 and September 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, 1991, 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, 1991, through June 30, 1991.

The Strategic Petroleum Reserve storage facilities development program is proceeding on schedule. The Reserve's capacity is currently 726 million barrels. A total of 5.5 million barrels of new gross cavern volume was developed at Big Hill and Bayou Choctaw during the quarter.

There were no crude oil deliveries to the Strategic Petroleum Reserve during the calendar quarter ending June 30, 1991. Acquisition of crude oil for the Reserve has been suspended since August 2, 1990, following the invasion of Kuwait by Iraq. As of June 30, 1991, the Strate-

gic Petroleum Reserve inventory was 568.5 million barrels.

The reorganization of the Office of the Strategic Petroleum Reserve became effective June 28, 1991. Under the new organization, the Strategic Petroleum Reserve Project Management Office in Louisiana will report to the Strategic Petroleum Reserve Program Office in Washington rather than the Oak Ridge Field Office in Tennessee.

## **I. SITE DEVELOPMENT**

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The Department of Energy has been involved since 1976 in a major storage facilities development program to stockpile crude oil. Over the last 15 years, the Department has acquired and developed six underground crude oil storage facilities in salt domes along the Gulf coasts of Texas and Louisiana, and a marine terminal on the Mississippi River at St. James, Louisiana. The six storage sites are Bayou Choctaw, Weeks Island, West Hackberry and Sulphur Mines in Louisiana, and Bryan Mound and Big Hill in Texas. These storage sites are organized into three distribution systems and connected by Department of Energy pipelines to commercial crude oil pipeline networks and commercial and U.S. Government-owned marine distribution terminal facilities. The Strategic Petroleum Reserve facilities development program is presently directed toward providing a total storage capacity of 750 million barrels and a drawdown/distribution capacity of 4.5 million barrels per day.

### **FACILITIES DEVELOPMENT STATUS**

#### **Bryan Mound**

The Bryan Mound site is located in Brazoria County, Texas, approximately three miles southwest of Freeport. The Department acquired this storage site in 1977 and converted four existing brine caverns with a total capacity of 66 million barrels to oil storage. Subsequently, the Department expanded this site to 226 million barrels

through the solution mining of 16 additional 10 million-barrel caverns. The expansion was completed in 1986 and oil fill is near completion.

In 1992, the Department plans to replace the entire 2.1-mile onshore section of the brine disposal pipeline and shorten the offshore section from 12.5 miles to 4.6 miles. The relocation of the diffuser to the 4.6 mile offshore position has been approved by the EPA. Replacement of the pipeline will require National Environmental Policy Act (NEPA) review and at least an Environmental Assessment. The Department commenced environmental assessment and engineering design activities in May 1991. Fabrication of the new pipeline is planned to commence in mid-1992. Construction will be completed May 30, 1993.

On June 28, 1991, all non-essential operations were suspended at Bryan Mound pending the results of an investigation of the root cause of a series of recent operational mishaps and noted maintenance deficiencies. Completion of the investigation is scheduled for September with resumption of full operational capability to occur as soon thereafter as necessary corrective measures can be implemented.

#### **West Hackberry**

The West Hackberry site is located in Cameron Parish, Louisiana, approximately 22 miles southwest of Lake Charles. The Department acquired this storage site in 1977 and converted five existing brine caverns with a capacity of 49 million barrels to oil storage. Subsequently, the Department expanded this

storage site through solution mining of 17 additional 10 million-barrel storage caverns. Development of this site to the planned level of 219 million barrels was completed in September 1988.

### **Sulphur Mines**

The Sulphur Mines site is located in Calcasieu Parish, Louisiana, approximately 12 miles west of Lake Charles. The Department acquired this storage site in 1979 and converted three existing brine caverns with a capacity of 26 million barrels to crude oil storage. Development and fill of this site were completed in 1983.

The Department's development plan for the SPR provides for consolidating the Sulphur Mines inventory into existing larger sites to increase the Reserve's cost effectiveness. Specifically, the Department is expanding the Big Hill facility by 20 million barrels and the Bayou Choctaw facility by 6 million barrels to replace the Sulphur Mines storage capacity.

The Department issued a competitive Invitation for Bids (IFB) for the sale of the facility on June 17, 1991. The IFB will close on September 17, 1991. Plans have been initiated to transfer the site to a new owner during the second quarter of 1992 or to the General Services Administration by the fourth quarter should the site not be purchased by an industrial firm.

As of the end of this quarter, nearly 11 million barrels of oil have been moved to the Big Hill site. Completion of oil transfer is anticipated in late 1991.

### **Big Hill**

The Big Hill storage site is located in Jefferson County, Texas, 20 miles southwest of Beaumont. The Department acquired this undeveloped site in 1982 and has been constructing a new storage facility with a planned storage capacity of 160 million barrels and a drawdown capability of 930,000 barrels per day. The site's planned total capacity includes 20 million barrels of storage capacity to replace a portion of that lost through the planned decommissioning of the Sulphur Mines site.

Construction of all major surface facilities at Big Hill has been completed. Cavern development continues on schedule. Twelve of the 14 caverns have been completed and the remaining two caverns are 96 percent complete. The total planned capacity of 160 million barrels is projected to be completed in September 1991.

### **Bayou Choctaw**

The Bayou Choctaw site is located in Iberville Parish, Louisiana, approximately 12 miles southwest of Baton Rouge. The Department acquired this storage site in 1977 and converted four existing brine caverns with a capacity of 46 million barrels to oil storage. Subsequently, the Department acquired a fifth existing cavern (No. 17) through an exchange agreement with Union Texas Petroleum.

During this quarter, Cavern 18 was enlarged by 1.2 million barrels bringing the cavern to approximately 95 percent completion. Cavern leaching remains on schedule and is anticipated

to be completed in September 1991, at which time the site's planned total storage capacity of 72 million barrels will be achieved.

### **Weeks Island**

The Weeks Island site is located in Iberia Parish, Louisiana, approximately 95 miles southwest of New Orleans. The Department acquired this storage site in 1977 and converted an existing conventional salt mine with a capacity of 73 million barrels to oil storage. Development and fill of this site were completed in 1982. The site is currently in an operational standby mode.

As part of the Weeks Island mine integrity assurance program, the Department plans to isolate Morton International Inc.'s Markel Mine from the Strategic Petroleum Reserve operations area by constructing new bulkheads. Responses to an Invitation for Bids (IFB) for construction are due in July 1991 with contract award anticipated in August. Completion of construction is anticipated in mid-1992.

The Department has plans to install a back-up or alternate drawdown capability to the existing 11-pump system located in the service shaft by acquiring submersible recovery pumps which could be placed into the mine oil-fill holes. Responses to an earlier Department solicitation were deemed to be unacceptable in terms of technical feasibility and costs and therefore the single-site criteria for recovery pumping capacity was waived at Weeks Island to allow for use of a lower flow rate but technically feasible back-up pumping system. The recovery criteria for the total Reserve system, however, remains in effect.

A new solicitation for downhole recovery pumps capable of supporting a 160,000 barrel-per-day drawdown is expected to be issued in early August.

### **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.

Site piping and pumping system modifications at Bryan Mound, designed to increase the site's drawdown/distribution rate from 1.1 million barrels to 1.25 million barrels per day, are approximately 92 percent complete as of June 30, 1991. Completion of construction is scheduled for late August. Start-up testing is planned for September 1991.

The Department's solicitation for 700,000 barrels per day of commercial marine and/or pipeline distribution services within the Texoma Group closed on May 15, 1991. Several proposals were received and are currently being evaluated. Contract awards are planned for September 1991.

### **CURRENT AND PROJECTED STORAGE CAPACITY**

As of June 30, 1991, the SPR's total available storage capacity was 726 million barrels. A total of 5.5 million barrels of new gross cavern volume was developed at Big Hill and Bayou Choctaw this quarter, as shown in Table I-1.

The SPR will complete its 750 million barrel development next quarter with the completion of the last two caverns at Big Hill and the Cavern 18 enlargement at Bayou Choctaw. Projected

storage capacity and cumulative oil fill capability by fiscal year are shown in Table I-2. Oil fill capability is based on the maximum fill rates for the storage sites.

**TABLE I-1**  
**Strategic Petroleum Reserve Capacity Development**  
**(million barrels)**

Storage Facility	1991 Apr-Jun Gross Volume Created	1991 Apr-Jun Storage Volume Created	Cumulative Storage Capacity June 30, 1991
Big Hill	4.3	23.0	138.0
Bryan Mound	-	-	226.0 <sup>1/</sup>
West Hackberry	-	-	219.0 <sup>1/</sup>
Bayou Choctaw	1.2	0.0	56.0
Weeks Island	-	-	73.0 <sup>2/</sup>
Sulphur Mines	-	-	14.0 <sup>3/</sup>
<b>TOTAL</b>	<b>5.5</b>	<b>23.0</b>	<b>726.0</b>

<sup>1/</sup> Storage development completed.

<sup>2/</sup> Storage development and oil fill completed.

<sup>3/</sup> Storage capacity based on the current oil inventory. Site oil transfer in progress in preparation for decommissioning in FY 1992.

**TABLE I-2**  
**Current and Projected Available Storage Capacity**  
**(million barrels)**

	Storage Capacity	Cumulative Oil Fill Capability
Current (June 30, 1991)	726	568
End of FY 1991	750	622
FY 1992	750	750



## II. OIL ACQUISITION

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There were no crude oil deliveries to the Strategic Petroleum Reserve during the calendar quarter ending June 30, 1991. Since August 2, 1990, when Iraq invaded Kuwait, the acquisition of crude oil to fill the Reserve has been suspended. Current plans are to resume crude oil acquisition and fill activities during fiscal year 1992.

As of the end of the quarter, the Strategic Petroleum Reserve inventory was 568,487,663 barrels.

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

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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 1991 consist of \$650 million in the SPR Petroleum Account and \$260 million in the Strategic Petroleum Reserve Account. These funds include \$315 million collected as a result of the Operation Desert Storm drawdown. At the present time, no Naval Petroleum Reserve receipts in excess of \$638 million, as provided by the Department of Interior and Related Agencies Appropriations Act for fiscal year 1991 (Public Law 101-512), are projected for deposit in the SPR Petroleum Account during fiscal year 1991.

#### **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 terminalling; (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. During a drawdown and sale, this activity funds the Federal cost of drawing down Strategic Petroleum Reserve oil from storage and trans-

porting it to the point where purchasers would take title.

#### **FINANCIAL TRANSACTIONS, THIRD QUARTER OF FISCAL YEAR 1991**

During the third quarter of fiscal year 1991, \$3 million was obligated from the SPR Petroleum Account. Fiscal year 1991 obligations through the third quarter were \$9 million. Net disbursements (outlays) from the Account during the same period amounted to approximately \$16 million.

#### **PLANNED USE OF SPR PETROLEUM ACCOUNT FUNDS**

Of the estimated \$650 million of SPR Petroleum Account funds available for obligation, approximately \$641 million were not obligated at the end of the third quarter.

These funds will support oil acquisition and transportation activities into fiscal year 1992.

#### **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 1991**

Of the \$260 million available during fiscal year 1991 for obligation for Storage Facilities Development and Operations and Management, \$11 million were obligated in the third quarter. Cumulative net obligations for fiscal year 1991 were approximately \$122 million at the end of the third quarter.

#### **PLANNED USE OF FACILITIES AND MANAGEMENT FUNDS**

The remaining \$138 million available for Storage Facilities Development and Operations and Management is currently planned for obligation by the end of fiscal year 1991.

## IV. SPECIAL TOPICS

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### CANDIDATE SITES FOR A BILLION BARREL STRATEGIC PETROLEUM RESERVE

In May, the Department published a "Notice of Intent" in the *Federal Register* to announce its plan to prepare an Environmental Impact Statement (EIS) evaluating the alternatives for expanding the Reserve to one billion barrels and to announce public scoping meetings and solicit comments.

A brochure was prepared and widely distributed to publicize the meetings and help the public and cognizant Federal, state, and local agencies to understand what is being proposed. In addition, legal advertisements were placed in major regional newspapers. Altogether, 24 local newspapers, fourteen television stations and four radio stations were contacted.

The scoping meetings were held June 4, 1991, in Lake Jackson, Texas, and June 6, 1991, in Thibodaux, Louisiana. Attendance was light.

Seventeen people spoke in addition to the brief presentations by the Department. No new alternatives were proposed and no new unexpected environmental issues surfaced. Most of the public comments were socioeconomic in nature.

The results of the scoping process will be summarized in the EIS Implementation Plan which will establish the scope, structure and

outline of the EIS. The Implementation Plan is expected to be available in August 1991.

### STRATEGIC PETROLEUM RESERVE RECOVERY PROGRAM

The Strategic Petroleum Reserve's Recovery Program provides for rapid repair of drawdown-critical systems if necessary during an energy emergency. Delays have been experienced in the implementation of the Recovery Program over the past nine months due to the SPR Desert Storm drawdown and technical obstacles that have caused procurement delays and cancellations. The major procurements for site-specific manifolds, valves, piping pumps and motors for the recovery program are under contract for delivery by February 1992 for all SPR sites except the Weeks Islands site. A delay has been experienced in procurement of submersible pumps for the Weeks Island site which has been canceled twice due to non-responsive bids. Full achievement of a recovery capability for all sites is now scheduled for August 1992.

### SECURITY

On March 20, 1991, the Department of Justice signed Arrest Authority Implementation Guidelines authorizing the Reserve to make arrests and enforce Federal offenses such as trespassing and malevolent acts on federally-owned Strategic Petroleum Reserve facilities. Planned implementation of this arrest authority has been delayed due to a procedural change requiring publication of the Arrest Authority Guidelines in the *Federal Register* as a "Notice of Proposed Rulemaking." Following this publi-

cation, there will be a 30-day comment period and a 30-day waiting period. Publication in the *Federal Register* is expected in July 1991. All Strategic Petroleum Reserve-related actions, however, including training, and the printing and preparation of credentials will be completed in time to support implementation.

## **NEW MANAGEMENT STRUCTURE**

As part of the Secretary of Energy's initiatives to establish clearer lines of management authority and accountability throughout the Department, the Strategic Petroleum Reserve (SPR) Program Management structure changed in June. The SPR Project Management Office now reports directly to the SPR Program Office at DOE headquarters rather than through the Oak Ridge Field Office. The SPR Program Office was also reorganized to accommodate its more direct oversight and management role. The reorganization included the addition of staff resources.

**END**

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