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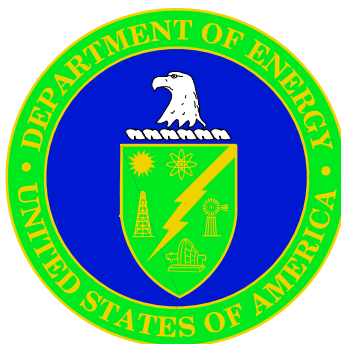
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# Strategic Petroleum Reserve

## Annual Report for Calendar Year 2006

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**U.S. Department of Energy  
Assistant Secretary for Fossil Energy  
Office of Strategic Petroleum Reserve  
Washington, D.C. 20585**

**Strategic Petroleum Reserve: [www.spr.doe.gov](http://www.spr.doe.gov)**

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## **EXECUTIVE SUMMARY**

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### ***Program Highlights and Status***

The Strategic Petroleum Reserve program provides the Nation with energy and economic security through its emergency stockpile of crude oil. As of December 31, 2006, the Reserve had a crude oil inventory of 688.6 million barrels (equal to 56 days of net U.S. imports) and a drawdown capability of 4.4 million barrels per day.

### ***Emergency Oil Releases***

During 2006, the Secretary of Energy authorized the use of the Strategic Petroleum Reserve to alleviate adverse supply impacts of two channel closures in the U.S. Gulf Coast. The Strategic Petroleum Reserve released a total of 1.5 million barrels to three companies under emergency oil exchange agreements.

### ***Oil Acquisitions and Receipts***

The Strategic Petroleum Reserve received 4.4 million barrels in 2006 in repayment for emergency oil exchanges made by the Department of Energy (DOE) to refiners during Hurricane Katrina in 2005. A total of 8.6 million barrels, including an interest premium, was received from the companies in 2005 and 2006 as repayment for 9.8 million barrels originally exchanged. An additional 1.7 million barrels will be received in the second quarter of 2007, for a total of 10.3 million barrels returned.

The Strategic Petroleum Reserve received 1.6 million barrels in 2006, as repayment for 1.5 million barrels of emergency exchanges made by the Department to refiners in response to the two channel closure incidents during 2006.

The Strategic Petroleum Reserve did not receive any crude oil from the Department of the Interior's royalty-in-kind program during 2006.

### ***Expansion to One Billion Barrels***

The Energy Policy Act of 2005 (EPAct 2005) (Public Law 109-58), enacted August 8, 2005, directed the Secretary of Energy to acquire petroleum to fill the Strategic Petroleum Reserve to its authorized one billion barrel capacity "as expeditiously as practical without incurring excessive costs or appreciably affecting the price of petroleum products to consumers." The EPAct 2005 also directed that, not later than one year after enactment, DOE must complete proceedings to select sites necessary to expand the Strategic Petroleum Reserve to one billion barrels.

In accordance with the National Environmental Policy Act, DOE initiated the preparation of an Environmental Impact Statement (EIS) in 2005 for the site selection for the expansion of the Strategic Petroleum Reserve. DOE issued a Draft EIS in May 2006 and a Final EIS in December 2006. The Final EIS identified a new site at the Richton salt dome in Mississippi as the "preferred alternative" based on crude oil distribution system capabilities, environmental considerations, project risks, and project costs and included expansions to the existing Strategic Petroleum Reserve sites at Big Hill, Texas, and Bayou Choctaw and West Hackberry in Louisiana. The Secretary of Energy issued a Record of Decision on February 14, 2007, which completed the site selection process.

### ***Oil Acquisition Procedures***

The EPAct 2005 also directed the Secretary of Energy to develop procedures for the acquisition of petroleum for the Strategic Petroleum Reserve to fill the Reserve in appropriate circumstances to its authorized one billion barrel capacity. The Department proposed acquisition procedures for public comment on April 6, 2006 (71 FR 20909, 04/24/06). After incorporation of public comments, DOE issued a notice of final rulemaking on November 1, 2006 (71 FR 65376,

11/8/06), establishing 10 CFR 626 *Procedures for the Acquisition of Petroleum for the Strategic Petroleum Reserve*. The final rule became effective on December 8, 2006.

### ***Environment, Safety, and Health***

The Strategic Petroleum Reserve program operates under an International Organization for Standardization (ISO) 14001 Environmental Management Certification. In 2006, the Strategic Petroleum Reserve successfully completed its triennial third party recertification of all six of its management and operating locations against the ISO 14001 standard. This robust management system has contributed to the Strategic Petroleum Reserve operating for the past eleven years without an environmental Notice of Violation.

The Strategic Petroleum Reserve sites continue to operate under the Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP) certification. All four sites achieved "Star Among Stars" awards from OSHA Region VI and Department of Energy performance awards. During 2006, Bayou Choctaw was awarded the OSHA VPP "Star of Excellence" in recognition of its low accident rate, continuous improvement, and effective safety management system. The Big Hill and West Hackberry sites received the OSHA VPP "Superstar" in recognition of their performance in the above categories.

### ***Notable Achievements***

The Strategic Petroleum Reserve storage sites have been recipients of numerous awards for management quality, environmental stewardship, and its safety programs. In 2006, the Strategic Petroleum Reserve was one of only four recipients nation-wide of the Environmental Protection Agency's (EPA) prestigious National Environmental Performance Track Outreach Award, highlighting the continuing environmental stewardship leadership position.

The Strategic Petroleum Reserve Office in New Orleans was recognized by EPA dignitaries from Region VI and the Louisiana Department of Environmental Quality as continuing charter members in the National Environmental Performance Track program.

## **PROGRAM MISSION**

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### ***Introduction***

The Strategic Petroleum Reserve was authorized in 1975 in response to the 1973 Arab oil embargo. It is authorized by the Energy Policy and Conservation Act (EPCA) (42USC 6201 et seq.), as amended and by the comprehensive energy plans of all Administrations since 1975, in recognition of the long-term dependence of the United States on imported crude oil and petroleum products.

Section 165 of EPCA requires the Secretary of Energy to submit an Annual Report to the President and the Congress. The report is to include information on the physical capacity, type and quantity of petroleum in the Strategic Petroleum Reserve as well as plans for upgrades or major maintenance. EPCA also requires information on the current withdrawal and distribution rates and capabilities; the history and costs of petroleum acquisitions, and the costs associated with operations, maintenance, management, and planned projects for the Strategic Petroleum Reserve.

As of December 31, 2006, the inventory in the Strategic Petroleum Reserve was 688.6 million barrels of crude oil. The inventory amounted to 56 days of net imports. The United States relies on a combination of oil in the Strategic Petroleum Reserve and private stocks to meet its oil storage obligations under the agreement with the International Energy Program.

### ***Legislative History***

EPCA, enacted on December 22, 1975, authorized the establishment of the Strategic Petroleum Reserve to reduce the impact of a severe energy supply interruption, and to carry out the obligations of the United States under the International Energy Program.

EPCA was amended by Title VIII of the Energy Security Act (Public Law 96-294), enacted on June 30, 1980. The Act established a minimum average daily fill rate of 100 thousand barrels and precluded sale of Naval Petroleum Reserve Numbered 1 (Elk Hills, California) crude oil, except to fill the Strategic Petroleum Reserve, unless the Strategic Petroleum Reserve was being filled at the minimum rate or had an inventory of 500 million barrels.

The Energy Policy and Conservation Amendments Act of 1985 (Public Law 99-58), enacted on July 2, 1985, extended the provisions of Title I, Part B, of EPCA relating to the Strategic Petroleum Reserve until June 30, 1989, and directed the Secretary of Energy to conduct a sale or exchange of 1.1 million barrels of crude oil to test the drawdown and distribution capabilities of the Strategic Petroleum Reserve.

The Omnibus Budget Reconciliation Act of 1986 (Public Law 99-509), enacted on October 18, 1986, amended EPCA to require that the Strategic Petroleum Reserve be filled at a minimum rate of 75 thousand barrels a day until at least 750 million barrels were in storage.

Public Law 101-46, enacted on June 30, 1989, extended Strategic Petroleum Reserve authorities contained in EPCA until April 1, 1990. The Act also required the Secretary of Energy to submit a report to Congress by February 1, 1990, on alternative means of financing oil acquisition for the Strategic Petroleum Reserve. Short-term extensions of the Strategic Petroleum Reserve authorities contained in EPCA were enacted on March 31, 1990 (Public Law 101-262), and August 10, 1990 (Public Law 101-360).

On September 15, 1990, the President signed the Energy Policy and Conservation Act Amendments of 1990 (Public Law 101-383), extending authorization for the Strategic Petroleum Reserve until September 30, 1994. This legislation also contained provisions to amend drawdown authorities, required a Strategic Petroleum Reserve Plan Amendment for completion of storage capacity for one billion barrels, authorized the drawdown and distribution tests, and provided for a refined petroleum product reserve test program.

On October 24, 1992, the President signed the Energy Policy Act of 1992 (Public Law 102-486). The Act included provisions to (1) add new conditions for drawdown in emergency situations involving a supply reduction of significant scope and duration, coupled with a severe price increase likely to cause a major adverse impact on the nation's economy, (2) allow the enlargement of the Reserve to one billion barrels, (3) permit the Secretary of Energy to make payment in advance for delivery of petroleum product either owned or not owned by the United States for storage in the Strategic Petroleum Reserve or non-Strategic Petroleum Reserve facilities, (4) give the President discretionary authority to acquire domestic stripper well oil at competitive prices to fill the Reserve, and (5) amend the eligibility criteria for a Regional Petroleum Reserve.

On October 22, 1994, the President signed into law the Energy Policy and Conservation Act Amendments Act of 1994 (Public Law 103-406), extending authorization for the Reserve to June 30, 1996.

The Balanced Budget Downpayment Act (Public Law 104-99), enacted on January 26, 1996, required the sale of up to \$100 million of Weeks Island oil to fund decommissioning activities.

The Omnibus Consolidated Rescissions and Appropriations Act of 1996 (Public Law 104-134), enacted on April 26, 1996, required the sale of \$227 million of Weeks Island oil for deficit reduction.

The Omnibus Consolidated Appropriations Act (Public Law 104-208), enacted on September 30, 1996, appropriated \$220 million for the Strategic Petroleum Reserve in fiscal year 1997 to be financed through the sale of Reserve oil. The Strategic Petroleum Reserve authorities expired on June 30, 1996. On October 14, 1996, Public Law 104-306 extended the authorization for the Strategic Petroleum Reserve until September 30, 1997. After the expiration of that authorization, the Reserve was not reauthorized until June 1998.

The Balanced Budget Act of 1997 (Public Law 105-33), enacted on August 5, 1997, added a new section 168 to EPCA, authorizing the leasing of underutilized Strategic Petroleum Reserve facilities for the storage of oil owned by a foreign government or its representatives.

The Department of the Interior and Related Agencies Appropriations Act, 1998 (Public Law 105-83), enacted on November 14, 1997, appropriated \$207.5 million for the Strategic Petroleum Reserve in fiscal year 1998 to be financed through the sale of Reserve oil.

The 1998 Supplemental Appropriations and Rescissions Act (Public Law 105-174), enacted on May 1, 1998, included a provision which prohibited the drawdown and sale of Strategic Petroleum Reserve oil if the President determined that a sale would be imprudent in light of market conditions and designated the \$207.5 million in foregone revenue as an emergency requirement under the Balanced Budget Act of 1985. The President made the requisite determination and designation on May 8, 1998.



On June 1, 1998, the President signed Public Law 105-177 to extend certain EPCA programs. The Act extended the authorization for the Strategic Petroleum Reserve and participation in the International Energy Program through September 30, 1999, and expanded the antitrust protection for U.S. companies participating in International Energy Agency activities. The Act also authorized the drawdown and distribution of crude oil from the Strategic Petroleum Reserve only for the purposes described in the Act, and required that the Secretary of Energy request funds for acquisition, transportation and injection of petroleum products for storage in the Reserve or provide a written explanation if no request for funds was made. The Omnibus Consolidated and Emergency Supplemental Appropriations Act, 1999 (Public Law 105-277), enacted on October 21, 1998, included \$160.1 million for the Strategic Petroleum Reserve.

On November 13, 1998, the President signed Public Law 105-388, an Act to extend energy conservation programs under EPCA and the Energy Conservation and Production Act, and for other purposes. The Act provided that, during a drawdown of the Strategic Petroleum Reserve, the State of Hawaii may submit a binding offer for Strategic Petroleum Reserve oil and be entitled to purchase the oil at a price equal to the weighted average price of the successful competitive bids for oil in the applicable category. Deliveries under the binding offer would receive priority scheduling during a Strategic Petroleum Reserve drawdown.

The Strategic Petroleum Reserve authorization expired on September 30, 1999. On October 5, 1999, the President signed Public Law 106-64, extending the authorization for the Reserve and for the EPCA authorities for United States participation in the International Energy Program until March 31, 2000.

Appendix C of the Consolidated Appropriations Act, 2000 (Public Law 106-113), enacted on November 29, 1999, included \$159 million for the Strategic Petroleum Reserve. The Act also allowed the Secretary to use other DOE funds to finance a drawdown from the Strategic Petroleum Reserve.

The Department of the Interior and Related Agencies Appropriations Act, 2001 (Public Law 106-291), signed on October 11, 2000, included \$165 million for the development, operation and management activities of the Strategic Petroleum Reserve under EPCA, \$4,000,000 to be derived from the transfer of unobligated funds in the "SPR Petroleum Account."

On November 9, 2000, the President signed the Energy Act of 2000 (Public Law 106-469). Title I reauthorized titles I and II of EPCA through fiscal year 2003, and updated or deleted the EPCA title I Strategic Petroleum Reserve authorities. Title II amended title I of EPCA to insert a new part D authorizing the Secretary "to establish, maintain, and operate a Northeast Home Heating Oil Reserve," containing no more than two million barrels of petroleum distillate and located in the Northeast. The new part D Reserve is not a component of the Strategic Petroleum Reserve established under part B of title I of EPCA. Title II also sets forth conditions for release of products from the new part D Reserve, requires transmittal to the President and Congress of a plan describing the Reserve, and upon establishment, requires the Secretary of the Treasury to establish a "Northeast Home Heating Oil Reserve" account at Treasury.

On November 5, 2001, the President signed Public Law 107-63, the Interior and Related Agencies Appropriations Act for fiscal year 2002. The Act included \$171 million for Strategic Petroleum Reserve facilities and operations and \$8 million for the Northeast Home

Heating Oil Reserve. Congress further specified that if the full \$8 million is not needed for the Northeast Home Heating Oil Reserve, DOE is encouraged to apply any excess funds to the vapor pressure project to remove excess gas from the oil in the Strategic Petroleum Reserve.

On February 20, 2003, after a series of continuing resolutions, the President signed Public Law 108-7, the Consolidated Appropriations Act, 2003. Public Law 108-7 included \$171.7 million for Strategic Petroleum Reserve operations and program management activities, \$1.9 million for the SPR Petroleum Account, and \$6 million for operation of the Northeast Home Heating Oil Reserve. The law also extended EPCA authority for the Strategic Petroleum Reserve, the Northeast Home Heating Oil Reserve, and United States participation in the International Energy Program through September 30, 2008.

On November 10, 2003, the President signed the Department of the Interior and Related Agencies Appropriations Act, 2004 (Public Law 108-108). The Act provided \$171 million for the operations and program management activities of the Strategic Petroleum Reserve and \$5 million for the Northeast Home Heating Oil Reserve.

On December 8, 2004, the President signed the Consolidated Appropriations Act, 2005 (Public Law 108-447). The Act provided \$172,100,000 for the operations and program management activities of the Strategic Petroleum Reserve and \$5,000,000 for the Northeast Home Heating Oil Reserve. After an across-the-board rescission of 0.594 percent and a second general reduction, the Strategic Petroleum Reserve budget authority was reduced to \$169,710,000 and the Northeast Home Heating Oil Reserve authority to \$4,930,000.

On August 8, 2005, the President signed into law the Energy Policy Act of 2005 (Public Law 109-58). The Act amended EPCA to provide permanent authorization for the Strategic Petroleum Reserve and the Northeast Home Heating Oil Reserve, and to make a technical amendment clarifying the heating season period. The Act also required acquisition of petroleum to fill the Strategic Petroleum Reserve to its authorized one billion barrel capacity “as expeditiously as practical without incurring excessive costs or appreciably affecting the price of petroleum products to consumers”; promulgation of procedures for the acquisition of petroleum for the Reserve, to include procedures and criteria for the review of requests for the deferrals of scheduled deliveries; and selection of sites necessary to expand the storage capacity of the Strategic Petroleum Reserve to one billion barrels.

On November 19, 2005, the President signed the Energy and Water Development Appropriations Act, 2006 (Public Law 109-103). The Act provided \$166,000,000 for facility development and operations and program management activities of the Strategic Petroleum Reserve. After an across-the-board rescission of 1 percent, the Strategic Petroleum Reserve budget authority was reduced to \$164,340,000. The Act provided no new funding for the Northeast Home Heating Oil Reserve, with direction to fund the program using prior year carryover balances.

Congress passed a series of Continuing Resolutions to cover programs whose fiscal year 2007 appropriations, beginning October 1, 2006, had not yet been completed. The last 2006 Continuing Resolution was signed by the President on December 9, 2006 (Public Law 109-383), and provided funding through February 15, 2007.

***Strategic Petroleum Reserve Plan and Amendments***

Title I of the Energy Act of 2000 amended EPCA to eliminate the requirement for a Strategic Petroleum Reserve Plan and plan amendments. However, the law requires the Secretary of Energy to submit a plan to Congress if the Secretary decides to expand the Strategic Petroleum Reserve beyond 700 million barrels.

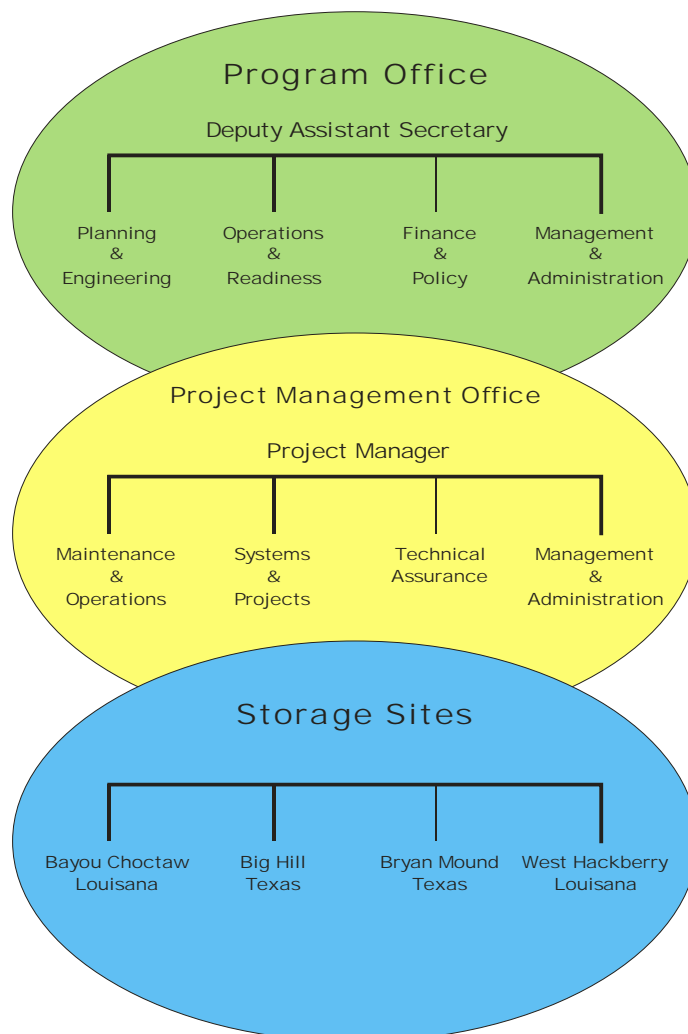
## PROGRAM MANAGEMENT

### Organization

The Assistant Secretary for Fossil Energy at the Department of Energy in Washington, D.C. has overall program responsibility for achieving the goals and objectives of the Strategic Petroleum Reserve. This responsibility is delegated to the Deputy Assistant Secretary for Petroleum Reserves, and is exercised through the

Strategic Petroleum Reserve Program Office in Washington, D.C., and the Project Management Office in New Orleans, Louisiana. Total staffing is 110 Federal full-time equivalent employees and 824 contractor employees. Figure 1 depicts the Strategic Petroleum Reserve organizational structure.

**Figure 1**  
**Strategic Petroleum Reserve Organizational Structure**



### ***Contractual Support***

The Project Management Office is responsible for the design, development, operation and maintenance of the Strategic Petroleum Reserve and employs a Management and Operating (M&O) contractor, DynMcDermott Petroleum Operations Company, to provide management and personnel to operate and maintain the four Strategic Petroleum Reserve storage facilities and certain related pipeline systems. DynMcDermott will operate the Strategic Petroleum Reserve through March 31, 2008, with an option for DOE to extend the contract for an additional five-year period.

URS Group Inc., an architect/engineering firm, provides design services for the four storage facilities through March 8, 2007, with options for DOE to extend the contract for three additional years. The first of these option years has been exercised. Sandia National Laboratory provides geotechnical support.

ASRC Construction, Inc. (ACI), a Native Alaskan 8(a) small disadvantaged business, provides construction and construction management services for the four storage facilities under a two-year contract, awarded November 25, 2003, with three one-year renewal option periods. The second of these option years has been exercised.

Contractors in specific disciplines perform miscellaneous site modifications for major maintenance program activities. Most of these contracts are fixed-price and have terms of less than one year.

Several support services contracts exist for management, technical, and computer support. The largest support service contractor is Deltha-Critique, an 8(a) small disadvantaged business, which provides management and technical support services to the Project Management Office under a contract that commenced November 1, 2006. Other support services contractors include ICF Consulting Inc., PB Energy Storage Services, Inc., AOC Petroleum Support Services, LLC, and Cyborg, Inc.

Electrical power is provided to the four storage facilities by local utilities, Reliant Energy and Entergy.

Seaway Crude Pipeline Inc., Sunoco Partners Marketing & Terminals, L.P., and Unocal Corporation, provide commercial terminal services for fill, drawdown and storage of crude oil. The terms of the Sunoco Partners Marketing & Terminals, L.P. is in its first five-year option period, which expires April 30, 2008, and Unocal Corporation is in its second five-year option period, which expires April 23, 2007. The period of performance for Seaway Crude Pipeline, Inc. expires December 1, 2011.

## **CRUDE OIL STORAGE PROGRAM**

### ***Strategic Petroleum Reserve Storage Facilities***

The Strategic Petroleum Reserve currently operates and maintains four major oil storage facilities in the Gulf Coast region of the United States. The Strategic Petroleum Reserve has two sites in Texas, i.e. Bryan Mound and Big Hill, and two sites in Louisiana, i.e., West Hackberry and Bayou Choctaw. These four sites have a combined oil storage capacity of 727 million barrels and a drawdown capability of 4.4 million barrels per day. Table 1 shows the storage capacity and drawdown capability of each of the four storage sites as of December 31, 2006.

All oil stored in the Strategic Petroleum Reserve's oil storage facilities is stored in large underground storage caverns which have been developed in salt dome formations. Salt dome storage technology provides maximum security and safety for the Nation's stockpile of crude oil.

Salt dome storage is also by far the lowest cost technology for large-scale petroleum storage projects. The annual operations cost for the Reserve is approximately \$0.20 per barrel per year. This includes the management, program staffing, operation & maintenance, and security. This cost is substantially less than commercial industry storage costs as well as most other foreign strategic oil reserves.

The Strategic Petroleum Reserve's oil storage facilities are grouped into three geographical distribution systems in the Gulf Coast: Seaway, Texoma and Capline. Each system has access to one or more major refining centers, interstate crude oil pipelines, and marine terminals for crude oil distribution. The locations of the Strategic Petroleum Reserve storage sites, and their respective distribution systems, are shown in Figure 2.

**Table 1**  
**Storage Capacity and Drawdown Capability as of December 31, 2006**

Storage Facility	CURRENT SITE CAPABILITY		
	Storage Capacity (MMB)	Crude Mix Sweet/Sour (MMB)	Drawdown Capability (MB/D)*
<b>Bryan Mound</b>	<b>254</b>	<b>78/176</b>	<b>1,500</b>
<b>West Hackberry</b>	<b>227</b>	<b>119/108</b>	<b>1,300</b>
<b>Big Hill</b>	<b>170</b>	<b>72/98</b>	<b>1,100</b>
<b>Bayou Choctaw</b>	<b>76</b>	<b>24/52</b>	<b>515</b>
<b>Total Program</b>	<b>727</b>	<b>293/434</b> <b>(40%/60%)</b>	<b>4,415</b>

Sweet = Low sulfur crude (S<0.5%)

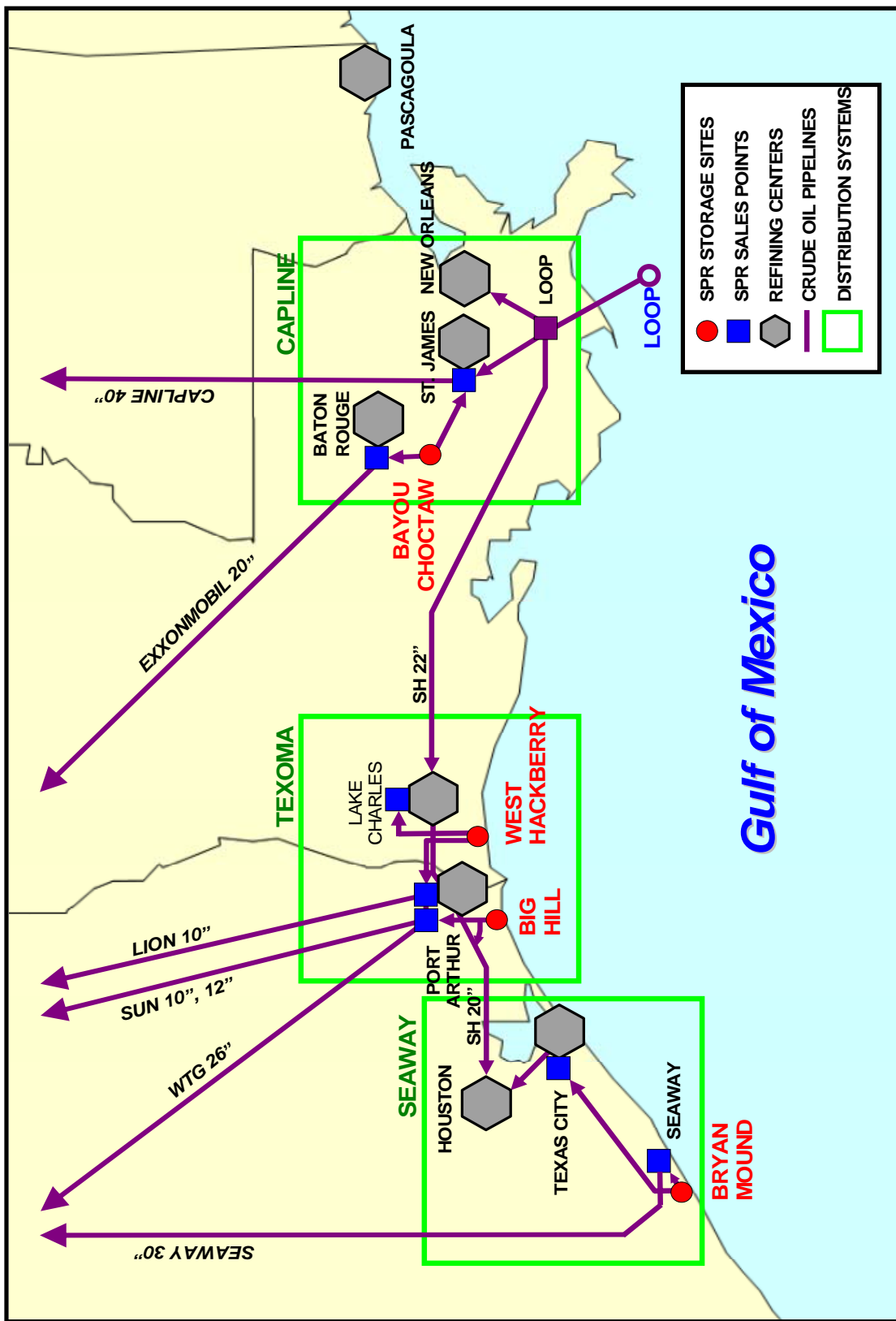
Sour = Medium sulfur crude (S<2.0%)

\* Initial 30-day capability

MMB = Million Barrels

MB/D = Thousand Barrels Per Day

Figure 2  
Storage Sites and Distribution System



### **Bryan Mound Site Status**

The Bryan Mound storage site is located in Brazoria County, Texas, approximately three miles southwest of Freeport, Texas. The site has 20 storage caverns, a combined storage capacity of 254 million barrels, and a cavern inventory of 230.6 million barrels.

The Bryan Mound site was completed in 1986 and has been fully operational since. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities. During 2006, construction was completed to install new heat exchanger tube bundles. Contracts have been awarded and construction is ongoing to repair a brine tank, upgrade distributed control system controllers and operator interfaces, and install an emergency communications network.

During 2006, the Strategic Petroleum Reserve experienced a failure in one of the site's three crude oil storage tanks which were built in the late 1970's. These tanks were constructed to support the high tanker delivery rates from the Freeport dock facility. The tanks are 200,000 barrel, fixed roof storage tanks with internal floating pans. The internal floating pan of one of the tanks sank and became deformed due to the weight of the oil above it. Attempts to raise or re-float the pan were unsuccessful. As a result the Strategic Petroleum Reserve was forced to empty the tank and cut an access port into the tank to remove the damaged floating pan. Decisions on what actions will be taken to repair the tank will be made in 2007.

### **West Hackberry Site Status**

The West Hackberry storage site is located in Cameron Parish, Louisiana, approximately 25 miles southwest of Lake Charles, Louisiana. The site has 22 storage caverns, a combined storage capacity of 227 million barrels and a cavern inventory of 216.5 million barrels.

The West Hackberry site was completed in 1988 and has been fully operational since. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities. During 2006, construction was completed to install pump protective shelters, install valves for drawdown control and cavern valve flushing, and clean and inspect brine tanks. Contracts have been awarded and construction is ongoing to improve site drainage and roadways, upgrade distributed control system controllers and operator interfaces, and install an emergency communications network. Repairs of damages sustained as a result of Hurricane Rita have also been completed.

In addition, the Strategic Petroleum Reserve has one major construction project in progress at the West Hackberry site. This project provides for replacement of an existing 4.2-mile, 42-inch diameter water pipeline from the West Hackberry storage site to the site's raw water intake facility. The current pipeline is approximately 23 years old and has extensive internal corrosion. This pipeline is essential for site drawdown operations. This pipeline project was approved in 2004 and the engineering design was completed in 2005. In 2006, the Strategic Petroleum Reserve completed the procurement of the pipe, valves and other Government Furnished Materials, and initiated the construction of the new pipeline. As of December 31, the pipeline construction had been completed. This project is scheduled to be completed by mid-2007.

### **Bayou Choctaw Site Status**

The Bayou Choctaw storage site is located in Iberville Parish, Louisiana, approximately 12 miles southwest of Baton Rouge, Louisiana. The site has six storage caverns, a combined storage capacity of 76 million barrels, and a cavern inventory of 71.5 million barrels.



The Bayou Choctaw site was completed in 1987 and has been fully operational since. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities. During 2006, construction was completed to install new heat exchanger tube bundles and provide additional security clear zones. Contracts have been awarded and construction is ongoing to upgrade site perimeter detection systems, upgrade distributed control system controllers and operator interfaces, and install an emergency communications network.

### **Big Hill Site Status**

The Big Hill storage site is located in Jefferson County, Texas, approximately 26 miles southwest of Beaumont, Texas. The site has 14 storage caverns, a combined storage capacity of 170 million barrels, and a cavern inventory of 168.7 million barrels.

The Big Hill site was completed in 1991 and has been fully operational since. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities. During 2006, construction was completed to replace sections of the brine disposal line, add valves for drawdown control and cavern valve flushing, replace the 34.5 kV transmission line between the main site and the raw water intake structure, and renovate site buildings and HVAC systems. Contracts have been awarded and construction is ongoing to upgrade distributed control system controllers and operator interfaces, install an emergency communications network, upgrade security camera transmission to fiber optic, repair a crude oil surge tank, add pump shelters, and replace fire protection systems for crude oil systems. Efforts to repair damage sustained as a result of Hurricane Rita have been completed.

During 2006, the Strategic Petroleum Reserve completed its planned oil degasification

efforts at the Big Hill site. In 2003, the Strategic Petroleum Reserve installed a modular degas plant at the Big Hill storage facility to process crude oil which has a high vapor pressure. After a successful and safe startup of the degas plant in April of 2004, the plant has continued to perform beyond design expectations, in both maximum throughput and plant availability as well as several other performance parameters. During 2006, the degas plant processed an additional 37.6 million barrels of crude oil and completed its degassing operations at the Big Hill storage facility.

During 2006, contracts were awarded to dismantle, refurbish, relocate and install the degas plant at the Bryan Mound site. Piping and foundation work at Bryan Mound are ongoing and the degas plant startup is scheduled for September 11, 2007.

### **St. James Marine Terminal Status**

The Strategic Petroleum constructed a marine terminal on the Mississippi River at St. James, Louisiana, in the 1970s to support fill and drawdown of the Strategic Petroleum Reserve sites. The terminal has six aboveground storage tanks with a total storage capacity of two million barrels. This terminal is leased to Shell Pipeline Company under a long-term lease agreement, where Shell provides for all the normal operations and maintenance of the terminal and is required to support the Strategic Petroleum Reserve as a sales and distribution point in the event of a drawdown (See Commercialization Section).

During 2006, the Strategic Petroleum Reserve entered into an agreement with LOCAP for the construction of a new connection between the St. James terminal and the adjacent LOCAP terminal to enhance the Strategic Petroleum Reserve's emergency distribution capabilities. This new connection will enable unencumbered crude oil distribution to the LOCAP terminal, the ExxonMobil pipeline and the new Plains terminal.

## ***Expansion of the Strategic Petroleum Reserve to One Billion Barrels***

### **Energy Policy Act of 2005 Requirements**

The EPAct 2005, enacted August 8, 2005, directed the Secretary of Energy to expand and fill the Strategic Petroleum Reserve to its authorized one billion barrel capacity “as expeditiously as practical without incurring excessive costs or appreciably affecting the price of petroleum products to consumers.”

The EPAct 2005 also required the Secretary of Energy to complete a site selection process for the expansion of the Strategic Petroleum Reserve to one billion barrels. Section 303 states:

“Not later than 1 year after enactment, the Secretary of Energy shall complete a proceeding to select, from sites that the Secretary has previously studied, sites necessary to enable acquisition by the Secretary of the full authorized volume of the Strategic Petroleum Reserve.”

“The Secretary of Energy shall first consider and give preference to the five (5) sites assessed in the Draft EIS of 1992 (DOE/EIS-0165-D). The Secretary, in his discretion, may select other sites as proposed by a State where a site has been previously studied by the Secretary to meet the full authorized volume of the Strategic Petroleum Reserve.”

In accordance with the National Environmental Policy Act (NEPA), DOE initiated the preparation of an Environmental Impact Statement (EIS) for the site selection for the expansion of the Strategic Petroleum Reserve. A Notice of Intent to prepare an EIS addressing the expansion of the Strategic Petroleum Reserve to one billion barrels was issued on September 1, 2005.

### **Environmental Review Process**

The NEPA Environmental Review Process involves the following steps to assure consideration of environmental impacts and public involvement in the site selection decision:

- Public Scoping Process
- Draft EIS
- Final EIS
- Record of Decision

The Public Scoping process was completed during 2005.

### **Alternatives Considered**

In developing the range of reasonable alternatives, DOE first considered expansions to its existing storage sites, which would capitalize on existing site infrastructure and operations. Three of the Strategic Petroleum Reserve’s four sites were identified as having the potential for expansion; these sites were West Hackberry and Bayou Choctaw in Louisiana, and Big Hill in Texas. However, the expansion capability of the three existing sites was insufficient to achieve the required one billion barrels of capacity, and a new site of approximately 160 million barrels would be required.

As required by Section 303, DOE limited its review of potential new sites for expansion of the Strategic Petroleum Reserve to: (1) sites that the Department addressed in the 1992 draft EIS and (2) sites proposed by a state in which the Department has previously studied a site. Table 2 lists those sites considered and assessed in the EIS to achieve the expansion of the Strategic Petroleum Reserve to one billion barrels.

**Table 2**  
**Sites Considered for the Strategic Petroleum Reserve Expansion**

<b>Existing Site Expansion Alternatives</b>	<b>New Site Development Alternatives</b>	<b>New Site Basis for Consideration</b>
<b>Big Hill, Texas</b>	<b>Richton, Mississippi</b>	<b>Addressed in 1992 draft EIS</b>
<b>Bayou Choctaw, Louisiana</b>	<b>Stratton Ridge, Texas</b>	<b>Addressed in 1992 draft EIS</b>
<b>West Hackberry, Louisiana</b>	<b>Chacahoula, Louisiana</b>	<b>Proposed by Governor of Louisiana</b>
	<b>Clovelly, Louisiana</b>	<b>Proposed by Governor of Louisiana</b>
	<b>Bruinsburg, Mississippi</b>	<b>Proposed by Governor of Mississippi</b>

**Environmental Impact Statement**

A draft EIS was prepared using independent analysis, site inspections, review of scoping period comments, and consultations with Federal, state, and local agencies and Native American tribes. The draft EIS was published on May 19, 2006, for public review and comment. During the 45-day comment period, five public meetings were held in the following locations:

- Richton, Mississippi
- Pascagoula, Mississippi
- Port Gibson, Mississippi
- Lake Jackson, Texas
- Houma, Louisiana

Based on the comments received on the draft EIS, DOE prepared and issued the Final EIS, *Site Selection for the Expansion of the Strategic Petroleum Reserve, Final Environmental Impact Statement*, on December 7, 2006. In the Final EIS, DOE identified the expansion of three existing Strategic Petroleum Reserve sites, Bayou Choctaw, Big Hill, and West Hackberry, and the development of the Richton site as its “Preferred Alternative.”

**Site Selection Decision**

DOE used four primary criteria in the evaluation and selection of its “Preferred Alternative.” These were:

- Strategic Petroleum Reserve Distribution Capabilities
- Technical Risks (geotechnical, construction, hurricane, etc.)
- Environmental Impacts and
- Projected Life Cycle costs

In addition, DOE decision-making took into consideration the potential operational impacts associated with existing commercial operations.

The Richton site was selected as the preferred new site alternative based on its large and undeveloped salt dome, its capability to enhance the Strategic Petroleum Reserve’s distribution capabilities, its inland location which reduces hurricane impacts, and its minimal impacts to wetland environments.

The Secretary of Energy, as the site selection official, made the final site selection in the Record of Decision, issued on February 14, 2007.

## ***PETROLEUM ACQUISITION AND EXCHANGE***

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### ***Crude Oil Inventory Status***

On December 31, 2006, the Strategic Petroleum Reserve's crude oil inventory was 688,604,831 barrels, an increase of 4.1 million barrels from December 31, 2005. While the inventory reached a program maximum 700.7 million barrels in August 2005, that year saw a net inventory decrease due to emergency hurricane exchanges and drawdown sales. The increase in 2006 is attributable to the receipts under emergency exchanges and facilities lease revenues paid in crude oil.

The current mix of crude oil is 60 percent high sulfur (sour) and 40 percent low sulfur (sweet).

Table 3 lists year-end inventories and average daily fill rates for the years 1977 through 2006 (by fiscal and calendar year).

Table 4 lists crude oil receipts by country of origin since 1977.

Table 5 identifies the location of the inventory by storage site, and Figure 3 illustrates the cumulative oil fill.

### ***Oil Acquisition Procedures***

The EPLA 2005 requires acquisition of petroleum to fill the Strategic Petroleum Reserve to its authorized one billion barrel capacity "as expeditiously as practical without incurring excessive costs or appreciably affecting the price of petroleum products to consumers" and directs the Secretary of Energy to promulgate procedures for the acquisition of petroleum for the Reserve. In addition the law requires that the procedures include criteria for reviewing requests for the deferral of scheduled deliveries.

On April 6, 2006, the Department proposed acquisition procedures for public comment (71 FR 20909, 4/24/06). The procedures included acquisition by direct purchase and transfer of royalty oil from the Department of the Interior, as well as the deferral of deliveries under contracted schedules. The procedures take into account a number of factors including the need to maximize the availability of domestic petroleum supply while minimizing costs and adverse impacts on current and future prices, supplies and inventories.

After incorporation of public comments, DOE issued a notice of final rulemaking on November 1, 2006 (71 FR 65376, 11/8/06) establishing 10 CFR 626 *Procedures for the Acquisition of Petroleum for the Strategic Petroleum Reserve*. The final rule became effective December 8, 2006.

**Table 3**  
**Year-End Inventories and Oil Fill History**

	FISCAL YEAR		CALENDAR YEAR	
	Year-End Inventory (MMB)	Average Daily Fill Rate <sup>1</sup> (MB/D)	Year-End Inventory (MMB)	Average Daily Fill Rate <sup>1</sup> (MB/D)
1977	1.1	3	7.2	20
1978	49.1	131	68.5	168
1979	91.2	115	91.7	64
1980	92.8	4	107.8	44
1981	199.2	292	230.3	336
1982	277.9	215	293.8	174
1983	361.0	228	379.1	234
1984	431.1	191	450.5	195
1985	489.3	159	493.3	119
1986	506.4	47	511.6	51
1987	533.9	75	540.6	80
1988	554.7	57	559.5	52
1989	577.1	62	579.9	56
1990	589.6	34	585.7	27
1991	568.5	(58)	568.5	(47)
1992	571.4	8	574.7	17
1993	585.7	39	587.1	34
1994	591.7	16	591.7	13
1995	591.7	* <sup>2</sup>	591.6	* <sup>2</sup>
1996	573.6	(49)	565.8	(70)
1997	563.4	(28)	563.4	(7)
1998	563.4	* <sup>2</sup>	561.1	(6) <sup>3</sup>
1999	564.9	4	567.0	16
2000	570.3	15	540.7	(72) <sup>4</sup>
2001	544.8	(70) <sup>4</sup>	550.2	26
2002	587.2	116	599.1	134
2003	624.4	102	638.4	108
2004	670.3	126 <sup>5</sup>	675.6	102 <sup>5</sup>
2005	693.7	64 <sup>6</sup>	684.5	25 <sup>6</sup>
2006	687.8	(16) <sup>7</sup>	688.6	11 <sup>7</sup>

- 1 Fill rates adjusted for oil sales  
2 Fill suspended during this period  
3 Decrease due to Maya exchange  
4 Net decrease due to Exchange 2000

- 5 Net Hurricane Ivan deliveries and receipts  
6 Net Hurricane Ivan receipts & Katrina deliveries and receipts  
7 Net Hurricane Katrina exchange and drawdown sales

**Table 4**  
**Crude Oil Receipts through December 2006\***  
**(Million Barrels)**

Source Country	2006	Cumulative	Percent of Total (%)
Mexico		265.7	32.8
United Kingdom		192.9	23.8
United States**	2.4	95.7	11.8
Saudi Arabia		28.3	3.5
Libya		27.5	3.4
Venezuela	0.4	24.1	3.0
Iran		20.0	2.5
Angola	2.9	22.4	2.8
United Arab Emirates		18.4	2.3
Nigeria		16.3	2.0
Equatorial Guinea		15.1	1.9
Norway		14.0	1.7
Russia		12.6	1.6
Cameroon		12.1	1.5
Algeria		9.3	1.1
Oman		9.0	1.1
Egypt		8.9	1.1
Ecuador		6.2	0.8
Iraq		3.4	0.4
Gabon		2.4	0.3
Qatar		2.3	0.3
Columbia		1.2	0.1
Peru		0.4	≤0.1
Argentina		0.4	≤0.1
Ivory Coast		0.4	≤0.1
<b>Total***</b>	<b>5.7</b>	<b>809.3</b>	<b>100.0</b>

\* Cumulative total receipts unadjusted for sales and operational gains and losses.

\*\* Included receipts from offshore Gulf of Mexico.

\*\*\* Totals do not add due to rounding.

**Table 5**  
**Crude Oil Inventory as of December 31, 2006**  
**(Million Barrels)**

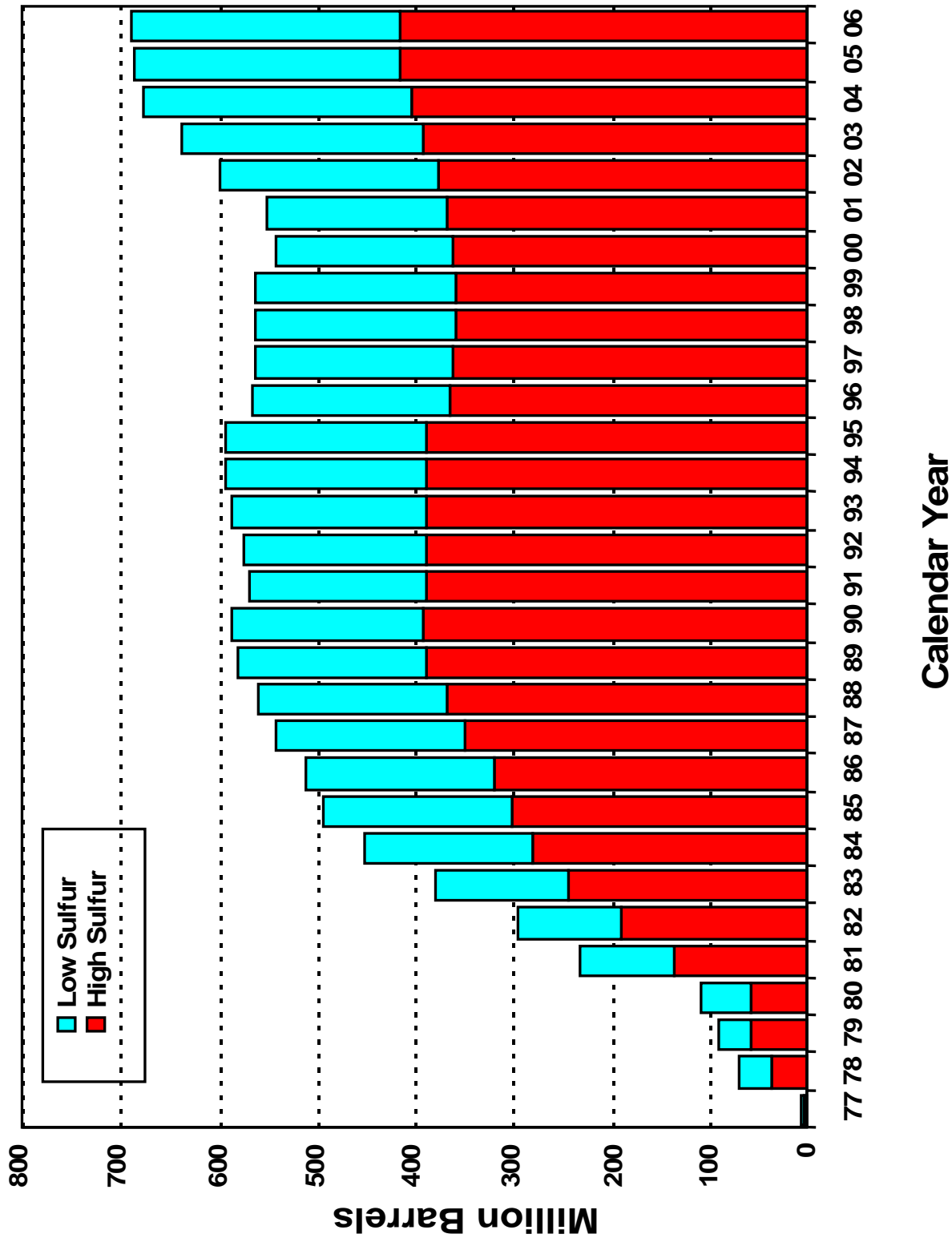
Storage Site	Inventory			Cubic Meters (Millions)
	Sweet*	Sour**	Total***	
<b>Bryan Mound, Brazoria County, Texas</b>	<b>73.5</b>	<b>157.1</b>	<b>230.6</b>	<b>36.7</b>
<b>Big Hill, Jefferson County, Texas</b>	<b>71.2</b>	<b>97.4</b>	<b>168.7</b>	<b>26.8</b>
<b>West Hackberry, Cameron Parish, Louisiana</b>	<b>108.6</b>	<b>107.9</b>	<b>216.5</b>	<b>34.4</b>
<b>Bayou Choctaw, Iberville Parish, Louisiana</b>	<b>19.6</b>	<b>51.8</b>	<b>71.5</b>	<b>11.4</b>
<b>Subtotal Underground Inventory</b>	<b>273.0</b>	<b>414.2</b>	<b>687.2</b>	<b>109.3</b>
<b>Tanks and Pipelines</b>	<b>0.6</b>	<b>0.8</b>	<b>1.4</b>	<b>0.2</b>
<b>Total Inventory</b>	<b>273.6</b>	<b>415.0</b>	<b>688.6</b>	<b>109.5</b>
<b>Total Accounts Receivable</b>	<b>1.7</b>	<b>0.0</b>	<b>1.7</b>	<b>0.3</b>
<b>Total SPR Book Inventory</b>	<b>275.3</b>	<b>415.0</b>	<b>690.3</b>	<b>109.7</b>

\* Sulfur content not exceeding 0.5 percent

\*\* Sulfur content greater than 0.5 percent

\*\*\* Totals do not add due to rounding

Figure 3  
Cumulative Oil Fill





### ***Royalty-in-Kind Crude Oil Transfers***

During 2006, there was no acquisition of oil for the Strategic Petroleum Reserve through the transfer of crude oil from the Department of Interior royalty-in-kind program.

### ***Hurricane Katrina Exchange***

During September and October 2005, the Strategic Petroleum Reserve exchanged a total of 9.8 million barrels of crude oil to six companies whose scheduled deliveries of crude oil had been interrupted due to Hurricane Katrina

The exchange contracts required that crude oil of the same quality be repaid to the Strategic Petroleum Reserve, along with premium barrels, during Fall 2005 and Spring 2006. The premiums were negotiated based on the market value of the exchanges, taking into account the length of the repayment period. As a result of the 9.8 million barrels exchanged, 10.3 million barrels are to be returned. By April 2006, all except 1.7 million barrels of the exchange oil had been repaid, with the remaining deliveries scheduled for May 2006. However, the scheduled deliveries were deferred until spring 2007 in response to President Bush's *Four-Part Plan for Confronting High Gasoline Prices*, issued on April 25, 2006.

### ***U.S. Gulf Channel Closures***

In January 2006, the Sabine Neches ship channel in the Beaumont/Port Arthur, Texas area was closed due to a barge accident, cutting off or reducing deliveries to local refineries. Total Petrochemicals USA, Inc. contacted DOE to request negotiation of an emergency exchange agreement for crude oil to avoid a refinery shutdown.

In June 2006, the Calcasieu ship channel closed to maritime traffic due to the release of a mixture of storm water and oil from a terminal near Lake Charles, Louisiana, cutting off supplies to refiners in the area. In this instance, Citgo Petroleum Corporation and ConocoPhillips Co. requested negotiation of emergency exchanges to keep operational.

These emergency agreements were negotiated for a total of 1.5 million barrels. The return of a total of 1.6 million barrels of crude oil, including premium barrels, was completed during 2006.

## ***EMERGENCY RESPONSE CAPABILITIES***

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### ***Sale of Oil***

Under section 161 of EPCA, the Secretary of Energy is required to sell oil withdrawn from the Strategic Petroleum Reserve at public sale to the highest qualified offerors.

### ***Competitive Sales Procedures***

DOE regulations govern the process for the price competitive sales of petroleum from the Strategic Petroleum Reserve<sup>1</sup>, including the establishment of Standard Sales Provisions which contain provisions to be utilized in the contracts for the sale of the Strategic Petroleum Reserve petroleum<sup>2</sup>. The first step in the process is the issuance of a Notice of Sale identifying the volume, characteristics, and location of the petroleum for sale, delivery dates, and procedures for submitting offers. Measures required for assuring performance and financial responsibilities are also described in the Notice of Sale.

During a drawdown, multiple Notices of Sale may be issued, each covering a sales period of one to two months. Offerors may have five days or less from the date a Notice of Sale is issued until offers are due, with delivery of oil commencing as soon as thirteen days after the Presidential direction to draw down the Strategic Petroleum Reserve. Subsequent sales periods will coordinate Notice of Sale issuance with standard industry delivery periods. Because of the possible short initial lead-time, DOE maintains a registry of prospective offerors who will receive electronic notification of all Notices of Sale.

The second step in the sales process is for prospective purchasers to submit offers, as specified in the Notice of Sale. Offerors must unconditionally accept all terms and conditions in the Notice of Sale and submit an offer guarantee of 5 percent of the maximum potential contract amount, or \$10 million, whichever is less. The offer evaluation process is structured so that the offerors bidding the highest prices determine the transportation methods, up to the limits of the distribution system. Specific delivery arrangements are negotiated later in the process.

Within five business days of being notified, all "apparently successful offerors" are required to provide a Letter of Credit equal to 100 percent of the contract amount as a guarantee of performance and payment of amounts due under the contract. Upon timely receipt of the financial guarantees, and a final determination by the Contracting Officer that offers are responsive and offerors responsible, Notices of Award are issued. Deliveries to the purchasers may then begin, consistent with their arrangements for commercial pipeline or marine vessel transportation. Such deliveries may begin as soon as thirteen days after the President issues a finding directing a sale, provided the purchasers submit their financial guarantees and can arrange transportation.

Following delivery, the purchaser is invoiced for actual barrels received at a price that reflects the indexed contract award price, plus any adjustments for quality differentials or delivery mode or location changes. Payment is due in the month following the delivery.

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1. 10 CFR Part 625 (48 FR 56538, 12/21/83).

2. Standard Sales Provisions (70 FR 39364, 7/7/05).

### Drawdown Capabilities

The crude oil acquired for the Strategic Petroleum Reserve is commingled in caverns at the storage sites, creating various distinct crude oil streams available for release. Table 6 identifies these crude oil streams, delivery modes and locations, as of December 31, 2006.

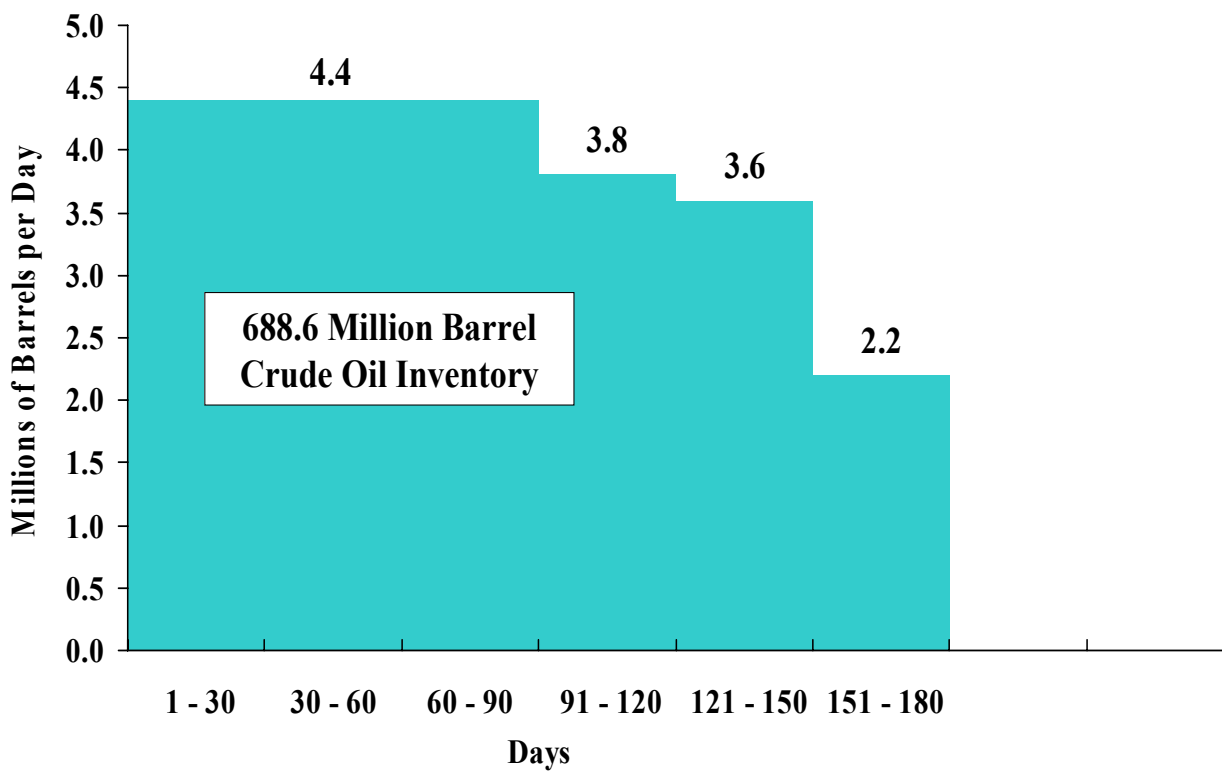
**Table 6  
Crude Oil Streams**

Crude Oil Stream	Gravity (°API)	Sulfur Content (Mass%)	Delivery Mode and Location
<b>Seaway System</b>			
<b>Bryan Mound (Sweet)</b>	<b>36.8</b>	<b>0.37</b>	<b>Pipeline or tankship at Seaway (TEPPCO) Terminal, Freeport, Texas; or Seaway (TEPPCO) Terminal, Texas City, Texas</b>
<b>Bryan Mound (Sour)</b>	<b>33.3</b>	<b>1.43</b>	
<b>Texoma System</b>			
<b>West Hackberry(Sweet)</b>	<b>36.9</b>	<b>0.32</b>	<b>Pipeline, tankship or barge at Sun Partners Marketing &amp; Terminals LP, Nederland, Texas; Pipeline at Shell-22"/DOE connection, Lake Charles, Louisiana</b>
<b>West Hackberry (Sour)</b>	<b>33.5</b>	<b>1.41</b>	
<b>Big Hill (Sweet)</b>	<b>35.4</b>	<b>0.41</b>	<b>Pipeline, tankship or barge at Sun Partners Marketing &amp; Terminals LP, Nederland, Texas; Pipeline or tankship at Unocal Terminal Nederland, Texas; Pipeline at Shell-20"/DOE connection, Winnie, Texas</b>
<b>Big Hill (Sour)</b>	<b>30.7</b>	<b>1.46</b>	
<b>Capline System</b>			
<b>Bayou Choctaw(Sweet)</b>	<b>36.8</b>	<b>0.40</b>	<b>Pipeline at Capline or LOCAP Terminals, St. James, Louisiana; Tankship at Sugarland St. James Terminal, St. James, Louisiana 24-inch site connection to Red Stick Pipeline, Iberville Parish, Louisiana</b>
<b>Bayou Choctaw (Sour)</b>	<b>32.4</b>	<b>1.46</b>	

The Strategic Petroleum Reserve can draw down crude oil at a maximum initial sustainable rate of 4.4 million barrels per day, for a period of 90 days. After this period, the drawdown rate will gradually decrease as site inventories are depleted and the declining number of caverns containing crude oil becomes a constraint.

Figure 4 illustrates the physical drawdown capability which provides for a maximum distribution of 394 million barrels in 90 days, and 688 million barrels in 180 days. The initial sustainable rate is at the system design maximum.

**Figure 4**  
**Projected Maximum Drawdown Capability**  
**(As of December 31, 2006)**



Note: Rates after 90 days are based on cavern-use assumptions. Actual rates are contingent on the specific caverns drawn down during a previous drawdown period.

### ***Drawdown Readiness Activities***

Drawdown Readiness Assurance activities during 2006 included:

- The Interagency Agreement (IAA) between the U.S. Army Corps of Engineers and the U.S. Department of Energy for recovery requirements was updated in November 2006. The IAA now includes barge-mounted electrical power generation capability in addition to the traditional barge-mounted raw water pumping capabilities.
- Lessons learned in the 2005 Hurricane Katrina and Rita drawdown and oil exchanges were incorporated in to the drawdown planning process. Major enhancements included the development and release for use of the Crude Oil Sales Offer Program (COSOP), an internet based oil sales offer program. Internal guidance and instructional documents were also updated with a new release of the Drawdown Implementation Manual, and the publication of the Strategic Petroleum Reserve Oil Exchange Manual.
- In September the PRIDE 5 drawdown readiness exercise successfully tested the financial aspects of a Strategic Petroleum Reserve drawdown. The finance process and procedures implemented the lessons learned from the Hurricane Katrina and Rita drawdown and exchange.
- A Recovery System Exercise (RPX) was conducted at Bryan Mound. This test was conducted in two parts. A table top exercise provide a mechanism to test and insure that the replacement raw water intake pumps would be available should there be an actual emergency. The second part of the exercise entailed the deployment, setup and use of the recovery

pumps to demonstrate Bryan Mound capability.

- In November, West Hackberry and Big Hill conducted a simultaneous drawdown system test and exercise to demonstrate Sun Marine Terminal's maximum contracted capability to receive and keep separate two crude oil streams as it would during a maximum flow drawdown of the Strategic Petroleum Reserve.
- The quarterly Drawdown Readiness Review program held four successful reviews which insure that all sites and systems are ready in the event of an exchange or drawdown of the Strategic Petroleum Reserve.

### ***Distribution Plan and Capabilities***

In the event of an emergency, the Strategic Petroleum Reserve has the capability to distribute its crude oil to refineries in the United States by pipeline and marine transportation. The Strategic Petroleum Reserve is connected to three major interstate pipeline systems - Capline, Seaway, and MidValley - which serve the mid-continent area (Oklahoma) and the Midwest (Illinois and Ohio).

In addition, the Strategic Petroleum Reserve is connected by commercial pipeline systems to more than half of the refining capacity in the United States and is capable of delivering crude oil to 22 refineries in the Gulf Coast region and to 26 refineries in the mid-continent and Midwest regions. These 48 refineries processed approximately 56 percent of crude oil imports to the United States during 2006.

The Strategic Petroleum Reserve is connected to five marine terminals which have a combined distribution capacity of approximately 2.5 million barrels per day. These are: Seaway Terminal (TEPPCO/ConocoPhillips), Freeport, Texas; Seaway Terminal (TEPPCO/BP), Texas City, Texas; Sunoco and Unocal Terminals, Nederland, Texas; and Sugarland St. James Terminal, St. James, Louisiana.

Table 7 summarizes drawdown and distribution capabilities, based on current crude oil stream inventories, existing site drawdown systems, and commercial distribution capabilities.

Figure 5 illustrates the Strategic Petroleum Reserve's pipeline and marine distribution capabilities.

**Table 7**  
**Initial (Thirty-Day) Drawdown and Distribution Capabilities**  
**(Thousands of Barrels Per Day)**

	<b>Drawdown</b>	<b>Distribution</b>
<b>Seaway System</b>	<b>1,500</b>	<b>2,539</b>
<b>Texoma System</b>	<b>2,400</b>	<b>3,487</b>
<b>Capline System</b>	<b>515</b>	<b>1,435</b>
<b>Total</b>	<b>4,415</b>	<b>7,461</b>

### ***Distribution Assessment***

An annual assessment is conducted of the Strategic Petroleum Reserve's crude oil distribution system capabilities to ensure that there are adequate connections to the commercial distribution systems and to identify the need for any remedial plans. The 2006 assessment evaluated the Strategic Petroleum Reserve's capability, at its maximum drawdown rate, to replace imported oil in 2005, 2010, 2015 and 2020. Future U.S. petroleum refining demands are based on forecasts made in the Energy Information Administration's *Annual Energy Outlook, 2006*.

The 2005 base year analysis utilized the first six months of refinery data, which was annualized to eliminate the impacts of Hurricane Katrina on current demand and out-year project-

ions. The 2007 analysis will review the continued Katrina impact on several refineries in the first quarter of the year.

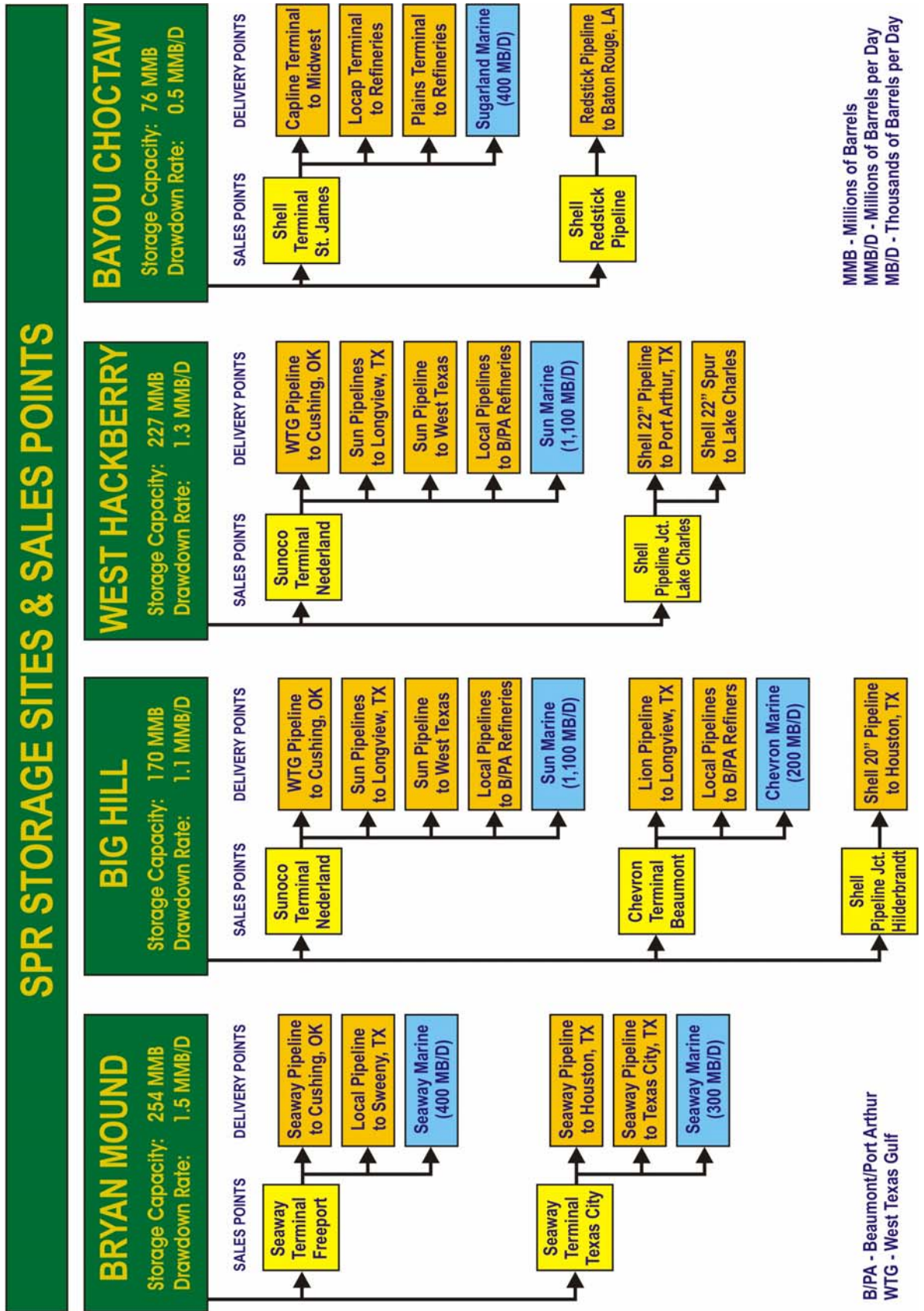
The assessment took into account changes made to commercial pipeline distribution systems and modifications to their infrastructure. A Canadian company, Enbridge Pipeline Co., purchased Spearhead Pipeline (Cushing to Chicago), reversing the flow direction in 2006 to transport Canadian crude to Cushing, Oklahoma. Enbridge also announced the planned construction of a new crude oil line from Superior Terminal (Canada) to the Wood River Terminal in Illinois. When this line is completed, the volume deliverable to refineries in the Midwest, and possibly, further south, will increase.

Other companies have announced potential plans to transport Canadian oil sands crude to the U.S. For example, TransCanada's Keystone project proposes to convert a gas line to crude and extend the pipeline into the Midwest. This project is scheduled to be completed in 2009 and have a capacity of 435,000 barrels of oil per day. Other projects have potential completion dates of 2010 to 2012, when oil sand production is projected to increase above 3.5 million barrels of oil per day.

The assessment confirms that the Strategic Petroleum Reserve has sufficient offsite distribution capabilities (defined as 120 percent of the maximum drawdown rate) to achieve current drawdown targets.

The assessments for 2010, 2015 and 2020 predict that the Strategic Petroleum Reserve's distribution capability will continue to increase in the Seaway and Texoma systems as refinery imports increase, and distribution capability in the Capline system will decrease due to increasing domestic production from the Gulf of Mexico, but not enough to cause performance to fall below the 120 percent requirement.

Figure 5  
Pipeline and Marine Distribution Capabilities

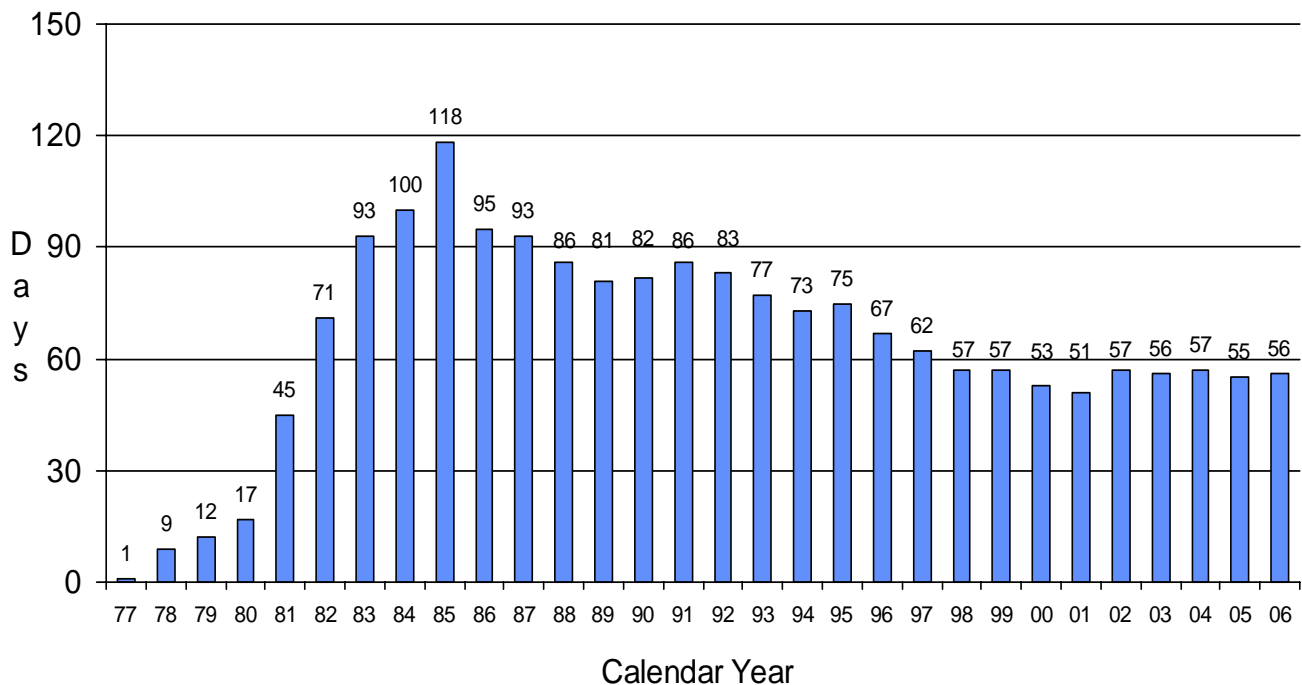




### Import Protection Levels

In EPCA, the Congress established an initial storage objective of ninety days of net petroleum imports, which equated to 500 million barrels at that time. Figure 6 shows the Strategic Petroleum Reserve inventory of 688.6 million barrels on December 31, 2006, which amounted to 56 days of net import protection (crude oil and refined products).

**Figure 6**  
**Strategic Petroleum Reserve Days of Net Import Protection (1977-2006)\***

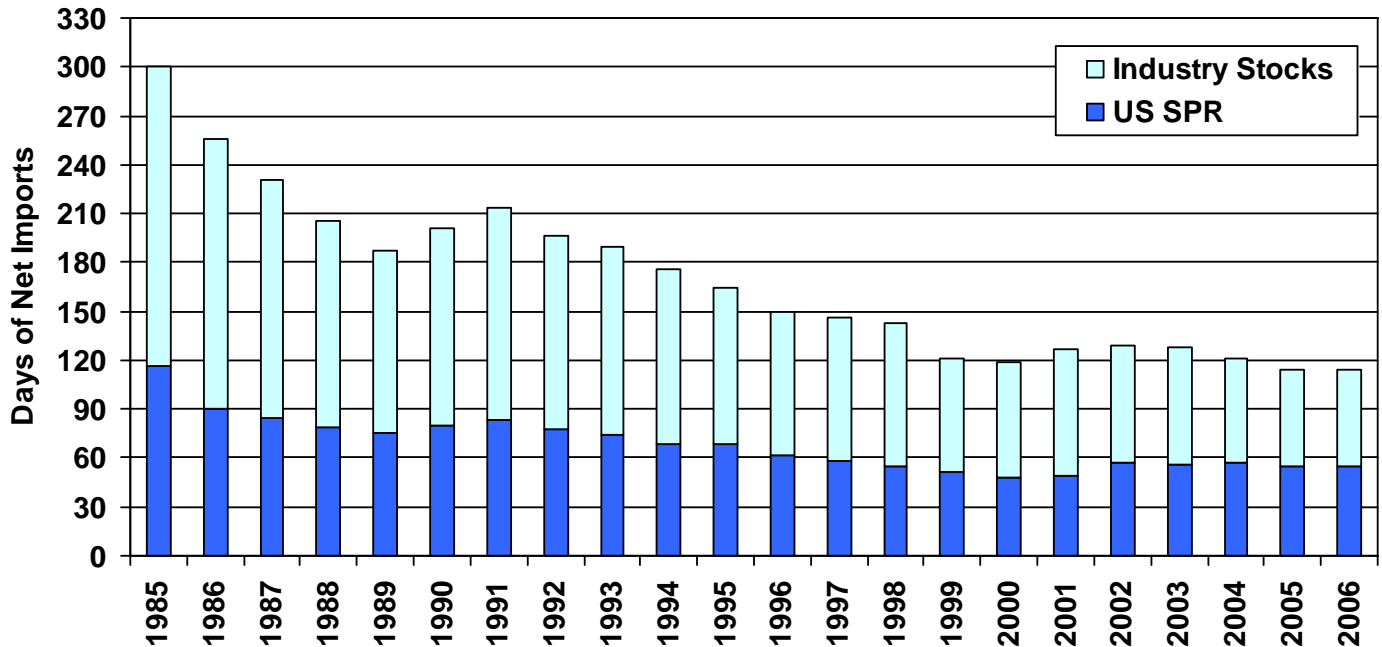


\* Days of Protection = Year End Inventory ÷ US Net Petroleum Imports/Day

The United States, as a member of the International Energy Agency, is committed to maintaining stocks of crude oil and products in reserves that are equivalent to ninety days of net oil imports. Computations of member-nations' stockpile requirements are based on both public and privately held stocks, and net imports are defined as the average daily level in the previous

year. The most recent International Energy Agency computation credits the United States with 120 days of emergency reserves, based on both the Strategic Petroleum Reserve and privately held stocks. Figure 7 provides end-of-year computations for the United States through 2006.

**Figure 7**  
**International Energy Program**  
**U.S. Emergency Stocks**



## COMMERCIALIZATION ACTIVITIES

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### *Commercial Leases*

Since 1995, the Strategic Petroleum Reserve has commercialized its under-utilized crude oil distribution facilities to be more cost-effective, and has leased two crude oil pipelines and a marine terminal to private industry. The contracts for these leases require that the facilities be maintained in good condition and, in the event of an emergency drawdown of oil, the leased facilities can be returned on 15 days notice.

**Bayou Choctaw Pipeline:** In 2006, lease revenues amounted to \$337,949 primarily due to the increased movements on this pipeline from Hurricane Katrina exchange return oil receipts. This pipeline was leased to Shell Pipeline Company LP on May 1, 1997, on a revenue-sharing basis. In 1998, the lease was converted from an annual lease to a ten-year lease.

**Bryan Mound Pipelines:** In 2006, lease revenues amounted to \$1,091,799. Two of the three Bryan Mound pipelines were leased to ExxonMobil Pipeline Company on January 14, 1999. ExxonMobil began using the pipelines in June 2000, as part of its onshore distribution system for the Diana-Hoover production in the Gulf of Mexico.

**St. James Terminal:** In 2006, St. James Terminal lease revenues amounted to \$1,700,000. The terminal was leased to Shell Pipeline Corporation (now Shell Pipeline Company) on January 31, 1997, on a revenue-sharing basis. On April 2, 2003, the contract was re-negotiated for a period of ten years in the amount of \$1.7 million per year, with a five-year option in the amount of \$2 million per year. Payments were retroactive to January 1, 2003. In addition, the lease requires the lessee to pay 6 percent per annum (in-kind) on the government-owned oil used in the terminal tanks. Shell returned 200,104 barrels of govern-

ment oil (tank bottoms) to the Bayou Choctaw site in February 2006. In March 2006, Shell sent 8,799 barrels of oil to Bayou Choctaw as the interest payment for the use of this government oil. Total oil received from Shell in 2006 was 208,905 barrels.

### *Foreign Oil Storage*

The Strategic Petroleum Reserve promotes the concept of storing foreign oil in its unused storage space as a strategy to increase world oil stockpiling, generate revenues for the United States Treasury, and/or add oil to the Strategic Petroleum Reserve (in lieu of a fee). The Balanced Budget Act of 1997 provides specific authority to store petroleum products of another country, or its representatives, in the facilities of the Strategic Petroleum Reserve, provided that the United States is fully compensated for all related costs, and that the ability to draw down Strategic Petroleum Reserve oil is not impaired.

To enhance the Strategic Petroleum Reserve's offer to store oil for foreign governments or their representatives, the Big Hill storage site was activated as a special purpose Foreign Trade Zone subzone on September 28, 1998. This designation permits customers to store oil without paying customs fees and certain taxes. The Big Hill storage site is the only storage site to receive this designation.

The Strategic Petroleum Reserve did not enter into any commercial or foreign storage initiatives during 2006.

### Commercialization Revenues

During calendar year 2006, the U.S. Treasury earned \$3,129,748 in cash revenues from the commercial leases of the Strategic Petroleum Reserve's distribution facilities and pipelines, and earned 1,060 barrels of oil for use

of tank bottoms at St. James Terminal. Table 8 summarizes commercialization revenues from 1996 to 2006.

**Table 8**  
**Summary of Commercialization Revenues**  
**(December 31, 2006)**

Calendar Year	Bryan Mound Pipeline	Big Hill Pipeline	Bayou Choctaw Pipeline	St. James Terminal Lease	Total Revenue Generated
1996	102,606	472,809			575,415
1997		429,824	0	133,300	563,124
1998	12,500	402,525	0	481,010	896,035
1999	679,393	400,000	163,030	546,125	1,788,548
2000	652,146	493,359	217,573	748,986	2,112,064
2001	1,054,297	33,104	212,738	1,227,021	2,527,160
2002	1,468,613	0	249,708	1,285,183	3,003,504
2003	1,647,828	0	168,718	1,863,060	3,679,606
2004	1,546,121	0	174,338	1,700,000	3,420,459
2005	1,132,668	0	730,542	1,700,000	3,563,210
2006	1,091,799	0	337,949	1,700,000	3,129,748

## **BUDGET AND FINANCE**

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The Energy and Water Development Appropriations Act, 2006, included an across-the-board rescission of \$1,660,000 which reduced the Strategic Petroleum Reserve budget authority from \$166,000,000 to \$164,340,000. Adding the return of \$43,000,000 from the SPR Petroleum Account, used to finance the Hurricane Katrina drawdown, the program had an available balance of \$207,340,000 for operations and program management.

### ***Appropriations through Fiscal Year 2006***

A total amount of \$22.3 billion, net of sales and transfers, has been appropriated for the Strategic Petroleum Reserve through fiscal year 2006. Included in this total is the distribution of annual and total appropriations described in Table 9.

### ***Strategic Petroleum Reserve Account***

The Strategic Petroleum Reserve Account funds the development, operation, and maintenance of facilities, the salaries and expenses necessary to plan and manage the program, including the operation of the Project Management Office in New Orleans, Louisiana, and the activities pertinent to major issues concerning the development and use of the Strategic Petroleum Reserve.

Obligations for the Strategic Petroleum Reserve in fiscal year 2006, totaled approximately \$200.7 million. From this amount, \$16.7 million was obligated for Federal program management and \$184 million was obligated for contractual goods and services to operate and maintain the Strategic Petroleum Reserve.

### ***SPR Petroleum Account***

The SPR Petroleum Account funds the acquisition of oil for the Strategic Petroleum Reserve; the associated costs for transportation and terminalling; United States customs duties; Superfund and Oil Spill Liabilities Trust Fund taxes; and other miscellaneous costs.

During an emergency drawdown and sale, the SPR Petroleum Account is the source of funding for the incremental costs of withdrawing oil from the storage caverns and transporting it to the point where purchasers take title. An amount equal to receipts realized as a result of the oil sale is deposited with the Department of Treasury in the SPR Petroleum Account to create additional budget authority for filling the Strategic Petroleum Reserve.

For fiscal year 2006, the capitalized cost of the crude oil in the Strategic Petroleum Reserve was \$19.1 billion, for an average cost per barrel of approximately \$27.76 (excluding storage costs). Since April 1999, contracts have been awarded for 138.8 million barrels in exchange for royalty oil from the Department of the Interior. The value of crude oil received from the royalty-in-kind program in fiscal year 2005, was \$1.3 billion. The initiative ended in 2005. There were no transfers in 2006.

The value of the royalty-in-kind transferred from the Department of the Interior to the Department of Energy by fiscal year is shown in Table 10.

**Table 9**  
**Annual Appropriations (\$000) for Storage Facilities Operations and Management and Petroleum Acquisition and Transportation as of December 31, 2006**

Fiscal Year	Oil Account	Facilities	Management	Total	Defense SPR
1976	0	300,000	13,975	313,975	
1977	440,000	0	7,824	447,824	
1978	2,703,469	463,933	14,704	3,182,106	
<b>Total 1979 Appropriations*</b>	<b>2,356,456</b>	<b>632,504</b>	<b>18,111</b>	<b>3,007,071</b>	
<b>Total 1980 Appropriations*</b>	<b>(2,022,272)</b>	<b>0</b>	<b>22,272</b>	<b>(2,000,000)</b>	
<b>Total 1981 Appropriations*</b>	<b>3,205,094</b>	<b>108,168</b>	<b>19,391</b>	<b>3,332,653</b>	
<b>Total 1982 Appropriations*</b>	<b>3,679,700</b>	<b>175,656</b>	<b>20,076</b>	<b>3,875,432</b>	
1983	2,074,060	222,528	19,590	2,316,178	
1984	650,000	142,357	16,413	808,770	
1985	2,049,550	441,300	17,890	2,508,740	
<b>Total 1986*</b>	<b>(12,964)</b>	<b>106,979</b>	<b>13,518</b>	<b>107,533</b>	
1987	0	134,021	13,412	147,433	
1988	438,744	151,886	12,276	602,906	
1989	242,000	160,021	13,400	415,421	
1990	371,916	179,530	12,953	564,399	
1991	566,318	187,728	12,846	766,892	
1992	88,413	171,678	13,384	273,475	
1993	(125,625)	161,940	14,227	50,542	
<b>DOD Transfer (non add)</b>	<b>124,925</b>	<b>700</b>	<b>0</b>	<b>125,625</b>	<b>125,625</b>
1994	0	191,035	15,775	206,810	
1995	(107,764)	226,938	16,780	135,954	
1996 transfer from SPR Petroleum Account	(187,000)	170,173	16,827	0	
1996 Weeks Is. Oil Sale	(97,114)	97,114	0		
1996 deficit reduction oil sale	(227,000)	0		(227,000)	
1996 Total	(511,114)	267,287	16,827	(227,000)	
<b>1997 Total*</b>	<b>(220,000)</b>	<b>193,000</b>	<b>16,000</b>	<b>(11,000)</b>	
1998	0	191,500	16,000	207,500	
1999	0	145,120	14,805	159,925	
2000	0	144,000	15,000	159,000	
2001	0	140,672	15,965	156,637	
2002	0	154,009	16,871	170,880	
2003	1,955	157,823	13,909	173,687	
2004	0	155,044	15,904	170,948	
2005*	43,000	109,946	16,764	169,710	
2006*	(43,000)	190,510**	16,830	207,340	

\* Includes reprogramming and rescission actions.

Note: Fiscal year 1991 SPR Petroleum Account of \$566,318 includes proceeds of \$122,681 from the Test Sale recorded as additional budget authority, rather than reductions to obligations, costs, and outlays. It also includes \$315,424,985 in Desert Storm Drawdown proceeds from January 1991, and \$19,755,064 from fiscal year 1991 NPR excess receipts. Thus, the cumulative budget authority is "gross" and not related directly to the inventory of oil on hand.

\*\* Includes the return of \$43,000,000 from the SPR Petroleum Account

**Table 10**  
**Value of Royalty-in-Kind Transferred by the Department of the Interior**  
**By Fiscal Year**

<b>Fiscal Year</b>	<b>Royalty in Kind Transfer Total Barrels*</b>	<b>Department of the Interior Forgone Receipts** - (\$000)</b>
<b>1999</b>	<b>11,928,981</b>	<b>***</b>
<b>2000</b>	<b>15,105,558</b>	<b>560,521</b>
<b>2001</b>	<b>1,568,220</b>	<b>61,654</b>
<b>2002</b>	<b>10,575,379</b>	<b>262,752</b>
<b>2003</b>	<b>34,742,046</b>	<b>1,044,350</b>
<b>2004</b>	<b>35,506,135</b>	<b>1,191,284</b>
<b>2005</b>	<b>25,185,527</b>	<b>1,194,618</b>
<b>2006</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>134,611,846</b>	<b>4,315,179</b>

\* Source: Department of Energy

\*\* Source: Department of the Interior

\*\*\* Department of the Interior data not available

### ***Performance Measurement***

The mandates of the Government Performance and Results Act of 1993 are incorporated into the Strategic Petroleum Reserve's performance management system.

In fiscal year 2006, 19 of the program's 20 measures met or exceeded their goals. The target for "Number of Barrels of Crude Oil in Inventory" was affected by the Presidential order to halt receipts of crude oil into the Strategic Petroleum Reserve in April 2006. As of September 30, 2006, the total crude oil inventory

was 687.8 million barrels versus the target of 690 million barrels.

A complete accounting of the program's twenty measures is reflected in Table 11. Details of these program goals, objectives, and the progress are contained in the Strategic Petroleum Reserve's *Annual Performance Report*.

**Table 11**  
**Performance Measures**

Performance Measures	FY 2005 Actual Performance	FY 2006 Target Output	FY 2006 Actual Performance
<b>Public Confidence: Oil Inventory, Drawdown Readiness and Distribution</b>			
Number of Barrels of Crude Oil Inventory in Storage	693.7 MMB	690 MMB	687.8 MMB
90-Day Sustainable Drawdown Rate	4.11 MMB/Day	4.40 MMB/Day	4.40 MMB/Day
Number of Days to Commence Crude Oil Drawdown	13 Days	13 Days	13 Days
Distribution Capability as a Percentage of Drawdown Rate	163%	≥ 120% of Drawdown Rate	169%
Calculated Site Availability	98%	≥ 95%	97.75%
Calculated MPAR Rating	98.2%	≥ 95% of Possible Points	98.25%
Percent of Site Security Ratings that are Satisfactory	100%	100%	100%
Number of Barrels of Heating Oil Inventory in Storage	2.0 MMB	2.0 MMB	2.0 MMB
Number of Days to Complete Heating Oil Drawdown	12 Days	12 Days	12 Days
Number of Barrels of Crude Oil Processed	44.4 MMB	34 MMB	43.44 MMB
<b>Excellent Customer Service: Customer Relations</b>			
Percentage of Key Customers Visited	50%	33%	42%
<b>Responsible Stewardship: Operational Effectiveness, Efficiency and Knowledge Management/Fiscal Responsibility and Budgetary Control</b>			
Network and Business Application Availability	≥ 99%	≥ 98%	≥ 99.9%
Operating Cost per Barrel of Storage Capacity	\$ 0.180	≤ \$0.204	\$.186 per barrel
<b>Dynamic Teamwork: Continuous Improvement</b>			
ISO 9001-2000 Certification	12/13/04	03/31/06	02/15/06
<b>Partnerships</b>			
Number of Partnership Arrangements with Federal, State, and Local Agencies	35	25	39
<b>Social Responsibility and Citizenship: Environment, Safety and Health</b>			
Annual -Evaluation of OSHA VPP Star Status at Four Sites	2/15/05	2/15/06	2/15/06
Number of Cited Environmental Violations Received	0	0	0
Number of Days with No Reportable/Recordable Spills	364 Days	≥ 355 Days	364 Days
Annual ISO 14001 Certification	4/22/05	5/31/06	4/06/06
<b>Employee Development and Diversity: Employee Development and Quality of Worklife</b>			
Deploy and Implement New Non-Supervisory Appraisal	N/A	09/30/06	01/17/06



## ***OTHER ACTIVITIES***

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### ***Security and Emergency Operations***

The Strategic Petroleum Reserve strengthened the level of protection for crude oil assets, resources, and personnel. This was accomplished through the continued implementation of HSPD-12, requiring background checks on personnel without a security clearance. The Strategic Petroleum Reserve is planning and designing the physical systems and logical access infrastructure to support the Federal Security Badge required by HSPD-12.

The Security and Emergency Operations Division prepared for the DOE Headquarters Health, Safety, and Security Independent Oversight Inspection scheduled for January 2007. The inspection is a process that looks at all security and cyber security programs, ensuring they meet the minimum Federal and DOE requirements.

The Strategic Petroleum Reserve Security and Emergency Operations Division maintains a dynamic “all hazards response” operation which is configured to ensure an integrated response to any crisis or emergency incident. The Strategic Petroleum Reserve achieves this capability by developing and executing a strategy that combines protection resources to ensure continuity of operations, security, emergency management, and fire protection.

After the successful activation of the Strategic Petroleum Reserve’s Continuity of Operations Plan in response to Hurricanes Katrina and Rita, the Strategic Petroleum Reserve continued to improve the plan to address pandemic illnesses and teleworking.

### ***Emergency Command Vehicle***

The Strategic Petroleum Reserve has an Emergency Command Vehicle (ECV) that serves as a mobile command post used by the Emergency Management Team during real-world and exercise emergencies or incidents. The ECV is integrated with the DOE Emergency Communications Network (ECN) that ensures connectivity with each site, the Headquarters Program Office, and DOE Emergency Management. The ECV and ECN are scheduled for a Readiness Review Board in May 2007 that will lead to a fully functional emergency command structure.

### ***Environment, Safety, and Health***

The Strategic Petroleum Reserve is accountable to the public for the safe delivery of crude oil during a national energy emergency and is a good steward of the environment. During 2006, the Strategic Petroleum Reserve completed the two following major NEPA compliance activities:

- A total of 64 Categorical Exclusions were prepared for projects on the Strategic Petroleum Reserve.
- Environmental Impact Statement DOE/EIS-0385, for expansion of the Strategic Petroleum Reserve to one billion barrels capacity, was published. This document identified construction of a new site at Richton, Mississippi, and expansion of the Bayou Choctaw, Big Hill, and West Hackberry sites as the preferred alternative. Recent commercial real estate transactions adjacent to the West Hackberry site were noted as possibly affecting the preferred alternative. The Record of Decision was issued on February 14, 2007.

### ***Vapor Pressure Mitigation***

Long-term storage of crude oil in underground solution-mined salt caverns results in elevated oil temperatures and increased crude vapor pressure due to gradual geothermal heating and possible methane gas intrusion from the salt formation. Consequently, when oil is drawn down, or removed from the caverns, increased vapor pressure results in gas being released in amounts that may be unacceptable, posing environmental, safety, and health risks.

To assure the environmental and public safety concerns of drawdown operations are properly addressed, the Reserve has established a crude oil degasification program to lower vapor pressure and minimize downstream hydrocarbon and toxic emissions from customer facilities.

An initial degasification program was conducted between 1995 and 1998. With support from Sandia National Laboratories, the Strategic Petroleum Reserve has maintained a comprehensive monitoring program to ascertain the level of gas regain and the need for future degasification. During 2000, the monitoring program revealed the need for further long-term vapor pressure control. The most cost-effective solution was determined to be the acquisition of a modular degasification plant which could be moved from site to site, as needed.

The degasification plant innovation produces tremendous lifecycle benefits to the environment. For each pound of emissions this innovation generates over its lifecycle, 1,900 pounds of emissions could be avoided in a single future drawdown, with 97 percent of that benefit extending directly to the customer. The degasification plant operated at the Big Hill site, completing degasification of the inventory there in late 2006. No environmental mishaps were experienced throughout the plant operation at Big Hill. In late 2006, the degas plant was shut down for cleaning and disassembly, in preparation for

transport and re-assembly at the Bryan Mound site in 2007.

### ***Miscellaneous***

During 2006, the Big Hill site succeeded in reconfiguring its cavern work-over process in a manner that greatly reduces the unregulated emissions from this maintenance activity. The new configuration reduced 2006 work-over emissions by about 8 tons, representing a 20 percent reduction in these emissions for the Strategic Petroleum Reserve overall.

Through its leadership role in the National Environmental Performance Track Program, the Strategic Petroleum Reserve provided a key role serving as co-chair to the 2006 National Environmental Partnership Summit in Atlanta.

Some 64 volunteers participated their time to the 2006 Strategic Petroleum Reserve-sponsored Beach Sweep activity in the New Orleans area. Employees, their families, and concerned citizens contributed to the recovery of New Orleans by cleaning storm drains of debris at various locations around Lake Ponchartrain.

The Bayou Choctaw site, with the assistance of the Environmental Advisory Committee, completed a security clear zone project in a manner that preserved old growth cypress trees. These mature trees provide unique habitat to organisms in the area.

In 2006, the Bayou Choctaw site set aside two more acres for a wildlife feed plot, increasing to seven acres the total area set aside for habitat enhancement.

### ***Occupational Safety and Health Administration's Voluntary Protection Program***

The Strategic Petroleum Reserve participates in the Occupational, Safety and Health Administration's (OSHA) and DOE's Voluntary Protection Programs. OSHA and DOE perform an on-site reappraisal of their Voluntary Protection Program sites every three years. During 2006, Bryan Mound was recertified in both programs. Bayou Choctaw, West Hackberry, and Big Hill were recertified in previous years. All four sites maintained their Star status throughout 2006.

In 2006, OSHA Region VI awarded Bayou Choctaw a "Star of Excellence", West Hackberry and Big Hill "Superstars" and Bryan Mound "Star among Stars". These awards recognize accident rates that range from 50 percent to 90 percent below the average accident rates of their industry.

### ***Accident Rates***

In 2006, the Strategic Petroleum Reserve's Total Case Incident Case Rate (TCIR) was 1.17 cases per 200,000 worker hours, which met the goal of 1.25. However, The Days Away/Restricted/Transferred (DART) Incident Case Rate was 0.78 cases per 200,000 worker hours, which exceeded the Reserve's target goal of 0.50. The vehicle accident rate was 1.55 cases per 1,000,000 miles driven which met the Strategic Petroleum Reserve's target vehicle accident rate of less than 3.00.

### ***Integrated Safety Management (ISM)***

The Strategic Petroleum Reserve completed its annual Integrated Safety Management (ISM) validation and documented performance in the ISM Annual Verification and Continuous Improvement Report which summarizes the results of all audits/assessments

conducted during the Fiscal Year. The report provides senior management with qualitative and quantitative data verifying that ISM is performing effectively. To date, the Strategic Petroleum Reserve is operating a successful ISM system with no significant systemic weaknesses and has generated several recommendations for continuous improvement.

### ***Safety Summit Becomes Annual***

In June 2006, the Strategic Petroleum Reserve held its third annual Management Safety Summit at the Bryan Mound site to promote safety goals and focus senior management attention on safety-related issues, including safety statistics and how they are derived, electrical-safety initiatives including the site-specific arc flash studies being performed, and site safety issues. Introductory training in Human Performance Improvement was provided to kick-off the Strategic Petroleum Reserve's use of this innovative process.

### ***American National Standards Institute (ANSI) Z10 Certification Begins***

In December 2005, the Strategic Petroleum Reserve completed a gap analysis of the new American National Standards Institute (ANSI) safety management standard, ANSI Z10, published in September. During 2006, the existing written management guidelines and programs were updated to close the gaps identified by the analysis. In September 2006, the Strategic Petroleum Reserve self-certified as compliant with ANSI-Z10. Currently, there is no recognized authority that evaluates and certifies against Z10. The standard allows companies choosing to meet the Z10 requirements to establish their own means of verification. However, when a certifying entity becomes available, the Reserve will initiate a request for review for third party certification.

### ***Robert W. Campbell Award***

In November 2006, the Strategic Petroleum Reserve was presented with the Robert W. Campbell award at the National Safety Conference and Expo. This international award recognizes organizations that achieve business excellence by integrating safety, health and environmental management into their business operating systems.

### ***Safety Support for Security***

The Strategic Petroleum Reserve Safety and Health staff partnered with the Security Office in several new innovations. The Safety and Health Office provided risk assessments and behavioral safety techniques along with recommending hazard controls for site security field exercises. They also reviewed exercise plans for safety and health concerns while the plans were being developed. Areas such as Class I Division 2 locations on sites were made “out of bounds” for exercise play. The exercise area was also “walked” prior to the exercise to eliminate any identified hazards. Stretching and other exercises prepared the officers for strenuous activity, and comprehensive safety briefings reminded participants of the hazards and controls in place. This effort led directly to a 50 percent reduction in field training exercise accidents which, in turn, garnered the Strategic Petroleum Reserve the 2006 Office of Fossil Energy Excellence in ESS&H Award. The Safety and Health office also participated in the firearms safety committee selection of new weapons, training requirements, and risk assessments.

### ***Human Performance Improvement (HPI)***

Initial Human Performance Improvement (HPI) training was provided to the combined Strategic Petroleum Reserve Project Management Office and DynMcDermott senior staff in May 2006. Application of its principles should provide additional improvements in accident performance. HPI protocol is being used successfully in expanded-C investigations. Additional training is scheduled in 2007 to expand the use of HPI into operations and maintenance.

### ***Awards and Certifications***

In addition to the previously mentioned awards, the Strategic Petroleum Reserve received the following awards and certifications for 2006:

- The Strategic Petroleum Reserve was recognized by the National Pollution Prevention Roundtable through its Most Valuable Pollution Prevention (MVP2) Award for downstream product stewardship.
- 2006 is the seventh year for the ISO 14001 environmental management system’s continuous third-party certification of the Reserve’s Management and Operations. Certified facilities include Bayou Choctaw, Big Hill, Bryan Mound, West Hackberry, New Orleans and the warehouse building.
- As a Charter Member of the EPA’s performance-track program, the Strategic Petroleum Reserve continued its commitment for its seventh continuous year for the Bayou Choctaw, Big Hill, Bryan Mound, New Orleans, and West Hackberry sites, completing a second three-year cycle.

**Environmental Performance Track Program**

In 2006, the Strategic Petroleum Reserve continued its charter member status in the EPA’s environmental Performance Track program, in recognition of its outstanding past performance and commitment to future performance. Membership is renewable after each three-year cycle and the Strategic Petroleum Reserve will continue to participate in the Performance Track program by renewing its membership in 2007.

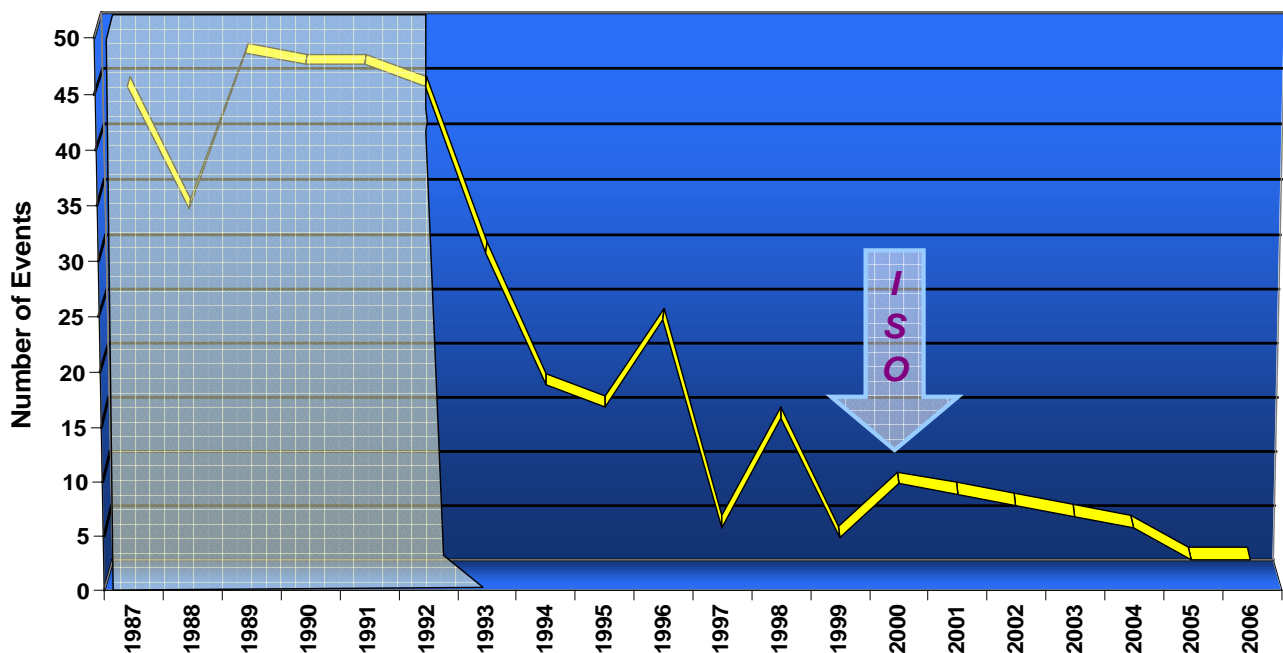
**Integration of the ISO 14001 into the Environmental Management System**

In May 2000, the Strategic Petroleum Reserve became the first bulk petroleum storage organization, public or private, to receive an ISO 14001 certification for its environmental management system. This certification, now on its third cycle, is viable through May 2009.

The ISO 14001 Registrar (the certifying agency) performed a separate surveillance audit and a recertification audit of all of the facilities against the new ISO 14001-2004 standard. The successful outcome resulted in triennial recertification against the ISO 14001 standard for the four storage sites, the New Orleans headquarters, and the warehouse building. In addition, the Strategic Petroleum Reserve received environmental management awards from the EPA and the National Pollution Prevention Roundtable.

Figure 8 shows the Strategic Petroleum Reserve’s performance for recordable environmental incidents for the years 1987-2006, and displays a downward trend.

**Figure 8  
Reportable Environmental Events**



## ***Pollution Prevention***

### **Hazardous Waste**

The Strategic Petroleum Reserve's goal for 2006 was to generate no more than 515 pounds of hazardous waste. Actual hazardous waste generated at all five sites amounted to 267 pounds; 92 percent was laboratory waste and the remaining 8 percent was spent fluorescent lamps.

### **Recycling**

The Strategic Petroleum Reserve exceeded 99 percent recycling of 2,330,451 pounds of exploration and production (E&P) waste generated in 2006. E&P waste generated included tank scale from Bryan Mound and disposal well sands from Bayou Choctaw.

The 2006 overall recycling rate was 85 percent. This rate represents 2,380,155 pounds of non-E&P recycled waste (including paper and cardboard) against 427,600 pounds of sanitary waste.

For a third year, the Strategic Petroleum Reserve achieved 100 percent in the procurement of products that met the EPA's guidelines for recycled material content (Affirmative Procurement).

## ***ISO 9001 Quality Management System***

The ISO 9001 Recertification Audit scheduled in October 2005, was rescheduled to January 2006, due to the events of Hurricane Katrina and Rita. On February 1, 2006, the Strategic Petroleum Reserve received a favorable report from this audit and thus continued its ISO 001-2000 certification.

## ***Performance Excellence Conference***

On October 31 – November 1, 2006, the Strategic Petroleum Reserve held its biannual Performance Excellence Conference in New Orleans. The theme of the conference was, "Promoting Improvement in a Changing World," with Dr. David Spong, Vice Chairperson of the Malcolm Baldrige National Quality Award Foundation, as the keynote speaker. The conference was a great success with 16 speakers and over 190 local professionals in attendance.

## ***Customer Service***

During 2006, the customer service team took advantage of the National Petrochemical and Refiners Association (NPRA) annual meeting to meet with over 16 different refiners, traders and other customers, many of whom are identified as key customers. The customer service team provided briefings on a refinery compatibility study of the Strategic Petroleum Reserve's crudes, expansion to one billion barrels, and updates on the actions of the Strategic Petroleum Reserve during the 2005 hurricanes. The team also took this opportunity at NPRA to get input from our customers for improvement and feedback on our performance during the hurricanes.

### ***Real Estate Actions***

During 2006, the Strategic Petroleum Reserve:

- Successfully acquired through the Corps of Engineers New Orleans, fee ownership perpetual pipeline easements and temporary construction easements for the West Hackberry raw water intake structure pipeline replacement project in August 2006.
- Successfully acquired through the Corps of Engineers-Galveston, a road right-of-way agreement for access to the WH-11 valve site in August 2006.
- Executed the Plains Marketing, L.P. Multi-Pipeline Easement or Servitude on May 12, 2006, granting Plains permission to place pipelines on and under the St. James Terminal. The consideration for this outgrant is the ownership of two of the pipelines upon completion of work.
- Completed real estate, legal, and environmental reviews in June 2006, in connection with the Congressionally-mandated transfer of 220 acres from the Naval Petroleum Reserve to the City of Taft, California, as requested by Headquarters.
- Learned that in June 2006, Congressional committees had approved the sole source negotiations with Morton Salt for the transfer of the Weeks Island facility. Negotiations commenced shortly thereafter, and are on-going.

## **APPENDIX A**

### **Strategic Petroleum Reserve Site Information**

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#### ***Bryan Mound***

##### **Location**

Brazoria County, Texas (3 miles southwest of Freeport, Texas).

##### **Site Description**

254-million-barrel storage facility consisting of 20 caverns.

24-inch diameter, 6-mile brine disposal pipeline extending 4 miles offshore in the Gulf of Mexico.

Oil, brine and raw water piping distribution system connecting caverns with central plant and water intake structure located on Brazos River. Twenty-one (21) pumps totaling approximately 45,000 horsepower.

##### **System Parameters**

Drawdown Rate:	1,500,000 bbl/d
Raw Water Pumping Rate:	1,545,000 bbl/d
Oil Fill Rate:	225,000 bbl/d
Brine Disposal Rate:	260,000 bbl/d

##### **Distribution Facilities**

DOE 3.9 mile, 30-inch pipeline to Seaway Freeport Marine Terminal, DOE 4.0 mile, 30-inch pipeline to Seaway Jones Creek Tank Farm and Pipeline and DOE 46 mile, 40-inch pipeline to Seaway Texas City Terminal and Docks.

##### **Acquisition**

Acquired 499.47 acres fee simple, by condemnation April 1977, from Freeport Mineral Company and other owners. Dow Chemical Company was the previous operator.

#### ***West Hackberry***

##### **Location**

Cameron Parish, Louisiana (25 miles southwest of Lake Charles, Louisiana).

##### **Site Description**

227-million-barrel storage facility consisting of 22 caverns.

Oil, brine, and raw water piping distribution system connecting caverns with central plant, water intake structure located on Intra-coastal waterway and 9-brine disposal wells. Thirty-three (33) pumps totaling over 41,680 horsepower.

##### **System Parameters**

Drawdown rate:	1,300,000 bbl/d
Raw Water Pumping Rate:	1,632,000 bbl/d
Oil Fill Rate:	225,000 bbl/d
Brine Disposal Rate:	225,000 bbl/d

##### **Distribution Facilities**

DOE 42.8 mile, 42-inch pipeline to Sunoco Nederland Terminal.  
DOE 13.6 mile, 36-inch pipeline to Shell Pipeline common carrier pipeline system at Carlyss.

##### **Acquisition**

Acquired 405.36 acres fee simple by condemnation, April 1977, from numerous private landowners. Olin Corporation was the previous site operator. Acquired 160.0 additional acres fee simple by condemnation in two actions, July 1979 and March 1980.



## **Big Hill**

### **Location**

Jefferson County, Texas (26 miles southwest of Beaumont, Texas).

### **Site Description**

170-million-barrel storage facility consisting of 14 caverns.

Oil, brine, and raw water systems connecting caverns with central plant, water intake structure located on the Intracoastal Waterway, and a 48-inch diameter, 14-mile brine disposal pipeline extending 4 miles offshore in the Gulf of Mexico. Forty-eight (48) pumps totaling 46,000 horsepower.

### **System Parameters**

Drawdown Rate:	1,100,000 bbl/d
Raw Water Pumping Rate:	1,400,000 bbl/d
Oil Fill Rate:	225,000 bbl/d
Brine Disposal Rate:	432,000 bbl/d

### **Distribution Facilities**

DOE 24.5 mile, 36-inch pipeline to Sunoco Nederland Terminal, Unocal 2 mile, 24-inch pipeline to Unocal Docks, Shell 20-inch pipeline system to East Houston.

### **Acquisition**

Acquired 271 acres fee simple, by condemnation November 1982 and July 1983, from three landowners, i.e., 238.48 acres from Amoco, 27.06 acres from the Pipkin estate, and 5.46 acres from the Patrick Henry Phelan estate.

## **Bayou Choctaw**

### **Location**

Iberville Parish, Louisiana (12 miles southwest of Baton Rouge, Louisiana).

### **Site Description**

76-million-barrel storage facility consisting of 6 caverns.

Oil, brine, and raw water piping distribution system connecting caverns with central plant, a water intake structure, 12 brine disposal wells, and a pipeline for disposing of brine to PetroLogistics Olefins, LLC. Eighteen (18) pumps totaling over 18,000 horsepower.

### **System Parameters**

Drawdown Rate:	515,000 bbl/d (sour) 300,000 bbl/d (sweet)
Raw Water Pumping Rate:	515,000 bbl/d
Oil Fill Rate:	110,000 bbl/d
Brine Disposal Rate:	110,000 bbl/d

### **Distribution Facilities**

DOE-owned 37.2 mile, 36-inch pipeline to Shell's Sugarland Terminal and Capline Pipeline. Shell-owned 16 mile, 24-inch pipeline to Baton Rouge.

### **Acquisition**

Acquired 355.95 acres fee simple, by condemnation April 1977, from numerous private owners. Union Texas Petroleum (a subsidiary of Allied Corporation) was the previous operator.

In 1985, DOE acquired an additional existing cavern through a cavern exchange agreement with Union Texas Petroleum. The transaction involved a 3.5-acre exchange with no net change in Government-owned acreage.