



# U.S. DEPARTMENT OF **ENERGY**

## Strategic Petroleum Reserve Annual Report for Calendar Year 2009



*The Eagle Tacoma delivering the final cargo of crude oil to achieve 727 million barrels on December 25-27.*

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

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





U.S. DEPARTMENT OF  
**ENERGY**

---

---

# **Strategic Petroleum Reserve Annual Report for Calendar Year 2009**

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

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



---

## TABLE OF CONTENTS

---

### EXECUTIVE SUMMARY

Program Highlights and Status .....	1
Oil Acquisitions and Receipts .....	1
Expansion to One Billion Barrels .....	1
Environment, Safety, and Health .....	2
Geotechnical Concerns .....	2
Other Notable Achievements .....	2

### HURRICANE RECOVERY ACTIVITIES

Hurricanes Gustav and Ike .....	4
Site Recovery .....	4
Oil Deliveries .....	5

### PROGRAM MISSION

Introduction .....	6
Legislative History .....	6

### PROGRAM MANAGEMENT

Organization .....	12
Contractual Support .....	13

### CRUDE OIL STORAGE PROGRAM

Strategic Petroleum Reserve Storage Facilities .....	14
Bryan Mound Site Status .....	16
West Hackberry Site Status .....	16
Big Hill Site Status .....	16
Bayou Choctaw Site Status .....	17
St. James Marine Terminal Status .....	17
Expansion of the Strategic Petroleum Reserve to One Billion Barrels .....	17
Supplemental Environmental Impact Statement .....	17
Land Acquisition Activities for Richton .....	18

### PETROLEUM ACQUISITION AND SALES

Crude Oil Inventory Status .....	19
Oil Acquisition Market Assessments .....	19
Open Market Purchase .....	19
Royalty-in-Kind Crude Oil Transfers .....	19
Hurricanes Gustav and Ike Test Exchanges .....	20

**EMERGENCY RESPONSE CAPABILITIES**

Sale of Oil .....	25
Competitive Sales Procedures .....	25
Drawdown Capabilities .....	26
Drawdown Readiness Activities .....	28
Distribution Plan and Capabilities .....	28
Distribution Assessment .....	31
Base Year Assessment .....	31
Future Year Assessments .....	31
Reference Case Assessment .....	32
Low Imports Case Assessment .....	32
High Imports Case Assessment .....	33
Import Protection Levels .....	33

**COMMERCIAL ACTIVITIES**

Commercial Leases .....	35
Bayou Choctaw Pipeline .....	35
Bryan Mound Pipelines .....	35
St. James Terminal .....	35
Foreign Oil Storage .....	35
Commercial Revenues .....	36

**BUDGET AND FINANCE**

Appropriations through Fiscal Year .....	37
Strategic Petroleum Reserve Account .....	37
SPR Petroleum Account .....	37
Performance Measurement .....	39

**OTHER ACTIVITIES**

Quality and Performance Assurance .....	41
Security and Emergency Operations .....	41
Emergency Command Vehicle.....	42
Environment, Safety, and Health .....	42
Vapor Pressure Mitigation .....	42
Executive Orders 13423 and 13514 .....	42
Environmental Improvement Measures .....	43
Occupational Safety and Health Administration’s Voluntary Protection Program .....	43
Accident Rates .....	43
Integrated Safety Management .....	43
Annual Safety Summit .....	44
Human Performance Improvement .....	44
Awards and Certifications .....	44
International Organization for Standardization 9001 Quality Management System ...	45
Integration of the International Organization for Standardization 14001 into the Environmental Management System .....	45
Pollution Prevention .....	46
Customer Service .....	46
Real Estate Actions .....	46

**APPENDIX Strategic Petroleum Reserve Site Information**

Bryan Mound .....	48
West Hackberry .....	48
Big Hill .....	49
Bayou Choctaw .....	49

**LIST OF FIGURES**

Figure 1. Strategic Petroleum Reserve Organizational Structure .....	12
Figure 2. Storage Sites and Distribution System .....	15
Figure 3. Cumulative Oil Fill .....	24
Figure 4. Projected Maximum Drawdown Capability .....	27
Figure 5. Pipeline and Marine Distribution Capabilities .....	30
Figure 6. Canadian Import Projection Comparison .....	32
Figure 7. Strategic Petroleum Reserve Days of Net Import Protection .....	34
Figure 8. International Energy Program U.S. Emergency Stocks .....	34
Figure 9. Reportable Environmental Events .....	45

**LIST OF TABLES**

Table 1. Operational Impacts of Hurricanes .....	5
Table 2. Storage Capacity and Drawdown Capability .....	14
Table 3. Year-End Inventories and Oil Fill History .....	21
Table 4. Crude Oil Receipts .....	22
Table 5. Crude Oil Inventory .....	23
Table 6. Crude Oil Streams .....	26
Table 7. Base Year Distribution Assessment .....	31
Table 8. Summary of Reference Case Performance Measures .....	32
Table 9. Summary of Low Imports Case Performance Measures .....	33
Table 10. Summary of High Imports Case Performance Measures .....	33
Table 11. Summary of Commercial Revenues .....	36
Table 12. Annual Appropriations for Storage Facilities Operations and Management and Petroleum Acquisition and Transportation .....	38
Table 13. Value of Royalty-in-Kind Transferred by the Department of the Interior.....	39
Table 14. Performance Measures .....	40



## **EXECUTIVE SUMMARY**

---

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

The Strategic Petroleum Reserve program provides the United States with energy and economic security through its emergency stockpile of crude oil. The stocks are located at four facilities, Bryan Mound and Big Hill in Texas and Bayou Choctaw and West Hackberry in Louisiana. The Reserve completed fill and as of December 31, 2009, had a crude oil inventory of 726.6 million barrels, equal to 75 days of net U.S. petroleum imports in 2009. At the end of 2009, the Strategic Petroleum Reserve had a drawdown capability of 4.4 million barrels per day.

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

The Strategic Petroleum Reserve received 24.8 million barrels of crude oil during 2009 through a combination of receipts from the Royalty-In-Kind (RIK) fill program with the Department of the Interior, repayment of crude oil from the emergency test exchanges that followed Hurricanes Gustav and Ike in 2008, and direct purchase.

In January 2009, the Strategic Petroleum Reserve initiated actions to begin receiving crude oil after a brief legislatively-mandated suspension of acquisition activities that expired on December 31, 2008. The suspension was pursuant to the Strategic Petroleum Reserve Fill Suspension and Consumer Protection Act of 2008 (P.L. 110-232).

The Strategic Petroleum Reserve contracted for the purchase of about 10,683,000 barrels at a cost of \$553 million in January 2009 using revenues available from the 2005 Hurricane Katrina emergency sale.

From January through May 2009, the Strategic Petroleum Reserve took repayment of 5,395,000 barrels of oil, along with 120,000

premium barrels that had been released to refiners through emergency exchanges after Hurricanes Gustav and Ike in fall of 2008.

Public Law 110-232 also prompted deferrals in 2008 of delivery of contracted crude oil from the royalty-in-kind program. Contracts were modified to require delivery of the scheduled oil, including an interest premium, of 2.3 million barrels during spring 2009.

An additional 6.4 million barrels were received in 2009 through the final phase of the RIK program that concluded the Strategic Petroleum Reserve fill program up to its current 727 million barrel capacity.

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

The Energy Policy Act of 2005 (EPAct 2005) (P.L. 109-58), enacted on 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 practicable without incurring excessive costs or appreciably affecting the price of petroleum products to consumers. In response, the Department of Energy (DOE) completed an Environmental Impact Statement, selecting two existing sites (Bayou Choctaw and Big Hill) for expansion, and proposed development of a new site at Richton, Mississippi. An expansion plan was submitted to Congress in 2007.

During 2009, DOE continued work to finalize a Supplemental Environmental Impact Statement initiated in March 2008 to address three major issues with the Richton site development: the source of water to leach the storage caverns, the location for the oil terminal in Pascagoula, and the location of the brine discharge pipeline in the Gulf of Mexico.

Through FY 2009, Congress appropriated \$56.5 million (\$25 million in FY 2008 for land acquisition activities and \$31.5 million in FY 2009 for expansion activities beyond land acquisition) for the Richton expansion site. However, language included in Omnibus Appropriations Act, 2009 (P.L. 111-8) restricted use of the FY 2009 funds until submission of a report to the Congress on the effects of expansion of the Strategic Petroleum Reserve on the domestic petroleum market.

In October 2009, Congress appropriated for FY 2010 \$25 million for Richton expansion activities.

### ***Geotechnical Concerns***

In FY 2010, funds were also authorized for purchase of an existing privately-owned 10 million barrel cavern to replace a cavern at the Bayou Choctaw site that is experiencing structural problems that pose an environmental risk. Completion of the purchase and development of the cavern will add approximately 7 million barrels of net capacity to the Bayou Choctaw site.

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

The Strategic Petroleum Reserve program operates with an Environmental Management System (EMS) that is certified to the International Organization for Standardization (ISO) 14001 Standard (2004 version). Since 2000, the scope of the EMS recognized under certification included only the Management and Operations contractor.

In 2009, the scope of the EMS was broadened to include the Strategic Petroleum Reserve construction management contractor, AGSC. DOE is involved in the EMS through the Strategic Petroleum Reserve Integrated Safety Management System (ISM), of which the EMS serves as the environmental leg. In 2009, the reorganized EMS was successfully recertified to the ISO 14001 Standard.

The Strategic Petroleum Reserve storage sites continue to operate under the Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP) certification with all four sites having maintained their Star status throughout 2009. The Bayou Choctaw and West Hackberry sites successfully passed their on-site review for recertification. The Big Hill and Bryan Mound sites are scheduled in 2010. At both Bayou Choctaw and West Hackberry sites OSHA validated the Strategic Petroleum Reserve's Process Safety Management system. Process Safety Management is currently an OSHA National Emphasis Program. Additionally, all four sites won OSHA and Department of Energy VPP performance awards.

The Strategic Petroleum Reserve storage sites were recipients of several awards for management quality, environmental stewardship, and safety management systems. In 2009, the Strategic Petroleum Reserve received the Office of Fossil Energy Excellence in Environment, Security, Safety, and Health (ESS&H) Award for "Using Coordinated, Proactive Programs to Lower Injury and Illness Rates, Improve Employee Care, and Prevent Injuries in Today's Workforce." This award was presented to the Strategic Petroleum Reserve for a holistic, proactive approach to wellness and injury prevention.

### ***Other Notable Achievements***

The Strategic Petroleum Reserve is the world's largest stockpile of government-owned crude oil in the world and provides the equivalent of 75 days of protection against an interruption in imports to the United States. The Strategic Petroleum Reserve completed fill during 2009 and currently holds 726.6 million barrels. The last cargo of crude oil (off-loaded December 25-27, 2009) topped off a fill program that began in 1977.

From FY 2002 through FY 2010, the Strategic Petroleum Reserve has received 10,818,514 “premium” barrels of crude oil valued at \$310,057,780. These premium barrels, similar to interest on loans, were earned through crude oil exchanges, deferrals of contracted deliveries, and payment in lieu of cash for lease agreements.

The Strategic Petroleum Reserve’s Chief Information Officer received a DOE Cyber Security Achievement Award for disaster recovery and for strengthening the security posture of the Strategic Petroleum Reserve.

## **HURRICANE RECOVERY ACTIVITIES**

---

### ***Hurricanes Gustav and Ike***

During September 2008, the Gulf Coast region was hit in quick succession by two strong hurricanes, Gustav on September 1<sup>st</sup> and Ike on September 13<sup>th</sup>. Hurricane Gustav struck the Louisiana coastline directly south of New Orleans and resulted in minor damage to the New Orleans office and the Big Hill and West Hackberry Strategic Petroleum Reserve sites. Hurricane Ike struck the Texas coastline at Galveston, Texas with an enormous storm surge and caused extensive damage to the Big Hill, West Hackberry, and Bryan Mound sites. To fully restore the sites to their pre-storm levels of mission capability, it was necessary to expend funds to repair damages of about \$22 million.

The Strategic Petroleum Reserve's first priority upon re-entering each facility was to assess the damages and initiate actions to restore the site's mission-essential functions, i.e., the capability to release and distribute crude oil to commercial pipelines. Costs for the emergency repairs, as well as costs incurred later to fully restore the sites to their pre-storm levels of mission capability, were about \$22 million.

The Strategic Petroleum Reserve used FY 2009 funds appropriated for normal operations and maintenance to perform the emergency repairs. In order to avoid reductions in planned maintenance, operational readiness activities, environmental programs, site security, and technical management of site systems, DOE requested authorization from the Congress to transfer \$22 million from the Strategic Petroleum Reserve Petroleum Account to the Facilities Account. Congress authorized the transfer of the funds in the Supplemental Appropriations Act, 2009 (P.L. 111-32). Costs for hurricane repairs can be found in Table 1.

### ***Site Recovery***

Hurricane damage to the Bryan Mound site required electrical facility repairs, lightning arrestor pole replacement, cathodic protection repairs, roof and building repairs, cleanup of debris, lab equipment replacement, and the lowering of a 24-inch brine disposal pipeline.

The Big Hill site sustained the greatest amount of hurricane damage. The storm surge from Hurricane Ike inundated the site with debris and the electrical system supporting the operation of the Raw Water Intake Structure was damaged necessitating extensive testing and repair work. Additional restoration work included repair or replacement of perimeter and interior fences, building and roof repairs, the hydraulic security barrier, road repairs, electrical control panels, perimeter fence security systems, and remote control stations.

The West Hackberry site was also flooded with debris and sustained significant damage to electrical systems. In addition to removal of debris, costs included road repairs, cathodic protection rectifier replacements, remote control station repairs, and repairs to pipe spools used for recovery programs.

The Bayou Choctaw site was not hit directly by the hurricanes, but experienced power outages. Bayou Choctaw provided recovery support to the other sites and released crude oil for the emergency exchanges conducted in response to the hurricanes.

## Oil Deliveries

When Hurricanes Gustav and Ike struck the Gulf Coast in September 2008, they impacted oil production, refining, and distribution operations that led to shortages of both crude oil and refined products.

The Secretary of Energy utilized the authority of section 161(g)(1) of the Energy Policy and Conservation Act (EPCA) (42 U.S.C. 6241(g)(1)) to authorize the test of Strategic Petroleum Reserve response capabilities through limited test exchange contracts that would release emergency crude oil to refiners and help mitigate the severe regional supply disruption.

In accordance with EPCA section 161(g)(8), a separate, detailed report on the test exchanges was submitted to Congress in August 2009. The *Report to the Congress on the Strategic Petroleum Reserve 2008 Emergency Test Exchanges* provided a detailed explanation of the tests carried out under the exchange authority. The Report documents the release and repayment of 5.4 million barrels of oil, plus an additional 120,000 barrels of interest.

**Table 1**  
**Operational Impacts of Hurricanes**

Site	Hurricane Gustav	Hurricane Ike	Recovery Costs (\$000)**
Project Management Office, New Orleans, LA*	No Impact	No Impact	340
Bryan Mound, TX	No Impact	Recovery Time – 6 Days	3,700
Big Hill, TX	No Impact	Recovery Time – 17 Days	11,300
West Hackberry, LA	No Impact	Recovery Time – 5 Days	6,100
Bayou Choctaw, LA	Recovery Time – 5 Days	No Impact	204

\* Continuity of operations, communications, and overtime costs

\*\* Costs are approximate.

## **PROGRAM MISSION**

---

### **Introduction**

The Strategic Petroleum Reserve was authorized in 1975 by the Energy Policy and Conservation Act (EPCA) (42 U.S.C. 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, 2009, the Strategic Petroleum Reserve contained 726.6 million barrels of crude oil. The inventory provided the equivalent of 75 days of net imports based on net petroleum imports of 9.70 million barrels per day. The United States relies on a combination of oil in the Strategic Petroleum Reserve and private stocks to meet its oil storage obligations under and consistent with the agreement with the International Energy Program.

### **Legislative History**

EPCA was enacted on December 22, 1975. It 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 (P.L. 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 (P.L. 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 (P.L. 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 (P.L. 101-262), and August 10, 1990 (P.L. 101-360).

On September 15, 1990, the President signed the Energy Policy and Conservation Act Amendments of 1990 (P.L. 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 (P.L. 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 (P.L. 103-406), extending authorization for the Reserve to June 30, 1996.

The Balanced Budget Downpayment Act (P.L. 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 (P.L. 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 (P.L. 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. Authorization was renewed on October 14, 1996 with enactment of P.L. 104-306, which extended the authorization for the Strategic Petroleum Reserve until September 30, 1997. After that date, the Reserve operated without authorizing legislation until June 1998 when P.L. 105-177 was signed.

The Balanced Budget Act of 1997 (P.L. 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 (P.L. 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 (P.L. 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 P.L. 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 (P.L. 105-277), enacted on October 21, 1998, included \$160.1 million for the Strategic Petroleum Reserve.

On November 13, 1998, the President signed P.L. 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 P.L. 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 (P.L. 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 (P.L. 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 (P.L. 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 P.L. 107-63, the Department of 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 was 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 P.L. 108-7, the Consolidated Appropriations Act, 2003. P.L. 108-7 included \$171.7 million for Strategic Petroleum Reserve operations and program management activities and \$1.9 million for the SPR Petroleum Account. The law also extended EPCA authority for the Strategic Petroleum 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 (P.L. 108-108). The Act provided \$171 million for the operations and program management activities of the Strategic Petroleum Reserve.

On December 8, 2004, the President signed the Consolidated Appropriations Act, 2005 (P.L. 108-447). The Act provided \$172,100,000 for the operations and program management activities of the Strategic Petroleum 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.

On August 8, 2005, the President signed into law the Energy Policy Act of 2005 (P.L. 109-58). The Act amended EPCA to provide permanent authorization for the Strategic Petroleum Reserve. The Act also required acquisition of petroleum to fill the Strategic Petroleum Reserve to its authorized one billion barrel capacity "as expeditiously as practicable without incurring excessive costs or appreciably affecting the price of petroleum products to con-

sumers", promulgation of procedures for the acquisition of petroleum for the Reserve, including 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 (P.L. 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 one percent, the Strategic Petroleum Reserve budget authority was reduced to \$164,340,000.

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 Continuing Resolution signed during 2006 was signed by the President on December 9, 2006 (P.L. 109-383), and provided funding through February 15, 2007. A final year-long Continuing Resolution (H.J. Res 20) was passed by Congress on February 14, 2007, and signed by the President on February 15, 2007. The Revised Continuing Appropriations Resolution, 2007 (P.L. 110-5) provided appropriations equal to the 2006 amount plus a small escalation adjustment for employee pay and benefits. The final appropriation for the Strategic Petroleum Reserve was \$164,441,000.

Congress passed two Continuing Resolutions to cover fiscal year 2008 programs whose appropriations, beginning October 1, 2007, had not yet been enacted. On December 26, 2007, the President signed the Consolidated Appropriations Act, 2008 (P.L. 110-161). The Act provided \$188,472,000 for the Strategic Petroleum Reserve, of which \$25,000,000 was to be used to carry out the new expansion site land acquisition activities consistent with the budget

request. After an across-the-board general reduction, the Strategic Petroleum Reserve's budget authority totaled \$186,757,000, of which \$24,773,000 was provided to carry out new site land activities.

On May 19, 2008, the President signed into law the Strategic Petroleum Reserve Fill Suspension and Consumer Protection Act of 2008 (P.L. 110-232). The Act suspended acquisition of petroleum for the Strategic Petroleum Reserve beginning on the date of enactment and ending on December 31, 2008. Resumption of fill could resume under strictly defined conditions, i.e., if the President determined that the weighted average price of petroleum in the United States for the most recent 90-day period was \$75 or less per barrel. However, the Strategic Petroleum Reserve could not resume fill earlier than 30 days after the President notified Congress that the condition had been met. P.L. 110-232 expired on December 31, 2008.

Funding for FY 2009 was completed in a series of three appropriations actions. On September 30, 2008, the President signed the Consolidated Security, Disaster Assistance, and Continuing Appropriations Act, 2009 (P.L. 110-329) that provided funding for Government agencies through March 6, 2009. On March 6, 2009, Congress passed, and the President signed, H.J. Res. 38, a stopgap spending measure to keep the government in operation through March 11, 2009 (P.L. 111-6). On March 11, 2009, the President signed the Omnibus Appropriations Act, 2009 (P.L. 111-8) that completed funding through the fiscal year. Appropriations for the Strategic Petroleum Reserve totaled \$205,000,000, with \$31,507,000 directed to carry out new site land acquisition activities as part of the proposed expansion of the Strategic Petroleum Reserve to one billion barrels. However, the law included a caveat that none of the funds provided for new site expansion activities may be obligated or expended until after the Secretary of Energy

submits a report to the Congress on the effects of expansion of the Strategic Petroleum Reserve on the domestic petroleum market. Research and preparation of the report continued through 2009.

Additional FY 2009 funds were authorized in the Supplemental Appropriations Act, 2009 (P.L. 111-32), enacted June 24, 2009, by transfer of \$21,585,723 from the Strategic Petroleum Reserve's Petroleum Account to Facilities Development and Operations for site maintenance activities. The funds were used for the required hurricane repairs and site restoration following Hurricanes Gustav and Ike in 2008.

Funding for FY 2010 began with a short-term continuing resolution contained in the FY 2010 Appropriations Act for the Legislative Branch and Continuing Resolution (P.L. 111-68). On October 28, 2009, the Energy and Water Development and Related Agencies Appropriations Act, 2010 (P.L. 111-85) was enacted. The Act provided \$243,823,000 for the Strategic Petroleum Reserve, including \$25,000,000 for expansion activities at the proposed Richton, Mississippi site. Report language accompanying the Act (House Rept. 111-278 and Senate Rept. 111-45), included guidance for the purchase of a commercial storage cavern to replace an existing Strategic Petroleum Reserve cavern due to environmental risk at the Bayou Choctaw, Louisiana site. Section 313 of the Act placed restrictions on the use of Strategic Petroleum Reserve funds regarding potential transactions with the Islamic Republic of Iran. The restrictions prohibited use of the funds to any person selling refined petroleum products valued at \$1,000,000 or more to the Islamic Republic of Iran, or who is engaged in an activity valued at \$1,000,000 or more that could contribute to enhancing the ability of the Islamic Republic of Iran to import refined petroleum products, or who is engaged in an activity that could expand the capacity of the Islamic Republic of Iran to produce refined petroleum products. The prohi-

bition exempted any contract entered into by the United States Government before the date of the enactment of P.L. 111-85.

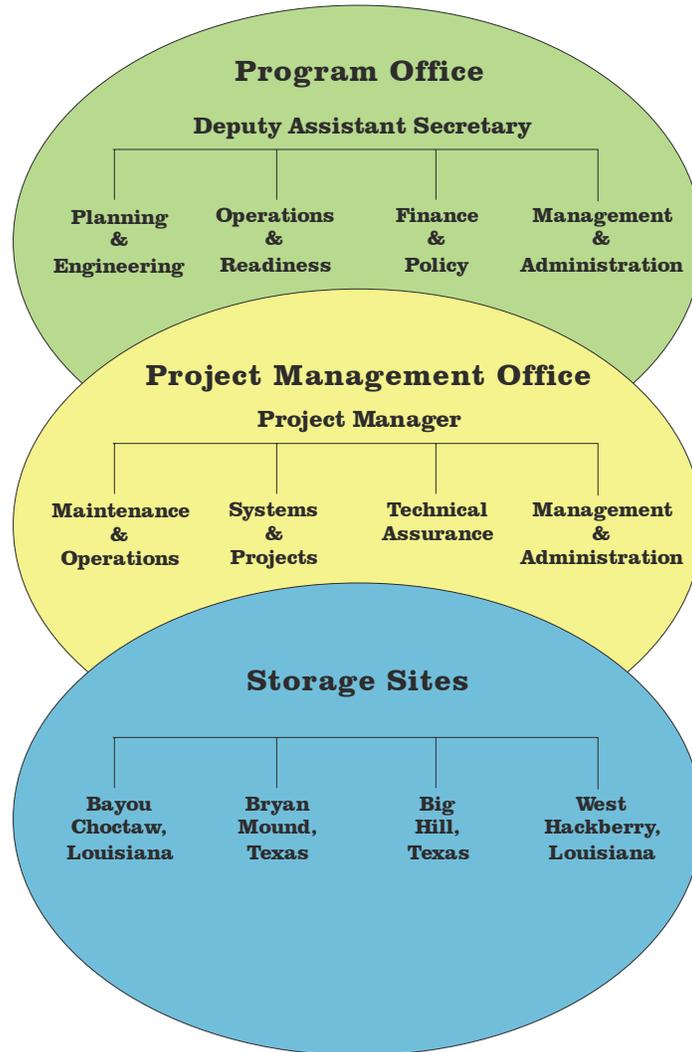
## PROGRAM MANAGEMENT

### Organization

The Assistant Secretary for Fossil Energy at DOE 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 111 Federal full-time equivalent employees and 813 contractor employees as of December 31, 2009. 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 contractor, DynMcDermott Petroleum Operations Company, to provide management and personnel to operate and maintain the Strategic Petroleum Reserve facilities and related systems. The contract with DynMcDermott expires on March 31, 2013.

S&B Infrastructure, an architectural and engineering firm, provides design services for the four storage facilities. The contract is for a three year initial period that ends May 31, 2012, with options for DOE to extend the contract with two additional one-year options. Sandia National Laboratory provides geotechnical support that includes analysis of the salt dome, cavern integrity, vapor pressure, crude oil quality, and new cavern development.

AGSC Gulf States Constructors, a Native Alaskan 8(a) small disadvantaged business, provides construction and construction management services for the four storage facilities through August 31, 2011. The contract includes options for DOE to extend for two additional one-year periods.

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 currently through October 31, 2010, with one additional one-year option remaining. Other

support services contractors include 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, Constellation New Energy, and Entergy.

The Strategic Petroleum Reserve holds contracts with three commercial facilities that provide terminal services for fill, drawdown, and storage of crude oil. The contract with the Sunoco Partners Marketing & Terminals, L.P. is in its second five-year option period, which commenced May 1, 2008. Unocal Corporation is in its third five-year option period, which expires April 23, 2012, and 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 2 shows the storage capacity and drawdown capability of each of the four storage sites as of December 31, 2009.

All oil stored in the Strategic Petroleum Reserve's oil storage facilities is 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 average operations cost for fiscal year 2009 was approximately \$0.207 per barrel. 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 2`**  
**Storage Capacity and Drawdown Capability**  
**(As of December 31, 2009)**

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>228</b>	<b>120/108</b>	<b>1,300</b>
<b>Big Hill</b>	<b>171</b>	<b>73/98</b>	<b>1,100</b>
<b>Bayou Choctaw</b>	<b>74</b>	<b>22/52</b>	<b>515</b>
<b>Total Program</b>	<b>727</b>	<b>293/434 (40%/60%)</b>	<b>4,415</b>

Sweet = Low sulfur crude (S<0.5%)

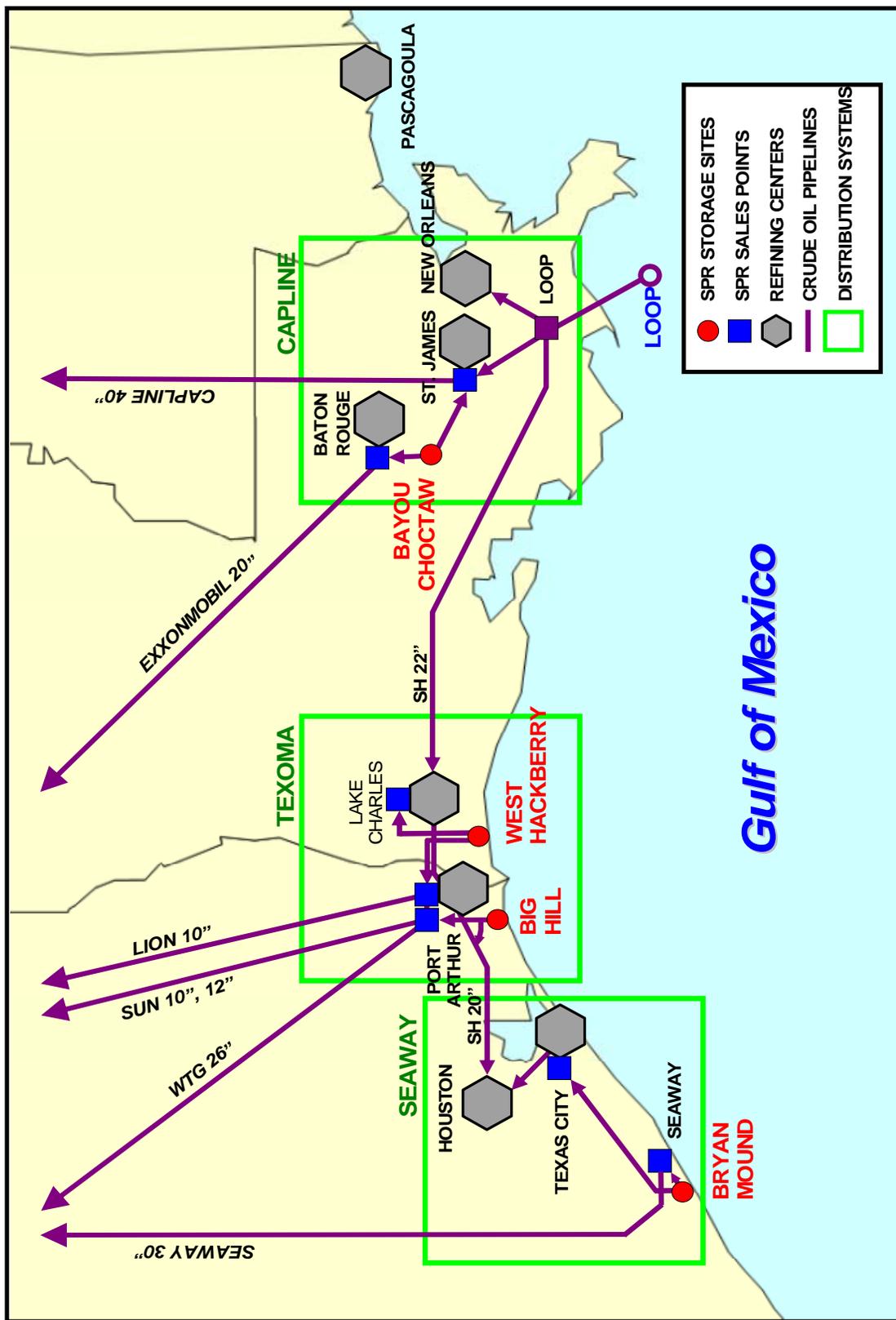
Sour = Medium sulfur crude (S<2.0%)

\* Initial 90-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 with both storage capacity and inventory of 254 million barrels.

The Bryan Mound site was completed in 1986 and has been fully operational since that time. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities.

During 2009 construction was initiated on replacement of deteriorated traveling water screen bar racks. These racks prevent large debris from entering the site raw water system. The system draws from the Brazos River.

Construction also started on a pilot test bed for a proposed ground based radar security system.

In addition, construction began on upgrades to the site's meter control system. The old system is obsolete and is no longer supported by the manufacturer. It is being replaced with a more current Delta V meter control system.

### **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 with both storage capacity and inventory of 228.5 million barrels.

The West Hackberry site was completed in 1988 and has been fully operational since that time. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities.

During 2009 construction was started on upgrades to the site's meter control system. The

old system is obsolete and is no longer supported by the manufacturer. It is being replaced with a Delta V system.

Also in 2009, Government Furnished Equipment (GFE) was procured for the planned FY 2010 Site Modifications task that will facilitate moving the degasification plant in 2011 from the Bryan Mound site to the West Hackberry site.

GFE was also procured for the upcoming FY 2010 Site Security Upgrade task. Upgrades include replacement of the site Alarm Detection and Assessments System (ADAS), replacement of site security cameras, and the addition of enhanced security systems around site drawdown critical systems.

### **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 171 million barrels, and a cavern inventory of 170.2 million barrels.

The Big Hill site was completed in 1991 and has been fully operational since that time. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities.

During 2009, construction was started on upgrades to the site's meter control system. The old system is obsolete and is no longer supported by the manufacturer. It is being replaced with a Delta V system.

GFE was also procured for the upcoming FY 2010 Site Security Upgrade task. Upgrades include replacement of the site ADAS, replacement of site security cameras, and the addition of enhanced security systems around site drawdown critical systems.

### **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 74 million barrels, and a cavern inventory of 73.2 million barrels.

The Bayou Choctaw site was completed in 1987 and has been fully operational since that time. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities.

During 2009, construction was started on upgrades to the site's meter control system. The old system is obsolete and is no longer supported by the manufacturer. It is being replaced with a Delta V system.

Construction also started on a comprehensive upgrade of the sites security systems. Upgrades include replacement of the ADAS, replacement of site security cameras, and the addition of enhanced security systems around site drawdown critical systems.

### **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 Oil Products US under a long-term lease agreement. Under the lease agreement, Shell provides for all 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.

A connection between the St. James

terminal and the adjacent LOCAP terminal enhances the Strategic Petroleum Reserve's emergency distribution capabilities enabling unencumbered crude oil distribution to the LOCAP terminal, the ExxonMobil pipeline and the Plains terminal.

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

EPAAct 2005 directed the Secretary of Energy to expand and fill the Strategic Petroleum Reserve to its authorized one billion barrel capacity "as expeditiously as practicable without incurring excessive costs or appreciably affecting the price of petroleum products to consumers."

After completing a process to prepare an Environmental Impact Statement for site selection to expand the capacity of the Reserve, a Record of Decision was signed by the Secretary of Energy on February 14, 2007, that identified the salt dome at Richton, Mississippi as the new Strategic Petroleum Reserve site. The selection of Richton was based on its large undeveloped salt dome, its enhanced distribution capabilities to serve Capline and Pascagoula, and its inland location which reduces potential hurricane impacts. Two existing Strategic Petroleum Reserve sites, Bayou Choctaw in Louisiana and Big Hill in Texas, were also selected to be expanded for storage of additional crude oil. Together the three projects would create enough capacity to bring the Reserve from its current 727 million barrels to one billion barrels.

### **Supplemental Environmental Impact Statement**

DOE initiated a Supplemental EIS (SEIS) by publishing a Notice of Intent in March 2008. The SEIS is considering alternative locations for the water intake structure on the Leaf River, the oil terminal in Pascagoula, and the brine disposal pipeline in the Gulf of Mexico.

DOE completed several technical studies in support of the Draft SEIS in 2009. An In-stream Flow Incremental Methodology study of water removal and aquatic habitat changes was completed in March 2009 with review and consultation by the U.S. Fish and Wildlife Service and Mississippi Department of Wildlife Fisheries and Parks. In June 2009, DOE also completed a discharge modeling study of alternative locations for the proposed brine disposal in the Gulf of Mexico in consultation with the U.S. Army Corps of Engineers, and a model of possible saltwater intrusion into the Pascagoula River as a result of the proposed water withdrawal. These technical studies are necessary to support the completion of a Biological Assessment and Draft SEIS.

#### **Land Acquisition Activities for Richton**

Congress appropriated \$31.5 million in FY 2009 for engineering design activities for the proposed Richton site. Use of the funds was contingent upon DOE submitting a Report to Congress on the effects of expansion of the Strategic Petroleum Reserve on the domestic petroleum market. Research and preparation of the report continued through 2009.

Funds appropriated in FY 2008 were used to complete a comprehensive assessment of seismic surveys of the salt dome and identified the proposed siting for the storage facility. Additionally, surface and sub-surface title and appraisals were received from the Corps of Engineers-Mobile District in 2009.

During 2009 the Strategic Petroleum Reserve finalized an Archeological and Cultural Assessment and a Liability Assessment (CERCLA Phase I) of the Richton site location. The initial reports had been completed in October and December 2008, respectively.

## **PETROLEUM ACQUISITION AND EXCHANGE**

---

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

On December 31, 2009, the Strategic Petroleum Reserve's crude oil inventory was 726,616,245 barrels, an increase of 24.8 million barrels from the prior year. The increase in 2009 is due to the receipts from the royalty-in-kind (RIK) oil transfer program, repayment of the emergency test exchanges conducted during Hurricanes Gustav and Ike, and direct purchase.

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

Detailed information about the Strategic Petroleum Reserve's fill program since 1977 can be found in the following:

- Table 3 lists year-end inventories and average daily fill rates for the years 1977 through 2009 (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 by year.

### ***Oil Acquisition Market Assessments***

The *Procedures for the Acquisition of Petroleum for the Strategic Petroleum Reserve* (10 CFR Part 626) establish the rules and procedures for acquiring Strategic Petroleum Reserve crude oil. These procedures require that a comprehensive market assessment be performed prior to initiation or continuation of any oil fill activities to ensure the Strategic Petroleum Reserve acquisition activities will not unduly affect the current market conditions.

Consistent with the EPO Act 2005 direction to expand and fill the Strategic Petroleum Reserve to its authorized one billion barrel capacity, DOE assessed the potential impact of acquiring oil in 2009 through open market purchases and a resumption of the RIK program with the Department of the Interior (DOI). An assessment completed in December 2008 concluded that continuation of fill activities would not exacerbate market conditions.

### ***Open Market Purchase***

On January 2, 2009, the Secretary authorized an open market acquisition of oil using revenues available in the SPR Petroleum Account from the 2005 Hurricane Katrina emergency sale. The Strategic Petroleum Reserve awarded contracts in January 2009 to purchase 10.6 million barrels at a cost of \$553 million. The oil was delivered between February and April 2009.

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

The continued use of the RIK program resulted in the addition of approximately 6.8 million barrels to the Strategic Petroleum Reserve in 2009.

The RIK program was used to acquire oil for the Strategic Petroleum Reserve between 1999 and 2009. Under this program, oil producers provided a portion of crude oil drilled on federal offshore leases as "in kind" royalty payments to DOI's Minerals Management Service in lieu of cash payments. DOI issued solicitations every six months for the delivery of offshore oil to designated "market centers." DOE contracted with commercial entities to receive the royalty oil at the market centers and transfer it to the Strategic Petroleum Reserve, either directly or with other crude oil delivered in exchange.

Initially, the RIK exchange program provided barrels to replace 28 million barrels that had been sold in the years 1996-1997.

The RIK initiative to fill the Strategic Petroleum Reserve to 700 million barrels was directed by the President in November 2001. Royalty transfers began in April 2002 and continued through July 2005. Exchange oil deliveries to the Strategic Petroleum Reserve were completed in August 2005 after a total of 108.9 million barrels had been delivered. By the end of August 2005, the Strategic Petroleum Reserve inventory had reached 700.7 million barrels.

The next phase of the RIK program began in 2007 with a new agreement for oil transfers from DOI to DOE. Following completion of a September 2007 market assessment, a competitive solicitation resulted in the award of contracts to three companies for the transfer of approximately 68,000 barrels per day for six months starting January 1, 2008.

Consistent with the March 2008 market assessment, a succeeding solicitation was issued in April 2008, increasing the royalty transfer rate to approximately 85,000 barrels per day for the six-month period beginning July 1, 2008. However, the rapid increase in crude oil prices in the late spring led Congress to pass P.L. 110-232, the Strategic Petroleum Reserve Fill Suspension and Consumer Protection Act of 2008. Enacted May 19, 2008, it suspended Strategic Petroleum Reserve oil fill activities, to the maximum extent practical, until after December 31, 2008. As a result, no new RIK exchange contracts were signed for the remainder of the year.

P.L. 110-232 also directed the Secretary of Energy, to the maximum extent practicable, to negotiate a deferral of the delivery of oil already under contract. The Department negotiated the deferral of 2.2 million of the remaining barrels that had been scheduled for delivery through July 2008, and in accordance with the oil acquisition

procedures in 10 CFR 626, received 2.3 million barrels, including premium barrels reflecting a fair share of the market value of the deferral, in the spring of 2009.

Following completion of the December 2008 market assessment, a competitive solicitation resulted in the award of contracts to two companies for the transfer of approximately 25,000 barrels per day of royalty oil for the nine month period from April 2009 through December 2009. This resulted in the delivery of approximately 6.4 million barrels of exchange oil to the Strategic Petroleum Reserve.

On September 16, 2009, DOI announced a restructuring of the Minerals Management Service and the phased-in termination of the RIK program. The December 25-27, 2009 delivery to the Strategic Petroleum Reserve was the last receipt of RIK crude oil for DOE.

From 1999 through 2009, the Strategic Petroleum Reserve received a total of 164.1 million barrels of crude oil through the RIK program.

### ***Hurricanes Gustav and Ike Test Exchanges***

During 2009, the Strategic Petroleum Reserve received repayment of 5.5 million barrels, including an interest premium, from emergency test exchanges that were conducted following Hurricanes Gustav and Ike in 2008.

The Strategic Petroleum Reserve originally released 5.4 million barrels during the emergency test exchanges in 2008 and repayment of the loaned barrels, plus the premium, was scheduled for the period January through May 2009, due to the 2008 oil acquisition prohibition in P.L. 110-232. In accordance with EPCA section 161(g)(8), a separate, detailed report on the test exchanges was submitted to Congress in August 2009.

**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>
2007	692.8	14	696.9	23
2008	702.4	26 <sup>8</sup>	701.8	13 <sup>8</sup>
2009	725.1	62.2	726.6	67.9

MMB = Million Barrels MB/D = Thousands of Barrels per Day

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 &amp; Katrina deliveries and receipts

7 Net Hurricane Katrina exchange and drawdown sales

8. Net Hurricanes Gustav &amp; Ike deliveries

**Table 4**  
**Crude Oil Receipts**  
**(As of December 31, 2009)**

Source Country	2009	Cumulative (MMB)	Percent of Total (%)
Mexico		266.3	31.2
United Kingdom	1.0	193.9	22.7
United States*	4.4	105	12.3
Saudi Arabia		28.3	3.3
Libya		27.5	3.2
Venezuela		25.3	3.0
Angola		25.1	2.9
Russia	9.3	25.1	2.9
Iran		20.0	2.3
United Arab Emirates		19.3	2.3
Nigeria		16.3	1.9
Algeria	6.4	15.7	1.8
Cameroon	0.6	15.1	1.8
Equatorial Guinea		15.1	1.8
Norway		14.0	1.6
Oman	1.0	12.9	1.5
Egypt		8.9	1.0
Ecuador		6.2	0.7
Iraq		3.4	0.4
Gabon		2.4	0.3
Qatar		2.3	0.3
Azerbaijan	2.1	2.1	0.2
Columbia		1.2	0.1
Argentina		0.4	≤0.1
Ivory Coast		0.4	≤0.1
Peru		0.4	≤0.1
<b>Total**</b>	<b>24.8</b>	<b>852.7***</b>	<b>100.0</b>

MMB = Million Barrels

\* Included receipts from offshore Gulf of Mexico.

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

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

**Table 5**  
**Crude Oil Inventory**  
**(As of December 31, 2009)**

Storage Site	Inventory (MMB)			Cubic Meters (Millions)
	Sweet*	Sour**	Total***	
<b>Bryan Mound, Brazoria County, Texas</b>	<b>77.6</b>	<b>176.4</b>	<b>254</b>	<b>40.4</b>
<b>Big Hill, Jefferson County, Texas</b>	<b>72.7</b>	<b>97.4</b>	<b>170.1</b>	<b>27.0</b>
<b>West Hackberry, Cameron Parish, Louisiana</b>	<b>120.1</b>	<b>108.1</b>	<b>228.2</b>	<b>36.3</b>
<b>Bayou Choctaw, Iberville Parish, Louisiana</b>	<b>21.4</b>	<b>51.8</b>	<b>73.2</b>	<b>11.6</b>
<b>Subtotal Underground Inventory</b>	<b>291.8</b>	<b>433.7</b>	<b>725.5</b>	<b>115.3</b>
<b>Tanks and Pipelines</b>	<b>0.8</b>	<b>0.3</b>	<b>1.1</b>	<b>0.2</b>
<b>Total Inventory</b>	<b>292.6</b>	<b>434.0</b>	<b>726.6</b>	<b>115.5</b>
<b>Total Accounts Receivable</b>	<b>0.0</b>	<b>0.0</b>	<b>-0.0</b>	<b>0.0</b>
<b>Total SPR Book Inventory</b>	<b>292.6</b>	<b>434.0</b>	<b>726.6</b>	<b>115.5</b>

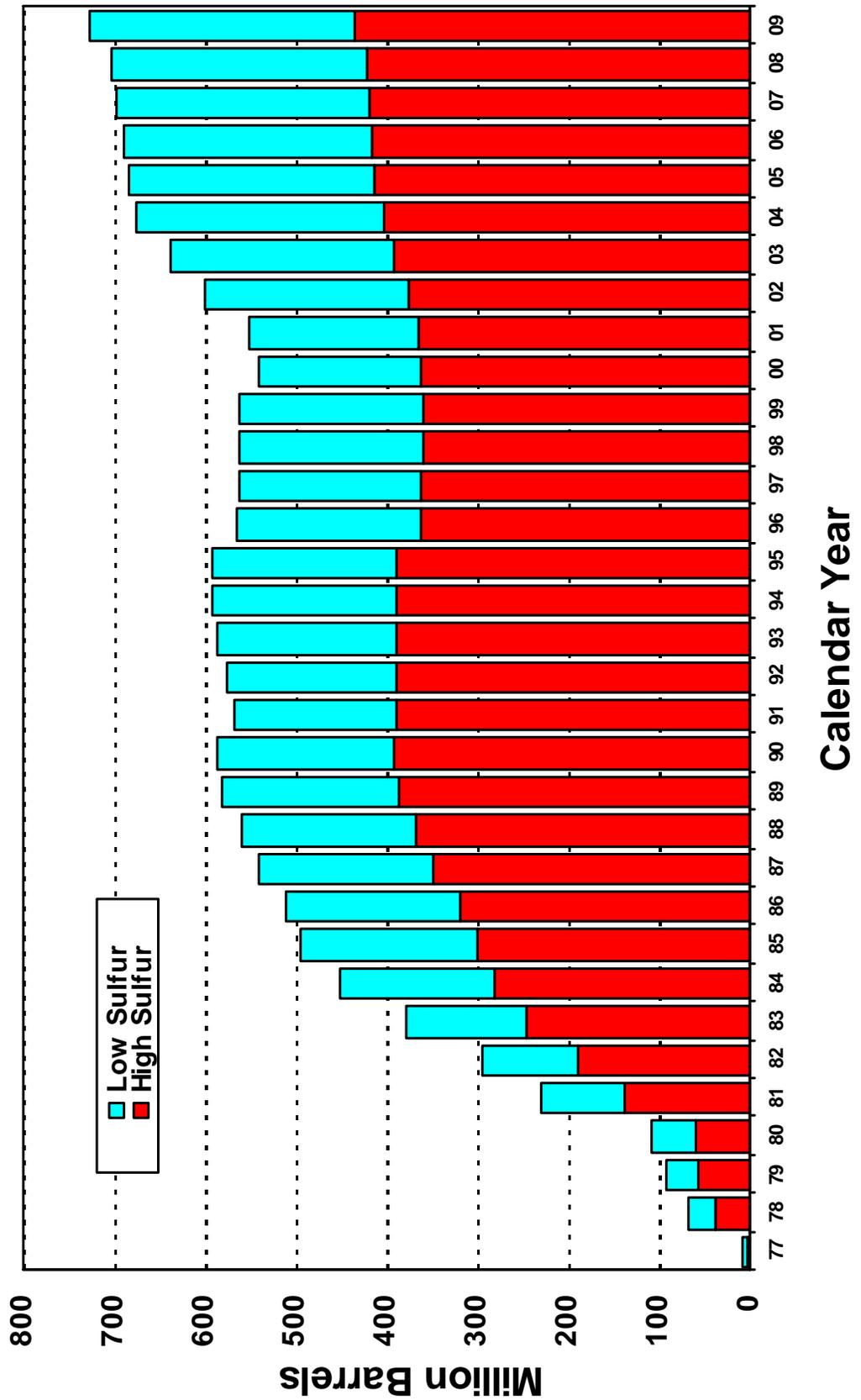
MMB = Million Barrels

\* 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



## ***EMERGENCY RESPONSE CAPABILITIES***

---

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

Under section 161 of EPCA, upon direction by the President, the Secretary of Energy is required to sell oil from the Strategic Petroleum Reserve at public sale to the highest qualified offerors. The Strategic Petroleum Reserve maintains a readiness posture to provide crude oil within 13 days under a competitive sale. No emergency sale was conducted during 2009.

### ***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 through the use of a web-based automated oil sales and evaluation system, which provides a triple redundant backup system. Each Notice of Sale covers 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.

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, delivery mode, or location changes. Payment is due in the month following the delivery.

---

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.

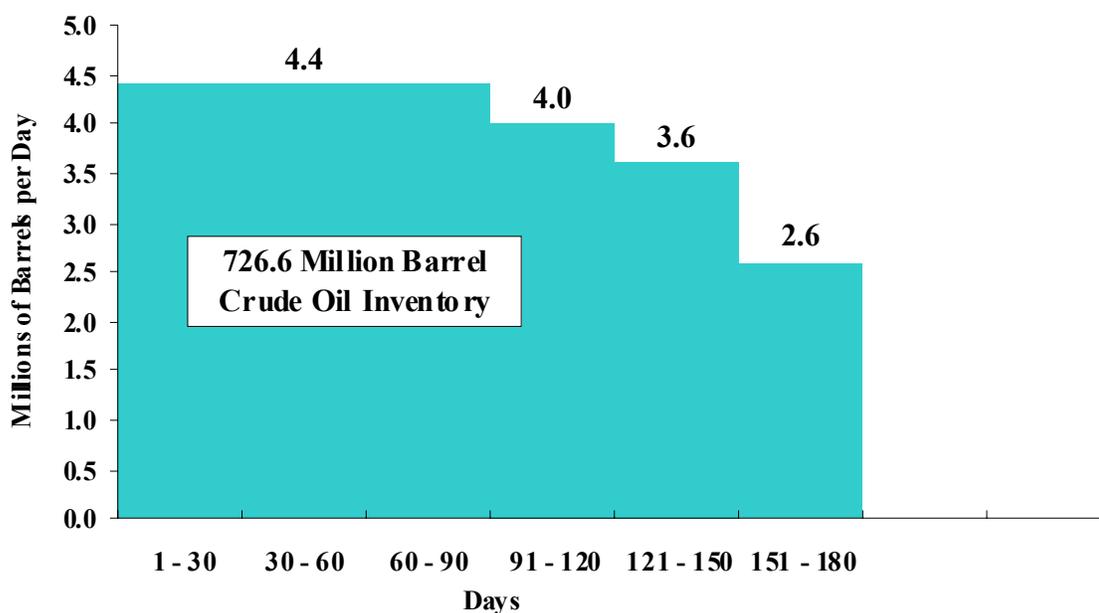
**Table 6**  
**Crude Oil Streams**  
**(As of December 31, 2009)**

<b>Crude Oil Stream</b>	<b>Gravity (°API)</b>	<b>Sulfur Content (Mass%)</b>	<b>Delivery Mode and Location</b>
<b>Seaway System</b>			
<b>Bryan Mound (Sweet)</b>	<b>36.4</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 Chevron 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, Plains Marketing 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 396 million barrels in 90 days and 703 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, 2009)**



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 2009 included:

- The Eagle V drawdown readiness exercise was conducted from July 14 through September 10, 2009, to test the entire scope of the drawdown process. A primary focus was validation of the new Transportation Management Model used for scheduling all cargos for the sales cycle. This exercise tested the level of effectiveness of the drawdown program and the experience of the participants.
- The Drawdown Readiness Review program requires and monitors quarterly drawdown readiness. Four reviews were conducted in 2009, confirming that all sites and systems were prepared for a crude oil exchange or drawdown of the Strategic Petroleum Reserve.
- The Systems Test Exercise (STE) program determines the drawdown readiness of a Strategic Petroleum Reserve sites' equipment, procedures, systems, and personnel, and collects data to further ensure a readiness status.
- The Big Hill STE was successfully completed on February 19, 2009, and was conducted from the site designated Alternate Operational Location. A maximum sour drawdown rate of approximately 1,184,000 barrels per day was achieved and maintained for over one hour to Sun Terminal, achieving all test objectives. Although not part of the test, a cleaning pig was run during the test and a smart pig was run when the oil was returned.
- The Bryan Mound STE was successfully completed on August 16, 2009. A

maximum sour drawdown rate of approximately 1,596,000 barrels per day to two destinations was achieved for fifteen minutes meeting/exceeding the Target Success Criteria. The Texas City Terminal rate was 964,000 barrels per day and the Jones Creek Tank Farm via Freeport Docks' rate was 632,000 barrels per day. A total of approximately 130,000 barrels was delivered during the test: 47,000 barrels to Jones Creek Tank Farm and 83,000 barrels to Texas City Terminal.

- Administrative tabletop exercises were successfully conducted at Bayou Choctaw on June 10, 2009, and at West Hackberry on July 8, 2009.

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

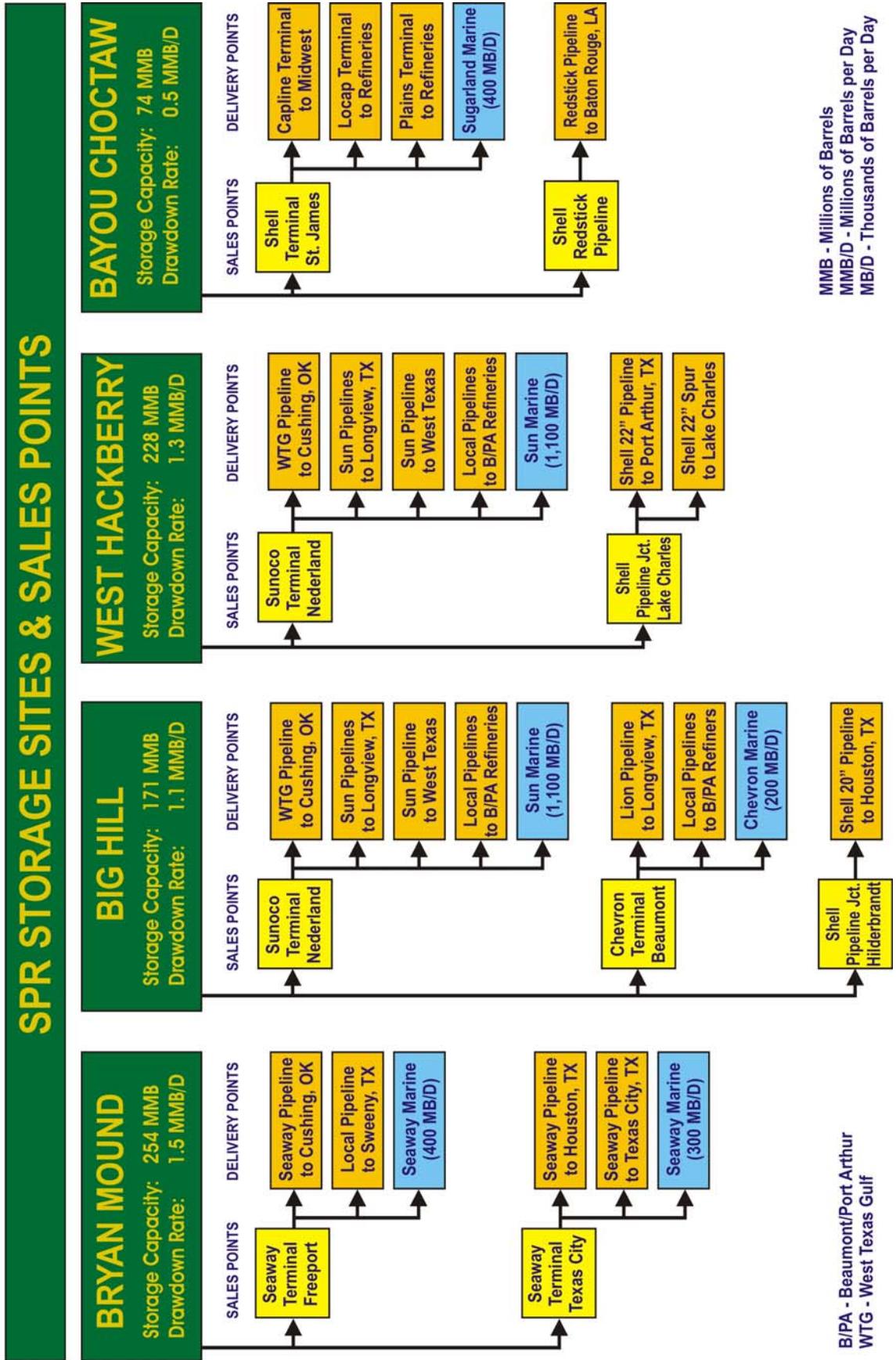
In the event of an emergency, the Strategic Petroleum Reserve has the capability to distribute its crude oil to refineries in the United States by local pipelines, interstate pipelines and marine distribution facilities.

The Strategic Petroleum Reserve is capable of delivering crude oil to 24 refineries in the Gulf Coast region via local commercial pipelines. The Strategic Petroleum Reserve is capable of delivering crude oil to 25 refineries in the mid-continent (Kansas/Oklahoma) and Midwest (Illinois/Indiana/Ohio) regions via three major interstate pipeline systems – Seaway Pipeline System to Cushing, OK, MidValley Pipeline System to mid Ohio, and Capline Pipeline System to Patoka, IL. In total, the Strategic Petroleum Reserve is connected by commercial pipeline systems to more than half of the refining capacity in the United States. That connection covers 49 refineries, which processed approximately 52 percent of crude oil imports to the United States during 2009.

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

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

Figure 5  
Pipeline and Marine Distribution Capabilities



## Distribution Assessment

The Strategic Petroleum Reserve performs an annual assessment, based on its established technical and performance criteria, that evaluates the Strategic Petroleum Reserve's crude oil distribution system capabilities to (a) ensure that there are adequate connections to the commercial distribution systems and (b) identify the need for any remedial plans. The 2009 Distribution Assessment evaluated the Strategic Petroleum Reserve's capability, at its maximum drawdown rate, to replace oil imported in the base year (2008) and for future years 2010, 2015, 2020, and 2030.

Established Level I Technical and Performance Criteria for the Strategic Petroleum Reserve's distribution capabilities requires that the physical distribution system infrastructure, both DOE-owned and commercial, shall be capable of meeting distribution rates exceeding 120% of the combined site drawdown rates in order to provide sufficient allowances for terminal operational delays and commercial demand variances.

### Base Year Assessment

The base-year assessment confirms that the Strategic Petroleum Reserve storage sites have sufficient offsite pipeline and marine distribution

capabilities exceeding 120 percent of their maximum drawdown rates in the event of a disruption in foreign crude imports. Table 7 provides the performance measures for the base year.

### Future Year Assessments

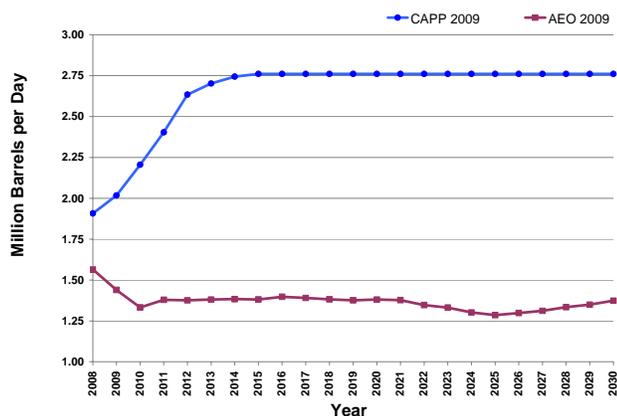
For the future years 2010, 2015, 2020, and 2030, the Strategic Petroleum Reserve performed assessments on three cases. The first was a 'Reference Case' using the U.S. petroleum refining supply and demand projections from the Energy Information Administration's *Annual Energy Outlook 2009*. The second was a 'Low Imports Case' using the planning projections for Canadian crude imports into the U.S. from the Canadian Association of Petroleum Producers (CAPP) 2009. The *Annual Energy Outlook 2009* provided a very conservative projection of Canadian imports in comparison to the industry's CAPP 2009 projections (Figure 6). The final was a 'High Imports Case' that examined a variation of the *Annual Energy Outlook 2009* to exclude the domestic oil production from new CO<sub>2</sub> Enhanced Oil Recovery (EOR) sources. An assessment of all three cases was necessary to establish the boundaries of performance projections. Each assessment assumes the maximum drawdown rate does not change from base year levels.

**Table 7**  
**Base Year Distribution Assessment**

System	Max. Drawdown Rate (MB/D)	Distribution Capability (MB/D)	Performance Measure
Seaway	1,500	2,301	153%
Texoma	2,400	2,969	124%
Capline	515	1,411	274%
<b>Total</b>	<b>4,415</b>	<b>6,681</b>	<b>151%</b>

MB/D = Thousands of Barrels per Day

**Figure 6**  
**Canadian Import Projection Comparison**  
 (Source: EIA AEO 2009 & CAPP 2009)



**Reference Case Assessment**

Based on the EIA *Annual Energy Outlook 2009* projections for U.S. petroleum imports, the Distribution Assessment concluded that the distribution capability of the Strategic Petroleum Reserve exceeds its Level 1 Performance Criteria through 2030 and that there is no need for the Strategic Petroleum Reserve to develop a remedial plan to maintain sufficient connectivity to commercial distribution systems. Table 8 provides the performance measures by system for each forecast period. The Seaway system maintains performance measures above 155% throughout the forecast period.

The Texoma system maintains performance measures over 135% for all forecast periods. Finally, the Capline system maintains performance measures over 290% throughout forecast periods.

**Table 8**  
**Summary of Reference Case Performance Measures**

System	2010	2015	2020	2030
Seaway	156%	158%	158%	158%
Texoma	136%	138%	137%	137%
Capline	322%	329%	306%	292%

**Low Imports Case Assessment**

The Low Imports Case assumes continuing increases in Canadian crude imports from existing and new tar sands production as forecast by the Canadian Association of Petroleum Producers in 2009. The increase in Canadian crude imports results in lower Gulf Coast crude imports which in turn impact the Strategic Petroleum Reserve’s oil distribution capabilities.

Under the Low Imports Case, the Distribution Assessment concluded that the distribution capability of the Strategic Petroleum Reserve will meet Level 1 Performance Criteria through 2015 for all Strategic Petroleum Reserve systems, and through 2030 for the Seaway and Capline systems (Table 9).

Though the Texoma system falls marginally below acceptable criteria of 120% drawdown capability for 2020 and 2030, there is no immediate need for the Strategic Petroleum Reserve to develop a remedial plan to maintain sufficient connectivity to commercial distribution systems.

**Table 9**  
**Summary of Low Imports Case**  
**Performance Measures**

System	2010	2015	2020	2030
Seaway	156%	138%	129%	125%
Texoma	136%	124%	119%	117%
Capline	293%	292%	292%	292%

### High Imports Case Assessment

The High Imports Case incorporates the uncertainty about the size and production levels of crude oil from new CO<sub>2</sub> EOR projects. It captures these uncertainties through examining a scenario where new CO<sub>2</sub> EOR production from industrial sources does not occur; therefore, projected domestic supply is lowered. Canadian imports to the U.S. are assumed to be the same as in the Base Year Assessment, coming from the *AEO 2009* projections.

Under the High Imports Case, the Distribution Assessment concluded that the distribution capability of the Strategic Petroleum Reserve exceeds its Level 1 Performance Criteria through 2030 and that there is no need for the Strategic Petroleum Reserve to develop a remedial plan to maintain sufficient connectivity to commercial distribution systems. Table 10 provides the performance measures by system for each forecast period. The Seaway system maintains performance measures above 155% throughout the forecast period. The Texoma system maintains performance measures over 135% for all forecast periods. Finally, the Capline system maintains performance measures over 305% throughout the forecast periods.

**Table 10**  
**Summary of High Imports Case**  
**Performance Measures**

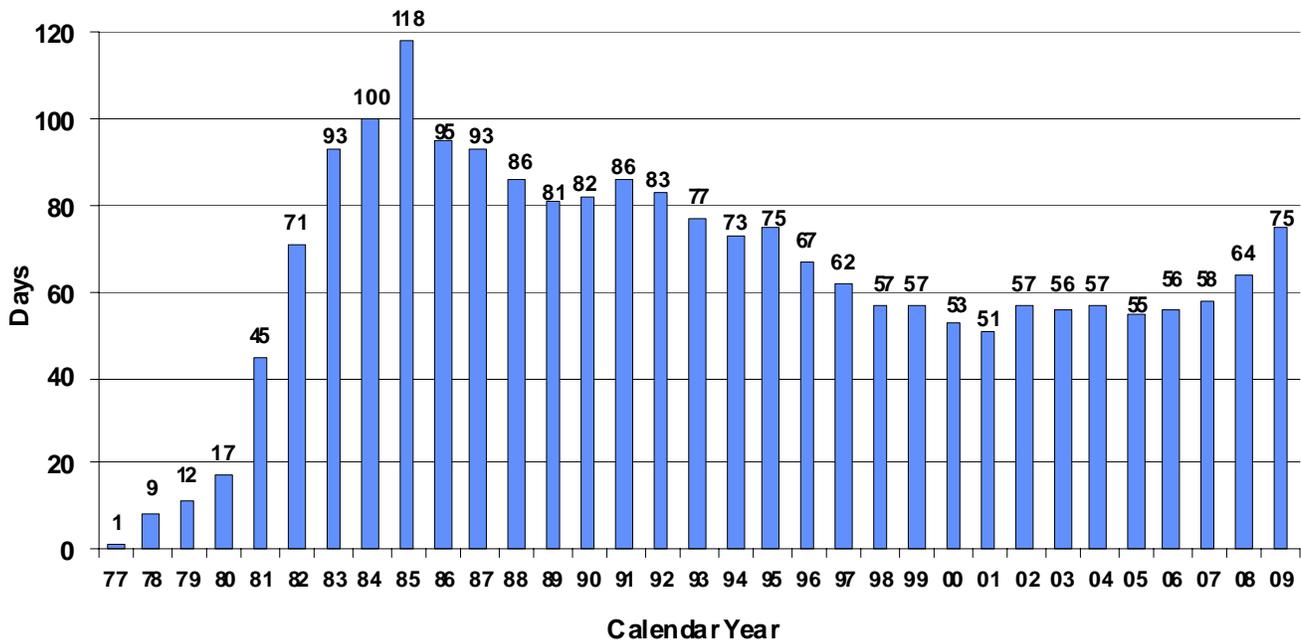
System	2010	2015	2020	2030
Seaway	156%	158%	158%	158%
Texoma	136%	138%	137%	137%
Capline	322%	332%	330%	305%

### Import Protection Levels

EPCA, as it originally was enacted in 1975, called for the Strategic Petroleum Reserve to store the amount of oil equivalent to about three months (or about 90 days) of oil imports – which at that time equated to about 500 million barrels. This statutory requirement was repealed by the Energy Act of 2000 (P.L. 106-469, November 9, 2000). Figure 7 shows the Strategic Petroleum Reserve inventory of 726.6 million barrels on December 31, 2009, which amounted to 75 days of net import protection (crude oil and refined products).

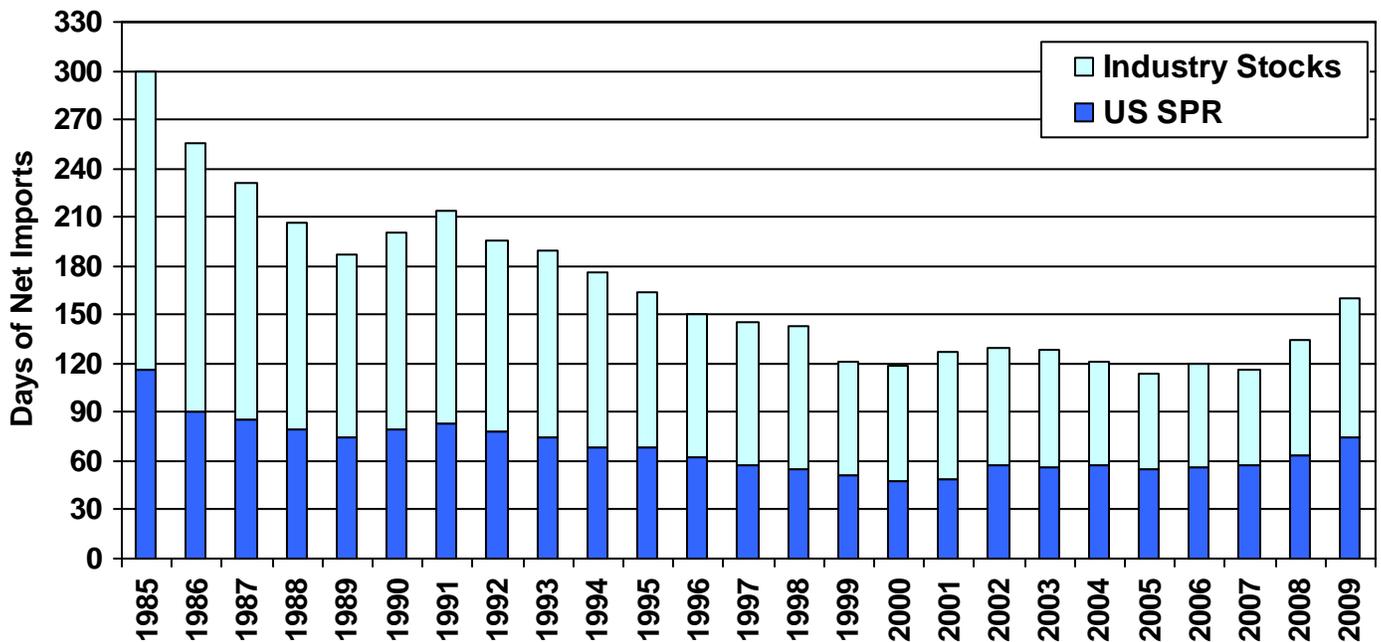
The United States, as a member of the International Energy Agency, is committed to maintaining stocks of crude oil and products in reserves that are equivalent to ninety days of net oil imports. Computations of member-nations' stockpile requirements are based on both public and privately held stocks, 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 160 days of emergency reserves, based on both the Strategic Petroleum Reserve and privately held stocks. Figure 8 provides end-of-year computations for the United States through 2009.

**Figure 7**  
**Strategic Petroleum Reserve Days of Net Import Protection (1977-2009)\***



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

**Figure 8**  
**International Energy Program**  
**U.S. Emergency Stocks**



## COMMERCIAL ACTIVITIES

---

### *Commercial Leases*

Since 1995, the Strategic Petroleum Reserve has commercialized its under-utilized crude oil distribution facilities to be more cost-effective, and currently has leased three 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 2009, lease revenues totaled \$232,373.57 primarily due to the increased movements on this pipeline for return of oil loaned during Hurricanes Gustav and Ike. 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. Since 2008, the lease agreement has continued using annual extensions. The term of the current lease is through December 31, 2010.

**Bryan Mound Pipelines:** In 2009, lease revenues totaled \$1,141,227.61. 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. The first five year option of the lease agreement has been executed and will begin in June 2010.

**St. James Terminal:** In 2009, St. James Terminal lease revenues were \$1,700,000.04. The terminal was leased to Shell Pipeline Corporation (now Equilon Enterprises LLC, “doing business as” Shell Oil Products US) 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.

### *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 (P.L. 105-33) 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.

There were no new commercial or foreign storage initiatives during 2009.

## Commercial Revenues

During calendar year 2009, receipts to the U.S. Treasury were \$3,073,602 from the commercial leases of the Strategic Petroleum Reserve's distribution facilities and pipelines. Table 11 summarizes commercial revenues from 1996 to 2009.

**Table 11**  
**Summary of Commercial Revenues**  
**(As of December 31, 2009)**

Calendar Year	Bryan Mound Pipeline (Actual \$)	Big Hill Pipeline (Actual \$)	Bayou Choctaw Pipeline (Actual \$)	St. James Terminal Lease (Actual \$)	Total Revenue Generated (Actual \$)
1996	102,606	472,809	0	0	575,415
1997	0	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
2007	1,128,340	0	218,912	1,700,000	3,047,252
2008	1,211,171	0	321,799	1,700,000	3,232,970
2009	1,141,228	0	232,374	1,700,000	3,073,602

## **BUDGET AND FINANCE**

---

With enactment on January 6, 2009, the Omnibus Appropriations Act, 2009 (P.L. 111-8) provided final budget authority for the Strategic Petroleum Reserve of \$205,000,000, of which \$31,507,000 was provided to carry out new site land acquisition activities as part of the proposed expansion of the Strategic Petroleum Reserve.

The Supplemental Appropriations Act, 2009 (P.L. 111-32), provided an additional \$21,585,723 for the Strategic Petroleum Reserve by transfer from the SPR Petroleum Account for site maintenance activities.

### ***Appropriations through Fiscal Year 2009***

A total amount of \$23.1 billion, net of sales and transfers, has been appropriated for the Strategic Petroleum Reserve through fiscal year 2009. Included in this total is the distribution of annual appropriations described in Table 12.

### ***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. Beginning in FY 2008, the Strategic Petroleum Reserve Account included designated funding for new site land activities related to the expansion of the Strategic Petroleum Reserve to 1.0 billion barrels.

Obligations for the Strategic Petroleum Reserve in FY 2009 totaled approximately \$179.3 million. From this amount, \$17 million was obligated for Federal program management, \$160.3 million was obligated for contractual goods and

services to operate and maintain the Strategic Petroleum Reserve and \$2 million was obligated for expansion activities.

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

The SPR Petroleum Account funds the acquisition of oil for the Strategic Petroleum Reserve, the associated costs for transportation and terminaling, 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 FY 2009, the capitalized cost of the crude oil in the Strategic Petroleum Reserve was \$21.5 billion, for an average cost per barrel of approximately \$29.72 (excluding storage costs). Since April 1999, the cumulative dollar value of the exchange barrels received from contractors who took royalty oil from the DOI totaled \$6.1 billion. The value of crude oil received from the RIK program in FY 2009 was \$440 million.

The value of the RIK transferred from DOI to DOE by fiscal year is shown in Table 13. In 2009, DOE worked in coordination with DOI's Minerals Management Service to complete a total DOE-RIK program reconciliation covering the period 1999-2009. The reconciliation resulted in net figure adjustments to prior years, which are displayed in Table 13.

**Table 12**  
**Appropriations for Storage Facilities Operations and Management and Petroleum Account**  
**(As of December 31, 2009)**

Fiscal Year	Oil Account (\$000)	Facilities (\$000)	Management (\$000)	Expansion (\$000)	Total (\$000)	Defense SPR (\$000)
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	
Total 1979 Appropriations*	2,356,456	632,504	18,111		3,007,071	
Total 1980 Appropriations*	(2,022,272)	0	22,272		(2,000,000)	
Total 1981 Appropriations*	3,205,094	108,168	19,391		3,332,653	
Total 1982 Appropriations*	3,679,700	175,656	20,076		3,875,432	
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	
Total 1986*	(12,964)	106,979	13,518		107,533	
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	
DOD Transfer (non add)	124,925	700	0		125,625	125,625
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 Island Oil Sale	(97,114)	97,114	0		0	
1996 deficit reduction oil sale	(227,000)	0	0		(227,000)	
1996 Total	(511,114)	267,287	16,827		(227,000)	
1997 Total*	(220,000)	193,000	16,000		(11,000)	
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	
2007	0	146,950	17,491		164,441	
2008		143,980	18,004	24,773	186,757	
2009	(21,586)	176,255***	18,824	31,507	226,586	

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 Naval Petroleum Reserve excess receipts. Thus, the cumulative budget authority is "gross" and not related directly to the inventory of oil on hand.

\* Includes reprogramming and rescission actions.

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

\*\*\* The Supplemental Appropriations Act, 2009 (P.L. 111-32), provided \$21,585,723 for the Strategic Petroleum Reserve by transfer from the SPR Petroleum Account for site maintenance activities.

**Table 13**  
**Value of Royalty-in-Kind Transferred by the Department of the Interior**

<b>Fiscal Year</b>	<b>Royalty-in-Kind Transfer * Total Barrels (Source: Department of Energy)</b>	<b>Reconciled Royalty-in-Kind Transfer Total Barrels* (Source: Department of Energy)</b>	<b>Department of the Interior** Forgone Receipts - (\$000) (Source: Department of Interior)</b>
1999	11,928,981	8,135,603	***
2000	15,105,558	18,898,937	560,521
2001	1,568,220	1,568,220	61,654
2002	10,575,379	10,575,378	262,752
2003	34,742,046	34,852,185	1,044,350
2004	35,506,135	35,599,310	1,191,284
2005	25,185,527	25,184,519	1,194,618
2006	0	0	0
2007	8,742,829	4,425,911	306,191
2008	15,943,421	15,943,421	1,600,027
2009	4,493,099	6,798,713	268,537
<b>Total</b>	<b>163,791,195</b>	<b>161,982,197</b>	<b>6,489,934</b>

\* In coordination with Minerals Management Service, the DOE completed a total DOE-RIK program reconciliation (1999–2009) in CY2009, requiring net figure adjustments to prior years.

\*\* Net figures that include Department of Interior preliminary volumes and adjustments to prior years.

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

### ***Performance Measurement***

In FY 2009, the Strategic Petroleum Reserve tracked 21 measures in Program Reviews that are considered indicative of how the strategic goals and objectives of the Strategic Petroleum Reserve will be pursued. They are consistent with the Strategic Petroleum Reserve Strategic Plan, which provides a framework for implementing the program's mission by setting a course for the program and guiding decisions about the effective use of resources. Nineteen of the 21 measured targets were either exceeded or met during this period.

The financial measure of "Operating Cost per Barrel of Storage Capacity" was \$0.207 versus a target of \$0.213. This is a measure of operational cost-effectiveness and indicates an efficient use of financial resources. This measure

is used to promote the efficient use of taxpayer resources provided to operate the Reserve.

A complete accounting of the program's measures is reflected in Table 14. Details of these program goals and objectives and the progress made toward achieving them are contained in the Strategic Petroleum Reserve's *Annual Performance Report*.

In FY 2009, the critical few performance measures were again incorporated into the *Strategic Petroleum Reserve Annual Operating Plan*, in accordance with the Under Secretary for Science's direction. This ensures integration of these critical few measures into the planning process and enables tracking of their performance.

**Table 14**  
**Performance Measures**

Performance Measures	FY 2008 Actual Performance	FY 2009 Target Output	FY 2009 Actual Performance
<b>Public Confidence: Oil Inventory, Drawdown Readiness and Distribution</b>			
Number of Barrels of Crude Oil Inventory in Storage	702.4 MMB	709.5 MMB	725.1 MMB
Number of Barrels of Heating Oil Inventory in Storage	1.984 MMB	2.0 MMB	1.984 MMB
90-Day Sustainable Drawdown Rate	4.40 MMB/Day	4.40 MMB/Day	4.40 MMB/Day
Number of Days to Commence Crude Oil Drawdown	13 Days	13 Days	13 Days
Number of Days to Complete Heating Oil Drawdown	12 Days	12 Days	12 Days
Distribution Capability as a Percentage of Drawdown Rate	156% of Drawdown Rate	≥ 120% of Drawdown Rate	151% of Drawdown Rate
Calculated Site Availability	97.75%	≥ 95%	97.5%
Calculated MPAR Rating	98.3% Cum. Avg	≥ 95% of Possible Points	98.25% Cum. Avg
Percent of Site Security Ratings that are Satisfactory	100%	100%	80%
Number of Barrels of Crude Oil Processed	44.2 MMB	34 MMB	39.5 MMB
<b>Excellent Customer Service: Customer Knowledge and Focus</b>			
Percentage of Key Customers Visited	59%	33%	41%
<b>Responsible Stewardship: Operational Effectiveness, Efficiency and Knowledge Management/Fiscal Responsibility and Budgetary Control</b>			
Network and Business Application Availability	>.99.9%	≥ 98%	99.8%
Operating Cost per Barrel of Storage Capacity	\$0.187	≤ \$0.213	\$0.207
<b>Dynamic Teamwork: Continuous Improvement</b>			
ISO 9001-2000 Certification	10/30/07	03/31/09	12/22/08
<b>Partnerships</b>			
Number of Partnership Arrangements with Federal, State, and Local Agencies	26	25	25
<b>Social Responsibility and Citizenship: Local Community Support/Environment, Safety and Health</b>			
Complete Annual Self-Evaluation of OSHA VPP Star Status at Four Sites	02/15/08	2/15/09	2/12/09
Number of Cited Environmental Violations Received	0	0	0
Number of Days with No Reportable/Recordable Spills	365 Days	361 Days	365 Days
Number of Reportable Releases to the Environment Annually	1	≤ 8	0
Renew Annual ISO 14001 Certification (Maintain)	04/09/08	05/31/09	05/03/09
<b>Employee Development and Diversity: Employee Development and Quality of Life</b>			
Measure Progress Against the Departments 45-Day Hiring Model	100%	≥ 80%	100%
Develop and Begin Implementing a Plan to Achieve DOE Goals Related to Executive Order 13423	9/30/08	N/A	N/A
Percent of DOE Approved FY 2009 Executive Order 13423 Initiatives Completed in FY 2009	N/A	100%	100%

MMB = Million Barrels    N/A = Not Applicable

## ***OTHER ACTIVITIES***

---

### ***Quality and Performance Assurance***

The Strategic Petroleum Reserve conducted oversight activities as required by DOE procedures. A comprehensive Management Assessment was conducted and validated for the program and five On-Site Appraisals were also completed. The Strategic Petroleum Reserve worked to validate several plans and self assessments, including establishing a team of physical security specialists to verify the credibility of site security specialists' self assessments. The assessment team also reviewed corrections underway to a system for tracking regulatory variations. A Tactical Deployment Audit and Assessment of ProForce effectiveness was conducted at all Strategic Petroleum Reserve sites. The Strategic Petroleum Reserve also began an assessment of its Quality Assurance Manual and documented the contractor's emergency exercise performance.

Introductory training modules were developed to orient Federal employees to the requirements of the quality and oversight programs on the Strategic Petroleum Reserve. These modules will be delivered in a computer-based training format and are slated to begin in calendar year 2010.

In addition, the Strategic Petroleum Reserve's Quality Council activated three Process Improvement Teams to recommend improvements in oversight, management assessment, and assessment tracking processes. The teams were convened to design protocols and metrics for better quality assurance and oversight of field sites. They also evaluated potential improvements to the Assessment Tracking System and undertook a full review of a broad range of oversight data, looking for trends showing recurring or systemic issues. The self assessment included corrections.

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

The Strategic Petroleum Reserve has the capability to effectively respond to any emergency during severe conditions. The Continuity of Operations Plan (COOP), Emergency Command Vehicle, communication vehicles and the Emergency Communications Network provide the basis for continuing essential work functions under catastrophic conditions.

The Strategic Petroleum Reserve has implemented Smart Card identification HSPD-12 personnel badging requirements at all sites and new badge readers were installed at all sites. During 2009 work continued toward full execution of a new access control system.

During March 2009, the Strategic Petroleum Reserve completed the Scenario Review Working Group exercise development. The DOE Headquarters Review Team approved the scenario review in May 2009.

As a result of the Strategic Petroleum Reserve's dedicated efforts during 2009 to implement the DOE Graded Security Protection Policy, the Strategic Petroleum Reserve was able to complete its FY 2010 Site Security Plan on schedule.

The Strategic Petroleum Reserve security posture includes the use of specially trained canines at each of its sites. The week of September 28, 2009, the Strategic Petroleum Reserve canine teams competed in the "Super Bowl" for police dogs in Des Moines, Iowa, where they secured third place out of 94 other top teams in the International Championship.

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

The Strategic Petroleum Reserve's Emergency Command Vehicle (ECV) serves as a mobile command post for the Emergency Management Team during real-world and exercise emergencies or incidents. The ECV is integrated with the DOE Emergency Communications Network that ensures connectivity with each site, the Strategic Petroleum Reserve Program Office, and DOE headquarters.

### ***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 2009, the Strategic Petroleum Reserve completed the two following major National Environmental Policy Act compliance activities:

- A total of 53 Categorical Exclusions were prepared for projects on the Strategic Petroleum Reserve.
- Concerns on the volumes in the Leaf River for leach and using Singing River Island as a tank farm area led the Department of Energy to initiate preparation of a Supplemental Environmental Impact Statement (SEIS) for the proposed Richton expansion site. Preparation of the SEIS continued through 2009.

### ***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, under certain drawdown conditions, increased vapor pressure results in gas being released in amounts that may be un-

acceptable, posing environmental, safety, and health risks.

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

During 2009, the degasification program continued its operation using a modular degasification plant that can be disassembled and moved from site to site.

The plant treated approximately 40 million barrels of crude oil at Bryan Mound during 2009. Beginning in mid-August 2009, operation of the plant was suspended for 23 days while scheduled biennial preventative maintenance work on the plant's equipment was performed. Eleven caverns are scheduled to be treated at Bryan Mound through April 2011.

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.

### ***Executive Orders 13423 and 13514***

In October 2009 the President issued Executive Order 13514, Leadership in Environmental, Energy, and Economic Performance. The order has similar goals to those of Executive Order 13423 that was issued in 2008. The primary difference is the addition of greenhouse gas reduction goals in the 2009 Executive Order. The Strategic Petroleum Reserve's Designated Energy Official and Transformational Energy

Action Management Implementation Committee of Federal and contractor subject matter experts implement the two Executive Orders and recommend projects to attain compliance.

In 2009, milestones were completed to assess benefits of implementing Executive Order 13423 to include transportation, data services, energy management, and environmental. This action will be repeated in 2010 for Executive Order 13514.

### ***Environmental Improvement Measures***

Strategic Petroleum Reserve personnel participated for the 11<sup>th</sup> year in the annual Lake Ponchartrain Basin Foundation Beach Sweep. The local New Orleans activity is part of a worldwide event promoted by the Oceans Conservancy. Nineteen employees, their families, and concerned citizens contributed time and effort by cleaning debris at various locations around Lake Pontchartrain.

Strategic Petroleum Reserve sites continued to maintain set-aside acreage for habitat enhancement for the benefit of both native wildlife and resident and migratory birds.

### ***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 Plans (VPP). OSHA and DOE perform an on-site reappraisal of their VPP sites every three to five years. All four sites maintained their Star status throughout 2009. The West Hackberry and Bayou Choctaw sites were recertified for the second time in the winter of 2009.

In 2009, OSHA Region VI awarded Bryan

Mound "Star Among Stars," Big Hill a "Star Among Stars," West Hackberry a "Star of Excellence," and Bayou Choctaw a "Star of Excellence." These awards recognize accident rates that range from 50 percent to 90 percent below the average accident rates of their industry.

### ***Accident Rates***

In 2009, the Strategic Petroleum Reserve's Total Case Incident Case Rate was 1.2 cases per 200,000 worker hours. The Days Away/Restricted/Transferred Incident Case Rate was 0.7 cases per 200,000 worker hours, which exceeded the Reserve's target goal of 0.5. The vehicle accident rate was 0.81 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***

The Strategic Petroleum Reserve completed its annual Integrated Safety Management (ISM) validation and documented its performance in the ISM Annual Review and Update Report which summarizes the results of all audits and assessments conducted during the fiscal year. The report provides senior management with qualitative and quantitative data verifying that ISM is performing effectively and is used to judge annual ISM performance. The Project Management Office issued their first ISM system description and annual validation letter in 2007.

To date, the Strategic Petroleum Reserve is operating a successful ISM system with no significant systemic weaknesses and has generated and implemented several recommendations for continuous improvement, which are tracked to closure. The adequacy of the system was confirmed in 2008 when the Office of Fossil Energy conducted an ISM verification appraisal. There were no negative findings and the Strategic Petroleum Reserve has begun to implement some

of the Opportunities for Improvement that were identified.

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

In February 2009 the Strategic Petroleum Reserve held its sixth annual Management Safety Summit to promote safety goals and focus senior management attention on safety-related issues. The issues included current safety statistics and how they are derived; a reimplementation program for the security contractor; a presentation on the characteristics of highly reliable organizations; an accident investigation report; job hazard assessment development, and other safety topics.

### ***Human Performance Improvement***

The Strategic Petroleum Reserve continued to move forward in integrating Human Performance Improvement (HPI) into its management systems. Training was completed at all sites. Human Performance interventions and techniques were used in accident/incident investigations, Human Resources, and the Behavioral Safety process. The SPR continues to expand its use of HPI into its business and operating systems.

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

In addition to the previously mentioned awards, the Strategic Petroleum Reserve received the following awards and certifications for 2009:

- “National Registry of Environmental Professionals, Significant Contribution to Environmental Knowledge in 2009” for crude oil degasification of the U.S. Strategic Petroleum Reserve. The Strategic Petroleum Reserve operates a degas plant that can be disassembled, moved, and reinstalled among the sites as needed to treat the crude oil deep underground. The plant removes volatile organic compounds

(VOC) and methane gas before they can enter the distribution line when oil is being released from a cavern.

- “Office of Fossil Energy Excellence in ESS&H Award 2009” for using coordinated, proactive programs to lower injury and illness rates, improve employee care, and prevent injuries in today's workforce. The annual award was presented by DOE's Environmental, Security, Safety and Health (ESS&H) Office for the implementation of programs to reduce accidents at the Strategic Petroleum Reserve. The program included individual commitments to safety responsibility, company-provided flu shots, hand sanitizers in the workplace, and a managed care program for employee injuries.
- DOE Best Practices for the Strategic Petroleum Reserve's “Voluntary Process Change to Reduce VOC Emissions from the SPR Workover Operations.” This project was selected as a best practice for inclusion in DOE's P2 Best Practices Database.
- “National Pollution Prevention Roundtable MVP<sub>2</sub> Award.” This award was presented for the pollution prevention of greenhouse gases via the removal and destruction of methane (25 times worse than CO<sub>2</sub> as a greenhouse gas) by the Strategic Petroleum Reserve degas plant.
- “Office of the Federal Environmental Executive, Federal Electronics Challenge Award, Silver Award.” This award was presented in recognition of success in reducing the environmental impacts of electronics in two life-cycle phases, and for ongoing participation in the Federal Electronics Challenge.

**International Organization for Standardization 9001 Quality Management System**

In 2009, the Strategic Petroleum Reserve earned recertification to ISO 9001:2000 after on-site assessments of the New Orleans/Stennis, Big Hill, and West Hackberry facilities.

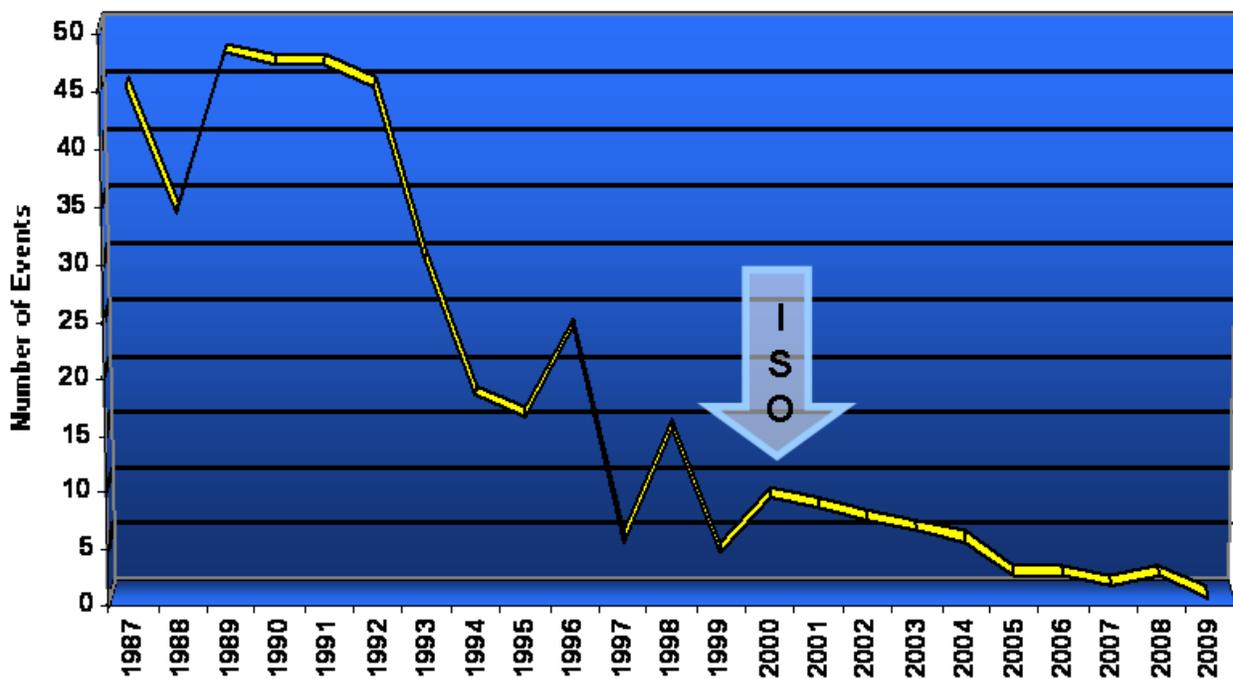
**Integration of the International Organization for Standardization 14001 into the Environmental Management System**

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 was renewed for its fourth three-year cycle in May 2009, and is viable through May 2012.

The ISO 14001 Registrar (the certifying body) conducted re-registration and surveillance audits during 2009. All facilities were evaluated through the two audits. 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.

Figure 9 shows the Strategic Petroleum Reserve’s performance for recordable environmental incidents for the years 1986-2009. The Strategic Petroleum Reserve continued its excellent record with zero reportable events in 2009.

**Figure 9  
Reportable Environmental Events**



## ***Pollution Prevention***

### **Hazardous Waste**

The Strategic Petroleum Reserve's goal for 2009 was to generate no more than 475 pounds of hazardous waste. Actual hazardous waste generated at all five sites amounted to 228 pounds; the majority was laboratory waste and the remaining was spent fluorescent lamps and other lab chemicals.

### **Recycling**

The Strategic Petroleum Reserve recycled 319,785 pounds of exploration and production (E&P) waste, which is 86.59 percent of the total E&P waste generated in FY 2009. The type of E&P waste generated included brine contaminated soil, rock, and debris, and solids from the cleanout the brine disposal wells and pig trap.

The 2009 overall recycling rate was 80 percent, a rate that exceeded the goal of 50 percent. The rate represents 515,665 pounds of non-E&P recycled waste (including paper and cardboard). The majority of recyclables were spent blast media abrasives, scrap metal concrete, and paper. There was only 378,488 pounds of sanitary waste, which was significantly below the target ceiling of 855,000 pounds.

For a sixth 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).

The Strategic Petroleum Reserve successfully implemented its BioPreferred Procurement Program in 2009. It achieved 100 percent in the procurement of products that met the U.S. Department of Agriculture's guidelines for bio-based material content.

## ***Customer Service***

The customer service team met with several refiners, traders, pipeline companies, and other customers during the 2009 National Petrochemical and Refiners Association annual meeting in San Antonio, Texas during the third week of March. Additional meetings were held at the Strategic Petroleum Reserve offices in Washington, DC and at some of the customers' corporate offices. The meetings always have two primary functions for the customer service team: to gather information on Strategic Petroleum Reserve customers and to update those customers on Strategic Petroleum Reserve activities. The team provided updates on expansion activities, heavy crude oil studies, acquisition of crude oil, and drawdown enhancements. These meetings serve as an outreach opportunity for the customer service team to interact with Strategic Petroleum Reserve customers.

Each customer was asked to review their contact information and to provide any updates on their refineries, such as expansion plans and any planned or actual changes to their crude oil inputs. Customers were also encouraged to discuss any operational or administrative issues they have encountered when dealing with the Strategic Petroleum Reserve so that the issues may be addressed.

## ***Real Estate Actions***

During 2009 the Strategic Petroleum Reserve:

- Notified Applied Geo Technologies in March 2009 of its intention to exercise its first five-year option for the Stennis Warehouse Use Contract. The contract was extended on an indefinite month-to-month basis (at the same rent), pending the Army's approval of the five-year option. The approval is contingent upon resolution of the site's Base Realignment and Closure disposition.

- Executed the Texas General Land Office Miscellaneous Easement No. ME850239 on April 3, 2009, converting a 10-year temporary easement to a perpetual easement. This easement covers the area where the Big Hill pipeline crosses Hillebrandt Bayou.
- Executed a modification to the ExxonMobil lease on May 13, 2009, extending the lease through May 31, 2015. After successful negotiations, this modification also directed ExxonMobil to return an equivalent line fill volume of oil, totaling approximately 381,612 barrels.



## **APPENDIX**

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

---

#### ***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:	1,626,000 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**

228-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 nine 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.

---

bbl/d = barrels per day

## **Big Hill**

### **Location**

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

### **Site Description**

171-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 four miles offshore in the Gulf of Mexico. Forty-eight (48) pumps totaling 46,000 horsepower.

### **System Parameters**

Drawdown Rate:	(Sour)	1,100,000 bbl/d
	(Sweet)	1,000,000 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, Chevron 2 mile, 24-inch pipeline to Chevron 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**

74-million-barrel storage facility consisting of six 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:	(Sour)	515,000 bbl/d
	(Sweet)	300,000 bbl/d
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.