U.S. DEPARTMENT OF ENERGY

Strategic Petroleum Reserve Annual Report for Calendar Year 2011

Report to Congress
December 2012

United States Department of Energy
Washington, D.C. 20585

Message from the Secretary

Section 165 of the Energy Policy and Conservation Act (42 U.S.C. 6245), as amended, requires the Secretary of Energy to report annually to the President and the Congress on the activities of the Strategic Petroleum Reserve. Highlights of the Department's accomplishments are included in the Executive Summary of this report, the *Strategic Petroleum Reserve Annual Report for Calendar Year 2011*.

Also included in this report are details concerning the physical capacity, type, and quantity of petroleum in the Strategic Petroleum Reserve as well as plans for upgrades or major maintenance. The Energy Policy and Conservation Act 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.

Pursuant to statutory requirements, this report is being provided to the President and the following Members of Congress:

- **The Honorable Joseph R. Biden**
  President of the Senate

- **The Honorable John Boehner**
  Speaker of the House of Representatives

- **The Honorable Barbara A. Mikulski**
- Chairwoman, Senate Committee on Appropriations

- **The Honorable Thad Cochran**
  Ranking Member, Senate Committee on Appropriations

- **The Honorable Kent Conrad**
  Chairman, Senate Committee on Budget

- **The Honorable Jeff Sessions**
  Ranking Member, Senate Committee on Budget

- **The Honorable Dianne Feinstein**
  Chairwoman, Senate Subcommittee on Energy and Water Development
  Committee on Appropriations

- **The Honorable Lamar Alexander**
  Ranking Member, Senate Subcommittee on Energy and Water Development
  Committee on Appropriations

- **The Honorable Jeff Bingaman**
  Chairman, Senate Committee on Energy and Natural Resources

- **The Honorable Lisa Murkowski**
  Ranking Member, Senate Committee on Energy and Natural Resources

- **The Honorable Harold Rogers**
  Chairman, House Committee on Appropriations

- **The Honorable Norm Dicks**
  Ranking Member, House Committee on Appropriations

- **The Honorable Rodney P. Frelinghuysen**
  Chairman, House Subcommittee on Energy and Water Development
  Committee on Appropriations

- **The Honorable Peter J. Visclosky**
  Ranking Member, House Subcommittee on Energy and Water Development
  Committee on Appropriations

- **The Honorable Paul D. Ryan**
  Chairman, House Committee on the Budget

- **The Honorable Chris Van Hollen**
  Ranking Member, House Committee on the Budget

- **The Honorable Fred Upton**
  Chairman, House Committee on Energy and Commerce

- **The Honorable Henry A. Waxman**
  Ranking Member, House Committee on Energy and Commerce

- **The Honorable Edward Whitfield**
  Chairman, House Subcommittee on Energy and Power
  Committee on Energy and Commerce

- **The Honorable Bobby L. Rush**
  Ranking Member, Subcommittee on Energy and Power
  House Committee on Energy and Commerce

If you have any questions or need additional information, please contact me or Mr. Jeff Lane, Assistant Secretary for Congressional and Intergovernmental Affairs, at (202) 586-5450.

Sincerely,

Steven Chu

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 Strategic Petroleum Reserve entered 2011 full to its capacity of 727 million barrels. However, in June the United States participated in an International Energy Agency (IEA) coordinated drawdown to address supply interruptions resulting from civil war in Libya. The United States' obligation was to offer 30 million barrels of crude oil to the markets. By December 31, 2011, the Reserve held 695.9 million barrels of crude oil, equal to about 82 days of net U.S. petroleum imports.

Drawdown 2011 – Libya Collective Action

On June 23, 2011, President Obama authorized the sale and drawdown of 30 million barrels of crude oil from the Strategic Petroleum Reserve as the United States' share of a coordinated 60 million barrel release of oil from member countries of the IEA that had been announced the same day. IEA Executive Director Nobuo Tanaka stated that the releases would occur "in the coming month in response to the ongoing disruption of oil supplies from Libya"[1].

The Strategic Petroleum Reserve conducted an on-line competitive sale that resulted in the award of 28 contracts and delivery of 30.592 million barrels of light sweet crude oil by the end of August 2011. Mandatory budget authority of $3.3 billion was created in the SPR Petroleum Account by sale receipts.

Changes to Performance Capabilities

Suspension of Vapor Pressure Mitigation Program

Long-term storage of crude oil in underground solution-mined salt caverns can naturally result in elevated oil temperatures and increased vapor pressure in caverns. When such oil is removed from the caverns and brought to atmospheric conditions, e.g., above-ground storage tanks at a terminal during a drawdown, noxious gases including methane and hydrogen sulfide will come out of the solution to form free gas as pressure and temperature conditions decrease. The Strategic Petroleum Reserve mitigates these risks for its caverns through the use of a custom fabricated, portable degasification unit (degas plant) that reduces vapor pressure in the caverns so that the crude oil can be released safely, when needed. The plant is meant to be moved among the Strategic Petroleum Reserve sites every few years to treat caverns, where needed, in order to ensure that safe levels of vapor pressure in caverns are maintained throughout the complex. In February 2011, the degas unit completed a two-year program at the Bryan Mound, Texas site and was decommissioned.

[1] IEA Media Release, June 23, 2012.

The plant had been scheduled to be transported to the West Hackberry, Louisiana site during 2011, be assembled there, and begin degassing operations during 2012. However, the Strategic Petroleum Reserve did not have sufficient funding in Fiscal Year 2011 to move the plant to West Hackberry. The delay of the degasification program for West Hackberry's caverns has resulted in a decrease of the available inventory for drawdown.

Reduction in Drawdown Rate

The Bryan Mound site has three storage tanks that are required to achieve the maximum drawdown rate and for refill operations. The tanks are used to collect the crude oil and push it into three pipelines that deliver oil to the Freeport docks. One of the tanks was unusable during 2011 because of a damaged internal floating roof that must be replaced. Due to funding issues, replacement of the floating roof was deferred. The loss of the use of the storage tank has temporarily reduced the drawdown rate of the Strategic Petroleum Reserve by 150,000 barrels per day, from 4.415 million barrels per day (MMB/D) to 4.265 MMB/D.

Replacement Cavern at Bayou Choctaw

During 2011, the Department of Energy (DOE) initiated and completed a condemnation proceeding to acquire a replacement cavern for Bayou Choctaw's Cavern 20. Cavern 20 is slated to be decommissioned due to structural issues that present a major environmental risk with continued use. However, in order to maintain the drawdown capabilities of the site, a replacement cavern was necessary. An ideal replacement cavern existed within the boundaries of the Bayou Choctaw site, but it was privately owned. After unsuccessful negotiations with the landowners to purchase the cavern, the Government took steps to acquire the cavern through eminent domain. Upon approval of the Declaration of Taking and a letter request sent to the Department of Justice to initiate condemnation proceedings, DOE deposited $17,945,000 to the Registry of the Court as estimated just compensation.

Environment, Safety, and Health

The Strategic Petroleum Reserve storage sites are recipients of several awards for management quality, environmental stewardship, and safety management systems. In 2011, the Strategic Petroleum Reserve received three awards from the National Safety Council for Occupational Excellence. However, the Strategic Petroleum Reserve suffered one fatality in September 2011 when a subcontractor using a riding lawnmower hit a large horizontal 30-inch pipe and sustained injuries that led to his death. An accident investigation board was formed and corrective actions were implemented to prevent such an occurrence in the future. The Strategic Petroleum Reserve also formulated a project-wide safety awareness and accident prevention program to reinforce a strong safety culture.

Cancellation of Expansion to One Billion Barrels

In 2011, Congress rescinded all remaining prior year funds appropriated for one billion barrel expansion activities.

Strategic Petroleum Reserve Annual Report for Calendar Year 2011

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List of Acronyms

ADAS	Alarm Display and Annunciation System
AEO	Annual Energy Outlook
AHEM	Advance Hurricane Equipment Mobilization
AOL	Alternate Operating Location
BIG	Buy It Green
CAS	Contractor Assurance System
CY	Calendar Year

D/T	Declaration of Taking
DOE	Department of Energy
DHS	Department of Homeland Security
E&P	Exploration and Production
EMS	Environmental Management System
EPACT	Energy Policy Act of 2005
EPCA	Energy Policy and Conservation Act
FRSAA	Fully Reimbursable Space Act Agreement
FY	Fiscal Year
GHG	Green House Gases
HPI	Human Performance Improvement
IEA	International Energy Agency
ISM	Integrated Safety Management System
ISO	International Organization for Standardization
LPBF	Lake Pontchartrain Basin Foundation
MB/D	Thousand Barrels per Day
MMB	Million Barrels
MMB/D	Million Barrels per Day
MOU	Memorandum of Understanding
NASA	National Aeronautics and Space Administration
NSC	National Safety Council
OSHA	Occupational Safety and Health Administration
Pub. L	Public Law
RPX	Modified Recovery Program
SSP	Site Sustainability Plan
STE	Systems Test Exercise
TBL	Technical Baseline
VPP	Voluntary Protection Program

I. Legislative Language

The Strategic Petroleum Reserve was authorized by the Energy Policy and Conservation Act (EPCA), as amended (42 U.S.C. 6201 *et seq*.), which was enacted on December 22, 1975 (Pub L. 94-163). The Strategic Petroleum Reserve has operated according to the policies and comprehensive energy plans of all Administrations since that time 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 on the activities of the Strategic Petroleum Reserve. As required by the Act, this *Strategic Petroleum Reserve Annual Report for Calendar Year 2011* includes information on:

- The status of the physical capacity of the Strategic Petroleum Reserve and the type and quantity of petroleum products stored;
- An estimate of the schedule and cost to complete planned equipment upgrade or capital investment in the Strategic Petroleum Reserve, including upgrades and investments carried out as part of operational maintenance or extension of life activities;
- Identification of any life-limiting conditions or operational problems at any Strategic Petroleum Reserve facility, and proposed remedial actions including an estimate of the schedule and cost of implementing those remedial actions;
- A description of current withdrawal and distribution rates and capabilities, and an identification of any operational or other limitations on those rates and capabilities;
- A listing of petroleum product acquisitions made in the preceding year and planned in the following year, including quantity, price, and type of petroleum;
- A summary of the actions taken to develop, operate, and maintain the Strategic Petroleum Reserve;
- A summary of the financial status and financial transactions of the Strategic Petroleum Reserve and the Strategic Petroleum Reserve Petroleum Accounts for the year;
- A summary of expenses for the year, and the number of Federal and contractor employees;
- The status of contracts for development, operation, maintenance, distribution, and other activities of the Strategic Petroleum Reserve;
- A summary of foreign oil storage agreements and their implementation status;
- Any recommendations for supplemental legislation or policy or operational changes the Secretary considers necessary to implement the requirements of the Act.

II. Libya Collective Action

The IEA announced on June 23, 2011 that IEA members had agreed to release 2.0 MMB/D over a 30-day period to mitigate the ongoing loss of crude oil from Libya and the resulting tightness in the markets that threatened the fragile global economic recovery.

In compliance with the Energy Policy and Conservation Act (EPCA), as amended (42 U.S.C. 6201 et seq.), DOE announced on June 23 that the Strategic Petroleum Reserve would offer for sale 30 million barrels of light, sweet crude oil as its share of the IEA collective action. Concurrent with the release of the announcement, the Strategic Petroleum Reserve issued a Notice of Sale to open its internet-based Crude Oil Sales Offer System on June 24. The Notice of Sale established sale-specific requirements including the date the offers were due, the crude oil streams available, delivery information, and any necessary amendments to the Standard Sales Provisions.

The Strategic Petroleum Reserve offered approximately 10 million barrels of light, sweet crude from each of three sites – Big Hill in Winnie, TX; Bryan Mound in Freeport, TX; and West Hackberry in Plaquemine, LA – for a total of 30.237 million barrels. Delivery was offered by marine vessel and pipeline. Over 90 offers were received by the closing date of June 29, and the volume of crude that DOE offered for sale was substantially oversubscribed. The offers were evaluated for best price and value to the Government.

Jones Act Compliance

In the Strategic Petroleum Reserve drawdowns of 1991 and 2005, the President's Finding directed the waiver of compliance with coastwise laws (Jones Act) on a blanket basis for all marine shipments from the Strategic Petroleum Reserve.

In this Strategic Petroleum Reserve drawdown, the Obama Administration directed that the release be carried out under 46 U.S.C. § 501(b) through a "case-by-case" Jones Act waiver process in which the Department of Homeland Security (DHS) would be responsible for granting waivers only after a finding by the Department of Transportation (Maritime Administration) of the non-availability of U.S. flag capacity to meet the marine delivery requirements for the expeditious drawdown of the Strategic Petroleum Reserve. In this way, the maritime transportation of crude oil during this release fully complied with the Jones Act.

DOE, DHS (U.S. Customs and Border Protection), and the Department of Transportation (Maritime Administration) established an expedited process for processing individual Jones Act waiver requests. It was designed to yield a decision within 48 hours of receipt of a request. Instructions and guidance for requesting waivers of the Jones Act through DHS were included in the Notice of Sale and also posted to the Strategic Petroleum Reserve website.

Contract Awards

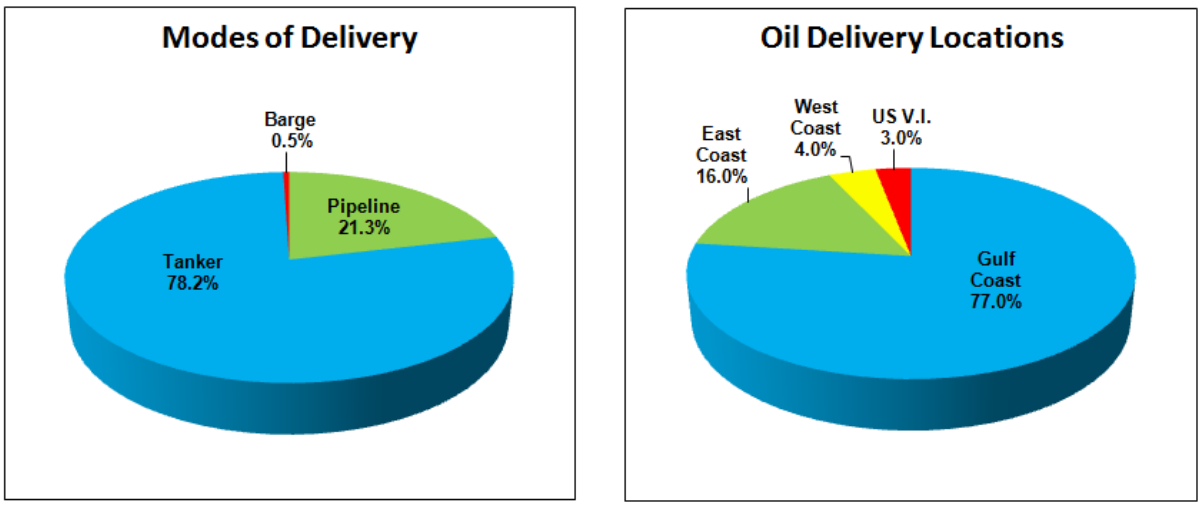
On June 30, 2011, DOE released the list of Apparently Successful Offerors. The next several days were used to allow the offerors time to submit financial guarantees for their purchases and for DOE to verify the validity of the submitted Letters of Credit. On July 11, 2011, DOE announced that 28 contracts were awarded to sell 30.64 million barrels of oil to 15 separate companies (actual deliveries were 30.592 million barrels). The contracts provided for release of approximately 13 million barrels from Bryan Mound, 12 million barrels from West Hackberry, and 5 million barrels from Big Hill.

Delivering the Oil

Purchasers of Strategic Petroleum Reserve crude oil are responsible for the costs and scheduling of crude oil transport. The June 2011 contracts specified deliveries in August, but requests by purchasers for early deliveries were accommodated in order to get the crude oil into the market as soon as possible. Strategic Petroleum Reserve sites move the crude oil via pipeline to the delivery points specified by the purchasers. The vast majority (79 percent) of the oil was delivered to marine terminals, where 48 separate tankers were loaded to carry the oil to U.S. destinations. Figure 1 shows both the percentage of delivery modes and the delivery locations for the crude oil sold.

All of the deliveries were scheduled and successfully completed between July 16 and September 2, 2011. The Strategic Petroleum Reserve was able to accommodate requests for 16 early deliveries totaling 8.3 million barrels in the month of July. The remainder was delivered during August (the last cargo of 500 thousand barrels began loading on August 31 and finished on September 2).

Figure 1
Strategic Petroleum Reserve Crude Oil Sales Distribution



Pricing and Payments

Oil sold from the Strategic Petroleum Reserve is based on a price that bidders know will be adjusted at the time of delivery. The price is calculated from a formula using the offered price, average daily prices surrounding the Notice of Sale, and prices surrounding the delivery dates for each cargo. The reference crude price of $112.78 per barrel was for Louisiana Light Sweet because it has similar characteristics to the Strategic Petroleum Reserve crude streams offered. The final average price paid for Strategic Petroleum Reserve crude oil was $107.21 per barrel.

Invoicing and payments were completed by mid-September and DOE collected receipts of $3.285 billion. In accordance with the provisions of EPCA, mandatory budget authority created by receipts from the sale was created in the SPR Petroleum Account.

Conclusion of Libya Collective Action

The IEA Governing Board met on September 14-15, 2011, in Paris and released the following statement:

> "*The IEA Governing Board, comprising representatives of all 28 IEA Member countries, concluded that the interrupted Libyan supplies have been successfully addressed by a combination of the IEA collective action and increased production from producer countries, against a backdrop now of weakening expectations for global oil demand growth.*"

The IEA also recommended that member countries exercise flexibility in re-establishing their emergency stock levels, taking into account seasonal demand patterns. The Strategic Petroleum Reserve will conduct in-depth market analysis prior to refilling the Reserve to ensure minimal market disruption and value to the United States.

III. Program Mission

Introduction

The Strategic Petroleum Reserve operates within the authority of the Energy Policy and Conservation Act (EPCA) (42 U.S.C. 6201 et seq.), as amended, and the policies and comprehensive energy plans of all Administrations since that time in recognition of the long-term dependence of the United States on imported crude oil and petroleum products.

As of December 31, 2011, the Strategic Petroleum Reserve contained 695.9 million barrels of crude oil. The inventory provided the equivalent of about 82 days of net petroleum imports based on net U.S. imports of 8.5 MMB/D. 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 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 (Pub 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 Oil Field, Kern County, 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 (Pub 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 (Pub 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 (Pub L. 101-262), and August 10, 1990 (Pub L. 101-360).

On September 15, 1990, the President signed the Energy Policy and Conservation Act Amendments of 1990 (Pub 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 (Pub 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; (5) amend the eligibility criteria for a Regional Petroleum Reserve; and (6) establish a Defense Department petroleum account of approximately six million barrels to be stored in the Strategic Petroleum Reserve.

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

The Balanced Budget Downpayment Act (Pub 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 (Pub 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 (Pub L. 104-208), enacted on September 30, 1996, appropriated $220 million for the Strategic Petroleum Reserve in FY 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 Pub 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 Pub L. 105-177 was signed.

The Balanced Budget Act of 1997 (Pub 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 (Pub L. 105-83), enacted on November 14, 1997, appropriated $207.5 million for the Strategic Petroleum Reserve in FY 1998 to be financed through the sale of Reserve oil.

The 1998 Supplemental Appropriations and Rescissions Act (Pub 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 Pub 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 (Pub L. 105-277), enacted on October 21, 1998, included $160.1 million for the Strategic Petroleum Reserve.

On November 13, 1998, the President signed Pub 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 Pub 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 (Pub 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 (Pub 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 million 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 (Pub L. 106-469). Title I reauthorized titles I and II of EPCA through FY 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 Pub L. 107-63, the Department of the Interior and Related Agencies Appropriations Act for FY 2002. The Act included $171 million for Strategic Petroleum Reserve facilities.

On February 20, 2003, after a series of continuing resolutions, the President signed Pub L. 108-7, the Consolidated Appropriations Act, 2003. Pub 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 (Pub 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 (Pub L. 108-447). The Act provided $172.1 million 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 $169.71 million.

On August 8, 2005, the President signed into law the Energy Policy Act of 2005 (Pub 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 consumers", 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 (Pub L. 109-103). The Act provided $166 million 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 $164.34 million.

Congress passed a series of Continuing Resolutions to cover programs whose FY 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 (Pub 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 (Pub 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 million.

Congress passed two Continuing Resolutions to cover FY 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 (Pub L. 110-161). The Act provided $188.472 million for the Strategic Petroleum Reserve, of which $25 million 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 million, of which $24.773 million 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 (Pub 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. Pub 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 (Pub 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 (Pub L. 111-6). On March 11, 2009, the President signed the Omnibus Appropriations Act, 2009 (Pub L. 111-8) that completed funding through the fiscal year. Appropriations for the Strategic Petroleum Reserve totaled $205 million, with $31.507 million 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 (Pub L. 111-32), enacted June 24, 2009, by transfer of $21.586 million 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 (Pub L. 111-68). On October 28, 2009, the Energy and Water Development and Related Agencies Appropriations Act, 2010 (Pub L. 111-85) was enacted. The Act provided $243.823 million for the Strategic Petroleum Reserve, including $25 million 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 million or more to the Islamic Republic of Iran, or who is engaged in an activity valued at $1 million 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 prohibition exempted any contract entered into by the United States Government before the date of the enactment of Pub L. 111-85.

Congress funded FY 2011 with a series of short-term Continuing Resolutions that continued until April 15, 2011, when the Department of Defense and Full-Year Continuing Appropriations Act, 2011 (Full-Year Continuing Appropriations Act) (Pub L. 112-10) was signed by the President. The Full-Year Continuing Appropriations Act provided $209,861,000 that was reduced by $419,722 due to an across-the-board 0.2 percent rescission, for final budget authority of $209,441,000. The first short-term Continuing Resolution (Pub L. 111-242) was passed September 30, 2010, and provided funding for all Federal agencies through December 3, 2010. A second Continuing Resolution (Pub L. 111-290) amended the first and extended funding through December 18, 2010. The third Continuing Resolution (Pub L. 111-317) provided funding through December 21, 2010, to provide time to complete a short-term Continuing Resolution through February 2011. Before adjourning sine die, the 111th Congress passed a final Continuing Resolution (Pub L. 111-322) that extended funding through March 4, 2011. The 112th Congress continued appropriations actions for FY 2011 and passed three additional short-term funding measures (Pub L. 112-4, Pub L. 112-6, and Pub L. 112-8) before completing work to fully fund FY 2011. The final appropriation of $209,441,000 for the Strategic Petroleum

Reserve included cancellation of $86.3 million of prior year balances. Of that total, $75.16 million had been appropriated for expansion of the Strategic Petroleum Reserve to one billion barrels.

The Consolidated Appropriations Act, 2012 (Pub L. 112-74) was signed by the President on December 23, 2011, following three short-term Continuing Resolutions. Pub L. 112-33 provided funds through October 4, 2011; Pub L. 112-36 provided funding through November 18, 2011; and Pub L. 112-55 provided further continuing appropriations through December 16, 2011. Congress authorized appropriations of $192,704,000 for the Strategic Petroleum Reserve. Congress also included language that rescinded $500 million of the receipts collected from the 2011 Strategic Petroleum Reserve drawdown and sale. Section 314 of the Act provided new authority to the Secretary of Energy that permits award of a contract to a third party, following an open competition, to operate and maintain an underutilized metering station and related equipment of the Strategic Petroleum Reserve. Not later than 30 days before the issuance of such award, the Secretary must first certify to the Committees on Appropriations of the House of Representatives and the Senate that the award will not reduce the reliability or accessibility of the Strategic Petroleum Reserve, raise costs of oil in the local market, or negatively impact the supply of oil to current users. Fees from the lease must be deposited to the general fund of the Treasury.

Additional legislative mandates enacted in FY 2012 include two new requirements for the Strategic Petroleum Reserve that will impact drawdown marine distribution protocols. Section 529 of the Consolidated Appropriations Act restricts waiver authority related to the navigation and vessel-inspection laws pursuant to 46 U.S.C. 501(b), commonly known as the Jones Act. Section 529 requires that “no funds provided shall be used to approve a waiver” for the transportation of crude oil distributed from the Strategic Petroleum Reserve until the Secretary of Homeland Security, after consultation with the Secretaries of the Departments of Energy and Transportation and representatives from the United States flag maritime industry, takes adequate measures to ensure the use of United States flag vessels. The Secretary must first notify the Committees on Appropriations of the Senate and the House of Representatives; the Committee on Commerce, Science, and Transportation of the Senate; and the Committee on Transportation and Infrastructure of the House of Representatives within 48 hours of any request for waivers of navigation and vessel-inspection laws pursuant to 46 U.S.C. 501(b).

The second requirement is found in Section 172 of Title I of the Consolidated and Further Continuing Appropriations Act, 2012 (Pub L. 112-55). Section 172 requires that no funds shall be provided to make a determination of the nonavailability of qualified United States flag capacity vessels for the transportation of crude oil distributed from the Strategic Petroleum Reserve unless, as part of that determination, the Secretary of Transportation, after consultation with representatives from the United States flag maritime industry, provides to the Secretary of Homeland Security a list of United States flag vessels with single or collective capacity that may be capable of providing the requested transportation services and a written justification for not using such United States flag vessels.

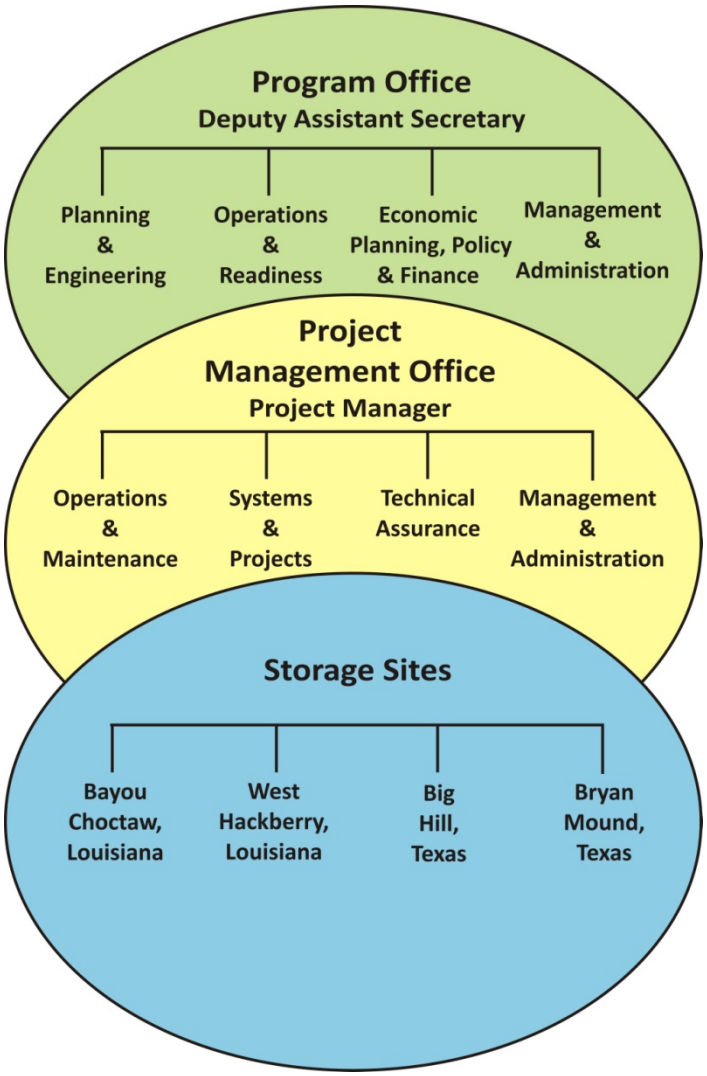
IV. Program Management

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 Program Office in Washington, D.C., and the Strategic Petroleum Reserve Project Management Office in New Orleans, Louisiana. Total staffing is 113 Federal employees and 756 contractor employees as of December 31, 2011. Figure 2 depicts the Strategic Petroleum Reserve organizational structure.

Figure 2

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 during 2011 employed a Management and Operating contractor, DM Petroleum Operations Company, to provide management and personnel to operate and maintain the Strategic Petroleum Reserve facilities and related systems. The contract with DM Petroleum Operations Company will expire 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.

Arctic Slope Regional Corporation 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, 2012. The contract includes options for DOE to extend for one additional year.

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 in 2011 was Deltha-Critique, an 8(a) small and disadvantaged business that provided management and technical support. The Deltha-Critique contract expired, however, on October 31, 2011, and was replaced by Performance Excellence Partners. The term of the Performance Excellence Partners support services contract is three base years and two one-year options. 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, Reliant, 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 Sunoco Partners Marketing & Terminals, L.P. is in its second five-year option period that runs through 2013. One additional five-year option period remains. Unocal Corporation is in its third five-year option period, which expires July 31, 2012, and the period of performance for Seaway Crude Pipeline Company expired December 1, 2011. A new five year contract with Seaway Crude Pipeline Company was executed on September 29, 2011, and commenced December 2, 2011.

V. 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 4.265 MMB/D. Table 1 shows the storage capacity and drawdown capability of each of the four storage sites as of December 31, 2011.

All oil stored in the Strategic Petroleum Reserve's oil storage facilities is in large underground storage caverns that have been created 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 by far the lowest cost technology for large-scale petroleum storage projects. The average operations cost for FY 2011 was approximately $0.227 per barrel for the management, staffing, operations and maintenance, and security. This cost is substantially less than industry storage costs and most foreign petroleum 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 3.

Table 1
Storage Capacity and Drawdown Capability
(As of December 31, 2011)

CURRENT SITE CAPABILITY			
Storage Facility	**Storage Capacity** (MMB)**	**Crude Mix Sweet/Sour (MMB)**	**Drawdown Capability (MB/D)***
Bryan Mound	**254**	**78/176**	**1,350**
West Hackberry	**228**	**120/108**	**1,300**
Big Hill	**171**	**73/98**	**1,100**
Bayou Choctaw	**74**	**22/52**	**515**
Total Program	**727**	**293/434 (40%/60%)**	**4,265**

Sweet = Sulfur content not exceeding 0.5 percent
Sour = Sulfur content greater than 0.5 percent
MMB = Million Barrels
MB/D = Thousand Barrels Per Day

* Initial 90-day capability

** Storage Capacities reflect Temporary Deviation (VA-D9-054) to minimize oil storage risks in BC Cavern 20. (i.e. West Hackberry +1.5 MMB, Big Hill +1.0 MMB, Bayou Choctaw -2.5MMB).

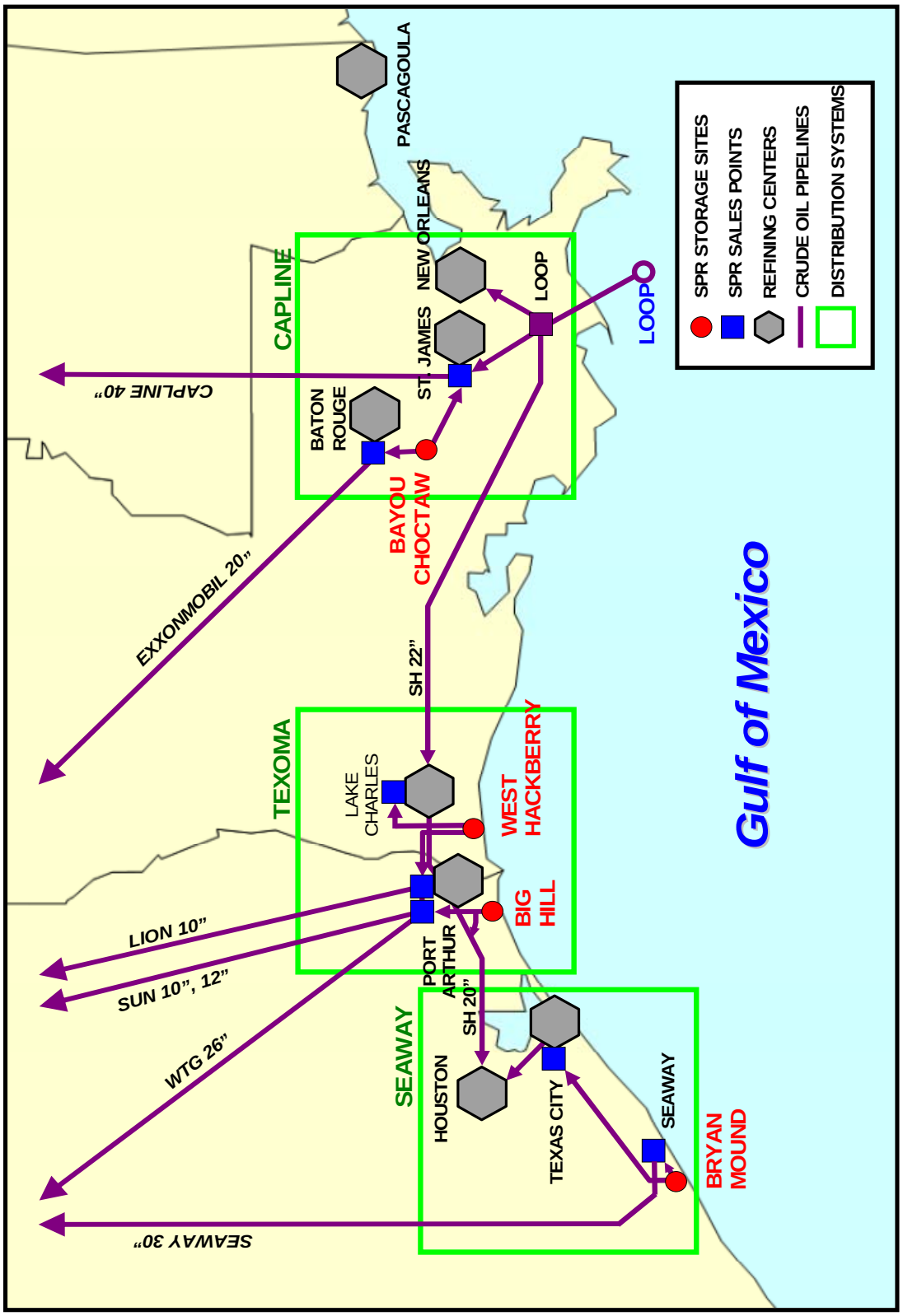


Figure 3
Storage Sites and Distribution System

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 a total storage capacity of 254 million barrels, and a cavern inventory of 240.7 million barrels.

The Bryan Mound site was completed in 1986. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities. During 2011, the site drawdown rate was reduced by 150 thousand barrels per day pending replacement of a floating roof on a storage tank used during drawdown.

Operation of the degas program at Bryan Mound was completed by February 2011. The modular degasification plant treated approximately 18 million barrels of crude oil during FY 2011. During its operating period between August 2007 and February 2011, approximately 150 million barrels of crude oil from 11 caverns were treated. The degasification plant was decommissioned and dismantled during 2011, and is being stored at Bryan Mound.

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 a combined storage capacity of 228 million barrels, and a cavern inventory of 215.8 million barrels.

The West Hackberry site was completed in 1988. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities.

During 2011, construction was completed on the Site Modifications task that will facilitate the planned move of the degasification plant from the Bryan Mound site to the West Hackberry site. This work included civil, mechanical, and electrical work that will be required for the site to accept the plant. Sixteen of the site's 22 caverns are scheduled to be treated. During the warmest months of 2011, three caverns (storing 32.78 MMB) were unavailable for drawdown because of elevated levels of vapor pressure.

Construction work continued in 2011 on the Site Security Upgrade task. Upgrades include replacement of the site Alarm Display and Annunciation 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 164.7 million barrels.

The Big Hill site was completed in 1991. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities.

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, an authorized storage capacity of 74 million barrels, and a cavern inventory of 73.6 million barrels. In October 2007 the authorized cavern capacity of Bayou Choctaw was temporarily decreased from 76 million barrels to 73.5 million barrels due to a net reduction of 2.5 million barrels of authorized capacity in Bayou Choctaw Cavern 20. The reduction was required because the lower half of Cavern 20 was determined to pose a high environmental risk with continued use after it was discovered that the cavern had begun to leach towards the edge of the salt dome.

In November 2011, the Strategic Petroleum Reserve acquired a replacement cavern so that Cavern 20 could be emptied and decommissioned. The new cavern, Cavern 102, is an existing privately-owned cavern that is located within the boundaries of the Bayou Choctaw site. Bayou Choctaw began work to integrate Cavern 102 into its existing facilities and operations, with a goal to complete the work by January 2013.

The Bayou Choctaw site became operational in 1987. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities.

St. James Marine Terminal Status

The Strategic Petroleum Reserve 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 above ground storage tanks with a total storage capacity of two million barrels. The St. James 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 by enabling unencumbered crude oil distribution to the LOCAP terminal, the ExxonMobil pipeline and the Plains terminal.

Cancellation of Strategic Petroleum Reserve Expansion to One Billion Barrels

In April 2011, the Department of Defense and Full-Year Continuing Appropriations Act, 2011 (Pub L. 112-10) rescinded all unspent balances ($75.16 million) of prior year funds for Strategic

Petroleum Reserve expansion. Further, the President's budget request for FY 2012 requested no funding for the expansion project.

The development of expansion plans for the Strategic Petroleum Reserve and completion of environmental studies were initiated following enactment of the Energy Policy Act of 2005 (EPACT) (Pub L. 109-58). EPACT directed DOE to expand 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." An environmental impact statement for the "Site Selection for the Expansion of the Strategic Petroleum Reserve" was prepared and, in a February 14, 2007 Record of Decision, DOE announced its selection of Richton, Mississippi, as the location for development of a new facility as part of the expansion project.

Following publication of the Record of Decision, both State and Federal authorities from Mississippi engaged DOE in consultations regarding the locations of certain ancillary facilities associated with development of the Richton site. DOE proposed alternative locations and, on March 5, 2008, DOE published a Notice of Intent in the *Federal Register* for preparation of a supplemental environmental impact statement to analyze the impacts of the proposed new locations. The environmental studies were conducted during 2008 and 2009, and a "Draft Supplemental Environmental Impact Statement" was prepared. However, it was shelved when the President's FY 2011 budget request to Congress included no new funding for the Strategic Petroleum Reserve's expansion efforts and proposed cancellation of previously appropriated expansion funds.

On September 9, 2011, DOE published a Notice of Cancellation in the *Federal Register* for the "Supplemental Environmental Impact Statement for Ancillary Facilities for the Richton Site of the Strategic Petroleum Reserve."

VI. Capacity Maintenance Program

Strategic Petroleum Reserve storage caverns are subject to continuous progressive "creep closure" due to naturally occurring geological forces. This closure continuously reduces the excess volume (ullage) of the caverns required to maintain their long-term storage capacity. Projections based on current ullage, creep rates, and workover program impacts indicate that cavern ullage will be depleted sometime between 2012 and 2013. Studies to determine the best strategy to mitigate the problem were conducted that resulted in the implementation of a leaching program at three sites in 2011.

The Bryan Mound capacity maintenance program began with the remedial leaching of caverns storing sour crude oil. A total of 3.32 million barrels of raw water were injected into site sour caverns creating approximately 332,000 barrels of space. Remedial leaching of the sweet caverns involved injection of 4.99 million barrels of raw water creating 499,000 barrels of ullage.

At West Hackberry, the leaching program included emptying a sweet cavern using raw water and then temporarily switching the cavern to sour service. The cavern would be used to provide sour ullage for both West Hackberry and Big Hill. For the year, 5.07 million barrels of raw water were injected into the sweet cavern creating approximately 507,000 barrels of ullage.

At the Big Hill site, the leaching plan involved transferring sweet crude between caverns using raw water to create ullage. The space created will be used for both West Hackberry and Big Hill sweet. For the year, 3.76 million barrels of raw water were injected into the sweet caverns creating approximately 376,000 barrels of space.

VII. Petroleum Acquisition and Exchange

Crude Oil Inventory Status

On December 31, 2011, the Strategic Petroleum Reserve's crude oil inventory was 695,950,590 barrels, a decrease of 30,594,266 barrels from the prior year. The net decrease resulted primarily from Drawdown 2011 conducted during July, August and September resulting in a decrease in crude inventory of approximately 13.2 million barrels from Bryan Mound, 11.9 million barrels from West Hackberry and 5.5 million barrels from Big Hill.

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. There were no market assessments completed in 2011 as no new oil acquisition activities were initiated.

Fill of Reserve

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

- Table 2 lists year-end inventories and average daily fill rates for the years 1977 through 2010 (by fiscal and calendar year).
- Table 3 lists crude oil receipts by country of origin since 1977.
- Table 4 identifies the location of the inventory by storage site, and Figure 4 illustrates the cumulative oil fill by year.

Table 2
Year-End Inventories and Oil Fill History

	FISCAL YEAR		CALENDAR YEAR	
	Year-End Inventory (MMB)	Average Daily Fill Rate[1] (MB/D)	Year-End Inventory (MMB)	Average Daily Fill Rate[1] (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	*[2]	591.6	*[2]
1996	573.6	(49)	565.8	(70)
1997	563.4	(28)	563.4	(7)
1998	563.4	*[2]	561.1	(6)[3]
1999	564.9	4	567.0	16
2000	570.3	15	540.7	(72)[4]
2001	544.8	(70)[4]	550.2	26
2002	587.2	116	599.1	134
2003	624.4	102	638.4	108
2004	670.3	126[5]	675.6	102[5]
2005	693.7	64[6]	684.5	25[6]
2006	687.8	(16)[7]	688.6	11[7]
2007	692.8	14	696.9	23
2008	702.4	26[8]	701.8	13[8]
2009	725.1	62.2	726.6	67.9
2010	726.5	3.8	726.5	(0.2)[9]
2011	695.9	(84)[10]	695.9	(84)[10]

MMB = Million Barrels MB/D = Thousands of Barrels per Day ( ) = Denotes a Reduction

1. Fill rates adjusted for oil sales
2. Fill suspended during this period
3. Decrease due to Maya exchange
4. Net decrease due to Exchange 2000
5. Net Hurricane Ivan deliveries and receipts
6. Net Hurricane Ivan receipts & Katrina deliveries and receipts
7. Net Hurricane Katrina exchange and drawdown sales
8. Net Hurricanes Gustav & Ike deliveries
9. WH/BC Exchange oil costs and degas loss
10. Drawdown 2011

Table 3
Crude Oil Receipts
(As of December 31, 2011)

Source Country	2011 (MMB)	Cumulative (MMB)	Percent of Total (%)
Mexico		266.3	31.2
United Kingdom		193.9	22.7
United States*		105.5	12.3
Saudi Arabia		28.3	3.3
Libya		27.5	3.2
Venezuela		25.3	3.0
Angola		25.1	2.9
Russia		25.1	2.9
Iran		20.0	2.3
United Arab Emirates		19.3	2.3
Nigeria		16.3	1.9
Algeria		15.7	1.8
Cameroon		15.1	1.8
Equatorial Guinea		15.1	1.8
Norway		14.0	1.6
Oman		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	0.2
Columbia		1.2	0.1
Argentina		0.4	≤0.1
Ivory Coast		0.4	≤0.1
Peru		0.4	≤0.1
Total**		853.1***	100.0

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 4
Crude Oil Inventory
(As of December 31, 2011)

Storage Site	Inventory (MMB)		
	Sweet*	Sour**	Total***
Bryan Mound, Brazoria County, Texas	64.4	176.3	240.7
Big Hill, Jefferson County, Texas	67.3	97.4	164.7
West Hackberry, Cameron Parish, Louisiana	107.8	108.0	215.8
Bayou Choctaw, Iberville Parish, Louisiana	21.7	51.8	73.6
Subtotal Underground Inventory	261.2	433.5	694.8
Tanks and Pipelines	0.8	0.4	1.2
Total Inventory	262.0	433.9	695.9
Total Accounts Receivable	0.0	0.0	0.0
Total SPR Book Inventory	262.0	433.9	695.9

MMB = Million Barrels
* Sulfur content not exceeding 0.5 percent
** Sulfur content greater than 0.5 percent
*** Totals do not add due to rounding

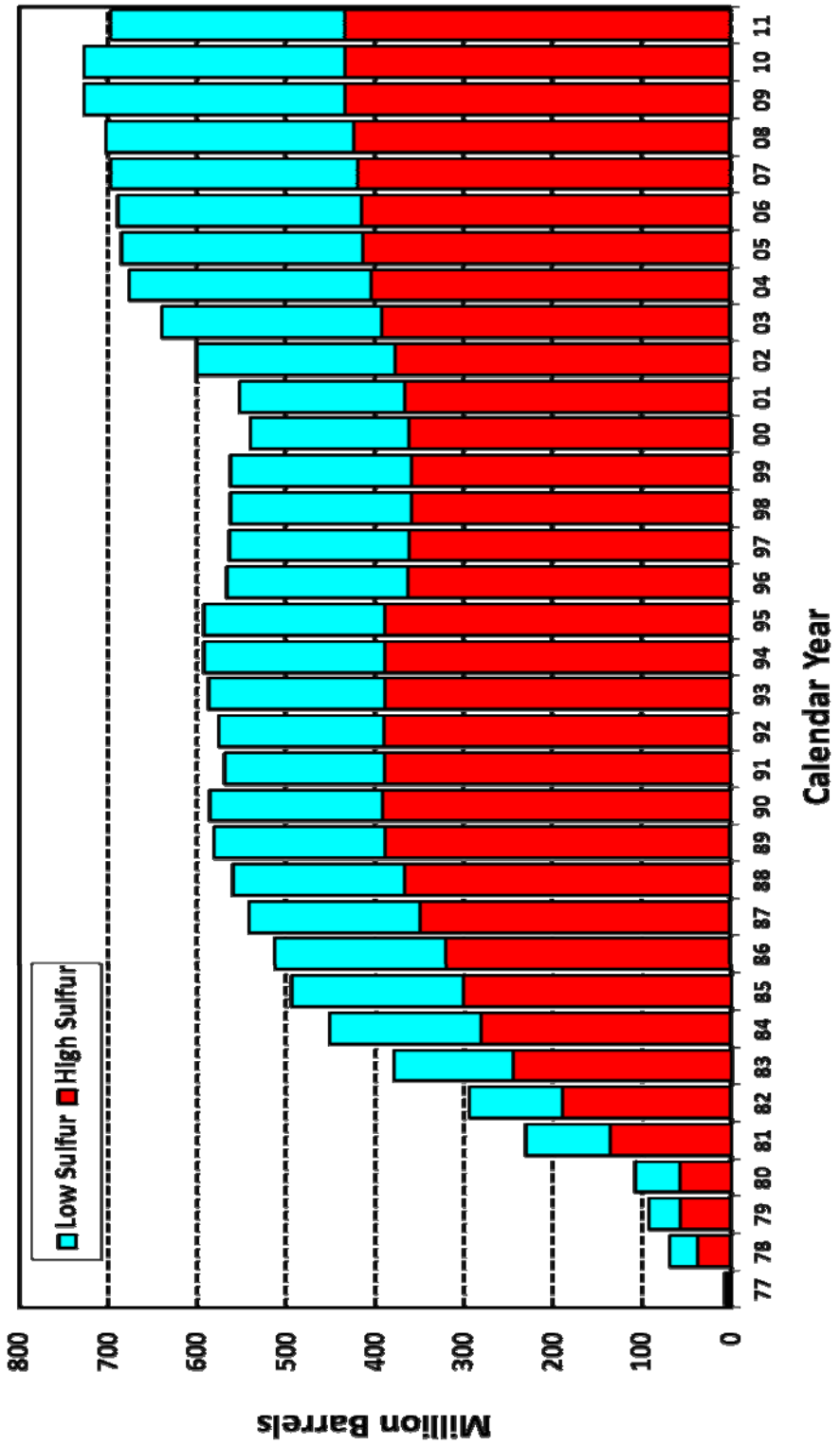


Figure 4
Cumulative Oil Fill

VIII. 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 thirteen days under a competitive sale. The Strategic Petroleum Reserve participated in a coordinated sale and drawdown with the International Energy Agency during 2011.

Competitive Sales Procedures

DOE regulations in 10 CFR Part 625 govern the process for the price competitive sales from the Strategic Petroleum Reserve, including the establishment of Standard Sales Provisions that contain provisions to be utilized in the contracts for the sale of the Strategic Petroleum Reserve crude oil. 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. The Notice of Sale also provides delivery dates and the requirements to successfully submit 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. Delivery of oil could commence as soon as thirteen days after the President calls for a drawdown of the Strategic Petroleum Reserve. Subsequent sales periods, if necessary, will coordinate 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 five 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 will 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 selected offerors are responsible, Notices of Award are issued. Deliveries to the purchasers may then begin, consistent with the purchasers' 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.

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 5 identifies these crude oil streams, delivery modes and locations.

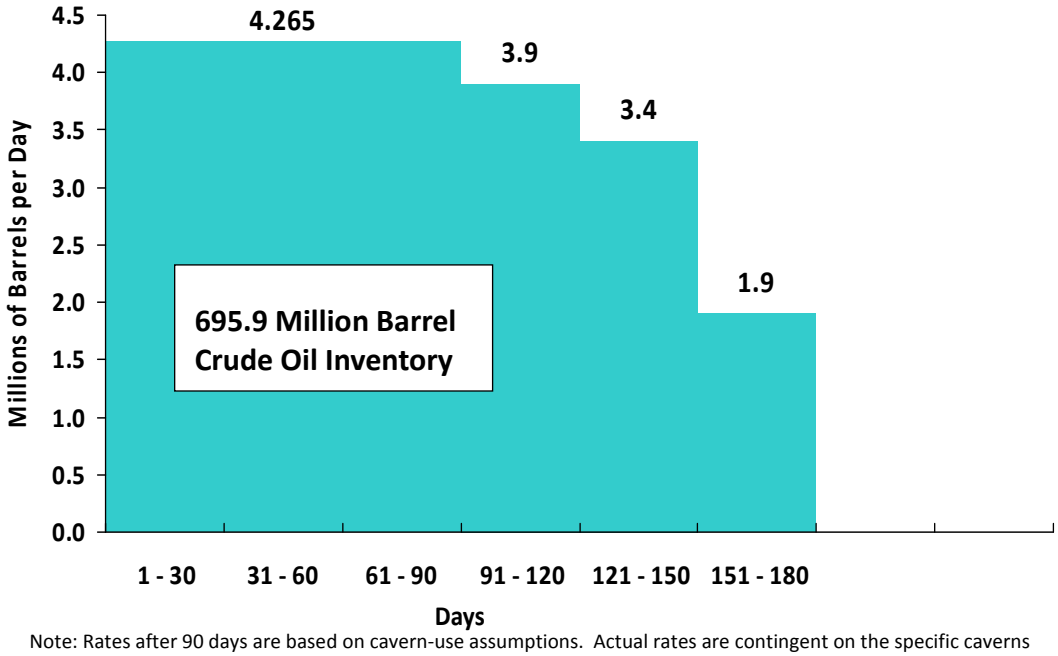
The Strategic Petroleum Reserve can draw down crude oil at a maximum initial sustainable rate of 4.265 MMB/D for a period of 90 days. After this period, the drawdown rate will gradually decrease as site inventories are depleted and the declining number of caverns containing crude oil becomes a constraint.

Table 5
Crude Oil Streams
(As of December 31, 2011)

Crude Oil Stream	Gravity (°API)	Sulfur Content (Mass%)	Delivery Mode and Location
Seaway System			
Bryan Mound (Sweet)	36.4	0.37	Pipeline at Jones Creek Tank Farm, Jones Creek, Texas; Tankship at Seaway (Enterprise Products) Terminals in Freeport and Texas City, Texas
Bryan Mound (Sour)	33.2	1.42	
Texoma System			
West Hackberry (Sweet)	37.0	0.33	Pipeline, tankship or barge at Sun Partners Marketing & Terminals LP, Nederland, Texas; Pipeline at Shell-22"/DOE connection, Lake Charles, Louisiana
West Hackberry (Sour)	33.1	1.55	
Big Hill (Sweet)	35.4	0.41	Pipeline, tankship or barge at Sun Partners Marketing & Terminals LP, Nederland, Texas; Pipeline or tankship at Chevron Terminal Nederland, Texas; Pipeline at Shell-20"/DOE connection, Winnie, Texas
Big Hill (Sour)	30.8	1.44	
Capline System			
Bayou Choctaw (Sweet)	34.6	0.41	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
Bayou Choctaw (Sour)	32.4	1.46	

Figure 5 illustrates the physical drawdown capability that provides for a maximum distribution of 396 million barrels in 90 days and 695.9 million barrels in 180 days. The initial sustainable rate is at the system design maximum.

Figure 5
Projected Maximum Drawdown Capability
(As of December 31, 2011)



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 2011 included:

- A routine "Eagle" drawdown exercise was planned for 2011 but was suspended when the Reserve was placed on Alert level 1 due to geopolitical events in the Middle East and Northern Africa. Ultimately, the Strategic Petroleum Reserve conducted a Presidentially-directed 30 million barrel sweet crude oil sale from the West Hackberry, Big Hill and Bryan Mound sites. The Eagle exercise was cancelled in order to conduct the 2011 drawdown.
- The Drawdown Readiness Review program requires and monitors quarterly drawdown readiness. Four reviews were conducted in 2011, 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 site's equipment, procedures, systems, and personnel, and collects data to further ensure a readiness status. The STE program involves a tabletop exercise at each site every year and a physical site test every five years. The planned schedule was modified in 2011 following the actual drawdown during the summer. Prior to drawdown, two STE activities had occurred:

    - Bryan Mound successfully conducted a physical STE April 4, 2011. The test was a maximum sweet rate drawdown of 1.0 MMB/D conducted from the site designated Alternate Operating Location (AOL). The rate was held for fifteen minutes and the oil was delivered to Texas City Terminal. The oil was returned to the Bryan Mound site the same day. All test objectives were achieved.

    - Bayou Choctaw conducted a tabletop STE on May 8, 2011. The exercise consisted of presenting the site with a specific drawdown scenario and a detailed discussion of each organization's role. A review of the 24 Hour Emergency Exchange Preparation Schedule was also conducted.

- There was a Modified Recovery Program (RPX) Exercise conducted at Big Hill on February 9, 2011. The exercise consisted of a discussion of current program-wide RPX activities and Big Hill site-specific items, including the adequacy of the current Letters of Instruction. A field inspection of the RPX pump and piping layout was also conducted. A potential location for installing one RPX pump was evaluated.

- The Advance Hurricane Equipment Mobilization (AHEM) installation began at Bayou Choctaw on July 11, 2011, and was completed by July 28, 2011. Demobilization of RPX pumps and miscellaneous equipment began on November 2, 2011, and was completed by November 10, 2011. RPX piping will remain on site.

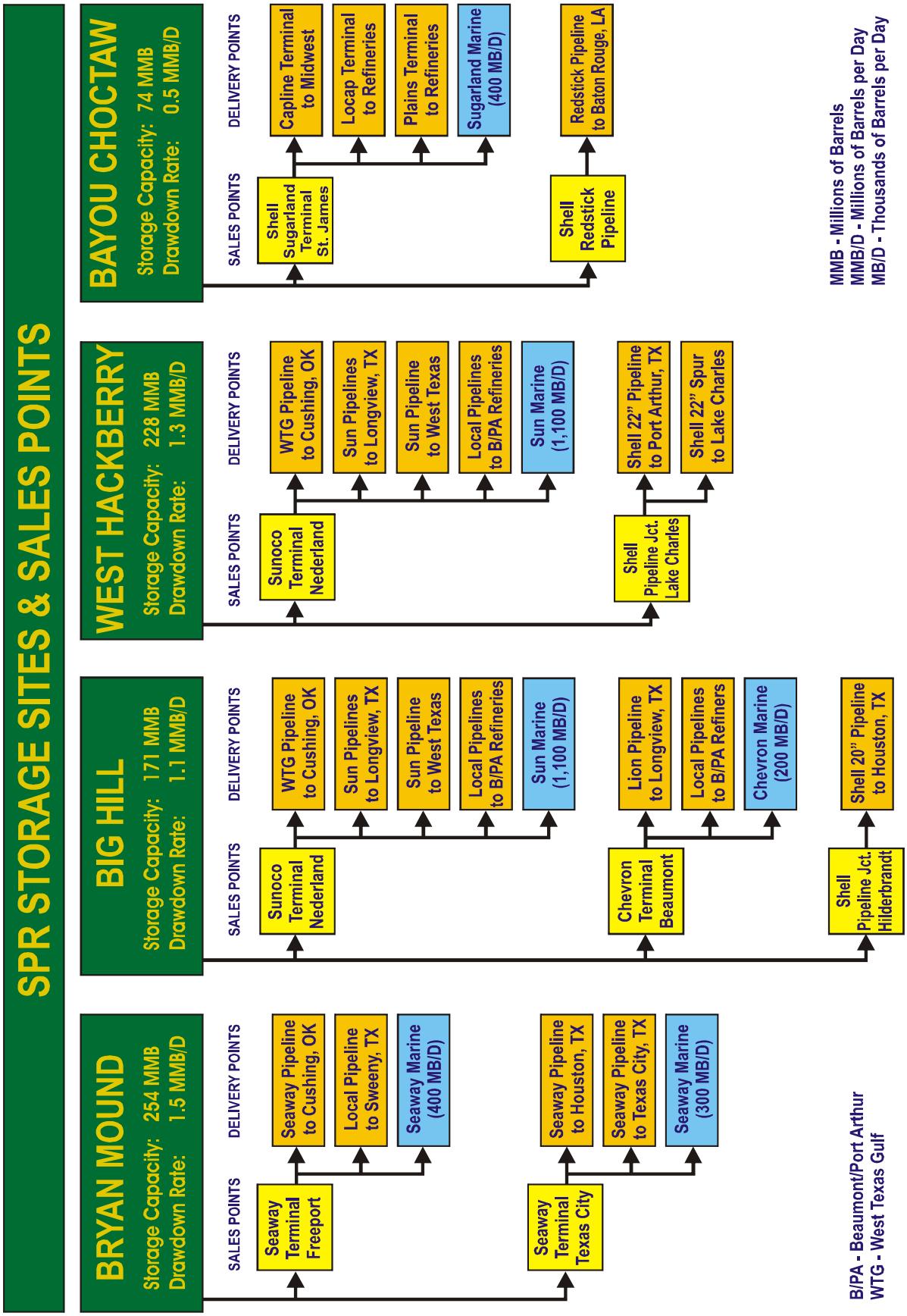
Distribution Plan and Capabilities

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 also capable of delivering crude oil to 25 refineries in the Central and Midwest U.S. via three major interstate pipeline systems – Seaway Pipeline System to Cushing, Oklahoma; Mid-Valley Pipeline System to mid Ohio; and Capline Pipeline System to Patoka, Illinois. 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 58 percent of crude oil imports to the United States during 2011.

The Strategic Petroleum Reserve is connected to five marine terminals that have a combined marine distribution capacity of approximately 2.5 MMB/D. These are: Seaway Terminal (Enterprise Products), Freeport, Texas; Seaway Terminal (Enterprise Products), Texas City, Texas; Sunoco Terminal, Nederland, Texas; Chevron Beaumont Terminal, Nederland, Texas; and Shell Sugarland, St. James Terminal, St. James, Louisiana. Figure 6 illustrates the Strategic Petroleum Reserve's pipeline and marine distribution capabilities.

Figure 6
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 2011 Distribution Assessment evaluated the Strategic Petroleum Reserve's capability, at its maximum drawdown rate, to replace oil imported in the base year (2010) and for future years 2015, 2020, and 2030.

Established Level I Technical and Performance Criteria for the Strategic Petroleum Reserve's distribution capabilities require that the physical distribution system infrastructure, both DOE-owned and commercial, shall be capable of meeting distribution rates exceeding 120 percent 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 6 provides the performance measures for the base year.

Table 6
Base Year Distribution Assessment

System	Max. Drawdown Rate (MB/D)	Distribution Capability (MB/D)	Performance Measure
Seaway	**1,350**	**2,419**	**179%**
Texoma	**2,400**	**3,047**	**127%**
Capline	**515**	**1,294**	**251%**
Total	**4,265**	**6,761**	**159%**

MB/D = Thousands of Barrels per Day
Note: As stated earlier, one of the three Bryan Mound storage tanks required for site drawdown and refill operations was unusable during 2010 and 2011 because of damage. The tank repair has not yet been accomplished. Therefore, the loss of the use of the storage tank has reduced the Seaway System maximum drawdown rate for the base year, from 1,500 MB/D to 1,350 MB/D. For all out year assessments (2015, 2020, and 2030) the assumption is that the tank will be back in service and the Seaway maximum drawdown rate is 1,500 MB/D.

Future Year Assessments

For the future years 2015, 2020, and 2030, the Strategic Petroleum Reserve performed an assessment using the U.S. petroleum refining supply and demand projections from the Energy

Information Administration's *Annual Energy Outlook 2011 (AEO 2011)*. The future year assessment assumes the maximum drawdown rate does not change from base year levels.

Based on the *AEO 2011* 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 7 provides the performance measures by system for the base year and each forecast period. The Seaway system maintains performance measures above 155 percent throughout the forecast periods. The Texoma system maintains performance measures over 120 percent for all forecast periods. Finally, the Capline system maintains performance measures at or over 240 percent throughout forecast periods.

Table 7
Base and Future Years
Performance Measures

System	2010	2015	2020	2030
Seaway	179%	165%	161%	158%
Texoma	127%	128%	126%	124%
Capline	251%	248%	244%	240%

Import Protection Levels

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 publicly 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 156 days of emergency reserves, based on both the Strategic Petroleum Reserve and privately held stocks. Figure 7 provides end-of-year stocks for the United States through 2011.

Figure 8 shows the Strategic Petroleum Reserve inventory of 695.9 million barrels on December 31, 2011, which equates to about 82 days of net import protection (crude oil and refined products). Note that for drawdown purposes, the volume of crude oil available for drawdown is reduced at West Hackberry until after degassing can be performed for several of the site's caverns. The reduction of available inventory at West Hackberry effectively reduces the days of import protection temporarily to 76.

Figure 7
International Energy Program
U.S. Emergency Stocks

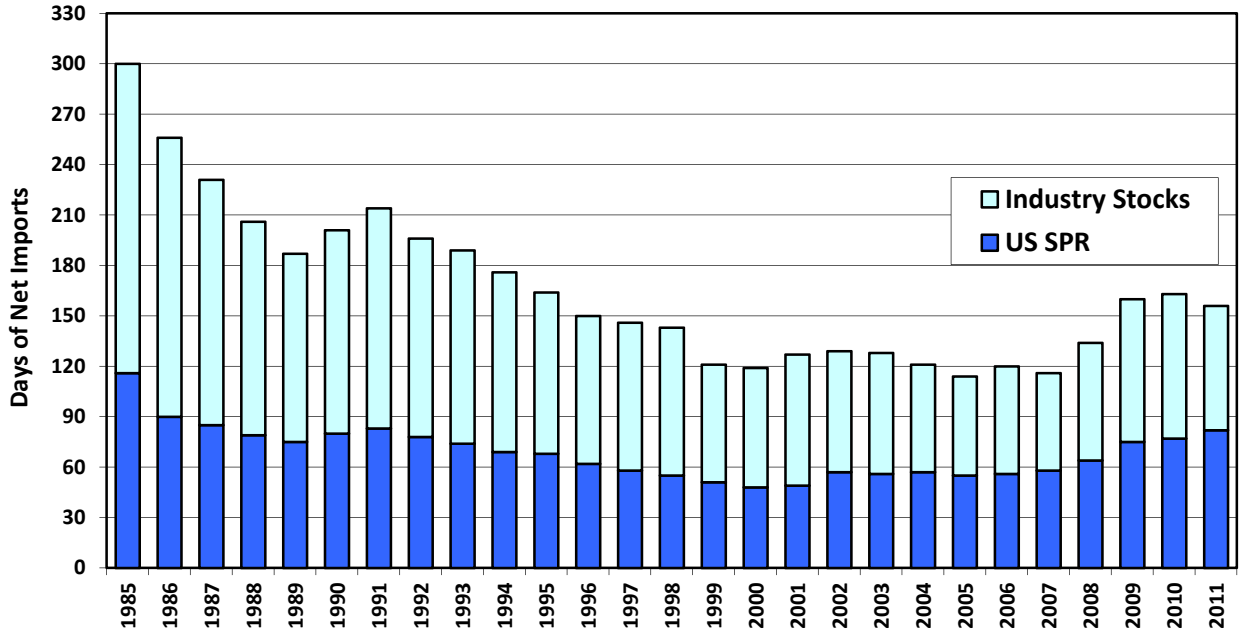
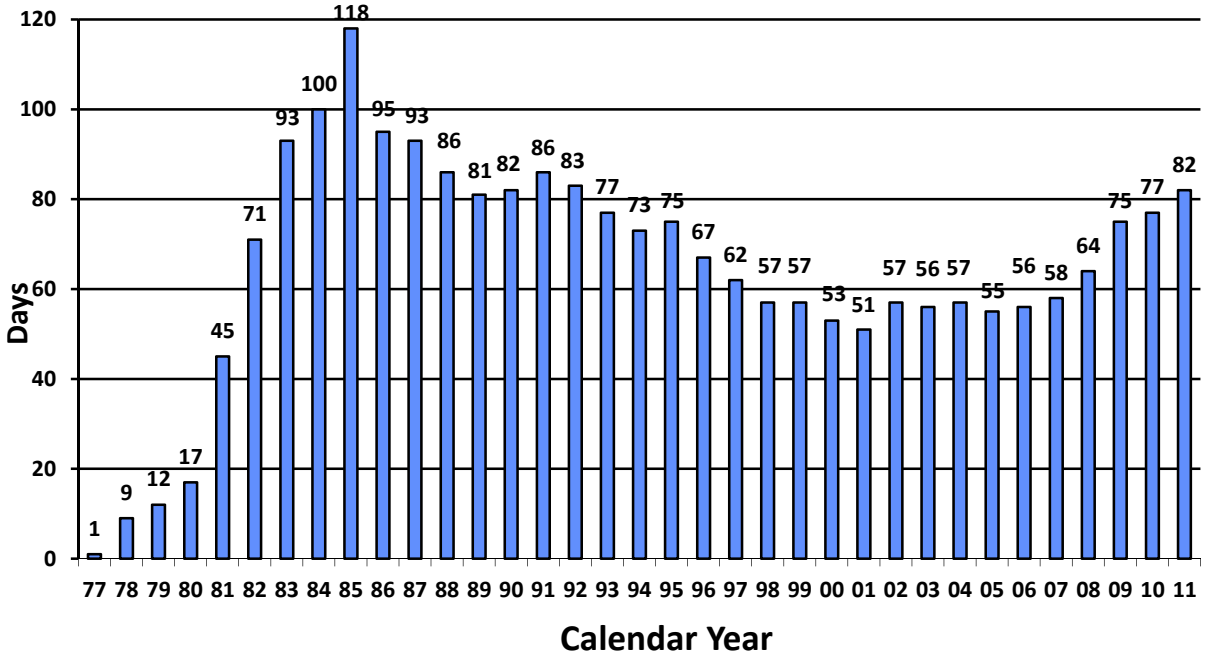


Figure 8
Strategic Petroleum Reserve Days of Net Import Protection*



* Days of Protection = Year End Inventory Divided by U.S. Net Petroleum Imports/Day

IX. Commercial Activities

Commercial Leases

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 a Presidential call for an emergency drawdown, use of the leased facilities will be returned to the Government on five days notice. Receipts from the leases are deposited to the U.S. Treasury.

Bayou Choctaw Pipeline: In 2011, lease revenues totaled $318,183. 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, 2012.

Bryan Mound Pipelines: In 2011, lease revenues totaled $2,124,218. 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 was executed and began in June 2010.

St. James Terminal: In 2011, St. James Terminal lease revenues were $1,700,000. 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.

Commercial Revenues

During calendar year 2011, receipts to the U.S. Treasury were $4,142,401 from the commercial leases of the Strategic Petroleum Reserve's distribution facilities and pipelines. Table 8 summarizes commercial revenues from 1996 to 2011.

Table 8
Summary of Commercial Revenues
(December 31, 2011)

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
2010	1,091,494	0	169,541	1,700,000	2,961,035
2011	2,124,218	0	318,183	1,700,000	4,142,401

X. Budget and Finance

With enactment of the Department of Defense and Full-Year Continuing Appropriations Act, 2011 (Pub L. 112-10), budget authority for the Strategic Petroleum Reserve was $209,861,000, of which $419,722 was rescinded due to an across-the-board 0.2 percent rescission, for final budget authority of $209,441,000. Further, Congress cancelled $86.3 million in prior year balances, including $75.15 million in balances from prior years that were appropriated for expansion of the Strategic Petroleum Reserve's capacity to one billion barrels.

Appropriations through Fiscal Year 2011

A total amount of $23.6 billion, net of sales and transfers, has been appropriated for the Strategic Petroleum Reserve through FY 2011. Comprising this total is the distribution of annual appropriations described in Table 9.

Strategic Petroleum Reserve Account

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

Obligations for the Strategic Petroleum Reserve in FY 2011 totaled approximately $204.4 million. From this amount, $19.5 million was obligated for Federal program management, $184.9 million was obligated for contractual goods and services to operate and maintain the Strategic Petroleum Reserve or an emergency drawdown and sale.

Strategic Petroleum Reserve 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. Receipts realized as a result of the oil sale are deposited in the Department of Treasury and an equal amount of mandatory budget authority is created in the SPR Petroleum Account to be used for filling the Strategic Petroleum Reserve.

During the IEA Libya Collective Action in 2011, 30.592 million barrels of light sweet crude were sold and delivered at an average price of $107.21 per barrel. Mandatory budget authority in the amount of sales receipts totaling $3.285 billion was created in the SPR Petroleum Account,

available to replenish the stocks. The drawdown costs totaled $9.856 million and were paid from FY 2005 and FY 2006 balances in the SPR Petroleum Account.

For FY 2011, the capitalized cost of the crude oil in the Strategic Petroleum Reserve was $21 billion, for an average cost per barrel of approximately $29.70 (excluding storage costs).

Recovery costs for the 2009 hurricanes Gustav and Ike were reconciled and finalized in 2011. The recovery costs for the Big Hill site were increased by $375,000 from previous reporting. Table 10 shows the final adjusted costs for hurricane repairs.

Table 9
Appropriations for Storage Facilities Operations and Management and Petroleum Account
(As of December 31, 2011)

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			
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 Petro Acct	(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	
2010	0	199,732	19,091	25,000	243,823	
2011	0	186,873	22,568	0	209,441	

Note: FY 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 FY 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 (Pub L. 111-32), provided $21,585,723 for the Strategic Petroleum Reserve by transfer from the SPR Petroleum Account for site maintenance activities.

Table 10
Operational Impacts of Hurricanes

Site	Hurricane Gustav Recovery Time	Hurricane Ike Recovery Time	Recovery Costs**
Project Management Office, New Orleans, LA*	No Impact	No Impact	$756,000
Bryan Mound, TX	No Impact	6 Days	$2,426,000
Big Hill, TX	No Impact	17 Days	$9,879,000
West Hackberry, LA	No Impact	5 Days	$3,453,000
Bayou Choctaw, LA	5 Days	No Impact	$136,000
Other operational expenses			$4,936,000
Total			$21,586,000

* Contains New Orleans and multi-site charges captured in New Orleans
** Final recovery costs have been updated from prior year published estimates

Performance Measurement

In FY 2011, the Strategic Petroleum Reserve tracked 20 measures that are 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. Four measures did not meet the targets during this period – Crude Oil Inventory, Sustainable Drawdown Rate, Number of Partnership Arrangements with Federal, State, and Local Agencies, and Annual Evaluation of Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP) Star Status.

- Crude Oil Inventory - reduced due to drawdown and distribution of oil.
- Sustainable Drawdown Rate – the drawdown rate was reduced because one of the storage tanks used for drawdown at Bryan Mound is out of service. The unavailability of the storage tank reduces the rate of drawdown at Bryan Mound by 150 MB/D.
- Partnership Arrangements – One group dropped out of the MOU process and was thus not counted as a partnership arrangement. This target has been reduced to 11 for FY 2012.
- OSHA VPP Star Status – FY 2012. OSHA VPP Star Status –The due date for the self-evaluation was changed by OSHA to March 15, 2011, because of late format changes and distribution of the Process Safety Management questions. The Strategic Petroleum Reserve met the due date set by OSHA, but did not meet the target date initially assigned based on the original due date.

The financial measure of "Operating Cost per Barrel of Storage Capacity" was $0.227 versus a target of $0.229. 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 11. 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 2011, 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 11
Performance Measures

Performance Measures	FY 2010 Actual Performance	FY 2011 Target Output	FY 2011 Actual Performance
Public Confidence: Oil Inventory, Drawdown Readiness and Distribution			
Number of Barrels of Crude Oil Inventory in Storage	726.5 MMB	726.6 MMB	695.9 MMB
90-Day Sustainable Drawdown Rate	4.40 MMB/D	4.40 MMB/D	4.265 MMB/D
Number of Days to Commence Crude Oil Drawdown	13 Days	13 Days	13 Days
Distribution Capability as a Percentage of Drawdown Rate	149% of Drawdown Rate	≥ 120% of Drawdown Rate	151% of Drawdown Rate
Calculated Site Availability	97. 5%	≥ 95%	97.6%
Calculated MPAR Rating	98.50% Cum. Avg	≥ 95% of Possible Points	98.21% Cum. Avg
Percent of Site Security Ratings that are Satisfactory	100%	100%	100%
Number of Barrels of Crude Oil Processed	43.48 MMB	13 MMB	18.4 MMB
Excellent Customer Service: Customer Knowledge and Focus			
Percentage of Key Customers Visited	38%	33%	42%
Responsible Stewardship: Operational Effectiveness, Efficiency and Knowledge Management/Fiscal Responsibility and Budgetary Control			
Network and Business Application Availability	>99.9%	≥ 98%	99.9%
Operating Cost per Barrel of Storage Capacity	$0.210	≤ $0.229	$0.227
Dynamic Teamwork: Continuous Improvement			
ISO 9001-2000 Certification	11/10/09	03/31/11	11/03/10
Partnerships			
Number of Partnership Arrangements with Federal, State and Local Agencies	12	12	11
Social Responsibility and Citizenship: Local Community Support/Environment, Safety and Health			
Complete Annual Self-Evaluation of OSHA VPP Star Status at Four Sites	02/12/10	2/15/11	3/15/11
Number of Cited Environmental Violations Received	0	0	0
Number of Days with No Reportable/Recordable Spills	364 Days	357 Days	365 Days
Number of Reportable Releases to the Environment Annually	1	≤ 6	0
Complete 2 ISO 14001 Surveillance Audits	05/14/10	09/30/11	05/12/11
Employee Development and Diversity: Employee Development and Quality of Life			
Measure Progress Against the Departments 45-Day Hiring Model	100%	≥ 80%	100%
FY 2010 →Percent of DOE Approved FY 2009 Executive Order 13423 Initiatives completed in FY FY 2011 → Percent of DOE approved FY 2009 Executive Order 13423 and Executive Order 13514 Initiatives completed in FY	100%	100%	100%

MMB = Million Barrels N/A = Not Applicable

XI. Other Activities

Quality and Performance Assurance

The Strategic Petroleum Reserve conducted oversight activities as required by DOE procedures. Some of these activities included the on-site management appraisals, security surveys, technical assessment of the construction management services contractor, as well as a quarterly review of the management and operating contractor's Contractor Assurance System (CAS).

The CAS covered six oversight areas mandated by DOE O226.1A - Environmental, Safety & Health; Quality Assurance; Security; Emergency Management; and Cyber Security. Discrepancies noted during the assessments are tracked in the Action Tracking System. For each deficiency, a Corrective Action Plan was developed and implemented to ensure a continuous improvement process.

The Quality and Performance Assurance Division participated in technical design reviews in accordance with SPRPMO Order 431.1A and DOE Order 414.1D. The reviews consisted of Architectural and Engineering design packages, feasibility studies, contractor consents, and engineering change proposals. Supplier source inspections were also performed to ensure vendors and/or suppliers were contract compliant and to confirm verification of procedures.

Oversight of the Critical Few performance measures included 37 processes that assessed compliance with SPRPMO Order 210.2A. The assessment of each measure was conducted with each subject matter expert to ensure the contractor's performance was measured against the objectives, which was appropriately monitored, documented, and verified. Both positive and negative results were submitted to the Performance Fee Board via the board secretary. Once assessment results were complete and documented, a summary report was submitted to the Project Manager and Performance Fee Board Chairperson to determine the amount of fee to be distributed.

In addition, the Strategic Petroleum Reserve's Quality Council monitored the activities of seven process improvement teams. Those teams recommended improvements in the planning and scheduling systems of field sites, restructured the Strategic Petroleum Reserve's Lessons Learned program, streamlined the new hire in-processing function, and validated program-wide training requirements. Other teams focused their attention on more long-term projects, such as creating a priority-based matrix and budget module for the site security program, and implementing Executive Orders 13423 and 13514.

Executive Orders 13423 and 13514

The Office of the President issued two significant Executive Orders directing Federal agencies to integrate a strategy for all facilities to leverage to the fullest extent, advanced technology and environmental preferable materials, products and services to strengthen and improve clean energy initiatives, performance metrics and departmental effectiveness and efficiency.

Executive Order 13423 (January 24, 2007), *Strengthening Federal Environmental, Energy, and Transportation Management,* emphasizes instituting wholesale cultural change in regards to energy use and Green House Gas reduction (GHG). The goal of the Executive Order empowered DOE and other Federal agencies to take the lead in creating a clean energy economy by developing percentage driven reduction targets in absolute terms.

Executive Order 13514 (October 5, 2009), Federal *Leadership in Environmental, Energy, and Economic Performance*, was drafted to build on the body of work and success of Executive Order 13423 by integrating and updating previous practices and requirements into a cohesive, strategic approach to further ensure enhanced performance and compliance with statutory and other legal requirements. This order provided detail and direction to all Federal agencies and established the parameters for achieving them.

The intent of both Executive Orders is to create a clean energy economy by use of performance measurements, reports, direct and indirect activities, and conservation and protection of natural resources. The Strategic Petroleum Reserve's compliance to these orders is achieved through measurable actions that have been integrated into a Site Sustainability Plan (SSP). The SSP includes specific goals, objectives, and responsibilities to:

- Aggressively strive towards the reduction and use of fossil fuels, cost-effective projects and operational improvements;
- Increase renewable energy applications and review on-peak energy demands and align operating schedules to coincide with off-peak hours;
- Utilize low greenhouse gas emitting vehicles to include alternative fuel vehicles by optimizing the number of vehicles in the agency fleet;
- Reduce potable, industrial and other water intensity through the use of recycling and reduction programs and initiatives;
- Divert waste product disposal through the emphasis of recycling and reduction programs;
- Define environmental protection and prevention measures that address economic and social benefits and activities based on lifecycle return on investment.

Implementation of the SSP included the organization of a team of Federal and contractor personnel to conduct a department-wide building and vehicle fleet study to identify renewable energy projects and fleet reductions. Data compiled from the study was used to assess assets that met the criteria for renewable energy applications. The initiative laid out a plan for the

Strategic Petroleum Reserve to meet its goals to manage its energy, water and petroleum use, while moving to a more healthy and sustainable workplace.

Several on-going and successful renewable energy projects carried out by the PMO and its affiliates include:

- Completion of three renewable energy studies aimed at; wind power, solar pond and green house gas (GHG) reduction;
- In FY 2011 a 5% reduction in the Strategic Petroleum Reserves vehicle fleet;
- Completion of a sustainability assessment report validating the Strategic Petroleum Reserve's compliance to 15 of the 32 Guiding Principles;
- Development of a building sustainability schedule that addresses energy optimization, equipment life extension, and GHG reduction projects;
- Planned and programmed site building upgrades, aging HVAC and Environmental control and Air quality system replacements;
- An overall reduction in building occupancy square footage.

Vapor Pressure Mitigation

In February 2011, the Bryan Mound, Texas site completed a two-year program to reduce noxious gases in 11 caverns at the site. Bryan Mound was the second Strategic Petroleum Reserve site to complete a vapor pressure mitigation program using the Reserve's transportable degasification plant (Big Hill, near Winnie, Texas, was the first and degassed 9 caverns). West Hackberry, Louisiana was scheduled to begin treatments during 2012 but the degasification program was suspended in 2011 after completion of the Bryan Mound program.
The need for a continuous vapor pressure mitigation program was recognized in 1992 through routine oil sampling of the caverns. Long-term storage of crude oil in salt caverns results in gradual geothermal heating that raises the temperature of the oil from approximately 80°F when it delivered to the cavern, to a range between 110°F and 130°F over time. In addition, because of operational activities that include occasional injection of raw water into the cavern, gasses encapsulated in the salt are released and absorbed into the oil while stored. Naturally occurring methane gas may also migrate into the cavern through the salt matrix or through discontinuities. Under certain drawdown conditions, increased vapor pressure results in gas being released into the atmosphere in amounts that may be unacceptable, posing environmental, safety, and health risks.

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.

International Organization for Standardization (ISO) 14001

In May 2000, the Strategic Petroleum Reserve became the first bulk petroleum storage organization, public or private, to receive an ISO 14001, Environmental Management Systems, certification. 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 surveillance audits during 2011. All facilities were evaluated through the two audits. The successful outcome resulted in the recommendation to recertify against the ISO 14001 standard for the four storage sites, the New Orleans office, and the warehouse building.

Environment, Safety, and Health

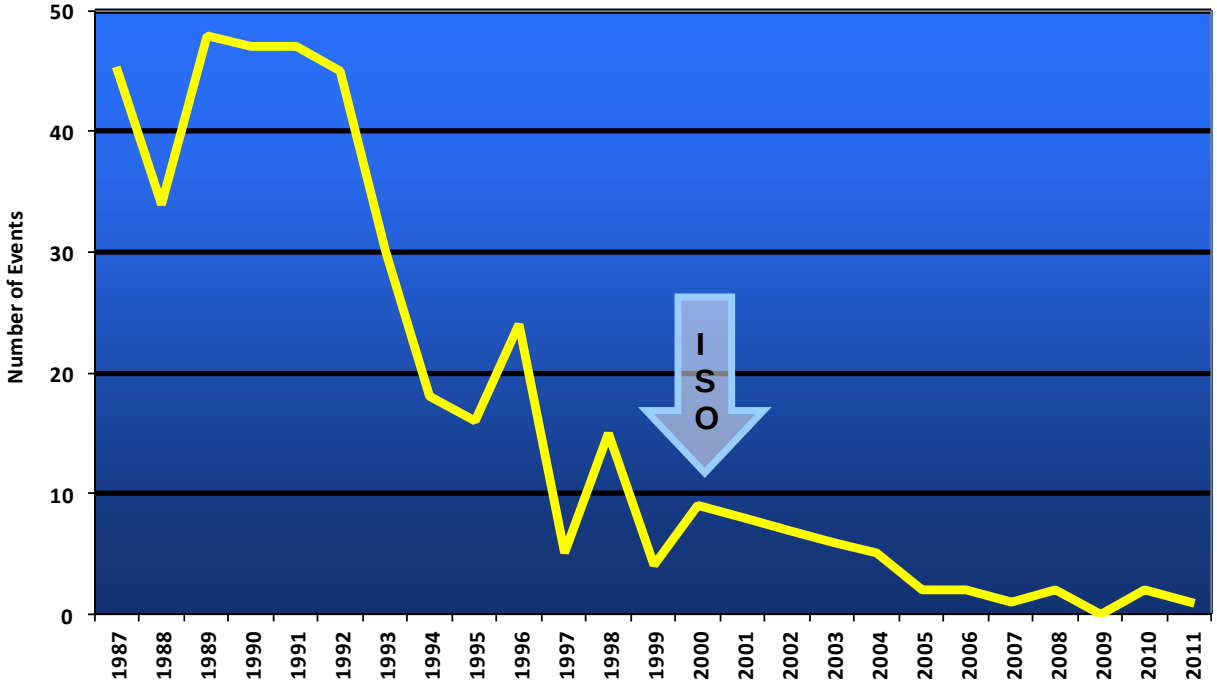
DOE is involved in the Environmental Management System (EMS) through the Strategic Petroleum Reserve Integrated Safety Management System (ISM), of which the EMS serves as the environmental leg.

The scope of the EMS includes both the management and operating contractor, DM Petroleum Operations Company, and applicable aspects of the construction management contractor, Arctic Slope Regional Corporation Gulf States Constructors, even though they do not have an independent ISO 14001 certification.

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 2011, all Strategic Petroleum Reserve sites recertified their participation in occupational safety and health programs. The across-the-board risk assessment conducted last year was revised to evaluate the current risk to the total Strategic Petroleum Reserve operation, taking into consideration the existing hazard controls.

Figure 9 shows the Strategic Petroleum Reserve's performance for recordable environmental incidents for the years 1987-2011. The Strategic Petroleum Reserve continued its excellent record with one reportable event in 2011. On December 14, 2011, a brine discharge of approximately 12 barrels occurred at the Bayou Choctaw site. The source of the discharge was isolated and the affected area was cleaned up. No injuries were reported.

Figure 9
Reportable Environmental Events



Pollution Prevention

Hazardous Waste

The Strategic Petroleum Reserve sets a fiscal year goal for hazardous waste generated. The FY 2011 goal not to exceed 450 pounds of hazardous waste generated was successfully achieved with only 231 pounds of hazardous waste generated. The calendar year (CY) 2011 amount generated was 224 pounds. The majority of the hazardous waste consisted of laboratory waste and the remaining amount was spent fluorescent lamps and other chemicals.

Recycling

Although there are no specific goals established for Exploration and Production (E&P) waste generation or recycling, the Strategic Petroleum Reserve continued with its effort to recycle whenever possible. During FY 2011, 64 percent (256,251 pounds) of E&P waste was recycled. The recycling effort continued through the calendar year and 34 percent (189,475 pounds) of E&P waste was recycled. The type of E&P waste generated included brine contaminated soil, brine disposal well solids, crude oil contaminated absorbent, off-specification crude, and cavern work over wastes.

The Strategic Petroleum Reserve exceeded the established FY 2011 recycling goal of 54 percent by achieving a recycle rate of 74 percent. Although there is no CY recycling goal, the CY 2011 rate achieved was 67 percent, which represents 724,297 pounds of non-E&P recycled waste.

The majority of recycled waste consisted of spent blast media abrasives, scrap metal concrete, and paper.

The Strategic Petroleum Reserve met the established FY 2011 sanitary waste goal of not more than 700 thousand pounds, and only generated 353,649 pounds of sanitary waste. Although there is no CY goal, the Strategic Petroleum Reserve continued its performance through CY 2011 and only generated 352,476 pounds of sanitary waste.

Environmental Improvement Measures

Strategic Petroleum Reserve personnel participated for the 13th year in the annual Lake Pontchartrain Basin Foundation (LPBF) Beach Sweep. The local New Orleans activity is part of a worldwide event promoted by the Oceans Conservancy. Thirty-nine employees, their families, and concerned citizens contributed time and effort by cleaning debris at various locations around Lake Pontchartrain covering an estimated six lineal miles of shoreline and city street/storm-drains. The Strategic Petroleum Reserve volunteer activities also included the installation of twelve "No Dumping, Drains to Lake" storm-drain medallions provided by the LPBF in a special effort this year.

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.

Further, a set of wildlife fact sheets was developed for each site that lists and describes the Federal and State endangered and threatened birds, animals, aquatic species, reptiles, and plants found in the county or parish where each site is located. The documents were created in part as a result of the requirements of the Memorandum of Understanding (MOU) between the U.S. DOE and the U.S. Fish and Wildlife Service regarding the implementation of Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds." Two of the obligations under the MOU are satisfied by this document: conduct informational and educational programs toward migratory bird conservation, and inventory and monitor bird population and habitats.

The fact sheets provide a quick reference tool to identify and inventory endangered and threatened birds, animals, reptiles, aquatic species, and plants that may be seen on or in proximity to the site property. Birds will be the most obvious wildlife observed on the site. The Gulf coast is an extremely important stopover area for migrating birds before and after their flight across the Gulf of Mexico by providing a rest area with food to replenish fat reserves, water to drink and bathe, and shelter from predators.

The Strategic Petroleum Reserve recognized the 41st anniversary of Earth Day in 2011 as an opportunity for everyone to join together and make commitments to environmental sustainability and a global green economy. On April 21, 2011, Strategic Petroleum Reserve New Orleans employees were e-mailed an "Earth Day" presentation to promote awareness of recycling and conservation.

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, Emergency Command Vehicle, communication vehicles and the Emergency Communications Network are the cornerstones for continuing essential work functions under catastrophic conditions. Emergency response team members are assisted by protection force personnel as "support responders" for emergency conditions.

The Strategic Petroleum Reserve completed HSPD-12 badge processing for all Federal and contract personnel. In 2011, the Strategic Petroleum Reserve completed its Vulnerability Assessment and Site Security Plan.

The Strategic Petroleum reserve completed all Graded Security Protection enhancements in May 2011. The program's security posture couples physical security systems with armed protection force officers at each site to ensure mission capability to conduct a drawdown and to protect personnel and resources. In FY 2011, Wackenhut Services, Inc. was awarded the protection force contract beginning October 1, 2010.

During 2011, the Strategic Petroleum Reserve completed four announced and four unannounced oil spill response exercises in support of the Oil Pollution Act of 1990. Each storage site completed two oil boom containment deployments and exercised command and control, response and recovery activities.

Safety and Health Improvement Areas

DOE Safety and Health Voluntary Protection Program

The Strategic Petroleum Reserve continued to improve the safety and health systems throughout the complex during 2011. The DOE's Voluntary Protection Program (VPP) was expanded to include the security subcontractor, Wackenhut Services, Inc., starting with the West Hackberry site. The New Orleans safety and health staff provided augmented safety oversight of cavern workover operations and emergency management, fire protection training, and security field exercises. The behavioral safety process was enhanced with the initiation of a safe driving component. The Accident Prevention manual that provides safety direction for the Strategic Petroleum Reserve was revised and improved to make it easier to use at the field level.

Despite an emphasis on worker safety and an overall excellent safety record, the Strategic Petroleum Reserve suffered a fatality at the Bryan Mound Site on September 13, 2011, when a subcontractor employee struck a large elevated pipe while operating a front deck mower. An Accident Investigation Board appointed by the Office of Health, Safety, and Security conducted an investigation and produced a report in November 2011 with Judgments of Need. The Strategic Petroleum Reserve developed and implemented corrective actions to address the Judgments of Need.

Occupational Safety & Health Administration's Voluntary Protection Program

The Strategic Petroleum Reserve participates in the OSHA VPP and Process Safety Management programs. 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 2011 and the West Hackberry security contractor, Wackenhut Services, Inc., was awarded the distinction of Star status in OSHA VPP following two on-site audits. This is first DOE security contractor to have achieved OSHA VPP status.

In 2011 OSHA Region VI awarded Bryan Mound the designation of Star among Stars and Bayou Choctaw and Big Hill each received 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. DOE VPP also recognized the sites in 2011, presenting Big Hill and Bayou Choctaw with a Star of Excellence and Bryan Mound with a Superior Star. The DOE awards consider outreach activities as well as accident rates.

The sites also received awards from the National Safety Council (NSC). Two of the sites, New Orleans and Bayou Choctaw, received an Award of Honor from the NSC South LA Chapter. This award recognizes companies with low accident rates throughout the year. New Orleans, Bayou Choctaw, and Big Hill received the NSC's Occupational Excellence Achievement Award. This award recognizes companies that have accident rates equal to or less than 50 percent of their industry.

Accident Rates

During 2011 the Strategic Petroleum Reserve's Total Recordable Case Rate was 0.90 cases per 200 thousand worker hours, which met the Strategic Petroleum Reserve's goal of less than 1.40. The Days Away/Restricted/Transferred Case rate was 0.60 per 200 thousand worker hours, which met the Strategic Petroleum Reserve's goal of less than 0.90.

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.

To date, the Strategic Petroleum Reserve is operating a compliant ISM system with one identified weakness: performing work within controls. Recommendations to correct the identified problems are being aggressively worked. An independent assessment of ISM implementation completed in 2011 found that the ISM programmatic structure is in place with a few identified gaps, which are being addressed in an implementation plan.

Annual Safety Summit and Tripartite Safety Council

For the past seven years the Strategic Petroleum Reserve has held an annual Management Safety Summit to promote safety goals and focus senior management attention on safety

related issues. In 2011 the summit was expanded to incorporate not only safety and health issues, but environmental issues as well. The meetings included briefings by the safety, health and environmental departments, the management and operations contractor, the security contractor, and the construction management contractors. Current issues were briefed and discussed in the open forum.

The Strategic Petroleum Reserve also conducted two Tripartite Safety Councils. The purpose of the council is to give Strategic Petroleum Reserve contractors an opportunity to address safety issues directly with the Project Manager that have not been resolved through normal channels. Actions from the council are tracked to closure.

Human Performance Improvement

The Strategic Petroleum Reserve continued to move forward in integrating Human Performance Improvement (HPI) into its management systems. In 2011, training on the recognition of error precursors was developed that will be delivered to all site managers at the beginning of 2012. Several HPI interventions were conducted during 2011. The interventions were not only in the areas of safety, but also included security and training. The long-term goal is to incorporate HPI into all business processes and to put the tools of HPI to use. Additional training in the upcoming year will focus on moving HPI methodology to the field, the level at which work is being performed.

Business Process Re-Engineering

The Strategic Petroleum Reserve information technology function is a national leader in the execution and implementation of re-engineering business process utilizing a combination of Microsoft SharePoint 2010, InfoPath Forms, and K2 workflow engine. System changes include consolidation of several systems into one large data management SharePoint farm.

Data Security, Accessibility, and Resiliency

The Strategic Petroleum Reserve expanded the functionality of its Alternate Data Center, the program's emergency backup information technology system. The enhanced recovery capabilities allows for remotely accessible infrastructure with secure two factor identification, a significant number of portable computers and Blackberries, and robust backup communications to provide reliable performance in an emergency so that essential work can be performed remotely. The Strategic Petroleum Reserve has maintained cyber security success.

Transition to New Technical Baseline (TBL) System

The Strategic Petroleum Reserve has been using the Konfig® Configuration Management system for technical drawing baselines since 1995, but the company is no longer in active production as a marketed system. In 2011, the Strategic Petroleum Reserve conducted extensive market surveys and analyzed the options available for a replacement TBL system, and determined that

the Plant Lifecycle Module of the SAP® enterprise resource system is the best choice for the Strategic Petroleum Reserve. A TBL migration plan was developed and is being implemented.

Awards and Certifications

The Strategic Petroleum Reserve received the following awards and certifications for 2011:

- DOE VPP Star Among Stars Superior Star – Big Hill and Bryan Mound.
- DOE VPP Star of Excellence – Bayou Choctaw.
- OSHA Region VI Star of Excellence – Bayou Choctaw and Big Hill.
- OSHA Region VI Star Among Stars – Bryan Mound.
- OSHA VPP Star status for the West Hackberry Wackenhut Services, Inc. officers.
- National Safety Council, South Louisiana Chapter Occupational Safety Awards, Award of Honor – Bayou Choctaw and New Orleans. These awards were presented to Bayou Choctaw and New Orleans for the amount of time worked without a recordable accident.
- National Safety Council, South Louisiana Chapter Occupational Safety Awards, Participation Award – West Hackberry.
- National Safety Council "Occupational Excellence Achievement Award" – Bayou Choctaw, Big Hill, and New Orleans. These awards were presented to Bayou Choctaw, Big Hill, and New Orleans in recognition of the days worked without a "Days Away Restricted Time" injury.
- National Safety Council "Occupational Excellence Achievement Award" to New Orleans, Bayou Choctaw, Big Hill, and New Orleans.
- DOE "EStar Award" for Buy It Green (BIG) List – This award was presented to the Strategic Petroleum Reserve for the development of the BIG List for the procurement of green products.

International Organization for Standardization 9001 Quality Management System

During 2011, the Strategic Petroleum Reserve maintained the recertification to International Organization for Standardization (ISO) 9001:2000 after on-site assessments in 2011 of the New Orleans/Stennis, Big Hill, and West Hackberry facilities.

Customer Service

The Strategic Petroleum Reserve's Customer Service Team met with several refiners, traders, pipeline companies, and other customers during the 2011 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. Meetings with customers always have two primary functions: to gather customer information to improve the Strategic Petroleum Reserve's response capabilities, and to update those customers on Strategic Petroleum Reserve activities.

In order to maintain an accurate and current list of customer contacts, each customer was asked to review the contact information they provide to the Strategic Petroleum Reserve and to provide updates on refinery activities 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.

The Customer Service Team provided updates to the customers regarding the status of the Reserve and welcomed questions from the customers. Customers provided the team with updates on refinery closings, shutdowns, and hurricane upgrades.

Real Estate Actions

During 2011:

- On behalf of DOE, the U.S. Army Corps of Engineers acquired Bayou Choctaw Cavern 102 as a replacement for Cavern 20. Cavern 102 was acquired through Eminent Domain Proceedings (Condemnation) on November 30, 2011, when the Order of Possession was granted by the judge from the Middle District Court of Louisiana.

- Shell Oil Products US exercised its 5-year option on the St. James Terminal Lease. A modification to the contract was executed on April 5, 2011, extending the lease through December 31, 2017. The rental increases to $2,000,000 per year, commencing January 1, 2013.

- DM Petroleum Operations Company, on behalf of DOE, executed easements or Rights of Entry with landowners adjacent to the West Hackberry and Bayou Choctaw Sites for subsidence monitoring. The West Hackberry easement was executed on January 20, 2011, and the Bayou Choctaw easement was executed on July 13, 2011.

- DOE and NASA executed a Fully Reimbursable Space Act Agreement (FRSAA) on June 24, 2011, with an effective date of July 1, 2011. This agreement is for the continued use of the Stennis Warehouse Facility, now under NASA's control. The FRSAA is for a 5-year term, through June 30, 2016, and contains two 5-year options and a

2-year termination clause. Both of these terms were maintained from the former Applied Geo Technologies Use Contract for this warehouse.

- Modification 086 to Interagency Agreement No. DE-AI96-78PO02816 was executed to extend the period of performance of this agreement through September 30, 2012.

- An Offer-to-Sell Easement for a 3-year Temporary Road Easement and a Right of Entry for Construction were obtained by the Corps of Engineers on behalf of DOE to allow surface work, road improvements and staging to commence in connection with the Cavern 20 Deficiency Project until the Declaration of Taking (D/T) could be filed to obtain possession of Cavern 102. The D/T was filed and just compensation was deposited in the registry of the Middle District Court in Baton Rouge, Louisiana by the Department of Justice on November 29, 2011, and title was vested in the United States on November 30, 2011. The Order of Possession has been recorded with the Parish Clerk of Court's office.

- DM Petroleum Operations Company obtained a Right of Entry for construction on behalf of DOE on October 14, 2011, from the land owner for the repair and replacement of the shore adjacent to the Big Hill Raw Water Intake Structure.

- The Bayou Choctaw Security Entry Portal Cost Reimbursement Agreement was fully executed between DOE and PL Midstream on October 27, 2011, providing for the relocation of their ethane pipeline under the DOE parking lot.

- The Partial Assignment of Rights-of-Way Agreement in connection with the Shell Big Hill 650-foot lateral pipeline was fully executed on October 26, 2011, granting DOE rights to the pipeline and its rights-of-way, along with ingress and egress.

XII. Conclusion

The Strategic Petroleum Reserve successfully performed its mission to provide the United States with energy and economic security through responsible management of the Nation's stockpile of emergency crude oil throughout 2011. This was demonstrated by the successful sale and delivery of over 30 million barrels of crude oil during a six-week period in July and August 2011 after the President ordered a drawdown of the Reserve to join the International Energy Agency's collective response to the shutdown of Libya's oil industry.

The Strategic Petroleum Reserve continues to prepare for the future through the acquisition of a replacement cavern (Cavern 102) at the Bayou Choctaw site that will allow the site to decommission Cavern 20, which has experienced preferential leaching towards the edge of the salt dome. Integrating Cavern 102 into the Bayou Choctaw system is critical if the site is to maintain its drawdown rate for light, sweet crude—which has been the most frequently requested type of oil from the Strategic Petroleum Reserve following hurricane damage to Gulf Coast refineries.

An operational challenge that will impact the Strategic Petroleum Reserve's drawdown capability is the unavailability of one storage tank at Bryan Mound due to a damaged floating roof. The tank is necessary for use during a drawdown and its loss decreases the drawdown rate at Bryan Mound by 150 MB/D.

Despite these temporary challenges, the Strategic Petroleum Reserve remains ready to respond rapidly to any energy crisis.

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:	1,350,000 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

*Bryan Mound has 3 storage tanks that are required for site drawdown and refill operations. One tank is currently unusable due to a damaged floating roof. The unavailability of the storage tank has reduced the site's drawdown capability from 1.5 MMB/D to 1.35 MMB/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 46.3 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

*The drawdown rate is affected due to increased vapor pressure in several of the site's caverns.

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

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

Big Hill

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

Site Description
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.

In November 2011, DOE acquired an existing cavern through eminent domain from Petrologistics Olefins, LLC to replace Cavern 20, which has experienced preferential leaching and is within 60 feet of the edge of the dome, posing an environmental risk with continued use.