DOE/FE - 0525

Strategic Petroleum Reserve

Annual Report for Calendar Year 2007

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

DOE/FE-0525

U.S. DEPARTMENT OF
ENERGY

Strategic Petroleum Reserve Annual Report for Calendar Year 2007

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

Strategic Petroleum Reserve: www.spr.doe.gov

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Program Highlights and Status

The Strategic Petroleum Reserve program provides the Nation with energy and economic security through its emergency stockpile of crude oil. As of December 31, 2007, the Reserve had a crude oil inventory of 696.9 million barrels (equal to 58 days of net U.S. imports) and a drawdown capability of 4.4 million barrels per day.

Oil Acquisitions and Receipts

Following a hiatus from 2005, the Administration's extended royalty-in-kind initiative to fill the Strategic Petroleum Reserve was resumed in May 2007. A total of 145.5 million barrels of oil had been delivered through December 31, 2007 (6.7 million barrels in calendar year 2007).

The Strategic Petroleum Reserve received the final 1.7 million barrels in 2007 in repayment for emergency oil exchanges made by the Department of Energy (DOE) to refiners during Hurricane Katrina in 2005. A total of 10.3 million barrels, including an interest premium, was received from the companies as repayment for 9.8 million barrels originally exchanged.

Two attempts to repurchase oil during 2007 on the open market using the $584 million in available balances from the Katrina drawdown sale were unsuccessful.

Expansion to One Billion Barrels

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

The final Environmental Impact Statement (EIS) identified a new site at the Richton salt dome in Mississippi as the "preferred alternative" based on crude oil distribution system capabilities, environmental considerations, project risks, and project costs and included expansions to the existing Strategic Petroleum Reserve sites at Big Hill, Texas, and Bayou Choctaw, Louisiana. The Secretary of Energy issued a Record of Decision (ROD) on February 14, 2007, which completed the site selection process.

Section 159(j) of the Energy Policy and Conservation Act (EPCA) (42 U.S.C. 6239(j)) requires that the Secretary of Energy submit a plan to Congress if the Secretary decides to increase the inventory of the Strategic Petroleum Reserve beyond 700 million barrels. The *Strategic Petroleum Reserve Plan, Expansion to One Billion Barrels* was submitted to Congress in June 2007.

Prior to proceeding with the various stages of a major construction project, DOE requires that a series of key milestones, known as Critical Decisions (CD), be approved in advance. The CD-0 Mission Need Statement for the one billion barrel expansion was approved and signed by the Deputy Secretary of Energy on August 3, 2007. The approval of this milestone allows the Strategic Petroleum Reserve to continue with the project conceptual design and to request project engineering and design funds for use in preliminary engineering design, final design, and baseline development.

Environment, Safety, and Health

The Strategic Petroleum Reserve program operates under an International Organization for Standardization (ISO) 14001 Environmental Management Certification. In 2007, the Strategic Petroleum Reserve successfully completed its annual third party audit for recertification of all six of its management and operating locations against the ISO 14001 standard.

The Strategic Petroleum Reserve has assigned a Designated Energy Official to oversee compliance with Presidential Executive Order 13423, Strengthening Federal Environmental, Transportation and Energy Management.

The Strategic Petroleum Reserve sites continue to operate under the Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP) certification with all four sites having maintained their Star status throughout 2007. All four sites additionally won DOE VPP performance awards.

DOE presented a special award to DynMcDermott for Outstanding Industry Performance and Leadership in furthering the advancement of the principles of the DOE VPP.

Notable Achievements

The Strategic Petroleum Reserve storage sites have been recipients of numerous awards for management quality, environmental stewardship, and its safety management system. In 2007, the Strategic Petroleum Reserve was one of only four recipients nation-wide of the Environmental Protection Agency's prestigious National Environmental Performance Track Outreach Award.

PROGRAM MISSION

Introduction

The Strategic Petroleum Reserve was authorized in 1975 by EPCA (42 U.S.C. 6201 et seq.), as amended, and by the comprehensive energy plans of all Administrations since 1975, in recognition of the long-term dependence of the United States on imported crude oil and petroleum products.

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

As of December 31, 2007, the inventory in the Strategic Petroleum Reserve was 696.9 million barrels of crude oil. The inventory amounted to 58 days of net imports. The United States relies on a combination of oil in the Strategic Petroleum Reserve and private stocks to meet its oil storage obligations under the agreement with the International Energy Program.

Legislative History

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

On February 20, 2003, after a series of continuing resolutions, the President signed Public Law 108-7, the Consolidated Appropriations Act, 2003. Public Law 108-7 included $171.7 million for Strategic Petroleum Reserve operations and program management activities 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 (Public Law 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 (Public Law 108-447). The Act provided $172,100,000 for the operations and program management activities of the Strategic Petroleum Reserve. After an across-the-board rescission of 0.594 percent and a second general reduction, the Strategic Petroleum Reserve budget authority was reduced to $169,710,000.

On August 8, 2005, the President signed into law the EPAct 2005 (Public Law 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 practical without incurring excessive costs or appreciably affecting the price of petroleum products to consumers"; promulgation of procedures for the acquisition of petroleum for the Reserve, to include procedures and criteria for the review of requests for the deferrals of scheduled deliveries; and selection of sites necessary to expand the storage capacity of the Strategic Petroleum Reserve to one billion barrels.

On November 19, 2005, the President signed the Energy and Water Development Appropriations Act, 2006 (Public Law 109-103). The Act provided $166,000,000 for facility development and operations and program management activities of the Strategic Petroleum Reserve. After an across-the-board rescission of one percent, the Strategic Petroleum Reserve budget authority was reduced to $164,340,000.

Congress passed a series of Continuing Resolutions to cover programs whose fiscal year 2007 appropriations, beginning October 1, 2006, had not yet been completed. The last Continuing Resolution signed during 2006 was signed by the President on December 9, 2006 (Public Law 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 (Public Law 110-5) provided appropriations equal to the 2006 amount plus a small escalation adjustment for employee pay and benefits. The final appropriation for the Strategic Petroleum Reserve was $164,441,000.

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

acquisition activities consistent with the budget request.

Strategic Petroleum Reserve Plan and Amendments

In compliance with section 159(j) of EPCA, which requires that the Secretary of Energy submit a plan to Congress if the Secretary decides to expand the Strategic Petroleum Reserve beyond 700 million barrels, the *Strategic Petroleum Reserve Plan, Expansion to One Billion Barrels* was submitted to Congress in June 2007.

EPAct 2005 directed the DOE to fill the Strategic Petroleum Reserve to its authorized size of one billion barrels and to conduct a proceeding to select sites necessary to acquire petroleum to fill to the authorized level. The Plan gave first consideration to expanding existing Strategic Petroleum Reserve sites to create additional capacity in order to capitalize on existing infrastructure and operations, and thereby minimize development time and operations and maintenance costs. The Plan recognized that there was not sufficient space in the salt domes at existing sites to create additional caverns capable of storing the quantity of crude oil needed to reach one billion barrels.

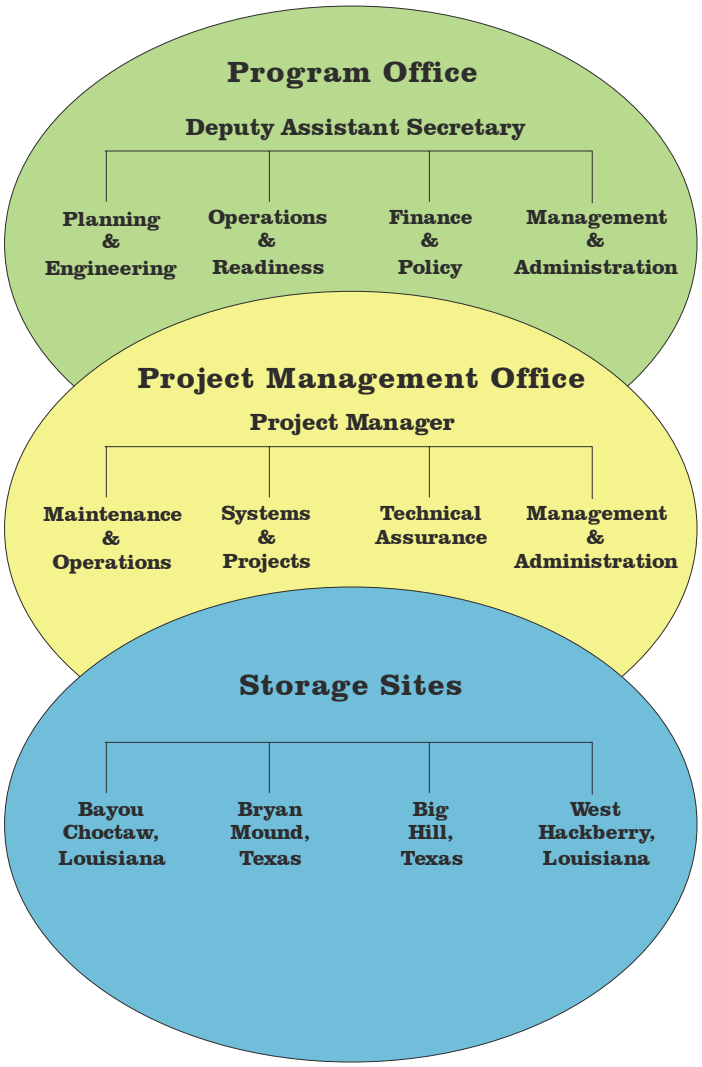
PROGRAM MANAGEMENT

Organization

The Assistant Secretary for Fossil Energy at DOE in Washington, D.C. has overall program responsibility for achieving the goals and objectives of the Strategic Petroleum Reserve. This responsibility is delegated to the Deputy Assistant Secretary for Petroleum Reserves, and is exercised through the Strategic Petroleum Reserve Program Office in Washington, D.C., and the Project Management Office in New Orleans, Louisiana. Total staffing is 108 Federal full-time equivalent employees and 792 contractor employees as of December 31, 2007. Figure 1 depicts the Strategic Petroleum Reserve organizational structure.

Figure 1

Strategic Petroleum Reserve Organizational Structure



Contractual Support

The Project Management Office is responsible for the design, development, operation and maintenance of the Strategic Petroleum Reserve and employs a Management and Operating contractor, DynMcDermott Petroleum Operations Company, to provide management and personnel to operate and maintain the Strategic Petroleum Reserve facilities and related systems. DynMcDermott was awarded a five-year contract extension to operate the Strategic Petroleum Reserve through March 31, 2013.

URS Group Inc., an architect/engineering firm, provides design services for the four storage facilities, initially through March 8, 2007, with options for DOE to extend the contract for three additional years. The second option year was exercised in 2007. Sandia National Laboratory provides geotechnical support.

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

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

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

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

The Strategic Petroleum Reserve holds contracts with three commercial facilities that provide terminal services for fill, drawdown and storage of crude oil. The contract with the Sunoco Partners Marketing & Terminals, L.P. is in its first five-year option period, which expires April 30, 2008. Unocal Corporation is in its third five-year option period, which expires April 23, 2012, and the period of performance for Seaway Crude Pipeline, Inc. expires December 1, 2011.

CRUDE OIL STORAGE PROGRAM

Strategic Petroleum Reserve Storage Facilities

The Strategic Petroleum Reserve currently operates and maintains four major oil storage facilities in the Gulf Coast region of the United States. The Strategic Petroleum Reserve has two sites in Texas, i.e., Bryan Mound and Big Hill, and two sites in Louisiana, i.e., West Hackberry and Bayou Choctaw. These four sites have a combined oil storage capacity of 727 million barrels and a drawdown capability of 4.4 million barrels per day. Table 1 shows the storage capacity and drawdown capability of each of the four storage sites as of December 31, 2007.

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

Salt dome storage is also by far the lowest cost technology for large-scale petroleum storage projects. The annual operations cost for the Reserve is approximately $0.19 per barrel per year. This includes the management, program staffing, operation & maintenance, and security. This cost is substantially less than commercial industry storage costs as well as most other foreign strategic oil reserves.

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

Table 1
Storage Capacity and Drawdown Capability as of December 31, 2007

	CURRENT SITE CAPABILITY		
Storage Facility	**Storage Capacity (MMB)**	**Crude Mix Sweet/Sour (MMB)**	**Drawdown Capability (MB/D)***
Bryan Mound	**254**	**78/176**	**1,500**
West Hackberry	**230**	**122/108**	**1,300**
Big Hill	**170**	**72/98**	**1,100**
Bayou Choctaw	**73**	**21/52**	**515**
Total Program	**727**	**293/434 (40%/60%)**	**4,415**

Sweet = Low sulfur crude (S<0.5%) MMB = Million Barrels
Sour = Medium sulfur crude (S<2.0%) MB/D = Thousand Barrels Per Day
* Initial 30-day capability

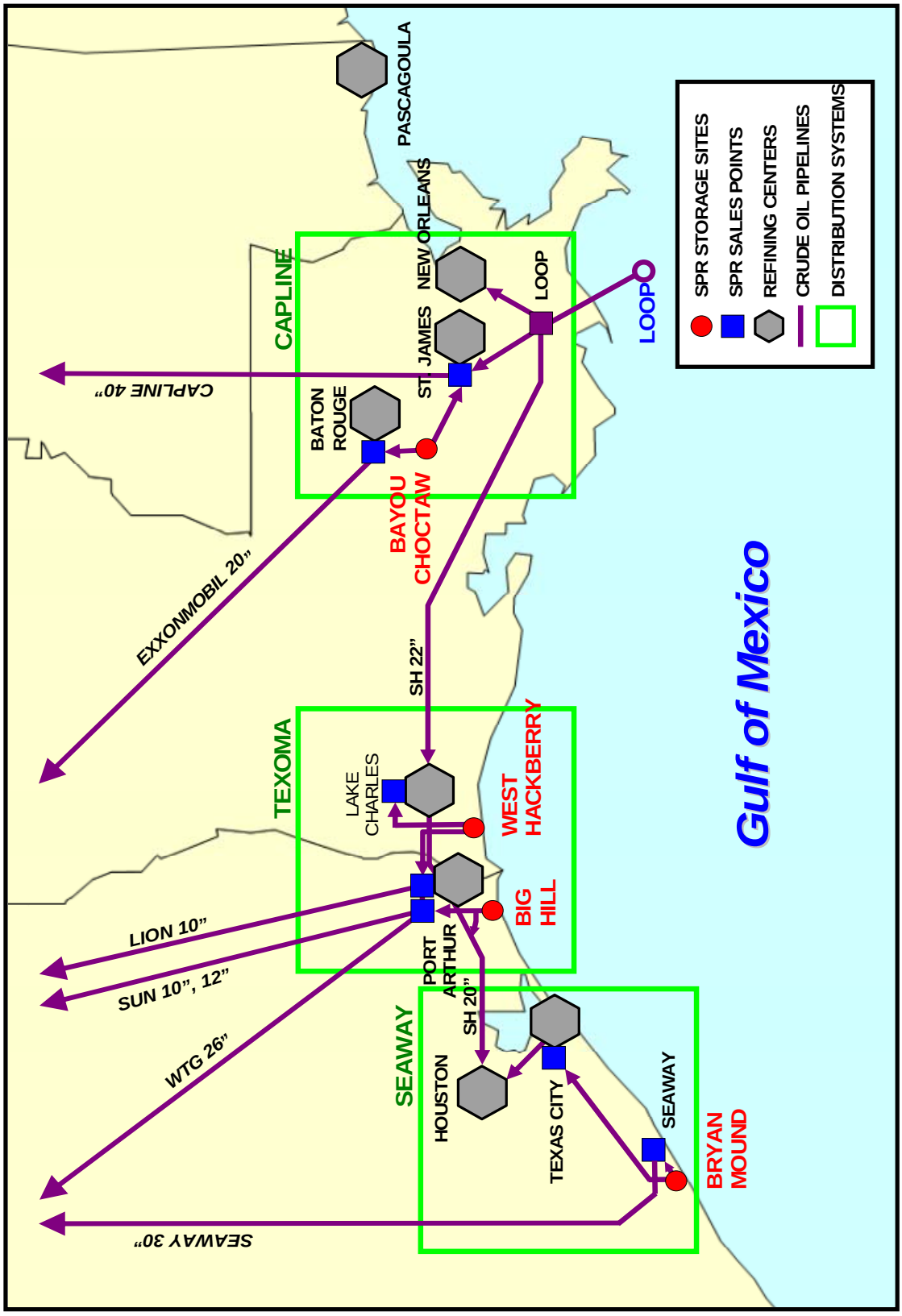


Figure 2
Storage Sites and Distribution System

Bryan Mound Site Status

The Bryan Mound storage site is located in Brazoria County, Texas, approximately three miles southwest of Freeport, Texas. The site has 20 storage caverns, a combined storage capacity of 254 million barrels, and a cavern inventory of 235.1 million barrels.

The Bryan Mound site was completed in 1986 and has been fully operational since. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities. During 2007, construction was completed to repair a brine tank, install an emergency communications network, and upgrade the distributed control system controllers and operator interfaces. Construction was also completed on the installation of the refurbished degasification plant which was relocated from the Big Hill site. The plant successfully started operations on September 1, 2007, and it treated approximately 15 million barrels of crude oil from two caverns through year end.

In 2007 the decision was made to retrofit one of the three crude oil storage tanks that were originally built in the 1970s. The tanks were constructed to support the high tanker delivery rates from the Freeport dock facility. The tanks are 200,000 barrel, fixed roof storage tanks with internal floating pans. During 2006, the internal floating pan of one of the tanks sank and became deformed due to the weight of the oil above it. The construction of an external floating roof is planned for fiscal year 2008.

West Hackberry Site Status

The West Hackberry storage site is located in Cameron Parish, Louisiana, approximately 25 miles southwest of Lake Charles, Louisiana. The site has 22 storage caverns, a combined storage capacity of 230 million barrels and a cavern inventory of 218.7 million barrels.

The West Hackberry site was completed in 1988 and has been fully operational since. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities. During 2007, construction was completed on improvements to site drainage and roadways and installation of emergency communications network.

Additionally in 2007, the Strategic Petroleum Reserve completed one major construction project at the West Hackberry site. This project replaced an existing 4.2-mile, 42-inch diameter water pipeline from the West Hackberry storage site to the site's raw water intake facility. The original pipeline was approximately 23 years old and had extensive internal corrosion. This pipeline is essential for site drawdown operations.

Bayou Choctaw Site Status

The Bayou Choctaw storage site is located in Iberville Parish, Louisiana, approximately 12 miles southwest of Baton Rouge, Louisiana. The site has six storage caverns, a combined storage capacity of 73 million barrels, and a cavern inventory of 73.1 million barrels.

The Bayou Choctaw site was completed in 1987 and has been fully operational since. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities. During 2007, construction was completed on upgrades to the site perimeter detection systems, the distributed control system controllers, and operator interfaces.

Big Hill Site Status

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

The Big Hill site was completed in 1991 and has been fully operational since. The Strategic Petroleum Reserve annually performs a number of major maintenance projects to maintain the site's operational capabilities. During 2007, construction was completed to install an emergency communications network. Contracts have been awarded and construction is ongoing to upgrade distributed control system controllers and operator interfaces, install an emergency communications network, upgrade security camera transmission to fiber optic, repair a crude oil surge tank, add pump shelters, and replace fire protection systems for crude oil systems.

During 2007, the degas plant was dismantled, refurbished, and relocated to the Bryan Mound site.

St. James Marine Terminal Status

The Strategic Petroleum constructed a marine terminal on the Mississippi River at St. James, Louisiana, in the 1970s to support fill and drawdown of the Strategic Petroleum Reserve sites. The terminal has six aboveground storage tanks with a total storage capacity of two million barrels. This terminal is leased to Shell Pipeline Company under a long-term lease agreement, where Shell provides for all the normal operations and maintenance of the terminal and is required to support the Strategic Petroleum Reserve as a sales and distribution point in the event of a drawdown (See Commercialization Activities, page 33).

During 2007, work continued on the construction of a new connection between the St. James terminal and the adjacent LOCAP terminal to enhance the Strategic Petroleum Reserve's emergency distribution capabilities. This new connection will enable unencumbered crude oil distribution to the LOCAP terminal, the ExxonMobil pipeline and the new Plains terminal. The agreement with LOCAP, Inc. was established in 2006. The project was completed and in operation in April 2008.

Expansion of the Strategic Petroleum Reserve to One Billion Barrels

In 2007, DOE completed a public process begun in 2005 to select a site for expansion of the Strategic Petroleum Reserve to its authorized size of one billion barrels. The 16-month long site selection process included a series of public hearings, preparation of an EIS, and final site selection in a ROD signed by the Secretary of Energy on February 14, 2007.

Energy Policy Act of 2005 Requirements

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

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

> "*Not later than 1 year after the date of enactment of this Act, the Secretary shall complete a proceeding to select, from sites that the Secretary has previously studied, sites necessary to enable acquisition by the Secretary of the full authorized volume of the Strategic Petroleum Reserve. In such proceeding, the Secretary shall first consider and give preference to the five sites which the Secretary previously assessed in the Draft Environmental Impact Statement, DOE/EIS-0165-D. However, the Secretary in his discretion may select other sites as proposed by a State where a site has been previously studied by the Secretary to meet the full authorized volume of the Strategic Petroleum Reserve*."

In accordance with the National Environmental Policy Act (NEPA), DOE initiated the preparation of an EIS for the site selection for the expansion of the Strategic Petroleum Reserve in 2005.

Environmental Review Process

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

- Public Scoping Process
- Draft EIS
- Final EIS
- ROD

The Public Scoping process was completed during 2005.

Alternatives Considered

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

As required by Section 303 of EPAct 2005, DOE limited its review of potential new sites for expansion of the Strategic Petroleum Reserve to: (1) sites that the Department addressed in the 1992 draft EIS and (2) sites proposed by a state in which the Department has previously studied a site. Table 2 lists those sites considered and assessed in the EIS to achieve the expansion of the Strategic Petroleum Reserve to one billion barrels.

Table 2
Sites Considered for the Strategic Petroleum Reserve Expansion

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

Site Selection Decision

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

- Strategic Petroleum Reserve Distribution Capabilities
- Technical Risks (Geotechnical, Construction, Hurricane, etc.)
- Environmental Impacts and
- Projected Life Cycle Costs

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

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

The Secretary of Energy, as the site selection official, issued a ROD on February 14, 2007, identifying Richton, Mississippi, as the preferred alternative for the construction of a new site with additional expansion at the Bayou Choctaw, Louisiana, and Big Hill, Texas, existing storage sites.

Critical Decisions

As per DOE Order 413.3A, Program and Project Management for the Acquisition of Capital Assets, DOE has established a number of CDs that are required before proceeding with major capital asset construction projects:

- CD-0, Approve Mission Need
- CD-1, Approve Alternative Selection and Cost Range
- CD-2, Approve Performance Baseline
- CD-3, Approve Start of Construction
- CD-4, Approve Start of Operations or Project Completion

The DOE Office of Engineering and Construction Management (OECM) is in charge of monitoring and approving the CD process.

Critical Decision-0

In 2007, the CD-0 Mission Need Statement for the one billion barrel expansion project was submitted to OECM. The CD-0 Mission Need Statement was approved and signed by the DOE Deputy Secretary on August 3, 2007. Approval of the milestone allows the Strategic Petroleum Reserve to continue with the project conceptual design and request project engineering and design funds for use in preliminary engineering design, final design, and baseline development.

Critical Decision-1 Preparation

Following the approval of CD-0 in 2007, the Strategic Petroleum Reserve began the preparation of the CD-1 package to be presented for approval, through OECM, to the Deputy Secretary and the Energy Systems Acquisition Advisory Board. This package was finished and presented to OECM in April 2008, and is undergoing their review. The CD-1 will approve the Alternative Selection and Cost Range for the expansion project.

Supplemental Environmental Impact Statement Preparation

Because of environmental concerns regarding the use of the Leaf River as the source of leaching water for the creation of the caverns, the Strategic Petroleum Reserve decided to prepare a Supplemental Environmental Impact Statement (SEIS) and identify an alternate source for leaching water. The new source under consideration is the Pascagoula River near Merrill, Mississippi. The SEIS will also address the relocation of the marine oil terminal from Singing Island to the Bayou Casotte Harbor. Because of the relocation of the marine oil terminal, this SEIS will also address the rerouting of the brine disposal line to the Gulf of Mexico. The SEIS is scheduled for completion in mid-2009.

PETROLEUM ACQUISITION AND EXCHANGE

Crude Oil Inventory Status

On December 31, 2007, the Strategic Petroleum Reserve's crude oil inventory was 696,948,202 barrels, an increase of 8.3 million barrels from December 31, 2006. The increase in 2007 is due to the receipts from the royalty-in-kind (RIK) oil transfer program and final deliveries in repayment of the 2005 Hurricane Katrina emergency time exchanges.

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

Table 3 lists year-end inventories and average daily fill rates for the years 1977 through 2007 (by fiscal and calendar year).

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

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

Hurricane Katrina Exchange

In April and May 2007, the Strategic Petroleum Reserve received the final 1.7 million barrels of oil to be repaid following the September and October 2005 Hurricane Katrina emergency exchange.

The contracts to exchange a total of 9.8 million barrels were originally executed at the request of six companies whose scheduled deliveries of crude oil had been interrupted due to Hurricane Katrina.

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

The deferred 1.7 million barrels of crude oil were returned to the Bayou Choctaw site in April and May 2007.

Table 3
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

MMB = Million Barrels MB/D = Thousands of Barrels per Day
1 Fill rates adjusted for oil sales
2 Fill suspended during this period
3 Decrease due to Maya exchange
4. Net decrease due to Exchange 2000
5 Net Hurricane Ivan deliveries and receipts
6 Net Hurricane Ivan receipts & Katrina deliveries and receipts
7 Net Hurricane Katrina exchange and drawdown sales

Table 4
Crude Oil Receipts through December 2007*
(Million Barrels)

Source Country	2007	Cumulative	Percent of Total (%)
Mexico		265.7	32.5
United Kingdom		192.9	23.6
United States**	1.7	97.4	12.0
Saudi Arabia		28.3	3.5
Libya		27.5	3.4
Venezuela	1.1	25.3	3.1
Angola	1.7	24.1	2.9
Iran		20.0	2.5
United Arab Emirates	1.0	19.3	2.4
Nigeria		16.3	2.0
Equatorial Guinea		15.1	1.8
Norway		14.0	1.7
Russia	0.5	13.2	1.6
Cameroon	0.5	12.6	1.5
Oman	1.9	10.9	1.3
Algeria		9.3	1.1
Egypt		8.9	1.1
Ecuador		6.2	0.8
Iraq		3.4	0.4
Gabon		2.4	0.3
Qatar		2.3	0.3
Columbia		1.2	0.1
Peru		0.4	≤0.1
Argentina		0.4	≤0.1
Ivory Coast		0.4	≤0.1
Total***	8.3	817.6	100.0

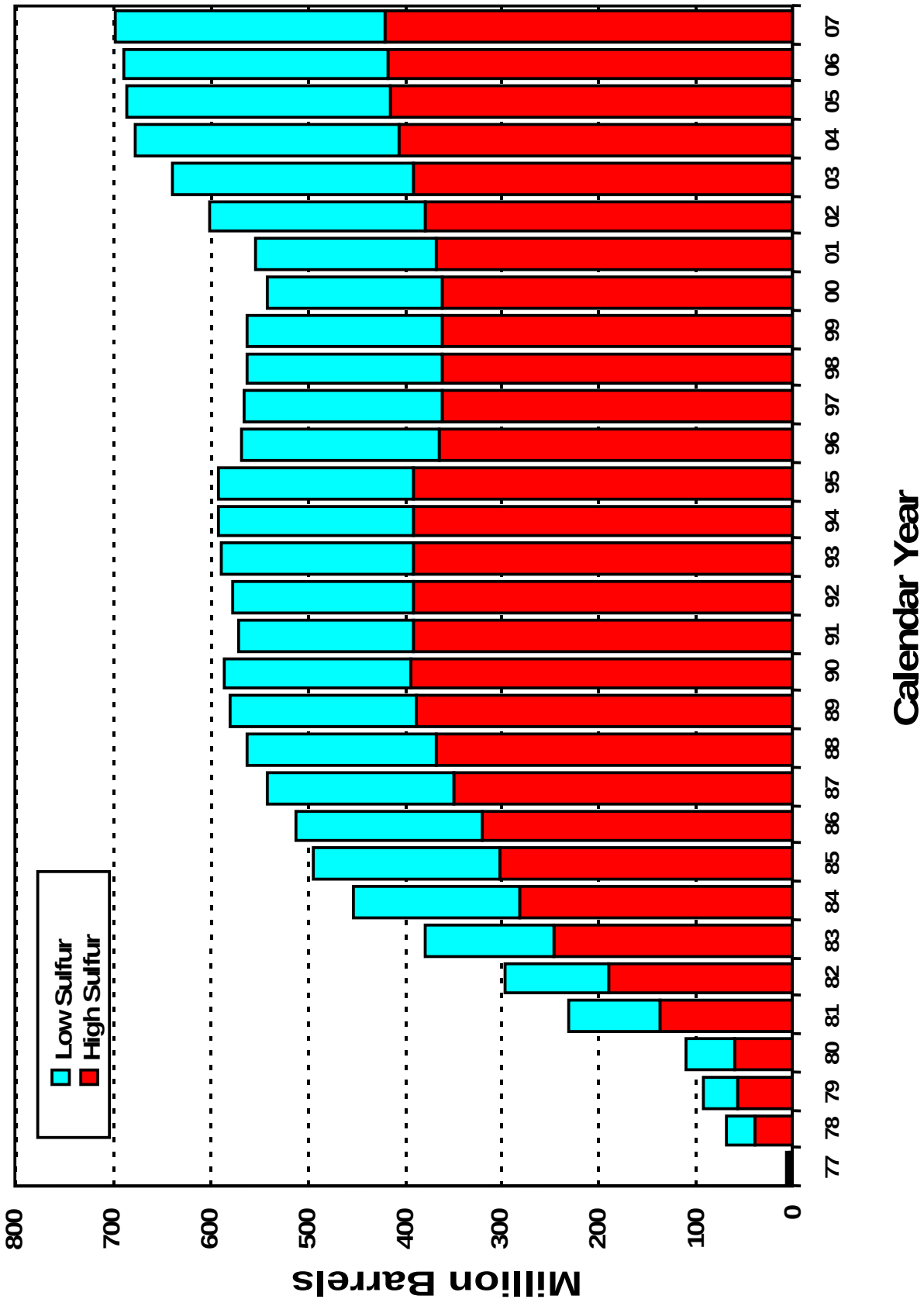
* Cumulative total receipts unadjusted for sales and operational gains and losses.
** Included receipts from offshore Gulf of Mexico.
*** Totals do not add due to rounding.

Table 5
Crude Oil Inventory as of December 31, 2007
(Million Barrels)

Storage Site	Inventory			Cubic Meters (Millions)
	Sweet*	Sour**	Total***	
Bryan Mound, Brazoria County, Texas	73.5	161.5	235.1	37.5
Big Hill, Jefferson County, Texas	71.3	97.4	168.7	26.8
West Hackberry, Cameron Parish, Louisiana	110.7	108.0	218.7	34.9
Bayou Choctaw, Iberville Parish, Louisiana	21.3	51.8	73.1	11.7
Subtotal Underground Inventory	276.8	418.8	695.6	110.6
Tanks and Pipelines	0.6	0.8	1.4	0.2
Total Inventory	277.4	419.5	696.9	110.8
Total Accounts Receivable	0.0	0.0	0.0	0.0
Total SPR Book Inventory	277.4	419.5	696.9	110.8

* Sulfur content not exceeding 0.5 percent
** Sulfur content greater than 0.5 percent
*** Totals do not add due to rounding

Figure 3
Cumulative Oil Fill



Oil Acquisition Market Assessments

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

In 2007, consistent with the EPAct 2005 direction to expand and fill the Strategic Petroleum Reserve to its authorized one billion barrel capacity, DOE sought to resume activities to acquire crude oil to fill the Strategic Petroleum Reserve to its current capacity of 727 million barrels. The intended acquisition activities included open market purchases and the resumption of the RIK exchange program with the Department of the Interior (DOI). As prescribed by the rule, DOE made the necessary assessments of the potential impact of these acquisition activities and concluded that they would not exacerbate market conditions. Accordingly, plans were initiated to proceed with both initiatives.

Open Market Purchase

DOE planned to replace the 11 million barrels of oil sold after Hurricane Katrina through a series of competitive solicitations to fill at a rate of approximately 100,000 barrels per day during the months of May, June and July. The Department sought to expend the $584 million in available balances from the emergency sale of oil in response to Hurricane Katrina to acquire the maximum amount of oil meeting the Strategic Petroleum Reserve's requirements at fair market value.

The first solicitation was issued on March 16, 2007, for the purchase of a total of four million barrels of domestic or foreign crude oil – two million barrels of sweet crude oil for the West Hackberry site and two million barrels of sour crude oil for the Bryan Mound site. Offers were received and evaluated on April 3, 2007, but no awards were made as all offers exceeded the Government's estimate of fair market value.

A second solicitation for the same requirement was issued on April 18, 2007, with offers due on May 1, 2007. Again, the offers received exceeded the Government's estimate of fair market value. Subsequently, the Department announced it was suspending further direct purchase solicitations until at least the end of the 2007 summer driving season.

Royalty-in-Kind Crude Oil Transfers

The RIK transfer program resumed in May 2007, pursuant to the EPAct 2005 direction to fill and consistent with the conclusions of the market assessment conducted in accordance with the published acquisition procedures.

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

Initially, the RIK exchange program provided barrels to replace 28 million barrels sold in the years 1996-1997. On November 13, 2001, President Bush announced his intent to fill the Strategic Petroleum Reserve to 700 million barrels primarily through the offshore RIK transfer program.

Under the Administration's initiative, the rate of royalty transfer began in April 2002 and continued until completed in July 2005. Exchange oil delivery to the Strategic Petroleum Reserve was completed August 27, 2005, when a total of 108.9 million barrels had been delivered and the Strategic Petroleum Reserve inventory reached 700.7 million barrels.

On April 12, 2007, to resume the RIK transfer program pursuant to the EPAct 2005 direction, DOE issued a solicitation for the transfer of approximately 48,000 barrels per day of royalty oil in exchange for deliveries to two Strategic Petroleum Reserve sites. One contract for the entire quantity was awarded on May 9, 2007. Transfer of royalty oil began July 1, 2007 for a period of six months. Deliveries to the Strategic Petroleum Reserve began in August 2007 and by December 31, 2007, 6.7 million barrels had been received. An additional 1.4 million barrels will be delivered in 2008 under this contract.

Following an updated market assessment conducted in September 2007, a second competitive RIK exchange solicitation was issued on October 10, 2007, for the transfer of approximately 68,000 barrels per day for six months starting January 1, 2008. Contracts were awarded to three companies November 6 and 7, 2007.

From 1999 through 2007, the Strategic Petroleum Reserve has acquired a total of 145.5 million barrels of crude oil through the RIK program.

EMERGENCY RESPONSE CAPABILITIES

Sale of Oil

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

Competitive Sales Procedures

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

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

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

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

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

1. 10 CFR Part 625 (48 FR 56538, 12/21/83).
2. Standard Sales Provisions (70 FR 39364, 7/7/05).

Drawdown Capabilities

The crude oil acquired for the Strategic Petroleum Reserve is commingled in caverns at the storage sites, creating various distinct crude oil streams available for release. Table 6 identifies these crude oil streams, delivery modes and locations, as of December 31, 2007.

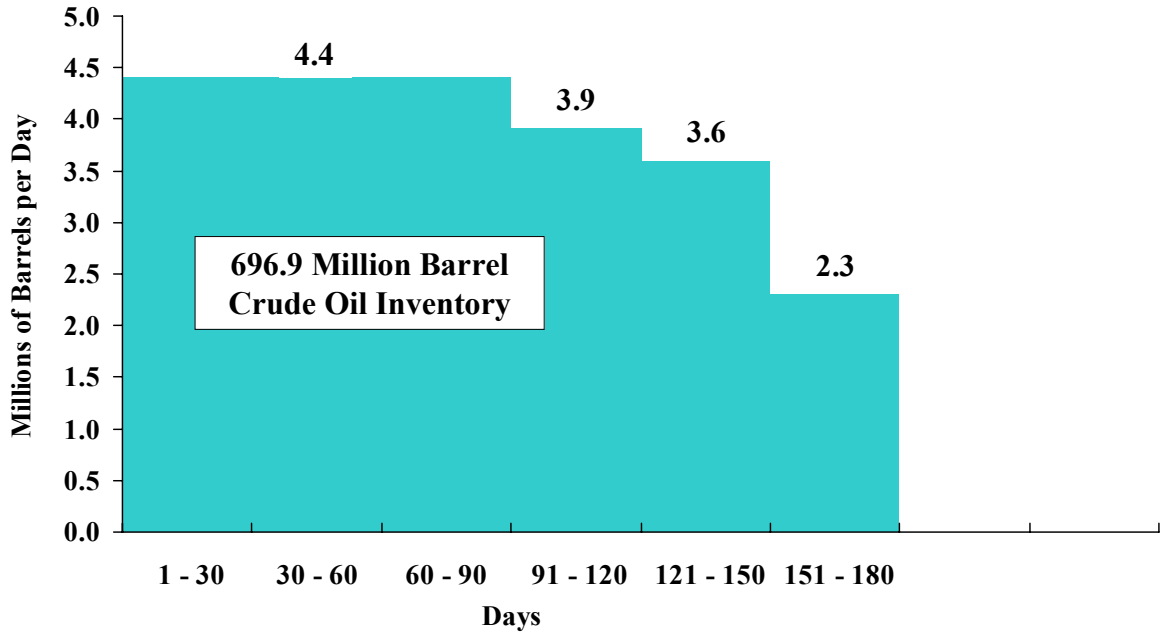
Table 6
Crude Oil Streams

Crude Oil Stream	Gravity (°API)	Sulfur Content (Mass%)	Delivery Mode and Location
Seaway System			
Bryan Mound (Sweet)	36.4	0.37	Pipeline or tankship at Seaway (TEPPCO) Terminal, Freeport, Texas; or Seaway (TEPPCO) Terminal, Texas City, Texas
Bryan Mound (Sour)	33.3	1.43	
Texoma System			
West Hackberry(Sweet)	36.9	0.32	Pipeline, tankship or barge at Sun Partners Marketing & Terminals LP, Nederland, Texas; Pipeline at Shell-22"/DOE connection, Lake Charles, Louisiana
West Hackberry (Sour)	33.5	1.41	
Big Hill (Sweet)	35.4	0.41	Pipeline, tankship or barge at Sun Partners Marketing & Terminals LP, Nederland, Texas; Pipeline or tankship at Unocal Terminal Nederland, Texas; Pipeline at Shell-20"/DOE connection, Winnie, Texas
Big Hill (Sour)	30.7	1.46	
Capline System			
Bayou Choctaw(Sweet)	36.8	0.40	Pipeline at Capline or LOCAP Terminals, St. James, Louisiana; Tankship at Sugarland St. James Terminal, St. James, Louisiana 24-inch site connection to Red Stick Pipeline, Iberville Parish, Louisiana
Bayou Choctaw (Sour)	32.4	1.46	

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

Figure 4 illustrates the physical drawdown capability which provides for a maximum distribution of 396 million barrels in 90 days, and 688 million barrels in 180 days. The initial sustainable rate is at the system design maximum.

Figure 4
Projected Maximum Drawdown Capability
(As of December 31, 2007)



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 2007 included:

- The Personal Readiness Is Drawdown Excellence (PRIDE) 6 drawdown readiness exercise was conducted on February 27, 2007, to review the process by which the state of Hawaii, or its designated eligible entity, may submit a "binding offer", in accordance with section 161(j) of the EPCA, to purchase crude oil during a drawdown of the Strategic Petroleum Reserve. The exercise was conducted concurrently in New Orleans, LA, and Honolulu, HI.

- The Drawdown Readiness Review (DDR) program requires and monitors quarterly drawdown readiness. The DDR conducted four reviews during 2007 which confirmed that all sites and systems were prepared for a crude oil exchange or drawdown of the Strategic Petroleum Reserve.

- The Strategic Petroleum Reserve conducted a biennial EAGLE exercise, EAGLE IV. The exercise consisted of 24 days of exercise play broken into three two-week segments, which began on July 17 and ended on September 7. Participants included the Program Office, the Project Management Office, the Department of Defense and industry partners. The comprehensive exercise tested all phases of the drawdown process as contained in the *Drawdown Implementation Manual*. Additionally, augmentees were cross trained to assume additional responsibilities and the adequacy of computerized drawdown tools was assessed.

- The Systems Test Exercise (STE) program determines the drawdown readiness of a Strategic Petroleum Reserve site's equipment, procedures, systems, personnel, and collects data to further ensure a readiness status.

  A Bryan Mound STE was conducted on May 23-24, 2007, to pump crude oil from a site storage tank to the Seaway Jones Creek Tank Farm via the Seaway Freeport Dock. A target rate of 480 thousand barrels per day was successfully achieved and maintained.

  A Bayou Choctaw STE was conducted on September 12, 2007 from an alternate operating location. Crude oil was drawdown into the RedStick Pipeline and onto the Sugarland Terminal. The target rate of 22,583 barrels per hour for both water and oil was achieved.

Distribution Plan and Capabilities

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

In addition, the Strategic Petroleum Reserve is connected by commercial pipeline systems to more than half of the refining capacity in the United States and is capable of delivering crude oil to 22 refineries in the Gulf Coast region and to 26 refineries in the mid-continent and Midwest regions. These 48 refineries processed approximately 56 percent of crude oil imports to the United States during 2007.

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

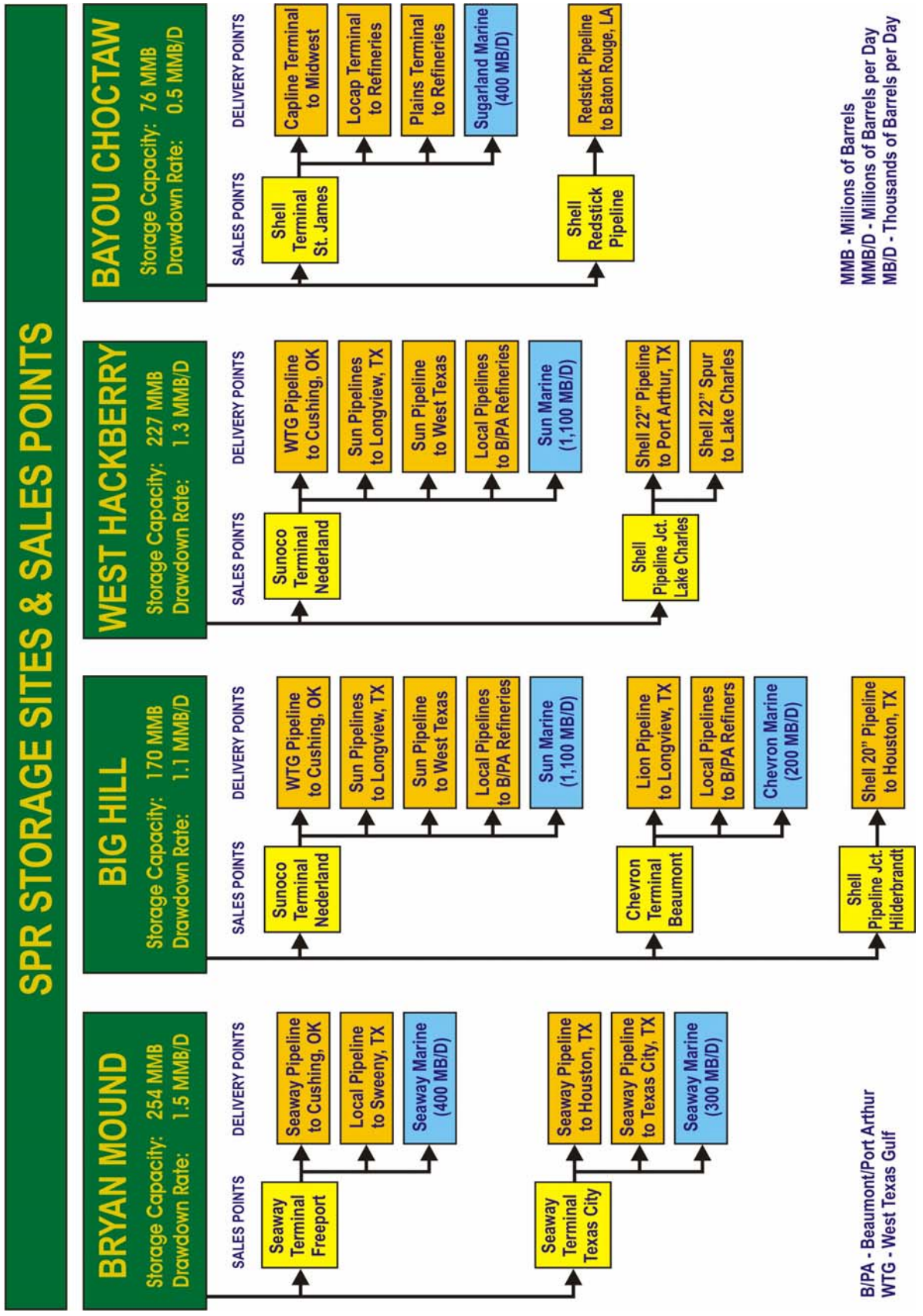
Table 7 summarizes drawdown and distribution capabilities, based on current crude oil stream inventories, existing site drawdown systems, and commercial distribution capabilities.

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

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

	Drawdown	Distribution
Seaway System	**1,500**	**2,408**
Texoma System	**2,400**	**3,118**
Capline System	**515**	**1,381**
Total	**4,415**	**6,907**

Figure 5
Pipeline and Marine Distribution Capabilities



Distribution Assessment

An annual assessment is conducted of the Strategic Petroleum Reserve's crude oil distribution system capabilities to ensure that there are adequate connections to the commercial distribution systems and to identify the need for any remedial plans. The 2007 assessment evaluated the Strategic Petroleum Reserve's capability, at its maximum drawdown rate, to replace oil imported in 2006, 2010, 2015 and 2025. Future U.S. petroleum refining demands are based on forecasts made in the Energy Information Administration's *Annual Energy Outlook, 2007.*

The 2006 base year analysis utilized the full year of refinery data and offshore production which still reflected impacts of Hurricane Katrina.

The assessment took into account changes made to commercial pipeline distribution systems and modifications to their infrastructure. A Canadian company, Enbridge Pipeline Co., purchased Spearhead Pipeline (Cushing to Chicago), and reversed the flow direction in 2006 to transport Canadian crude to Cushing, Oklahoma. Enbridge also announced the planned construction of a new crude oil line from Superior Terminal (Canada) to the Wood River Terminal in Illinois. When this line is completed, the volume deliverable to refineries in the Midwest, and possibly, further south, will increase. The most significant potential pipeline proposed is the ALTEX system from Alberta, Canada to Texas. This system would deliver crude to Houston/Beaumont at 450 thousand barrels per day, which would represent a significant investment for the long distance required to transport crude from Canada.

Other companies have announced potential plans to transport Canadian oil sands crude to the U.S. For example, TransCanada's Keystone project proposes to convert a gas line to crude and extend the pipeline into the Midwest. This project is scheduled to be completed in 2009 and have a capacity of 435,000 barrels of oil per day. Other projects have potential completion dates of 2010 to 2015, when oil sand production is projected to increase to over four million barrels of oil per day.

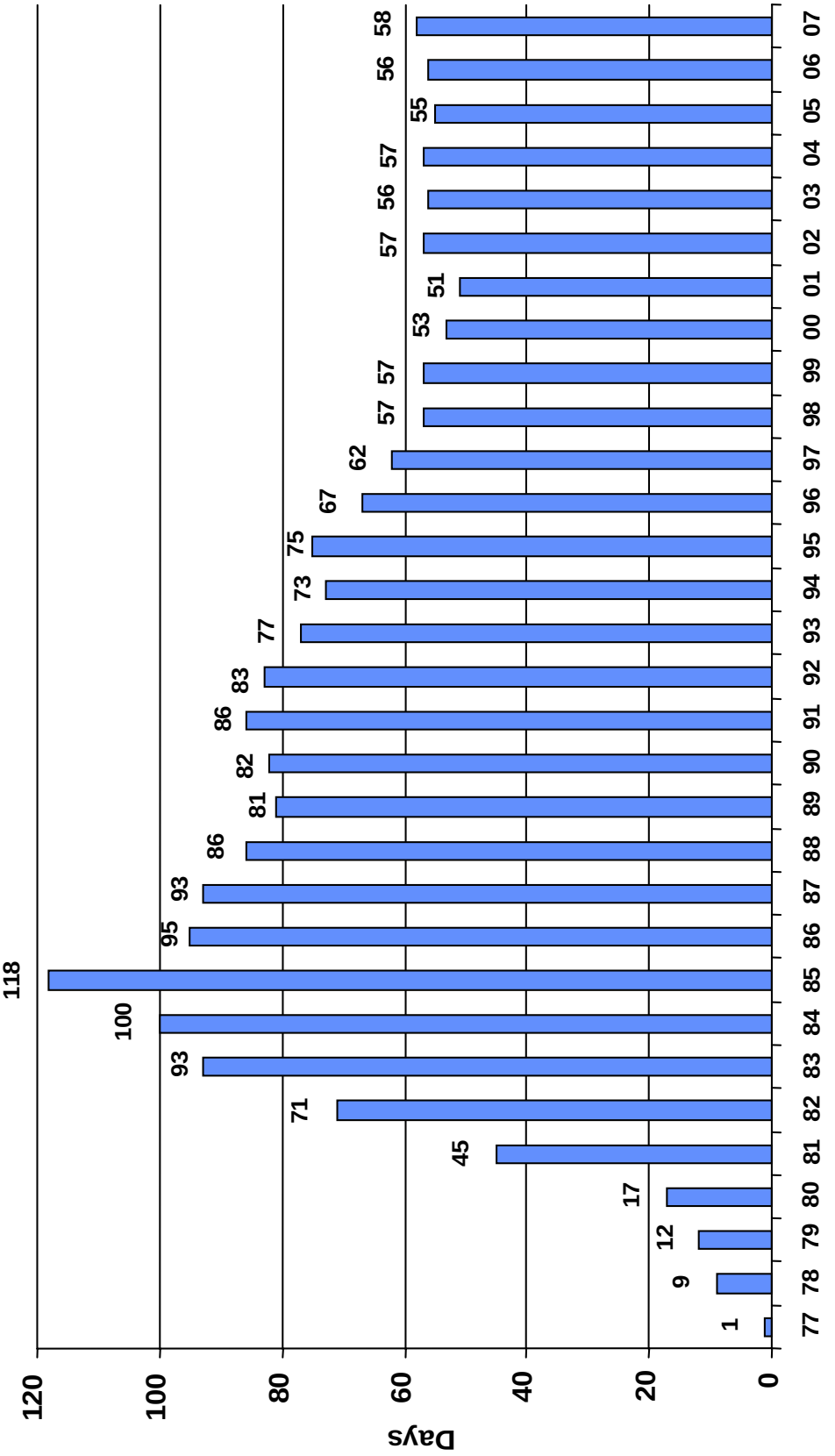
The 2007 assessment confirms that the Strategic Petroleum Reserve has sufficient offsite distribution capabilities (defined as 120 percent of the maximum drawdown rate) to achieve current drawdown targets.

The assessment forecasts for 2010, 2015 and 2025 are being evaluated with a revised modeling program. The Energy Policy Act 2007, which requires carbon dioxide tariffs on the energy production and refining industry, may impact future projections.

Import Protection Levels

EPCA, as it originally was enacted in 1975, called for the Strategic Petroleum Reserve to store the amount of oil equivalent to about three months of oil imports – which at that time equated to about 500 million barrels. This statutory requirement was repealed by the Energy Act of 2000 (Public Law 106-469, 11/9/2000). Figure 6 shows the Strategic Petroleum Reserve inventory of 696.9 million barrels on December 31, 2007, which amounted to 58 days of net import protection (crude oil and refined products).

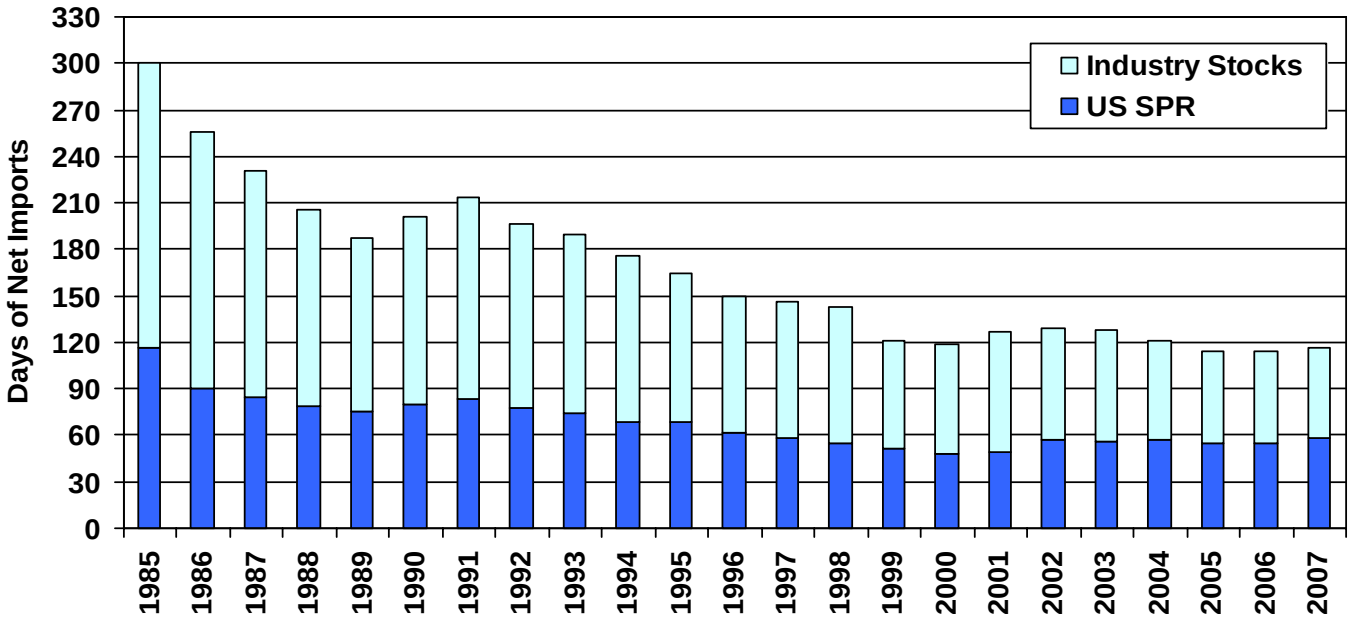
Figure 6
Strategic Petroleum Reserve Days of Net Import Protection (1977-2007)*



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

The United States, as a member of the International Energy Agency, is committed to maintaining stocks of crude oil and products in reserves that are equivalent to ninety days of net oil imports. Computations of member-nations' stockpile requirements are based on both public and privately held stocks, and net imports are defined as the average daily level in the previous year. The most recent International Energy Agency computation credits the United States with 116 days of emergency reserves, based on both the Strategic Petroleum Reserve and privately held stocks. Figure 7 provides end-of-year computations for the United States through 2007.

Figure 7
International Energy Program
U.S. Emergency Stocks



COMMERCIALIZATION ACTIVITIES

Commercial Leases

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

Bayou Choctaw Pipeline: In 2007, lease revenues totaled $218,912 primarily due to the increased movements on this pipeline from Hurricane Katrina exchange return oil receipts. This pipeline was leased to Shell Pipeline Company LP on May 1, 1997, on a revenue-sharing basis. In 1998, the lease was converted from an annual lease to a ten-year lease. The Strategic Petroleum Reserve and Shell have mutually agreed to extend the current lease until December 31, 2008, a period of nine months beyond the original expiration date. All future extensions will now be on a calendar year basis.

Bryan Mound Pipelines: In 2007, lease revenues totaled $1,128,340. Two of the three Bryan Mound pipelines were leased to ExxonMobil Pipeline Company on January 14, 1999. ExxonMobil began using the pipelines in June 2000, as part of its onshore distribution system for the Diana-Hoover production in the Gulf of Mexico.

St. James Terminal: In 2007, St. James Terminal lease revenues amounted to $1,700,000. The terminal was leased to Shell Pipeline Corporation (now Equilion Enterprises LLC, dba Shell Oil Products US) on January 31, 1997, on a revenue-sharing basis. On April 2, 2003, the contract was re-negotiated for a period of ten years in the amount of $1.7 million per year, with a five-year option in the amount of $2 million per year. Payments were retroactive to January 1, 2003.

Foreign Oil Storage

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

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

The Strategic Petroleum Reserve did not enter into any commercial or foreign storage initiatives during 2007.

Commercialization Revenues

During calendar year 2007, receipts to the U.S. Treasury were $3,047,252 from the commercial leases of the Strategic Petroleum Reserve's distribution facilities and pipelines. Table 8 summarizes commercialization revenues from 1996 to 2007.

Table 8
Summary of Commercialization Revenues
(December 31, 2007)

Calendar Year	Bryan Mound Pipeline	Big Hill Pipeline	Bayou Choctaw Pipeline	St. James Terminal Lease	Total Revenue Generated
1996	102,606	472,809			575,415
1997		429,824	0	133,300	563,124
1998	12,500	402,525	0	481,010	896,035
1999	679,393	400,000	163,030	546,125	1,788,548
2000	652,146	493,359	217,573	748,986	2,112,064
2001	1,054,297	33,104	212,738	1,227,021	2,527,160
2002	1,468,613	0	249,708	1,285,183	3,003,504
2003	1,647,828	0	168,718	1,863,060	3,679,606
2004	1,546,121	0	174,338	1,700,000	3,420,459
2005	1,132,668	0	730,542	1,700,000	3,563,210
2006	1,091,799	0	337,949	1,700,000	3,129,748
2007	1,128,340	0	218,912	1,700,000	3,047,252

BUDGET AND FINANCE

After a series of short-term continuing resolutions to fund Fiscal Year 2007 programs, the Revised Continuing Appropriations Resolution, 2007 (Public Law 110-5) was enacted on February 15, 2007. Appropriations were established at 2006 levels plus a small escalation adjustment for employee pay and benefits. The final budget authority for the Strategic Petroleum Reserve was $164,441,000.

Appropriations through Fiscal Year 2007

A total amount of $22.5 billion, net of sales and transfers, has been appropriated for the Strategic Petroleum Reserve through fiscal year 2007. Included in this total is the distribution of annual and cumulative appropriations described in Table 9.

Strategic Petroleum Reserve Account

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

Obligations for the Strategic Petroleum Reserve in fiscal year 2007 totaled approximately $168.7 million. From this amount, $16.7 million was obligated for Federal program management and $152 million was obligated for contractual goods and services to operate and maintain the Strategic Petroleum Reserve.

SPR Petroleum Account

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

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

For fiscal year 2007, the capitalized cost of the crude oil in the Strategic Petroleum Reserve was $19.3 billion, for an average cost per barrel of approximately $27.91 (excluding storage costs). Since April 1999 barrels received from contracts awarded in exchange for royalty oil from DOI total $145.5 million. The value of crude oil received from the RIK program in fiscal year 2007, was $164 million.

The value of the RIK transferred from DOI to DOE by fiscal year is shown in Table 10.

Table 9
Annual Appropriations ($000) for Storage Facilities Operations and Management and Petroleum Acquisition and Transportation as of December 31, 2007

Fiscal Year	Oil Account	Facilities	Management	Total	Defense SPR
1976	0	300,000	13,975	313,975	
1977	440,000	0	7,824	447,824	
1978	2,703,469	463,933	14,704	3,182,106	
Total 1979 Appropriations*	2,356,456	632,504	18,111	3,007,071	
Total 1980 Appropriations*	(2,022,272)	0	22,272	(2,000,000)	
Total 1981 Appropriations*	3,205,094	108,168	19,391	3,332,653	
Total 1982 Appropriations*	3,679,700	175,656	20,076	3,875,432	
1983	2,074,060	222,528	19,590	2,316,178	
1984	650,000	142,357	16,413	808,770	
1985	2,049,550	441,300	17,890	2,508,740	
Total 1986*	(12,964)	106,979	13,518	107,533	
1987	0	134,021	13,412	147,433	
1988	438,744	151,886	12,276	602,906	
1989	242,000	160,021	13,400	415,421	
1990	371,916	179,530	12,953	564,399	
1991	566,318	187,728	12,846	766,892	
1992	88,413	171,678	13,384	273,475	
1993	(125,625)	161,940	14,227	50,542	
DOD Transfer (non add)	124,925	700	0	125,625	125,625
1994	0	191,035	15,775	206,810	
1995	(107,764)	226,938	16,780	135,954	
1996 transfer from SPR Petroleum Account	(187,000)	170,173	16,827	0	
1996 Weeks Island Oil Sale	(97,114)	97,114	0		
1996 deficit reduction oil sale	(227,000)	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	

*** Includes reprogramming and rescission actions.**
Note: Fiscal year 1991 SPR Petroleum Account of $566,318 includes proceeds of $122,681 from the Test Sale recorded as additional budget authority, rather than reductions to obligations, costs, and outlays. It also includes $315,424,985 in Desert Storm Drawdown proceeds from January 1991, and $19,755,064 from fiscal year 1991 Naval Petroleum Reserve excess receipts. Thus, the cumulative budget authority is "gross" and not related directly to the inventory of oil on hand.
**** Includes the return of $43,000,000 from the SPR Petroleum Account**

Table 10
Value of Royalty-in-Kind Transferred by the Department of the Interior

Fiscal Year	Royalty-in-Kind Transfer Total Barrels (Source: Department of Energy)	Department of the Interior Forgone Receipts - ($000) (Source: Department of Interior)
1999	11,928,981	*
2000	15,105,558	560,521
2001	1,568,220	61,654
2002	10,575,379	262,752
2003	34,742,046	1,044,350
2004	35,506,135	1,191,284
2005	25,185,527	1,194,618
2006	0	0
2007**	8,742,829	306,191
Total	143,354,675	4,621,370

* Department of Interior data not available
** Net figures that include Department of Interior preliminary volumes and adjustments to prior years.

Performance Measurement

In fiscal year 2007, the Strategic Petroleum Reserve tracked 20 measures in Program Reviews that are considered indicative of how the strategic goals and objectives of the Strategic Petroleum Reserve will be pursued. They are consistent with the Strategic Petroleum Reserve Strategic Plan, which provides a framework for implementing the program's mission by setting a course for the program and guiding decisions about the effective use of resources. Eighteen of the 20 measured targets were either exceeded or met during this period.

The financial measure of "Operating Cost per Barrel of Storage Capacity" was $.188 versus a target of $.203. 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.

One measure not met was "Measure Progress Against the Departments 45-Day Hiring Model". The performance at year end was that 11 of 12 processing times were at or below 45 days through the 4th quarter. This resulted in a status of 92% vs. a target of $\geq$ 95% at year end.

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

In fiscal year 2007, the critical few performance measures were again incorporated into the *Strategic Petroleum Reserve Annual Operating Plan* as required by DOE.

Table 11
Performance Measures

Performance Measures	FY 2006 Actual Performance	FY 2007 Target Output	FY 2007 Actual Performance
Public Confidence: Oil Inventory, Drawdown Readiness and Distribution			
Number of Barrels of Crude Oil Inventory in Storage	687.8 MMB	690.3 MMB	692.8 MMB
90-Day Sustainable Drawdown Rate	4.40 MMB/Day	4.40 MMB/Day	4.40 MMB/Day
Number of Days to Commence Crude Oil Drawdown	13 Days	13 Days	13 Days
Distribution Capability as a Percentage of Drawdown Rate	169%	≥ 120% of Drawdown Rate	156%
Calculated Site Availability	97.75%	≥ 95%	97.75%
Calculated Maintenance Performance Appraisal Report Rating	98.25%	≥ 95% of Possible Points	98.2%
Percent of Site Security Ratings that are Satisfactory	100%	N/A	N/A
Number of Barrels of Heating Oil Inventory in Storage	2.0 MMB	2.0 MMB	1.965 MMB
Number of Days to Complete Heating Oil Drawdown	12 Days	12 Days	12 Days
Number of Barrels of Crude Oil Processed	43.44MMB	N/A	N/A
Excellent Customer Service: Customer Knowledge and Focus			
Percentage of Key Customers Visited	42%	33%	54%
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	$.186 per barrel	≤ $0.203	$.188 per barrel
Dynamic Teamwork: Continuous Improvement			
ISO 9001-2000 Certification	02/15/06	03/31/07	11/06/06
Effective Partnerships			
Number of Partnership Arrangements with Federal, State, and Local Agencies	39	25	35
Social Responsibility and Citizenship: Local Community Support/Environment, Safety and Health			
Annual -Evaluation of OSHA VPP Star Status at Four Sites	2/15/06	2/15/07	2/14/07
Number of Cited Environmental Violations Received	0	0	0
Number of Days with No Reportable/Recordable Spills	364 Days	≥ 355 Days	365 Days
Annual ISO 14001 Certification	4/06/06	5/31/07	4/26/07
Employee Development and Diversity: Employee Development and Quality of Worklife			
Measure Progress Against the Departments 45-Day Hiring Model	N/A	≥ 95%	92%

MMB = Million Barrels
N/A = Not Applicable

OTHER ACTIVITIES

Security and Emergency Operations

The Strategic Petroleum Reserve strengthened the level of protection for crude oil assets, resources, sensitive information, and personnel. This was achieved through aggressive identification of improvements and execution of corrective action plans that supports the Strategic Petroleum Reserve's protection strategy.

The Strategic Petroleum Reserve processed over 300 Personal Identity Verification background checks and designed a physical access control system that provides the infrastructure for implementation of Homeland Security Presidential Directive 12, which is scheduled to be completed over the next four years.

DOE's Health, Safety, and Security, Office of Independent Oversight conducted an inspection of the Strategic Petroleum Reserve's cyber and security programs. This inspection provided valuable criteria that will enhance the Site Security Plan's economic consequence analysis.

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

The Strategic Petroleum Reserve validated the Continuity of Operations Plan in response to a pandemic event. It instituted and used tele-working for mission essential staff and carried out response and recovery actions required to deal with a real world event. The exercise was enhanced as decision makers were faced with the aftermath of fictional Hurricane Humberto.

Emergency Command Vehicle

The Strategic Petroleum Reserve's Emergency Command Vehicle (ECV) serves as a mobile command post for the Emergency Management Team during real-world and exercise emergencies or incidents. The ECV is integrated with the DOE Emergency Communications Network that ensures connectivity with each site, the Headquarters Program Office, and DOE Emergency Management. The ECV was successfully deployed to West Hackberry to support command and control activities with the 24-hour, overnight, annual National Preparedness for Response Exercise Program exercise. The Strategic Petroleum Reserve intends to deploy the ECV to one site per year to familiarize site personnel with the capabilities of the ECV.

Environment, Safety, and Health

The Strategic Petroleum Reserve is accountable to the public for the safe delivery of crude oil during a national energy emergency and is a good steward of the environment. During 2007, the Strategic Petroleum Reserve completed the two following major National environmental Policy Act compliance activities:

- A total of 70 Categorical Exclusions were prepared for projects on the Strategic Petroleum Reserve.
- Completion of the environmental analysis and site selection process for expansion of the Strategic Petroleum Reserve through a ROD signed by the Secretary of Energy on February 14, 2007.

This document identified Richton, Mississippi as the preferred alternative for construction of a new site and expansion of the Bayou Choctaw and Big Hill sites.

Vapor Pressure Mitigation

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

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

During 2007, the degasification program continued its operation using a modular degasification plant that can be disassembled and moved from site to site.

In late 2006, the degas plant was shut down at Big Hill and prepared for movement to the Bryan Mound site. The plant was disassembled, refurbished, transported, and reassembled at Bryan Mound during 2007. On September 1, 2007, treatment of crude oil started at full rate with approximately 15 million barrels treated by year end. Ten caverns are scheduled for treatment at Bryan Mound through February 2011.

The degasification plant innovation produces tremendous lifecycle benefits to the environment. For each pound of emissions this innovation generates over its lifecycle, 1,900 pounds of emissions could be avoided in a single future drawdown, with 97 percent of that benefit extending directly to the customer.

The Strategic Petroleum Reserve has assigned a Designated Energy Official (DEO) to oversee compliance with Presidential Executive Order 13423 (E.O. 13423), Strengthening Federal Environmental, Transportation and Energy Management.

The DEO has created a Transformational Energy Action Management Implementation Committee of federal and contractor subject matter experts to identify gaps and recommend projects to attain compliance with E.O. 13423.

Environmental Improvement Measures

During 2007, the Bryan Mound and Big Hill sites succeeded in reconfiguring the cavern work-over process in a manner that greatly reduces the unregulated emissions from this maintenance activity. The new configuration using floating roof tanks reduced 2007 work-over emissions by about 69 tons.

Through its leadership role in the National Environmental Performance Track Program, the Strategic Petroleum Reserve served as host and chair to the 2007 National Environmental Partnership Summit in New Orleans.

Some 70 volunteers participated their time to the 2007 Strategic Petroleum Reserve-sponsored Beach Sweep activity in the New Orleans area. Employees, their families, and concerned citizens contributed time and effort by cleaning debris at various locations around Lake Pontchartrain.

In 2007, the Bayou Choctaw site set aside an additional acre for a wildlife feed plot, increasing to eight acres the total area set aside for habitat enhancement. Big Hill initiated its set

aside with two acres, Bryan Mound added five acres bringing the site's total to 45, and West Hackberry added 5.7 acres, totaling 37.7 acres. Plantings and installation of duck boxes added to the habitat enhancement.

Occupational Safety and Health Administration's Voluntary Protection Program

The Strategic Petroleum Reserve participates in OSHA's and DOE's VPP. OSHA and DOE perform an on-site reappraisal of their VPP sites every three years. All four sites maintained their Star status throughout 2007. West Hackberry and Bayou Choctaw will be recertified for the second time in the fall of 2008.

In 2007, OSHA Region VI awarded Bayou Choctaw a "Star of Excellence", West Hackberry a "Superstar" and Big Hill a "Star among Stars". These awards recognize accident rates that range from 50 percent to 90 percent below the average accident rates of their industry. The Managing and Operating contractor also received a special award for industry leadership in promoting DOE VPP.

The Strategic Petroleum Reserve VPP sites were featured in a film released by the Department of Labor entitled "Pathway to Excellence," which focused on the Strategic Petroleum Reserve's VPP participation. The film premiered at the national Voluntary Protection Programs Participants' Association conference and is used to share best practices nation-wide.

Accident Rates

In 2007, the Strategic Petroleum Reserve's Total Case Incident Case Rate was 1.08 cases per 200,000 worker hours, which met the goal of 1.25. However, The Days Away/Restricted/Transferred Incident Case Rate was 0.68 cases per 200,000 worker hours, which exceeded the Reserve's target goal of 0.50. The vehicle accident rate was 2.4 cases per 1,000,000 miles driven which met the Strategic Petroleum Reserve's target vehicle accident rate of less than 3.00.

Integrated Safety Management

The Strategic Petroleum Reserve completed its annual Integrated Safety Management (ISM) validation and documented performance in the ISM Annual Verification and Continuous Improvement Report which summarizes the results of all audits and assessments conducted during the fiscal year. The report provides senior management with qualitative and quantitative data verifying that ISM is performing effectively and is used to judge annual ISM performance. The Project Management Office issued their first ISM system description and annual validation letter in 2007. To date, the Strategic Petroleum Reserve is operating a successful ISM system with no significant systemic weaknesses and has generated and implemented several recommendations for continuous improvement, which are tracked to closure.

Annual Safety Summit

In August 2007, the Strategic Petroleum Reserve held its fourth annual Management Safety Summit to promote safety goals and focus senior management attention on safety-related issues. These included current safety statistics and how they are derived, a new accident reduction program for the security contractor, and a demonstration of the Safety Condition Assessment Team employee inspection program begun at Bryan Mound and replicated at the other sites, and other safety items.

Human Performance Improvement

Initial Human Performance Improvement (HPI) training was provided to the combined Strategic Petroleum Reserve Project Management Office and DynMcDermott senior staff in May 2006. Application of its principles should provide additional improvements in accident performance.

In 2007, the decision was made to implement HPI company-wide and an HPI Coordinator with a project management background was hired to oversee the implementation process.

Awards and Certifications

In addition to the previously mentioned awards, the Strategic Petroleum Reserve received the following awards and certifications for 2007:

- "Most Valuable Pollution Prevention Award for Greening the Strategic Petroleum Reserve Janitorial Services", presented by the National Pollution Prevention Roundtable.

- The year 2007 was the eighth year of participation for the ISO 14001 environmental management system's continuous third-party certification management and operations. All facilities were certified: Bayou Choctaw, Big Hill, Bryan Mound, West Hackberry, New Orleans and the Stennis, Mississippi warehouse building.

- As a charter member of the Environmental Protection Agency's (EPA) performance-track program, the Strategic Petroleum Reserve continued its commitment for its eighth continuous year for the Bayou Choctaw, Big Hill, Bryan Mound, New Orleans, and West Hackberry sites, beginning a third three-year cycle. In 2007, the Strategic Petroleum Reserve was one of only four recipients nation-wide of the EPA's prestigious National Environmental Performance Track Outreach Award.

- "Industry Leader Award" of the National Safety Council Occupational Excellence Achievement Award, presented to Bayou Choctaw and New Orleans.

- DOE VPP "Star of Excellence" for the Bayou Choctaw and West Hackberry sites and the DOE VPP "Superior Star" for the Big Hill and Bryan Mound sites.

- "Occupational Excellence Achievement Award for Recognition of Outstanding Efforts in Occupational Safety Performance", presented by the National Safety Council.

- "President's Award for Excellence in Administration for 2007", presented to DynMcDermott Petroleum Operations, Inc., the management and operating contractor, by Computer Sciences Corporation, its parent company.

Performance Excellence Conference

On October 9, 2007, the Strategic Petroleum Reserve held its biannual Performance Excellence Workshop in New Orleans. The theme of the conference was, "Team Challenges: In Virtual and Non-Virtual Environments." The workshop was a great success with 21 participants who provided a great deal of feedback on the topics discussed.

International Organization for Standardization 9001 Quality Management System

During 2007, the Strategic Petroleum Reserve continued its ISO 9001 certification that was earned after the Annual Surveillance Audit of October 2006 at the New Orleans, Stennis, Big Hill and West Hackberry facilities.

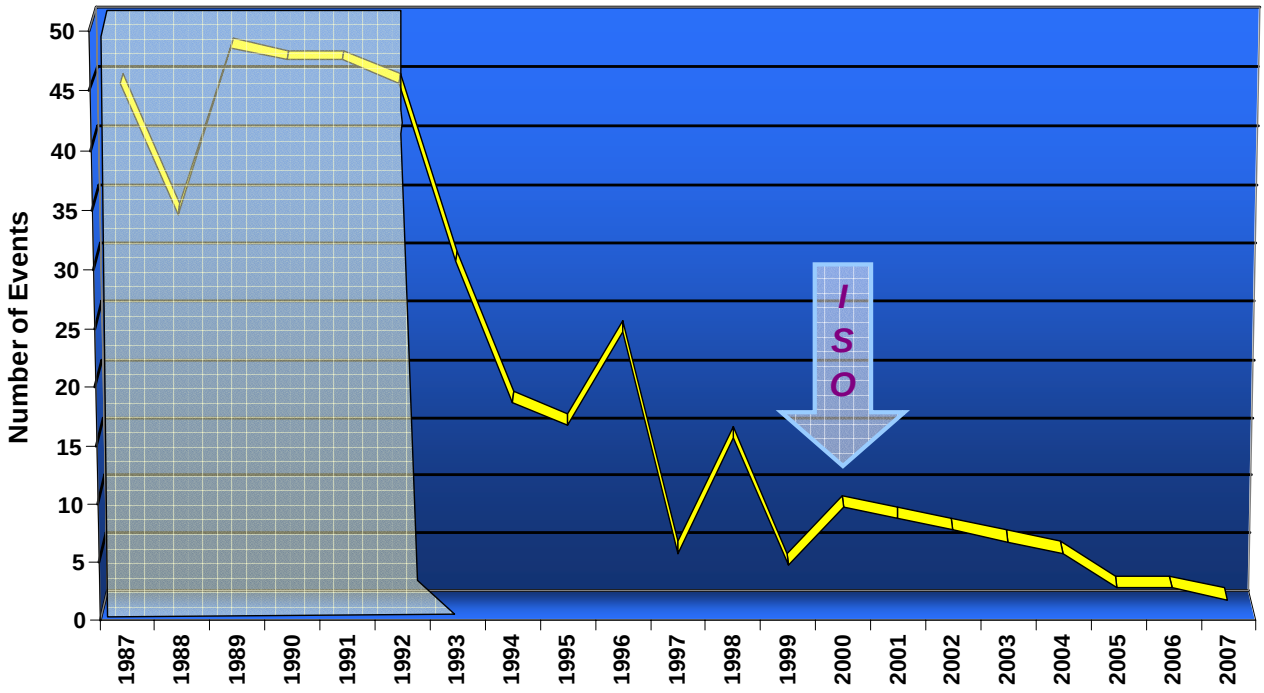
Integration of the International Organization for Standardization 14001 into the Environmental Management System

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

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

Figure 8 shows the Strategic Petroleum Reserve's performance for recordable environmental incidents for the years 1986-2007, and displays a downward trend.

Figure 8
Reportable Environmental Events



Pollution Prevention

Hazardous Waste

The Strategic Petroleum Reserve's goal for 2007 was to generate no more than 515 pounds of hazardous waste. Actual hazardous waste generated at all five sites amounted to 183 pounds; 86 percent was laboratory waste and the remaining 14 percent was spent fluorescent lamps.

Recycling

The Strategic Petroleum Reserve recycled 1,935,017 pounds of exploration and production (E&P) waste, which is 65 % of the total generated in 2007. The type of E&P waste generated included off-specification oil, brine silt wash water, oily wash water from Bryan Mound and anhydrites, soil, and slop oil from West Hackberry.

The 2007 overall recycling rate was 71 percent. This rate represents 991,589 pounds of non-E&P recycled waste (including paper and cardboard). There was only 400,061 pounds of sanitary waste significantly below the target ceiling of 1,000,000.

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

Customer Service

The customer service team met with over 19 refiners, traders, pipeline companies and other customers during the 2007 National Petrochemical and Refiners Association annual meeting in San Antonio, Texas during the third week of March. The meetings had two primary functions for the customer service team: to gather information on our customers and to update our customers on Strategic Petroleum Reserve activities. The team provided a briefing on the plans to expand to one billion barrels.

Each customer was asked to update their information on the point of contact list and to provide an update on their refinery expansion plans and any planned or actual changes to their crude oil inputs to their refineries.

Real Estate Actions

During 2007, the Strategic Petroleum Reserve:

- Successfully hosted the Annual Facilities Information Management System/Real Estate Workshop in New Orleans on June 5-7, 2007. Approximately 85 DOE and contractor personnel attended, including the Headquarters directors of Management & Administration and the Office of Engineering and Construction Management.

- Successfully acquired through the Corps of Engineers-Galveston, an access easement, by Judgment of Possession dated December 6, 2007, for access to a Big Hill valve station.

- Executed the LOCAP Right-of-Way Agreement on July 25, 2007, which allowed for the installation and maintenance of the DOE's 24-inch Stub Line on LOCAP's property. The installation is being done by Plains Marketing, LP on behalf of the Strategic Petroleum Reserve.

- Executed Modification M015 to Lease No. DE-RL96-97PO70010 on November 2, 2007. This modification revised Appendix A of the lease agreement to add language reflecting Shell Oil Products US's (SOPUS) agreement to the inclusion of the DOE installed and Plains Marketing

installed pipelines and connections, as integral parts of the St. James Terminal Facility, and in turn, as an integral part of the lease agreement. As a result, SOPUS agreed to operate and maintain these pipelines and connections.

- During 2007, the Strategic Petroleum Reserve attempted to sell the decommissioned Weeks Island Facility. Sole Source negotiations between General Services Administration (GSA) and Morton Salt did not produce an Offer-to-Purchase. Subsequently, on November 19, 2007, the Strategic Petroleum Reserve requested that GSA proceed to a public sale of the Weeks Island Facility. GSA issued an Invitation For Bids and began a mass advertising effort to the public on December 21, 2007, in order to identify prospective bidders for the property.

APPENDIX A
Strategic Petroleum Reserve Site Information

Bryan Mound

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

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

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

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

System Parameters

Drawdown Rate:	1,500,000 bbl/d
Raw Water Pumping Rate:	1,626,000 bbl/d
Oil Fill Rate:	225,000 bbl/d
Brine Disposal Rate:	260,000 bbl/d

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

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

West Hackberry

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

Site Description
230-million-barrel storage facility consisting of 22 caverns.

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

System Parameters

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

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

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

bbl/d = barrels per day

Big Hill

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

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

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

System Parameters

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

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

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

Bayou Choctaw

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

Site Description
73-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.

Sour = Medium sulfur crude (S<2.0%)
Sweet = Low sulfur crude (S<0.5%)

Printed with soy ink on recycled paper