U.S. DEPARTMENT OF ENERGY

Strategic Petroleum Reserve Test Sale 2014

Report to Congress
November 2014

United States Department of Energy
Washington, DC 20585

Message from the Secretary

Section 161 of the Energy Policy and Conservation Act (42 U.S.C. 6245), as amended, requires the Secretary of Energy to provide a detailed explanation of any test of the Strategic Petroleum Reserve drawdown and sales procedures. The Department of Energy carried out such a test starting in March 2014 with completion in July 2014.

This report is being provided to the President and the following Members of Congress:

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

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

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

- **The Honorable Richard C. Shelby**
  Ranking Member, Senate Committee on Appropriations

- **The Honorable Patty Murray**
  Chairman, Senate Committee on Budget

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

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

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

- **The Honorable Mary Landrieu**
  Chairwoman, Senate Committee on Energy and Natural Resources

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

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

- **The Honorable Nita M. Lowey**
  Ranking Member, House Committee on Appropriations

- **The Honorable Mike Simpson**
  Chairman, Subcommittee on Energy and Water Development
  House Committee on Appropriations

- **The Honorable Marcy Kaptur**
  Ranking Member, Subcommittee on Energy and Water Development
  House Committee on Appropriations

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

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

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

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

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

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

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

Sincerely,

Ernest J. Moniz

Executive Summary

The Energy Policy and Conservation Act (EPCA) requires the Secretary of Energy to conduct a continuing evaluation of the Strategic Petroleum Reserve (SPR) drawdown and sales procedures. In conducting an evaluation, "the Secretary is authorized to carry out a test drawdown and sale or exchange of petroleum products from the Reserve." Due to significant changes in domestic crude oil production, increased imports of Canadian crude oil, and changes to crude oil distribution infrastructure upon which the SPR relies, DOE determined that a test sale should be carried out to evaluate the drawdown and sales procedure capabilities of the Reserve in the TEXOMA distribution system, which has been most impacted by the changes. The timing of the test sale was chosen to occur immediately after the annual maintenance cycle at Gulf Coast refineries when crude oil stocks are being replenished in preparation for switchover to summer grade gasoline. This period in which refinery stocks build for increased refinery utilization was deemed to have the least impact on the domestic crude oil market.

On March 12, 2014, the Secretary authorized the test sale under Section 161(g) of EPCA. The statute limits test sales to a maximum of five million barrels, and this amount was authorized to ensure that all distribution mechanisms would be exercised. Section 161(g) also limits the price at which SPR crude may be sold to no less than 95% of the sales price, as estimated by the Secretary, of comparable crude being sold in the same area in the same timeframe.

The SPR issued a Notice of Sale on March 12, 2014, setting in motion the drawdown and sales process for the test sale. The Notice of Sale offered five million barrels of light sour crude from Big Hill and West Hackberry, the two SPR sites in the SPR TEXOMA distribution system. When the offering closed on March 14, 2014, the SPR had received 37 bids from 12 companies requesting a total of 18.5 million barrels of crude oil. On March 17, 2014, the SPR announced five companies as successful offerors, which were subsequently awarded contracts for five million barrels.

The SPR initiated crude oil deliveries on March 31, 2014 and completed the final delivery on May 16, 2014. The SPR scheduled 41 separate crude oil deliveries, delivered 4.62 million barrels (92.4%) by pipeline, and 380,000 barrels (7.6%) via marine transportation – on schedule, with no personnel accidents or environmental incidents. All pipeline and marine deliveries were to Gulf Coast refiners located in Texas and Louisiana.

The test sale was successful in evaluating the drawdown and sales procedures. The SPR identified lessons learned in both operational and procedural areas related to the drawdown and sale of crude oil. The lessons learned have been documented, and corrective actions are being implemented to optimize the Reserve's operational effectiveness.

Strategic Petroleum Reserve Test Sale 2014 Final Report

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I. Introduction and Legislative Language

Section 161(g) of the Energy Policy and Conservation Act (EPCA) requires the Secretary of Energy to conduct a continuing evaluation of the Strategic Petroleum Reserve (SPR) drawdown and sales procedures. In conducting an evaluation, "the Secretary is authorized to carry out a test drawdown and sale or exchange of petroleum products from the Reserve." Due to significant changes in domestic crude oil production, increased imports of Canadian crude oil, and changes to crude oil distribution infrastructure upon which the SPR relies, it was determined that a test sale should be carried out to evaluate the drawdown and sales procedure capabilities of the Reserve in the TEXOMA distribution system, which has been most impacted by the changes.

This report responds to legislative language set forth in the EPCA Section 161(g)(8), wherein it is stated:

> *… "The Secretary shall transmit to both Houses of the Congress a detailed explanation of the test carried out under this subsection. Such explanation may be a part of any report made to Congress under section 165."*

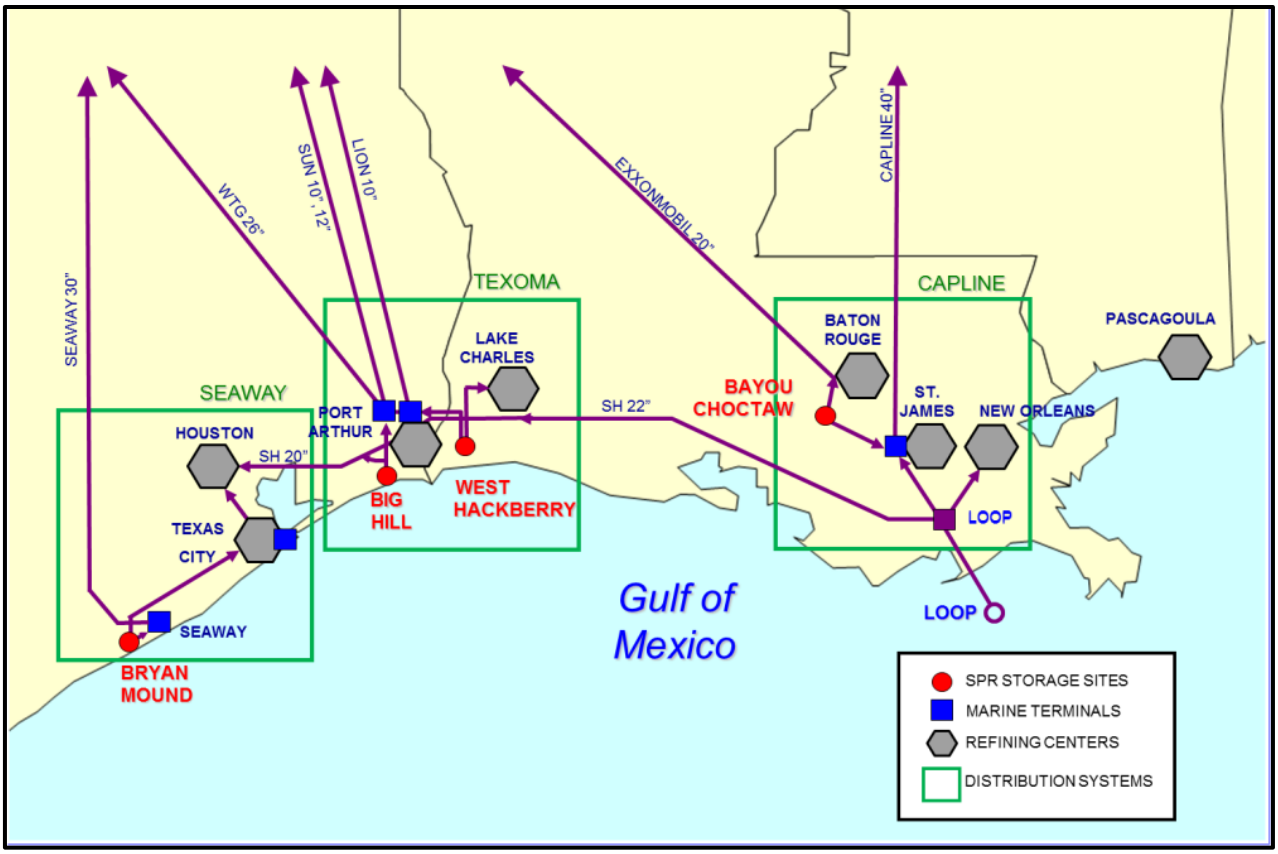
II. Changes in Gulf Coast Infrastructure

The SPR has three separate crude oil distribution systems among the four Reserve sites. Each of these systems relies heavily on private pipeline and marine terminal infrastructure for the distribution and delivery of SPR crude oil. Although the U.S. Gulf Coast has traditionally been the center of both U.S. oil production and crude oil imports, several other regions of the country have emerged as significant supply centers, and the Gulf Coast has turned into a major refining and trans-shipment destination for crude oil. As a result, there have been significant changes in the use of oil distribution infrastructure.

The substantial increase in both Canadian and U.S. domestic production has had a significant impact on both the magnitude and spatial disposition of crude oil supply over the past decade. With the development of tight oil resources in the U.S., there is much more diversity in the location and makeup of crude oil production. Canada has become the main source of U.S. crude oil imports as they are experiencing a similar expansion of their crude production capabilities.

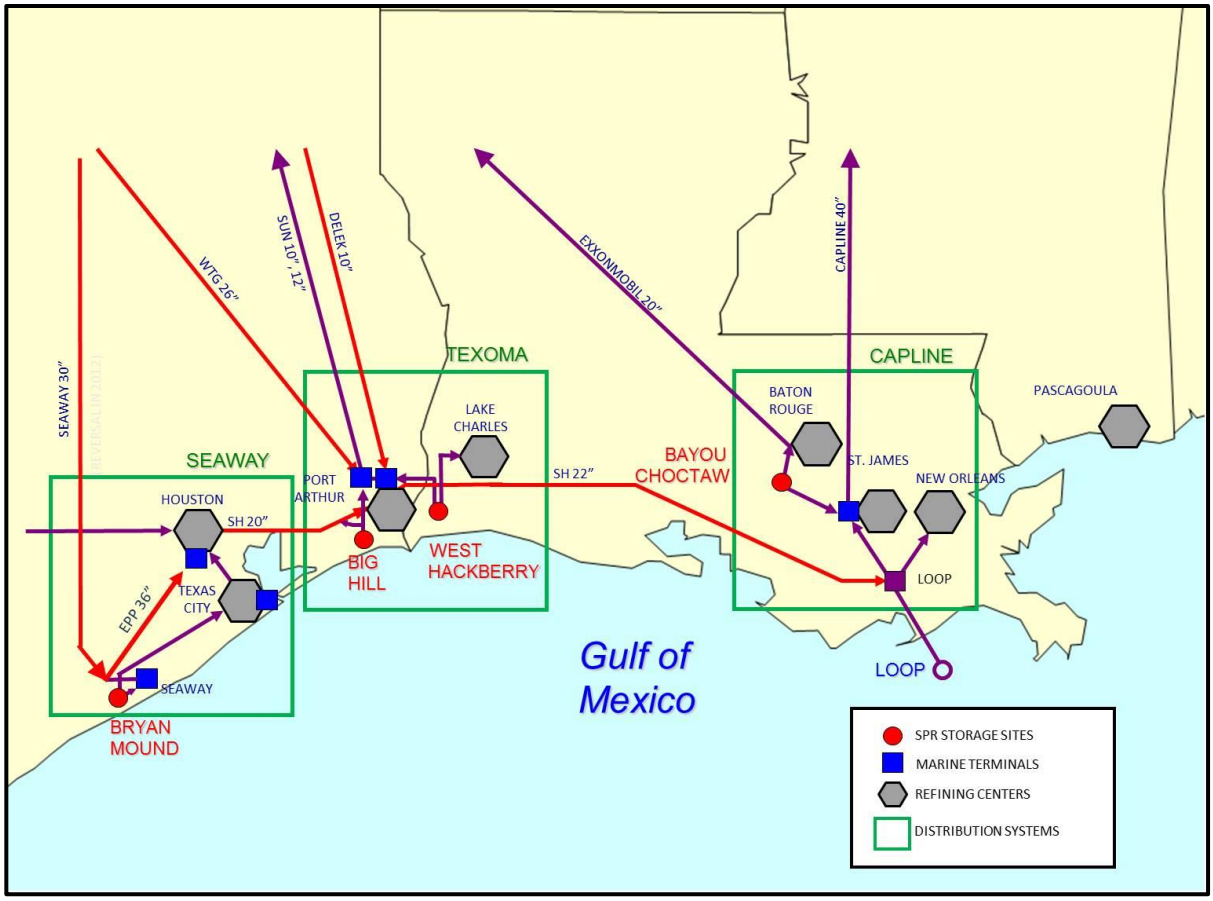
Through 2011, the SPR locations in the coastal areas of Texas and Louisiana were in the vicinity of significant crude oil supply, both domestically produced in the Gulf of Mexico and imported from destinations overseas. Figure 1 shows the relationship of crude oil pipelines to both the SPR and to Gulf Coast refining centers as of 2011. During this time, all major pipelines originated in the Gulf Coast region and provided crude oil to local refineries and Midwest refiners.

Figure 1
SPR Distribution Systems and Major Pipelines (2011)



As the technology for non-traditional oil extraction improved and North American production (from areas including the Bakken shale in North Dakota, the Eagle Ford shale in Texas, and the oil sands in Canada) increased substantially, both crude oil imports and the percentage of overall domestic production from offshore development in the Gulf of Mexico decreased. This led to a host of new projects to bring crude oil towards the Gulf Coast, including the construction of new pipelines, the reconfiguration/reversal of existing pipelines, and the expansion of terminals and tankage. The Gulf Coast region became a final destination for crude oil. Figure 2 shows the major pipelines in the Gulf Coast region and their relationship to the SPR distribution systems and Gulf Coast refining centers as they currently exist.

Figure 2
SPR Distribution Systems and Major Pipelines (2014)



While each of the three SPR distribution systems has experienced some level of impact from the infrastructure changes and new supply patterns, the TEXOMA system has experienced the greatest number of changes. Notable changes to physical infrastructure are shown in Table 1. In addition to these changes, there has also been a substantial increase in the volume of crude oil being moved to and within the Gulf Coast region.

As a result of the extent of infrastructure changes, as well as the increased utilization of both pipeline and marine terminals in the TEXOMA system, the SPR distribution options underwent some changes, notably increased pipeline access to Louisiana refiners but decreased pipeline access to Houston area refiners.

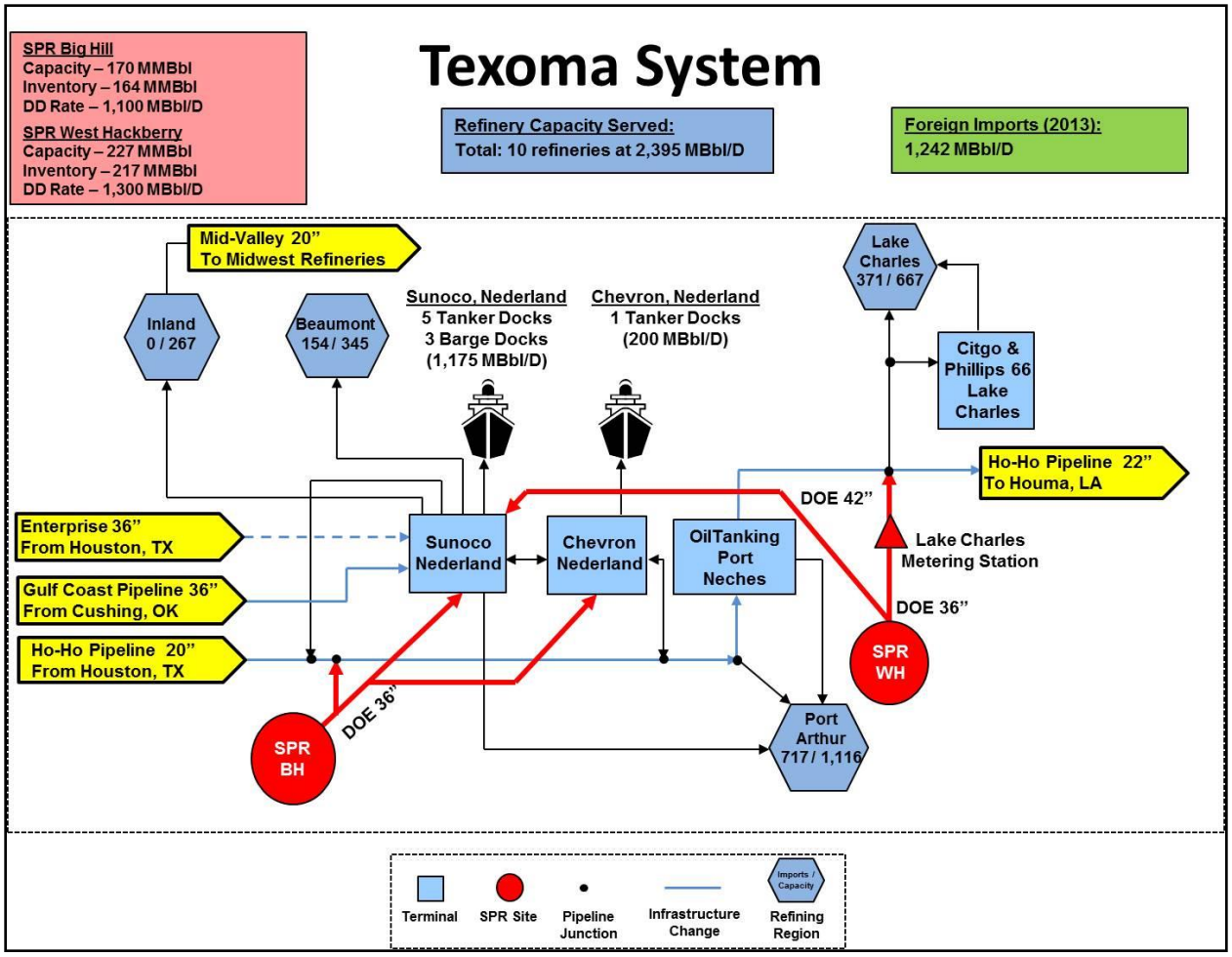
Table 1
Infrastructure Changes Impacting the TEXOMA Distribution System

Year	System	Change
2012	Seaway Pipeline	Reversal. The pipeline was originally built to deliver crude oil to Cushing, OK from the Gulf Coast. The pipeline now runs from Cushing to Houston and connects with the Shell Ho-Ho pipeline.
2012	Echo Terminal	New terminal providing crude oil operations in the Houston market.
2013	Shell Ho-Ho Pipeline	Reversal. The pipeline was originally built to deliver crude oil flowing west from Houma, LA to Houston, TX. This was primarily to distribute crude oil imports from the Louisiana Offshore Oil Port (LOOP) and production in the Gulf of Mexico to Houston area refineries. The pipeline now flows east from Houston, TX to Houma, LA.
2013	TransCanada MarketLink/Gulf Coast Project Pipeline	The southern leg of the Keystone pipeline was put into service which brings crude oil from Cushing, OK to the Gulf Coast.
2014	Seaway to Echo Pipeline	New pipeline connecting the Seaway pipeline in Jones Creek to the Echo Terminal.
2014	Magellan BridgeTex Pipeline	New pipeline providing crude oil from West Texas to the Houston area.
2014	Magellan Longhorn Pipeline	Expansion. Provides additional volumes from West Texas to the Houston area.

III. SPR TEXOMA Distribution System

The SPR TEXOMA Distribution System includes two SPR facilities: West Hackberry in Louisiana and Big Hill in Texas. The capabilities of these two sites and the private infrastructure are shown in Figure 3.

Figure 3
TEXOMA Distribution System Capabilities



IV. Secretary of Energy's Decision to Conduct the SPR Test Sale

On January 6, 2014, staff from DOE's Office of Fossil Energy (FE) held a preliminary meeting with the Secretary to discuss the merits of conducting a test sale from the SPR. A series of follow-up meetings were subsequently conducted between FE staff and other Department staff, to commence planning efforts for a proposed test sale. On February 21, 2014, FE staff met with the Secretary and other Department staff to provide more detailed information regarding the purpose, authority, rationale, and proposed parameters for conducting a test sale. On March 12, 2014, the Secretary directed the Office of Petroleum Reserves to carry out a test sale of up to five million barrels of crude oil to evaluate the SPR's ability to sell, drawdown, and distribute crude oil through multiple pipelines and terminals within the SPR TEXOMA distribution system in accordance with all of the requirements of EPCA Section 161(g).

A copy of the Secretarial memorandum authorizing the test sale is included as Appendix A.

SPR Response Plan

On March 12, 2014, the SPR Program Office issued guidance for the SPR Project Management Office to execute a drawdown and sale of five million barrels of crude oil from the SPR. The SPR Response Plan called for:

- The oil sale to be conducted pursuant to the Department of Energy's Standard Sales Provisions, as published in the Federal Register and 10 CFR 625;
- The sale of five million barrels of sour crude oil from the Reserve to minimize impacts on the sweet crude market in the Gulf Coast, which is well saturated with supply;
- The sale of four million barrels from West Hackberry and one million barrels from Big Hill. The quantities offered from each site are provided in Table 2;
- The delivery period would be April 1st through April 30th, 2014, with willingness to accommodate early deliveries to the maximum extent possible; and
- The offering of all delivery modes (pipeline, tank ship, and tank barge) with minimum delivery sizes of 100,000 barrels for pipeline, 290,000 barrels for tank ships, and 40,000 barrels for tank barges.

Table 2
SPR Crude Streams Offered for Sale

SPR Storage Site	Crude Stream	Quantity (Barrels)	Crude Stream	Quantity (Barrels)
Bryan Mound	Sweet	0	Sour	0
West Hackberry	Sweet	0	Sour	4,000,000
Big Hill	Sweet	0	Sour	1,000,000
Bayou Choctaw	Sweet	0	Sour	0
Total Offered	Sweet	0	Sour	5,000,000
Total Oil to be Sold				5,000,000

V. SPR Test Sale Summary

Upon receipt of the Secretarial authorization, the Test Sale process was initiated on March 12, 2014. Appendix B shows a timeline of major operational events associated with the drawdown. Deliveries were completed on May 16th and financial transactions were completed on July 3rd.

Notice of Sale

On March 12, 2014, the Department of Energy (DOE) issued a Notice of Sale (NOS) that the SPR would be offering five million barrels of crude oil for competitive sale through its on-line Crude Oil Sales Offer Program (COSOP). The sale would be fully open to qualified bidders in the oil industry and the public.

The Notice of Sale set forth the sale specific requirements to supplement and/or amend the SPR's Standard Sales Provisions provided for in 10 CFR 625. The Notice of Sale provided:

- The quantity of crude oil being offered for sale;
- The SPR crude oil streams, delivery modes, and minimum contract quantities;
- The date and time offers were due (March 16, 2014 2:00 pm CDT);
- The Government's crude oil base reference price and delivery price indexing process;
- The offer guarantee letter of credit requirements to be submitted with each bid;
- Established the delivery period of April 1st through April 30th, 2014 with early deliveries encouraged;
- The requirement for Jones Act compliance and a point of contact at the Department of Homeland Security (DHS) for additional information; and
- The requirement that bidders certify compliance with the Iran Sanctions Act of 1997.

The SPR issued two amendments to the initial NOS:

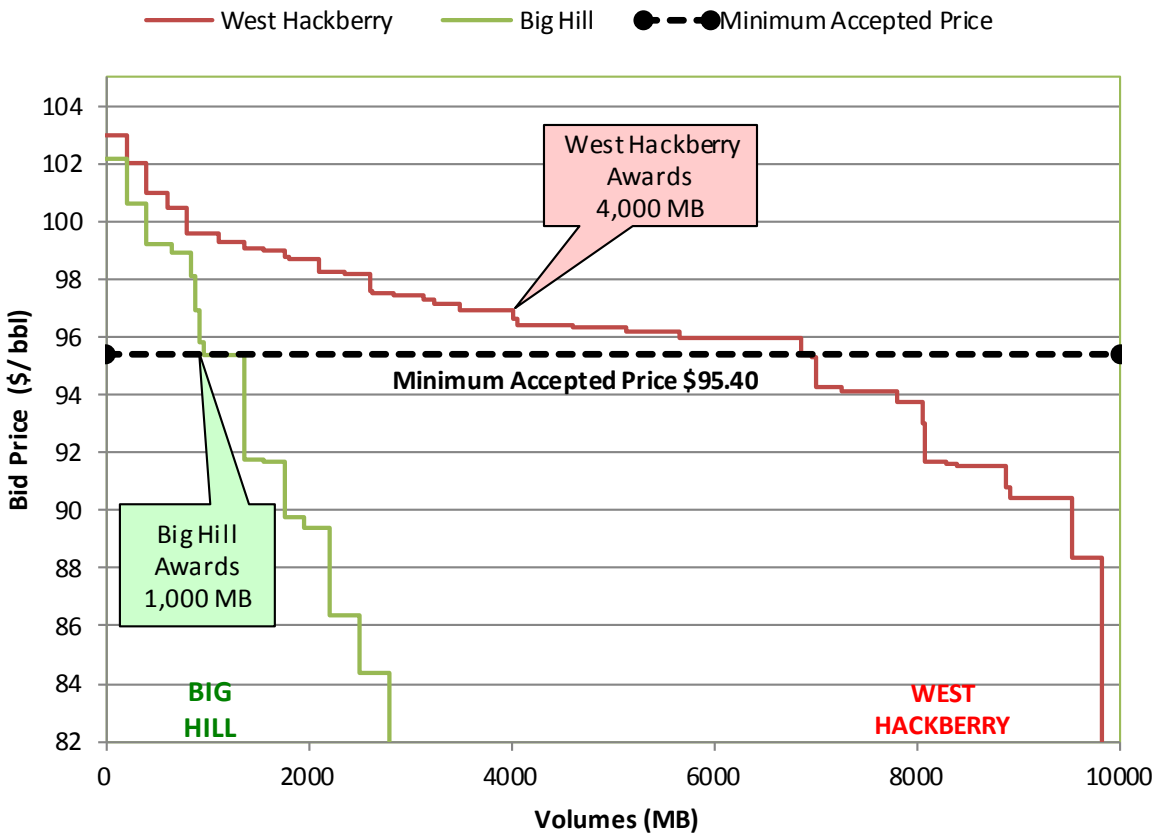
- Amendment 001 modified the end date for the delivery period to be May 10, 2014; and
- Amendment 002 included the special provisions for Hawaii participation.

Sales Bids and Awards

On March 14, 2014 the offering closed, and the SPR had received 37 bids from 12 companies requesting a total of 18.5 million barrels of crude oil. The SPR received offers for 7.0 million barrels from Big Hill and 11.5 million barrels from West Hackberry. The offers were evaluated for best price and value to the Government in addition to the statutory limit of 95% of the established sale price, based on similar crude oil being sold in the same area in the same timeframe. Figure 4 shows the ranking of the offers (from highest to lowest) for the two crude streams offered. The SPR was able to achieve the full amount offered within the confines of the lowest allowable price and the desired split between the two Reserve sites. Bids beyond

four million barrels for West Hackberry and one million barrels for Big Hill were not awarded, even if the submitted bid was above the minimum accepted price.

Figure 4
SPR Test Sale 2014 Bid Evaluation



NOTE: Not all offers were accepted at the maximum offer amount. This chart represents quantities which may be the minimum acceptable quantity as specified by the bidder. In some cases offers were not accepted because the minimum quantity specified by the bidder would have exceeded the amount made available in the solicitation.

On March 17, 2014, DOE released a list of the Apparently Successful Offerors. DOE announced that five companies had been selected to receive five million barrels of SPR crude oil. The selected awardees were notified that they had three business days (until March 20, 2014) to submit performance guarantee letters of credit in order to receive their contract awards. The planned award of five million barrels consisted of 10.4% of the total volume to be delivered by tank ship, 7.6% of the total volume to be delivered by tank barge, and 82.0% of the total volume to be delivered by pipeline.

On March 20, 2014, DOE announced that it had awarded 17 contracts to five companies for five million barrels of crude oil. A list of companies, the volumes they contracted, and the prices they bid and paid are provided in Table 3.

Table 3
Summary of Deliveries by Company and Contract Amounts

Company	Number of Contracts	Contract Volume (barrels)	Average Bid Price (weighted)	Total Bid Amount*	Delivered Volume (barrels)	Average Price Paid (weighted)
Mercuria	1	40,000	$95.40	$3,816,152	40,118	$91.68
Phillips 66	6	2,040,000	$100.23	$204,470,080	2,040,024	$94.78
Marathon	5	1,200,000	$99.06	$118,876,500	1,200,024	$94.51
Shell	3	1,220,000	$97.53	$118,981,040	1,217,075	$91.86
Exxon Mobil	2	500,000	$97.68	$48,838,475	500,905	$92.49
Total	**17**	**5,000,000**	**$99.00**	**$494,982,247**	**4,998,146**	**$93.75**

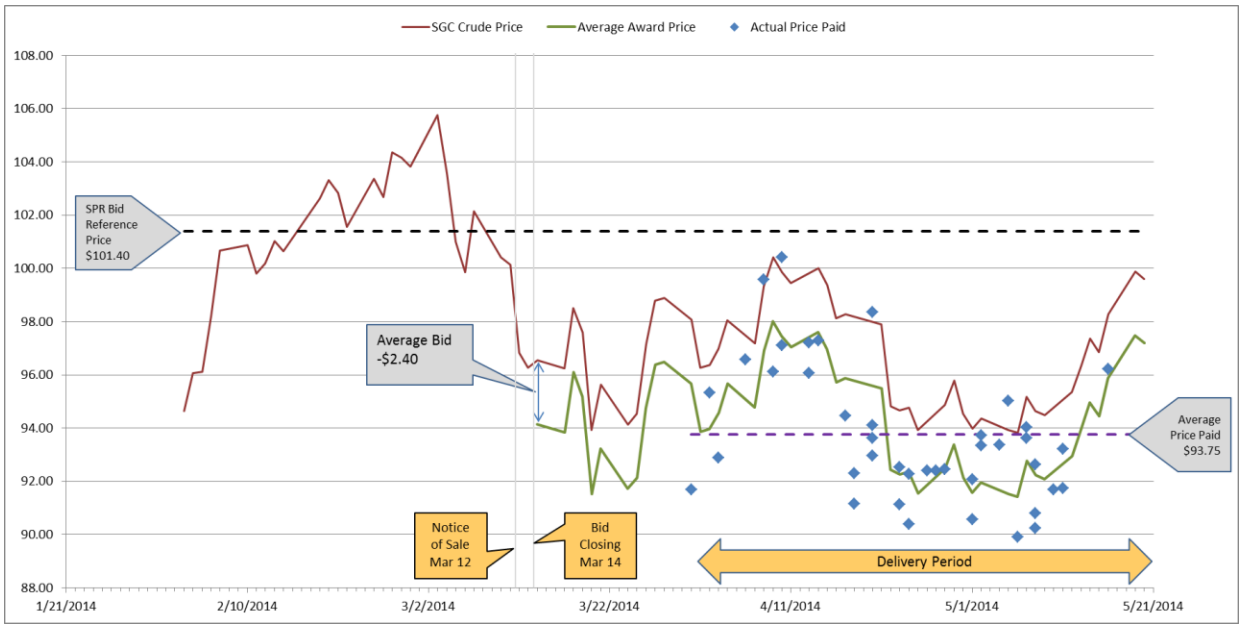
*the final price paid is different than the bid amount due to indexing as discussed below

Oil Pricing and Payment

Under the SPR Standard Sales Provisions (SSPs), SPR oil is sold on an indexed price basis to minimize oil markets risks. A base reference price of $101.4020 was established by the Government using the average five day price of Southern Green Canyon (SGC) crude traded prior to the Notice of Sale. The differential between the Offeror's bid price and the Government's base reference price was then used to adjust the buyer's price at the time of delivery. The buyer's final price was computed by applying this differential to the average five day traded SGC price surrounding the buyer's delivery date.

Figure 5 shows the SPR bid reference price, the daily oil market value for SGC Crude, the daily SPR sales price index price adjusted for the average differential from SGC, and the actual prices paid by purchasers based on their specific differential and delivery date.

Figure 5
SPR Oil Market Price Index and Prices Paid



In accordance with the Notice of Sale, purchasers were invoiced once documentation for their deliveries was verified, with payment due 30 days after the invoice date. Invoicing was completed on June 4, 2014. Final payments were due by July 3, 2014, and receipts totaling $468,564,599 were deposited in the U.S. Treasury. The volume weighted average delivery price for the SPR crude oil was $93.75.

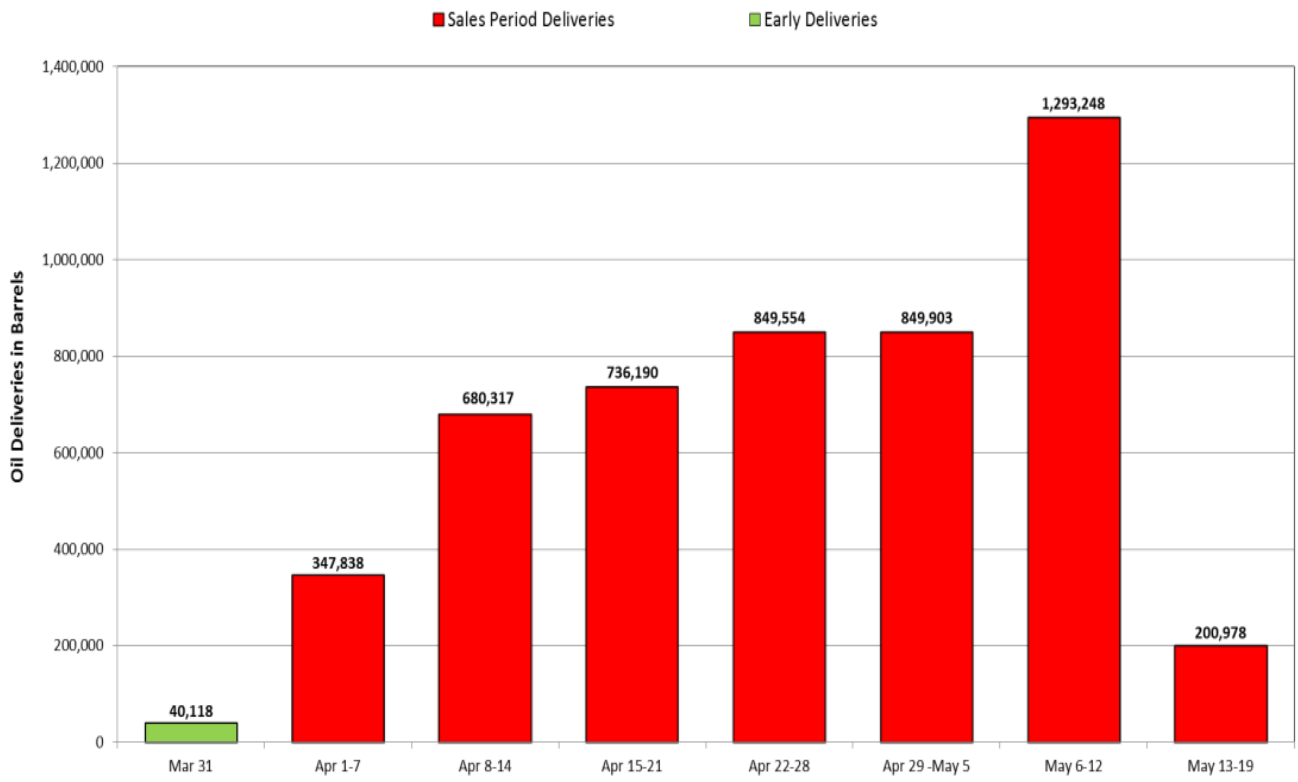
VI. SPR Test Sale Deliveries Summary

The SPR delivered five million barrels of crude oil over a seven week period. The SPR crude oil was sold for delivery during the trading month of April 1st through April 30th, 2014. Early deliveries were encouraged and one barge delivery was accomplished prior to the official delivery period. Deliveries were extended into May to accommodate pipeline scheduling difficulties, and the final delivery was completed on May 16, 2014.

SPR Oil Delivery Rates

The SPR oil deliveries over the 7 week period are shown in Figure 6. Weekly SPR deliveries averaged between 50 thousand barrels per day to 185 thousand barrels per day. Early deliveries during March 2014 totaled 40,118 barrels. The remaining 4,958,028 barrels were delivered in April and May, 2014.

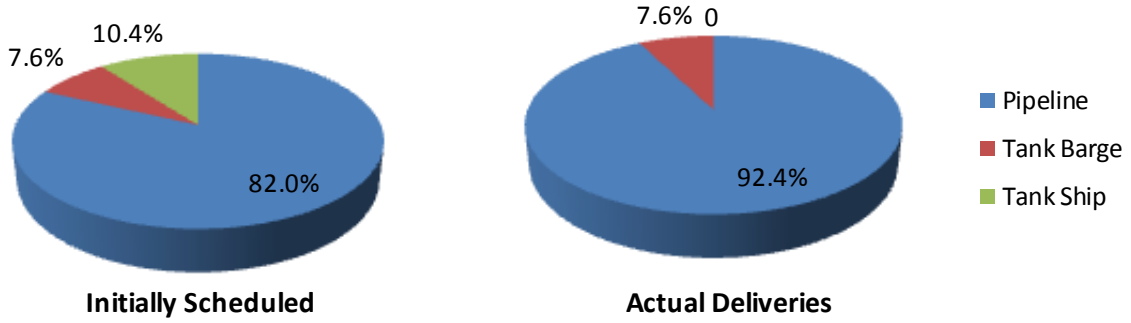
Figure 6
SPR Oil Deliveries by Week



SPR Oil Delivery by Transportation Mode

Pipeline deliveries were the dominant distribution mode with 92.4% of the SPR crude oil purchased delivered via pipeline. The balance (7.6%) was delivered by marine transportation, all of which was by tank barge as shown in Figure 7.

Figure 7
Comparison of Scheduled and Actual Distribution Modes



It should be noted that all SPR crude oil purchasers are responsible for making their own pipeline delivery nominations and marine transportation arrangements. All tank barge deliveries were made using U.S. flag vessels. One tank ship delivery was originally bid by a successful offeror. However, for unknown reasons, the successful offeror was unable to obtain a U.S. flag vessel and submitted a Jones Act waiver request to DHS, which was subsequently withdrawn after the successful offeror opted to reschedule the delivery via pipeline in lieu of using marine transportation.

SPR Oil Delivery by Delivery Mode

The Notice of Sale specified 7 distinct combinations of delivery points and modes of delivery. Although offers were received for all of these combinations, awards were not issued for every combination for various reasons. This included offers which were not accepted after the total volume of crude oil was sold, offers which were not accepted due to insufficient quantities available from the requested delivery point, and offers not accepted because they were less than the minimum acceptable price. Table 4 shows the delivery point and delivery modes in which offers and awards were made. It is important to note that a company may include multiple delivery points and modes of delivery on a single bid, so the numbers reflected in this table will not correspond to the number of bids and contracts mentioned previously.

Table 4
Summary of Offers and Awards by Delivery Mode

Delivery Point	Delivery Mode	Offered	Awarded
Sun Terminal	Pipeline	8	2
Sun Terminal	Vessel (Tank ship)	11	1*
Sun Terminal	Barge (Tank barge)	18	9
Lake Charles Meter Station	Pipeline	17	12
Chevron/Unocal Terminal	Pipeline	3	0
Chevron/Unocal Terminal	Vessel (Tank ship)	2	0
Shell Ho-Ho Pipeline	Pipeline	7	4

*withdrawn by bidder and reassigned to pipeline delivery at Sun Terminal

VII. Lessons Learned

The 2014 SPR test sale was conducted to exercise both the sales procedures and the drawdown process. While the sale was successful in achieving the stated objectives, there were areas noted for improvement. Those lessons learned from this evaluation are as follows:

Operational:

1. Pipeline capacity is limited in the SPR TEXOMA Distribution Group.

    a. Capacity on the Shell Ho-Ho pipeline is extremely limited due to the large volumes of Eagle Ford crude oil being shipped from Texas to Louisiana, where it is being blended with sour crude oil from the Gulf of Mexico to produce a Light Louisiana Sweet crude oil stream. During the test sale, purchasers had problems getting capacity on the Ho-Ho pipeline for preferred deliveries and had to make adjustments by shipping crude oil to the Sun Nederland terminal and placing the oil into temporary storage until pipeline capacity became available.

2. Storage capacity at crude oil terminals is limited in the SPR TEXOMA Distribution Group.

    a. Storage capacity at the Sun Nederland terminal is fully subscribed. SPR distribution capability may be impacted during a drawdown if a purchaser does not have access to storage capacity at this terminal.

3. A drawdown of significant scope may pose a challenge to the SPR's marine distribution capability in the SPR TEXOMA Distribution Group.

    a. For the test sale, the SPR reduced the minimum delivery quantity for delivery by tank barges from 50,000 barrels to 40,000 barrels. This was done to increase the potential number of smaller coastal U.S. Flag tank barges that could be utilized by purchasers to determine interest and availability in using smaller vessels for transportation. Nine deliveries utilizing these smaller, coastal tank barges were completed, providing an indicator of the potential availability of U.S. Flag vessels in this cargo capacity range. While use of these vessels provides an option for providing smaller, incremental volumes during a supply disruption, their limited cargo capacity combined with terminal dock configurations that limit the number of docks available for use by tank barges precludes their use as a primary distribution option for delivery in a drawdown where large volumes of SPR oil need to be delivered as expeditiously as possible.

    b. For the test sale, the SPR reduced the minimum delivery quantity for delivery by tank ships from 330,000 barrels to 290,000 barrels. This was done to increase

the potential number of U.S. Flag tank ships that could be utilized by purchasers to determine interest and availability in using larger vessels for transportation. One purchaser initially requested a delivery via tank ship, but for reasons not explained submitted a Jones Act waiver request to DHS, which was subsequently withdrawn before action was taken on the request. The purchaser ultimately accepted delivery via pipeline in lieu of using marine transportation. As a result, no deliveries were made by larger U.S. Flag tank ships.

c. There were no deliveries to the Unocal marine terminal during the test sale. It is unclear at this time if this was a result of the terminal being up for sale during the time period of the test sale (resulting in uncertainty by crude oil purchasers of its availability for use), or if the smaller daily volume that can be delivered under existing SPR contract with the terminal (200,000 barrels/day) was a consideration by purchasers.

d. New pipeline construction into the Port Arthur, TX area is significantly increasing the volume of crude oil being sent to storage terminals in this area prior to further distribution. The additional volumes are causing an increase in dock utilization rates at these terminals, which can impact dock availability in the event of a drawdown. Additionally, the Sun Nederland terminal, an important delivery point for SPR marine distribution capability, plans to convert one of its five existing tank ship docks from crude oil to LPG service.

4. A second custody transfer flow metering skid at the SPR Big Hill site would improve distribution flexibility and reliability.

a. The SPR Big Hill site has multiple delivery points from which SPR crude oil can be shipped. However, design of the custody transfer flow metering skid allows delivery to only a single delivery point at any time, limiting distribution flexibility. This limitation was observed during the test sale when two purchasers requested simultaneous deliveries from Big Hill and one delivery had to be rescheduled. Simultaneous deliveries to multiple delivery points would require an additional custody transfer flow metering skid.

b. During the Test Sale, the custody transfer flow metering skid at Big Hill suffered an equipment failure which required the metering skid to being taken out-of-service for 72 hours until repairs could be completed. Although no adverse operational impacts resulted from this equipment failure (no deliveries were scheduled from Big Hill during this time period), this single-point failure in the custody transfer flow metering skid identifies a need for redundancy in this drawdown critical equipment.

Procedural:

1. The oil purchasers were only given two business days to submit bids during the test sale. Bidders generally require at least five business days to formulate their bids and acquire the necessary financial instruments (letters of credit and guarantees), to support those bids.

2. The payment method used during the test sale did not result in earlier payment of invoices. The Standard Sales Provision (SSP) payment clause, which stipulates that payment is due by the 20th of the month following delivery, should not be changed for future drawdowns.

3. The SPR was able to produce a Notice of Sale that conveyed all aspects of the sale for potential bidders. Key changes made to the SSP within the Notice of Sale included:

    a. Terminal information, including points of contact and certain technical details, were revised to reflect current information;

    b. One option for payment (automated clearing house) is no longer an acceptable method and was removed;

    c. Updated information on the process for the remaining payment method (FEDWIRE) was provided; and

    d. Information on the Jones Act was updated (details on the Jones Act waiver process were eliminated as this process is controlled by DHS).

4. The SPR Oil Valuation Model, which is designed to provide the current value of SPR crude oil streams was extremely accurate.

Planned Actions in Response to Lessons Learned:

1. The test sale revealed that storage capacity at the Sun Nederland terminal is currently fully subscribed. This may possibly impact SPR distribution capability during a drawdown should a purchaser not have access to storage capacity at the terminal. However, this concern would most likely be dependent on the type of supply disruption addressed by the drawdown. In some supply disruption scenarios, storage capacity concerns may be eased due to a release of large quantities of stored oil by the private sector, thus freeing up storage capacity for purchasers of SPR crude oil. In other supply disruption scenarios, however, it is possible no incremental volumes would be released by the private sector and no additional storage capacity would be freed up for purchasers of SPR crude oil. The SPR will discuss this situation with the terminal owner/operator to gain better insight and clarity into this issue.

2. It is unclear at this time if the availability/non-availability of larger U.S. Flag vessels was a factor in no deliveries being made by purchasers, and whether or not this could become a factor in the event of a drawdown. The SPR intends to discuss this issue with the U.S. Maritime Administration to determine if there were any U.S. Flag tank ships that were available for use during the test sale period. Additionally, the SPR has subsequently met with representatives from various organizations representing the U.S. maritime industry to gain better insight and clarity into the size, composition, and capabilities of the U.S. Flag tank vessel fleet, and will maintain a regular dialogue with them. The SPR also intends to reexamine the capabilities of the dock configurations at all contracted marine terminals in order to validate the types and sizes of vessels that can be utilized at each dock for each contracted marine terminal.

3. No purchasers utilized the Unocal terminal as a delivery point during the test sale. It is not clear if this was a result of the terminal being up for sale during the test sale period, resulting in uncertainty by purchasers of its availability for use, or if the smaller daily volume that can be delivered under existing SPR contract with the terminal (200,000 barrels/day) was a consideration by purchasers. The SPR will attempt to clarify this issue by contacting purchasers. Additionally, the SPR intends to assess the feasibility of increasing contracted throughput volumes at this terminal.

4. The test sale also highlighted changes in distribution infrastructure in the Gulf Coast region. Changes in oil markets have implications for commercial infrastructure investment in the region and for the TEXOMA system and the entire SPR. The SPR needs to conduct follow-on analyses of potential commercial infrastructure investments and options to ensure future SPR marine distribution capability.

5. In order to improve distribution flexibility and reliability from the SPR Big Hill site, the feasibility of an additional custody transfer flow metering skid is being evaluated.

VIII. Conclusions

Due to significant changes in domestic crude oil production, increased imports of Canadian crude oil, and changes to crude oil distribution infrastructure upon which the SPR relies, the Secretary of Energy authorized a test sale of up to 5 million barrels of crude oil from two SPR sites (Big Hill and West Hackberry). These two sites are part of the TEXOMA distribution system which has been most impacted by the above mentioned changes. DOE's Office of Petroleum Reserves carried out the test sale between March 2014 and July 2014 to evaluate the ability to sell, drawdown and distribute crude oil in accordance with requirements of EPCA Section 161(g) and the competitive sales process in 10 CFR 625.

The SPR was successful in meeting its objectives of the Test Sale, completing delivery of 4,998,146 barrels of crude oil over a 47 day period resulting in $468,564,599 of cash receipts to the U.S. Government. The Office of Petroleum Reserves has compiled lessons learned from the test sale and has planned actions, both short and long term, to include in future operational and procedural efforts.

APPENDIX A
Secretarial Authorization

The Secretary of Energy
Washington, D.C. 20585

March 12, 2014

Authorization To Conduct A Test Sale from the Strategic Petroleum Reserve

Section 161(g) of the Energy Policy and Conservation Act of 1975 directs the Secretary of Energy to conduct a continuing evaluation of the drawdown and sales procedures of the Strategic Petroleum Reserve (SPR). In this evaluation, the Secretary is authorized to conduct a test sale of petroleum products from the SPR in an amount not to exceed 5 million barrels.

Recent increases in domestic crude oil production and imports of crude oil from Canada have resulted in significant increases in the volume of crude oil shipments to Gulf Coast refining centers. These increased volumes have, in turn, led to changes to the oil distribution infrastructure surrounding the Department's SPR facilities. Such changes include new pipeline construction, pipeline expansions, flow reversals in existing pipelines, and increased utilization of terminals and marine facilities. The SPR TEXOMA distribution system facilitates the delivery of SPR crude oil from the SPR storage sites at West Hackberry, Louisiana and Big Hill, Texas, and may have been affected by significant changes to surrounding infrastructure in the period since the last SPR drawdown and sale in August 2011. These changes include flow reversals on the Shell Ho-Ho and Seaway pipelines, construction of a new Marketlink LLC pipeline from Cushing, Oklahoma to the Port Arthur, Texas refining center, and significant expansion and utilization of pipeline, marine, and rail infrastructure to the Sun terminal in Nederland, Texas, a key sales and distribution center for SPR TEXOMA system distribution capability. Cumulatively, these infrastructure changes may impact the ability of the TEXOMA distribution system to deliver crude oil as may be required of the SPR in an emergency. Accordingly, I have determined there is a need for a test sale in order to evaluate the SPR's ability to sell, drawdown, and distribute SPR crude oil through multiple pipeline and terminal delivery points within the SPR TEXOMA distribution system.

I am directing the Office of Petroleum Reserves to carry out a test drawdown and sale of petroleum products from the SPR in an amount not to exceed 5 million barrels. This test drawdown and sale should test only the SPR TEXOMA distribution system encompassing the SPR storage sites at West Hackberry, Louisiana and Big Hill, Texas. In conducting the test sale, the Office of Petroleum Reserves must comply with all requirements of Section 161(g), including the requirement that no crude oil be sold at a price less than 95 percent of the estimated sales price of comparable crude oil being sold in the same area at the same time. The sale may be cancelled or reduced in volume if it is determined that there are insufficient acceptable offers.

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Additionally, the Office of Petroleum Reserves will complete and submit a report containing a detailed explanation of the test sale to both Houses of Congress within 60 days of completion of the test sale.

Ernest J. Moniz
Secretary of Energy

APPENDIX B
Strategic Petroleum Reserve Drawdown Timeline

MARCH 2014

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1
2	3	4	5	6	7	8
9	10	11	Secretary Finding and Notice of Sale 12	13	Sale Period Ends 14	15
16	Notification of Successful Offerors 17	Letters of Credit and Awards 18	Letters of Credit and Awards 19	Letters of Credit and Awards 20	Scheduling of Deliveries 21	22
23	Scheduling of Deliveries 24	Scheduling of Deliveries 25	Scheduling of Deliveries 26	Scheduling of Deliveries 27	Scheduling of Deliveries 28	29
30	1 Early Deliveries 31					

APRIL 2014

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	1 2	1 3	4	5	1 6
7	1 8	1 9	2 10	11	12	2 13
1 14	15	16	1 17	2 18	19	4 20
21	22	2 23	2 24	25	1 26	1 27
1 28	29	30				

MAY 2014

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			2 1	2 2	3	1 4
1 5	1 6	2 7	3 8	9	1 10	2 11
12	13	14	15	Commence Final Delivery 1 16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Number of deliveries for each day shown in red

NOTE: Receipts were due 30 days after the invoice date for each delivery. Receipts were completed on July 3, 2014.