

CRS Issue Brief for Congress

Received through the CRS Web

Strategic Petroleum Reserve

Updated October 1, 2003

Robert Bamberger
Resources, Science, and Industry Division

CONTENTS

SUMMARY

MOST RECENT DEVELOPMENTS

BACKGROUND AND ANALYSIS

Reauthorization of the SPR

The Drawdown Authorities

The FY2004 Budget

Establishment of a Regional Home Heating Oil Reserve

Purchases of Crude Oil

Royalty-In-Kind Acquisition for the SPR

Drawdown of the Reserve

Drawdown Capability

Debate Over When to Use the Reserve

Calls for a Drawdown: Home Heating Oil, Winter 1999-2000

September 2000: A Swap Is Announced

CHRONOLOGY

FOR ADDITIONAL READING

Strategic Petroleum Reserve

SUMMARY

On April 11, 2003, the House passed comprehensive energy legislation (H.R. 6) which would require that the Strategic Petroleum Reserve (SPR) be filled to its current capacity of roughly 700 million barrels as soon as practicable, and would also authorize \$1.5 billion for expansion of the SPR to 1 billion barrels. The bill would also permanently authorize the Reserve. The Senate version of H.R. 6, passed on July 31, 2003, would also permanently authorize the SPR and require that it be filled to capacity, but does not include a provision to expand it.

Drawdown of the Reserve can be initiated by the President in the event or likelihood of a "severe energy supply interruption," to meet U.S. obligations to International Energy Agency allies for emergency oil-sharing, or in the event of a shortage that would bring about an increase in petroleum prices sharp enough to have "a major adverse impact" on the economy. For example, on March 17, Representative Tauzin, chairman of the House Energy and Commerce Committee, indicated that the SPR was positioned to be tapped if war with Iraq threatened to disrupt oil supply. The Bush Administration indicated that it would carefully monitor markets.

The SPR was authorized in 1975 in the Energy Policy and Conservation Act (EPCA) to protect the Nation against a repetition of the economic dislocation caused by the 1973-74 oil embargo. Congressional attention to the SPR declined during the 1990s as a number of developments intersected: (1) the need to cut federal spending; (2) declining likelihood of prolonged and crippling oil supply interruptions; (3) unregulated oil markets that appear to operate efficiently in allocating and pricing oil; and (4) a consensus that the SPR was probably at an adequate level and additional fill

was not justified. In 1994, the Clinton Administration and Congress agreed to suspend further purchases for the SPR. Maintaining SPR readiness and upgrading aging infrastructure became the major priority.

The terrorist attacks on September 11, 2001, renewed concerns about domestic energy security. On October 9, 2001, the House passed a resolution expressing House support for filling the SPR to its full authorized capacity of 1 billion barrels. On November 13, 2001, the President ordered fill of the SPR to its current capacity of roughly 700 million barrels, principally through royalty-in-kind (RIK) acquisitions. The SPR holds more than 622 million barrels, the highest level of inventory since the program began. Deliveries scheduled for late 2002 and the first months of 2003 were delayed due to tightness in world oil markets. However, deliveries ramped up again during the spring and are projected to exceed 200,000 b/d in October 2003 before declining during the late fall and winter of 2004.

The FY2003 budget request for the SPR was \$187.8 million, including \$11.0 million to support the costs of transporting RIK oil to SPR sites. The Omnibus Appropriations bill, H.J.Res. 2, enacted on February 13, 2003, approved \$185.9 million and reauthorized the SPR and the Northeast Home Heating Oil Reserve (NHOR) through FY2008. The House agreed to the Administration request for FY2004 of \$180.1 million, including \$5 million for the NHOR. The Senate agreed to \$173.1 million. No new funds were requested for the SPR Petroleum Account because contractors delivering RIK oil or returning oil under the oil exchange program are absorbing transportation costs.



MOST RECENT DEVELOPMENTS

On April 11, 2003, the House passed comprehensive energy legislation (H.R. 6) which would require that the Strategic Petroleum Reserve (SPR) be filled to its current capacity of roughly 700 million barrels as soon as practicable, and would also authorize \$1.5 billion for expansion of the SPR to 1 billion barrels. The bill would also permanently authorize the Reserve. The Senate version of H.R. 6, passed on July 31, 2003, would also permanently authorize the SPR and require that it be filled to capacity, but does not include a provision to expand it. Deliveries of royalty-in-kind (RIK) oil, and oil still owed from an “exchange” held in 2000, resumed in the spring and are projected to exceed 200,000 barrels per day (b/d) in October 2003 before declining during the late fall and winter of 2004. The SPR currently holds more than 622 million barrels.

The Bush Administration request for FY2004 was \$180.1 million, including \$5 million for the Northeast Heating Oil reserve (NHOR). No new funds were requested for the SPR Petroleum Account because contractors delivering RIK oil or returning oil under the oil exchange program are absorbing transportation costs. The House agreed to the Administration request; the Senate agreed to a level of \$173.1 million.

In its version of the FY2004 Interior and Related Agencies Appropriations (H.R. 2691), the Senate also included an amendment to require the development of procedures to assure that the SPR is filled consistent with the objective of minimizing acquisition costs – or revenue foregone when the oil is acquired under the RIK program – and consistent with maximizing domestic supply. The amendment stems from a study commissioned by Senator Levin that suggested that the Administration’s diversion of RIK and other oil to the SPR was not always opportunely timed, exacerbating crude oil price increases.

BACKGROUND AND ANALYSIS

The anticipation of a possible confrontation with Iraq has already added what is described as a “war premium” to oil prices. Exports of Iraqi oil were averaging around 1.7 million barrels daily in early March 2003, an amount which, if lost to world markets, could be made up by other producers with spare capacity. However, uncertainty about how prolonged a military conflict might be, and whether Middle Eastern oil producers would be disposed to keeping prices reined in cannot be reliably predicted. In the wake of crude prices approaching \$40/barrel, and elevated gasoline and home heating oil prices, there were several calls for a drawdown of the SPR. With the end of the military phase of the war with Iraq – and the minimal effect on oil supply – oil prices have softened some, and calls for a drawdown have subsided.

Congress authorized the Strategic Petroleum Reserve (SPR) in the Energy Policy and Conservation Act (EPCA, P.L. 94-163) to help prevent a repetition of the economic dislocation caused by the 1973-74 Arab oil embargo. Physically, the SPR comprises five underground storage facilities, hollowed out from naturally occurring salt domes, located in Texas and Louisiana. Oil stored at one of the sites, Weeks Island, was transferred after problems with the structural integrity of the cavern were discovered in the mid-1990s.

It was generally believed that the mere existence of a large, operational reserve of crude oil would deter future oil cutoffs and would discourage the use of oil as a weapon. In the event of an interruption, introduction into the market of oil from the Reserve was expected to help calm markets, mitigate sharp price spikes, and reduce the economic dislocation that had accompanied the 1973 disruption. In so doing, the Reserve would also buy time — time for the crisis to sort itself out or for diplomacy to seek some resolution before a potentially severe oil shortage escalated the crisis beyond diplomacy. The SPR was to contain enough crude oil to replace imports for 90 days, with a goal initially of 500 million barrels in storage. In May 1978, plans for a 750-million-barrel Reserve were implemented.

The program fell increasingly behind schedule. By the end of 1978, the SPR was supposed to contain 250 million barrels, but contained only 69 million barrels. When the Iranian revolution cut supplies in the spring of 1979, purchases were suspended to reduce the upward pressure on world oil prices. Filling of the Reserve was resumed in September 1980 following enactment of the Energy Security Act (P.L. 96-294), which established a minimum fill rate of 100,000 barrels per day (b/d). An amendment to the FY1981 DOE appropriations legislation required that the Administration accelerate the fill rate to 300,000 b/d, subject to adjustments for cost and other market factors. The fill rate was 292,000 b/d in FY1981, but steadily declined to a low of 34,000 b/d in FY1990.

Filling of the SPR was suspended during 1990-1992 after the Iraqi invasion of Kuwait, but was resumed at a modest rate. Fill declined to 16,500 b/d during FY1994 before fill was suspended at the end of that fiscal year. The SPR itself reached 592 million barrels before purchases were again suspended. Owing to sales of SPR oil during 1996, the level in the Reserve had fallen to 563.5 million barrels by the early spring of 1997. (At the prices prevailing in the late spring of 1998, that inventory would have declined to roughly 542 million barrels had a sale authorized for FY1998 been carried out.) In mid-November of 2001, President Bush ordered fill of the SPR to its current capacity of roughly 700 million barrels, principally through oil acquired as royalty-in-kind (RIK) for production from federal offshore leases. Deliveries scheduled for late 2002 and the first months of 2003 were delayed due to tightness in world oil markets. However, deliveries ramped up again during the spring and are projected to exceed 200,000 b/d in October 2003 before declining during the late fall and winter of 2004. The SPR now holds more than 622 million barrels.

Reauthorization of the SPR

The authorities governing a drawdown of the SPR are included in the Energy Policy and Conservation Act (EPCA, P.L. 94-163). These authorities also provide for U.S. participation in emergency-sharing activities of the International Energy Agency (IEA) without risking violation of antitrust law and regulation. Comprehensive energy legislation (H.R. 6), passed by the House on April 11, 2003, would permanently reauthorize the SPR and avoid some of the confusion experienced in the past when the authorities expired before Congress could agree to an extension. The Senate version of H.R. 6, passed on July 31, 2003, would also permanently authorize the SPR and require that it be filled to capacity, but does not include a provision to expand it. What follows is a brief summary of reauthorization history in recent years.

The 104th and 105th Congresses agreed to fairly short-term extensions of the authorities governing the use of the SPR, pending a broader review of SPR policy. The 106th Congress

passed a short-term extension of the SPR (P.L. 106-64) until March 31, 2000, to allow additional time for consideration of legislation (S. 1051, H.R. 2884) to extend the authorities until the end of FY2003. No agreement was reached before the authorities expired on March 31, 2000. Congress did not agree to an extension until October 24, 2000, which the President signed on November 9, 2000 (P.L. 106-469). This legislation extended the authorities to the end of September 2003. Conferees on the Omnibus Appropriations, H.J.Res. 2, passed February 13, 2003, reauthorized the SPR and the NHOR through FY2008.

The Drawdown Authorities

The Energy Policy and Conservation Act (EPCA) authorizes drawdown of the Reserve upon a finding by the President that there is a “severe energy supply interruption.” This is deemed by the statute to exist if three conditions are joined: If “(a) an emergency situation exists and there is a significant reduction in supply which is of significant scope and duration; (b) a severe increase in the price of petroleum products has resulted from such emergency situation; and (c) such price increase is likely to cause a major adverse impact on the national economy.”

Congress enacted additional drawdown authority in 1990 (Energy Policy and Conservation Act Amendments of 1990, P.L. 101-383) after the *Exxon Valdez* oil spill, which interrupted the shipment of Alaskan oil, triggering spot shortages and price increases. The intention was to provide for an SPR drawdown under a less rigorous finding than that mandated by EPCA. This section, 42 U.S.C. § 6241(h), would allow the President to use the SPR for a short period without having to declare the existence of a “severe energy supply interruption” or the need to meet obligations of the United States under the international energy program.

Under this provision, a drawdown may be initiated in the event of a circumstance that “constitutes, or is likely to become, a domestic or international energy supply shortage of significant scope or duration” and where “action taken ... would assist directly and significantly in preventing or reducing the adverse impact of such shortage.” This authority allows for a limited use of the SPR. No more than 30 million barrels may be sold over a maximum period of 60 days, and this limited authority may not be exercised at all if the level of the SPR is below 500 million barrels. Though this authority has never been formally used, it may have been the model for a swap ordered by President Clinton on September 22, 2000 (see p. 9). As noted above, agreement on extension of the EPCA authorities was not reached until the final days of the 106th Congress (P.L. 106-469). During the roughly 7 months that no formal authorities were in place, the Administration’s position was that the existence of an annual appropriation for the SPR conveys Congress’ intention to maintain the SPR irrespective of whether or not the statutes have lapsed. The existence of legislative proposals in both the House and Senate to fund the SPR in FY2001 and to reauthorize the program were also interpreted by DOE counsel as further evidence of Congress’ intention toward the SPR.

The FY2004 Budget

On July 17, 2003, the House agreed to the Bush Administration request for FY2004 (H.R. 2691) – \$180.1 million, including \$5 million for the Northeast Home Heating Oil Reserve. No new funds were requested for the SPR Petroleum Account because contractors delivering RIK oil or returning oil under the oil exchange program are absorbing transportation costs. While agreeing to the the Administration request, the House Appropriations Committee asked that DOE advise both the House and Senate Appropriations Committees, by December 1, 2003, as to the “circumstances” under which the NHOR might be used. The Committee’s request may imply that some in Congress are not satisfied with the formula currently in place that would permit drawdown of the NHOR.

In its version of the Interior appropriations bill, the Senate agreed to a level of \$173.1 million. The Senate also agreed to an amendment to require the development of procedures to assure that the SPR is filled in a manner consistent with the objective of minimizing acquisition costs – or revenue foregone when the oil is acquired under the RIK program – and consistent with maximizing domestic supply. The amendment stems from a study commissioned by Senator Levin that suggested that the Administration’s diversion of RIK and other oil to the SPR was not always opportunely timed, exacerbating crude price increases. Many industry analysts challenged the study’s conclusions shortly after its release. The study has been posted on the Web.

Establishment of a Regional Home Heating Oil Reserve

While a number of factors contributed to the virtual doubling in some Northeastern locales of home heating oil prices during the winter of 1999-2000, one that drew the particular attention of lawmakers was the sharply lower level of middle distillate stocks immediately beforehand. It renewed interest in establishment of a regional reserve of home heating oil. The Energy Policy and Conservation Act (EPCA, P.L. 94-163) includes authority for the Secretary of Energy to establish regional reserves as part of the broader Strategic Petroleum Reserve; however, the actual SPR Plan originally presented to Congress in 1977 did not provide specifically for a regional reserve. In the 106th Congress, legislation was introduced in both the House and Senate (S. 2047, H.R. 3608) to establish a regional reserve.

On April 12, 2000, the House included in SPR reauthorization legislation (H.R. 2884) language to establish a 2.0 million barrel home heating oil reserve in the Northeast. Within 45 days of enactment, the Secretary would transmit to Congress a plan detailing how the Reserve would be developed. The legislation extends latitude to the Secretary of Energy to acquire storage capacity and refined product by purchase, contract, exchange or lease. Home heating oil from the Reserve could be released in the event of a severe supply disruption, a “severe” price increase, or “another emergency affecting the Northeast.” The same language was also included by the House in its version of the FY2001 Energy and Water Appropriations bill (H.R. 4733).

President Clinton endorsed establishment of a regional reserve in his radio address on April 18, 2000, but requested that Congress specifically authorize such a reserve for the Northeast. When the House and Senate had not resolved their differences over SPR

reauthorization, the Administration announced on July 10, 2000, its intention to proceed with establishment of a regional home heating oil reserve on an interim basis after DOE's General Counsel made the determination that congressional enactment of FY2001 appropriations for the SPR was sufficient authority to proceed. The Administration also submitted to Congress an amendment to the Strategic Petroleum Reserve Plan that would give the regional reserve permanent status. The proposed amendment provided for a regional distillate reserve, not to exceed two million barrels. On July 18, 2000, the Senate amended H.R. 4578, the FY2001 Interior Appropriations, to provide \$4 million for funding the regional reserve. The conferees provided \$8 million, including a transfer of \$4 million in unexpended funds from the SPR Petroleum Acquisition account. The House approved the conference report on October 4, 2000 (348-69), and the President signed it into law (P.L. 106-291) on October 11, 2000.

DOE invited bids for the provision of storage and distillate. Crude oil from the SPR was to be provided in exchange for the refined product and facilities. On August 20, 2000, DOE announced that the regional reserve would be situated at three sites: (1) Equiva Trading would provide 500,000 barrels of storage at a terminal in New Haven, Connecticut; (2) Morgan Stanley Capital Group, Inc., would provide an additional 500,000 barrels of storage at its own site in New Haven; and (3) 1 million barrels would be stored in a Woodbridge, New Jersey, terminal (considered part of the New York Harbor) operated by Amerada Hess. The terminals in New Haven can distribute product by tanker, barge, tank truck or connection to the Buckeye Pipeline. The New Jersey site, near Perth Amboy, distributes heating oil by barge.

On August 24, 2000, DOE accepted a bid from Equiva to provide 1 million barrels of distillate to the two sites in New Haven, and on August 29, announced that the remaining 1 million barrels of home heating oil would be provided to the Amerada Hess storage terminal by Morgan Stanley Capital Group, Inc. The regional reserve was filled by the middle of October 2000.

Controversy over the regional reserve, and the language that would govern its use had been caught up in differences between the House and Senate over extension of the EPCA authorities in 2000. Opponents of establishing a regional reserve suspected that it might be tapped at times that some consider inappropriate, and that the potential availability of the reserve could be a disincentive for the private sector to maintain inventories as aggressively as it would if there were no reserve. One critic of the proposal, the Petroleum Industry Research Foundation, predicted that "aggressive use of a government reserve to hold down prices would hold down the supply response as well." However, advocates of the regional reserve pointed out that the experience of the 1999-2000 winter demonstrated how the problems experienced in the Northeast can quickly generalize into associated increases in the price of other petroleum fuels. They argued that the benefits from measures that prevent the sort of price increases experienced in home heating oil ultimately are shared by consumers of diesel fuel and gasoline, too.

An approach that was proposed by Senator Frank Murkowski in the 106th Congress and included in the Senate version of H.R. 2884 was passed by unanimous consent on October 19, 2000. It predicated drawdown on a regional supply shortage of "significant scope and duration," or if – for seven consecutive days – the price differential between crude oil and home heating oil increased by more than 60% over its five-year rolling average. The

intention was to make the threshold for use of the regional reserve high enough so that it would not discourage oil marketers and distributors from stockbuilding. The House approved the Senate version of H.R. 2884 on October 24, 2000, and it was signed into law (P.L. 106-469) by the President on November 9, 2000. The regional reserve was officially titled the Northeast Heating Oil Reserve (NHOR).

During mid- and late December 2000, the 60% differential was breached. However, this was due to a sharp decline in crude prices rather than to a rise in home heating oil prices. In fact, home heating oil prices were drifting slightly lower during the same reporting period. As a consequence, while the 60% differential was satisfied, other conditions prerequisite to authorizing a drawdown of the NHOR were not. Nonetheless, some Democratic members of Congress were urging President Clinton to initiate a drawdown from the NHOR before leaving office. By February 2001, heating oil stocks had recovered sufficiently to ease any serious concerns about adequacy of supply during the remainder of that winter.

The general strike in Venezuela that began in late 2002 resulted, for a time, in a loss of as much as 1.5 million barrels of daily crude supply to the United States. With refinery utilization lower than usual owing to less crude reaching the United States, domestic markets for home heating oil have had to rely on refined product inventories to meet demand during a particularly cold winter. The strike ended early in 2003 and Venezuelan production began to resume slowly. Exports of Venezuelan oil began to reach the U.S. in March 2003, but there is widespread agreement that it will take time to restore U.S. crude and product inventories. Consequently, home heating oil prices (as well as gasoline prices) are likely to remain elevated for the present. By the week ending February 10, 2003, home heating oil prices in sections of New England were exceeding, on average, \$1.75/gallon. Calls began for use of the NHOR; the price was approaching to within roughly 20 cents of meeting the guidelines for a drawdown.¹ However, with the end of the heating season and the end of the military phase of the war with Iraq, calls for use of the SPR subsided. Nonetheless, in the FY2004 appropriations, the House has asked that DOE advise both the House and Senate Appropriations Committees, by December 1, 2003, as to the “circumstances” under which the NHOR might be used. The Committee’s request may imply that some in Congress are not satisfied with the formula currently in place that would permit drawdown of the NHOR.

Purchases of Crude Oil

With the expiration in the late 1980s of the most recent agreement with Petroleos Mexicanos (PEMEX), the Defense Fuels Supply Center resumed making purchases for the SPR on behalf of DOE from the spot market until fill was suspended for a second time after FY1994. The federal deficit was a major concern, and in light of the common interests established between consuming and producing nations during the Gulf War, the Reserve was deemed by a majority in Congress to be sufficiently filled.

¹ DOE updates and posts a table weekly which shows the various inputs that go into the calculation to determine the current differential. (For additional information on the establishment of the NHOR, readers are also referred to CRS Report RL30781, *U.S. Home Heating Oil Price and Supply During the Winter of 2000-2001: Policy Options.*)

Alternative approaches to direct purchase of oil for the Reserve were studied and debated during the 1980s. Most alternatives had distinct disadvantages or risks. Among the options examined at length were the sale of oil-denominated bonds with the revenues applied to oil purchases; imposition of SPR-dedicated fees on gasoline or oil imports; and sale of the Naval Petroleum Reserves (NPR) or dedication of NPR revenues to SPR purchases. The only option examined thought to have the same advantages as direct purchases was oil leasing.

In the 102nd Congress, omnibus energy legislation in the House (H.R. 776) included a provision that would have required that refiners of domestic and imported oil be assessed 1% of their domestic and imported crude, and imported refined product purchases or cash equivalent, to provide 150,000 b/d for the SPR. The George H. W. Bush Administration and the industry were opposed to this approach, arguing that a set-aside would be the equivalent of a tax and that it would be borne disproportionately by certain companies. The contentious set-aside language was struck on the House floor, and a similar provision in the Senate was defeated during committee markup.

From 1995 until the latter part of 1998, sales of SPR oil, not acquisition, were at the center of debate. However, reduction and elimination of the annual federal budget deficit and the precipitous drop in crude oil prices into early 1999 generated new interest in replenishing the SPR, either to further energy security objectives or as a means of providing price support to domestic producers who were struggling to keep higher-cost, marginal production in service. As an initiative to help domestic producers, Secretary of Energy Bill Richardson requested that the Office of Management and Budget (OMB) include \$100 million in the FY2000 budget request for oil purchases. The proposal was rejected. It was also periodically suggested that it be U.S. policy to purchase domestic oil for the SPR as a means of keeping marginal wells in production. The SPR reauthorization enacted by the 106th Congress (P.L. 106-469) included an amendment authorizing purchase of oil from U.S. wells producing 15 barrels or less (25 or less if there is a high water content to the recovered oil) in the event that the price of crude falls to \$15/barrel (bbl) or below. In September 1998, the Big Hill SPR site in Texas was activated as a foreign trade subzone, which would enable foreign countries to store surplus production in the Reserve without paying customs fees and taxes, but there have been no developments in this regard.

Royalty-In-Kind Acquisition for the SPR

When OMB turned down DOE's request to fund purchases for SPR oil in FY1999, DOE suggested as an alternative that a portion of the royalties to the government from oil leases in the Gulf of Mexico be accepted "in kind" (in the form of oil) rather than as revenues. The Department of Interior (DOI) was reported to be unfavorably disposed to the (RIK) proposal, but a plan to proceed with such an arrangement was announced on February 11, 1999. (Legislation had also been introduced — H.R. 498 — in the 106th Congress to direct the Minerals Management Service to accept royalty-in-kind oil.) Producers have favored institution of such a program because they maintain the current system for valuation of oil at the wellhead is complex and flawed. Acquiring oil for the SPR by RIK avoids the necessity for Congress to make outlays to finance direct purchase of oil; however, it also means a loss of revenues in so far as the royalties are paid in wet barrels rather than in cash.

Final details were worked out during the late winter of 1999. The ultimate intention was to replace the 28 million barrels that were sold in recent years; it would take about 10 months to replenish this volume at the anticipated rate of roughly 100,000 b/d. At its inception, the RIK plan was greeted as a well-intended and helpful first step. This Clinton program, and the return of oil that was “swapped out” from the SPR in 2000 by the Clinton Administration, would account for a total of 47 million barrels to be restored to the SPR. President Bush’s initiative projected adding another 108 million barrels to bring the SPR to existing capacity in 2005.

Table 1 summarizes the number of sources that provided oil for the Reserve from the program’s inception until the end of 1995, when conventional fill was suspended. Following the test sale and actual drawdown of SPR oil during the Persian Gulf War, the SPR’s holdings declined to 568.5 million barrels. Purchases restored the reserve to nearly 591.6 million barrels before they were suspended. Replacement of oil “swapped” from the SPR and RIK oil had increased SPR storage to more than 605 million barrels by mid-June 2003.

The terrorist attacks upon the United States on September 11, 2001, accelerated interest in purchasing crude for the SPR. Some thought, in the short term, that depending upon the nature of the U.S. response and potential reprisals, the possibility existed for a politically driven interruption in oil exports bound for U.S. shores, a threat to waterborne tankers, or sabotage of oil facilities in the United States itself. On November 13, 2001, President Bush ordered fill of the SPR to its capacity of 700 million barrels, relying upon oil acquired by the government through royalty-in-kind. During 2002, nearly 40 million barrels of oil were deposited in the SPR, some of which was oil returned under the terms of a “swap” in the fall of 2000 (for details, see p. 10).

However, in light of tightness in world oil markets and increasing prices, the Administration agreed to delay deliveries scheduled for late 2002 and the first months of 2003. The Administration had intended to boost deliveries to the SPR to 130,000 barrels per day (b/d) during April 2003, a total of 3.9 million barrels. But, on March 4, 2003, DOE delayed delivery of all but 15,000 b/d of RIK oil. With the end of the military phase of the war in Iraq and little effect on oil markets, deliveries of RIK oil, and oil still owed from an “exchange” held in 2000, resumed in the spring of 2003 and ranged between 180,000-230,000 b/d during the late summer of 2003.

Deposit of 40 million barrels into the SPR during 2002 was criticized in a report released on March 3 by Senator Levin, representing the minority on the U.S. Senate Permanent Committee on Investigations. The study argued that this increment of fill had been a major contributor to oil price increases during that year (the text is available at [<http://levin.senate.gov/issues/crudeoilreport.htm>]). A number of industry analysts quickly dismissed the study, arguing that the quantity of SPR fill was not significant enough to have driven the market. On August 5, 2003, Senator Levin reiterated his charges in a letter to Secretary of Energy Abraham, requesting that DOE suspend purchases for the SPR until crude prices decline. The study has been posted on the Web.

Table 1. SPR: Crude Oil Received Through 1995
(millions of barrels)

Source	Net Contract/Quantity	Percent of Total/%
Mexico	256.7	41.9
North Sea (U.K.)	147.3	24.0
United States	48.1	7.8
Saudi Arabia	27.1	4.4
Libya	23.7	3.9
Iran	20.0	3.3
UAE	18.4	3.0
Nigeria	15.1	2.5
Norway	11.9	1.9
Oman	9.0	1.5
Egypt	8.9	1.5
Ecuador	6.2	1.0
Algeria	6.2	1.0
Cameroon	3.4	0.6
Iraq	3.4	0.6
Gabon	2.4	0.4
Qatar	2.3	0.4
Angola	1.0	0.2
Venezuela	0.9	0.1
Peru	0.4	0.1
Argentina	0.4	0.1
Total Receipts	612.8	100.0

Source: U.S. Department of Energy

Drawdown of the Reserve

Drawdown Capability

The resources of the Strategic Petroleum Reserve are of little value unless DOE can remove, transport, and sell the oil expeditiously and in significant volume during a supply emergency. SPR drawdown and distribution capability was designed to be 4.3 million barrels per day (mbd), sustainable for 90 days. However, owing to the decommissioning of the Weeks Island storage site (completed during FY1999) the drawdown capability for the SPR would be roughly 4.1 million barrels daily during the first 90 days.

Although fears were expressed periodically during the 1980s whether the facilities for withdrawing oil from the Reserve were in proper readiness, the absence of problems during the first real drawdown in early 1991, during the Persian Gulf War, appears to have allayed much of that concern. However, some SPR facilities and infrastructure were beginning to

reach the end of their operational life. A Life Extension Program, initiated in 1993 and now completed, upgraded or replaced all major systems to ensure the SPR's readiness to 2025.

Concern has also been periodically raised about whether the SPR would be able to provide meaningful relief to Hawaii. Reauthorization legislation enacted late in the 105th Congress (P.L. 105-388) included new provisions that would allow companies servicing Hawaii to enter into a binding agreement for purchase of SPR oil during a drawdown. The state would be assured some quantity of oil at a price that would be an average of all successful bids. The volume sold to Hawaii in this manner could be subject to certain limits.

Debate Over When to Use the Reserve

A debate during the 1980s over when, and for what purpose, to initiate a drawdown of SPR oil reflected the significant shifts that were taking place in the operation of oil markets after the experiences of the 1970s, and deregulation of oil price and supply. Sales of SPR oil authorized by the 104th Congress — and in committee in the 105th — renewed the debate for a time. The intended use of the SPR has become an issue again, beginning with the rise in home heating prices during the winter of 1999-2000.

The SPR Drawdown Plan, submitted by the Reagan Administration in late 1982, provided for price-competitive sale of SPR oil. The plan rejected the idea of conditioning a decision to distribute SPR oil on any “trigger” or formula. To do so, the Administration argued, would discourage private sector initiatives for preparedness or investment in contingency inventories. Many analysts, in and out of Congress, agreed with the Administration that reliance upon the marketplace during the shortages of 1973 and 1979 would probably have been less disruptive than the price and allocation regulations that were imposed. But many argued that the SPR should be used to moderate the price effects that can be triggered by even small shortages (like those of the 1970s or the tight inventories experienced during the spring of 1996) and lack of confidence in supply availability. Early drawdown of the SPR, some argued, was essential to achieve these desirable objectives.

The Reagan Administration revised its position in January 1984, announcing that the SPR would be drawn upon early in a disruption. This new policy was hailed as a significant departure, easing considerably congressional discontent over the Administration's preparedness policy, but it also had international implications. Some analysts began to stress the importance of coordinating stock drawdowns worldwide during an emergency lest stocks drawn down by one nation merely transfer into the stocks of another, and defeat the price-stabilizing objectives of a stock drawdown. In July 1984, responding to pressure from the United States, the International Energy Agency agreed “in principle” to an early drawdown, reserving decisions on “timing, magnitude, rate and duration of an appropriate stockdraw” until a specific situation needed to be addressed.

This debate was revisited in the aftermath of the Iraqi invasion of Kuwait on August 2, 1990. The escalation of gasoline prices and the prospect that there might be a worldwide crude shortfall approaching 4.5-5.0 million barrels daily prompted some to call for drawdown of the SPR. The debate focused on whether SPR oil should be used to moderate anticipated price increases, before oil supply problems had become physically evident.

In the days immediately following the Iraqi invasion of Kuwait, the George H. W. Bush Administration indicated that it would not draw down the SPR in the absence of a physical shortage simply to lower prices. On the other hand, some argued that a perceived shortage does as much and more immediate damage than a real one, and that flooding the market with stockpiled oil to calm markets is a desirable end in itself. From this perspective, the best opportunity to use the SPR during the first months of the crisis was squandered. It became clear during the fall of 1990 that, in a decontrolled market, physical shortages are less likely to occur. Instead, shortages are likely to be expressed in the form of higher prices as purchasers are free to bid as high as they wish to secure scarce supply.

Within hours of the first air strike against Iraq in January 1991, the White House announced that President Bush was authorizing a drawdown of the SPR, and the IEA activated the plan on January 17. Crude prices plummeted by nearly \$10/barrel (bbl) in the next day's trading, falling below \$20/bbl for the first time since the original invasion. The price drop was attributed to optimistic reports about the allied forces' crippling of Iraqi air power and the diminished likelihood, despite the outbreak of war, of further jeopardy to world oil supply. The IEA plan and the SPR drawdown did not appear to be needed to help settle markets, and there was some criticism of it. Nonetheless, more than 30 million barrels of SPR oil was put out to bid, and 17.3 million barrels were sold and delivered in early 1991.

The Persian Gulf War was an important learning experience about ways in which the SPR might be deployed to maximize its usefulness in decontrolled markets. As previously noted, legislation enacted by the 101st Congress, P.L. 101-383, liberalized drawdown authority for the SPR to allow for its use to prevent minor or regional shortages from escalating into larger ones; an example was the shortages on the West Coast and price jump that followed the Alaskan oil spill of March 1989. In the 102nd Congress, omnibus energy legislation (H.R. 776, P.L. 102-486) broadened the drawdown authority further to include instances where a reduction in supply appeared sufficiently severe to bring about an increase in the price of petroleum "severe" enough to "likely . . . cause a major adverse impact on the national economy."

A new dimension of SPR drawdown and sale was introduced by the Clinton Administration's proposal in its FY1996 budget to sell 7 million barrels to help finance the SPR program. While agreeing that a sale of slightly more than 1% of SPR oil was not about to cripple U.S. emergency preparedness, some in the Congress vigorously opposed the idea, in part because it might establish a precedent that would bring about additional sales of SPR oil for purely budgetary reasons, as did indeed occur. There were three sales of SPR oil during FY1996. The first was to pay for the decommissioning of the Weeks Island site. The second was for the purpose of reducing the federal budget deficit, and the third was to offset FY1997 appropriations. The total quantity of SPR sold was 28.1 million barrels, and the revenues raised were \$544.7 million.

What follows is a brief history of circumstances in recent years when there have been calls for use of the SPR. A review of these events captures the difficulty of reconciling market developments with the authorities that govern an SPR drawdown. This history also touches upon how the SPR has been used in the past when the authorities governing the SPR had expired.

Calls for a Drawdown: Home Heating Oil, Winter 1999-2000

At the start of 2000, reducing the federal budget deficit was no longer the argument for a sale of SPR oil. Some now argued that the leap in home heating oil prices from the winter of 1998-1999 to the winter of 1999-2000 was a rationale for drawing down the SPR. As the price increases generalized to diesel fuel, heating oil, and gasoline, the calls for an SPR drawdown began to multiply.

Oil prices began making a sharp recovery in the late winter of 1999, rising from the low teens at the beginning of the year to more than \$22/bbl by the early fall and crossing \$30/bbl in mid-February 2000. A major cause was production cuts settled upon in March 1999 by the Organization of Petroleum Exporting Countries (OPEC) and other major oil-exporting nations. On September 21, 1999, warning of high home heating oil prices in the winter in the Northeast, Senator Schumer made the first of several requests to then-Secretary of Energy Richardson to authorize a drawdown from the SPR to blunt price increases.

At issue during the winter of 1999-2000 was whether the price for home heating oil had reached a level severe enough to stir a shift in policy governing SPR use – and whether the SPR could be any sort of remedy. Though the price of heating oil and other petroleum products is inextricably tied to oil supply, policy governing SPR use has generally been that SPR oil is to be used primarily to ameliorate oil supply shortages and their consequences (including higher prices), but not to be used to explicitly regulate prices.

Additionally, some argued that a drawdown of the SPR would not alleviate the problem. The Clinton Administration's contention was that high prices were the consequence of a number of temporary factors that could not be resolved any faster by intervention. This was because the tight supply of home heating oil in the Northeast was due in part to idle refinery capacity and refiners' drawdown of stocks during recent months while crude prices were escalating. Refiners preferred to use lower-cost inventory rather than purchase higher-priced crude. Prolonged freezing temperatures also had made certain ports less accessible, adding to distribution problems. The Administration argued that the high prices prevailing would encourage increased production of home heating oil, a shift of refined product stocks to the Northeast, and additional product imports that would arrive in due course. Though it would take some weeks for these effects to take hold, the argument was that these developments would alleviate the supply problem long before a drawdown from the SPR could help. In the meantime, some governors requested and received additional funds from LIHEAP, the Low-Income Home Energy Assistance Program administered by the Department of Health and Human Services.

As gasoline and diesel fuel prices began to increase in the late winter of 2000, the calls for an SPR drawdown began to come from sections of the country other than the Northeast. The Administration continued to oppose a drawdown, investing its efforts instead in a number of trips by then-Secretary Richardson to the Middle East and elsewhere to talk with OPEC oil ministers, and the oil ministers of other oil-exporting nations. Following OPEC's commitment on March 28, 2000, to boost production, crude price began to decline to the mid-twenties. The pressure for an SPR drawdown had subsided by the first week of April 2000; however, it resumed in June 2000 when gasoline prices began to reach and breach \$2.00/gallon in the Midwest.

September 2000: A Swap Is Announced

As the summer of 2000 ended, crude oil prices continued to escalate despite boosts in production by the OPEC cartel. Stocks of home heating oil had been at historic lows, and concern was growing about the fresh pressure that escalating crude prices, colder weather, and anticipated refinery maintenance might have on home heating price and supply during the winter. On September 22, 2000, President Clinton announced a swap of 30 million barrels of oil from the SPR, and contracts were awarded on October 4. Interested parties bid to borrow quantities of not less than 1 million barrels. Contracts were awarded on the basis of how much oil bidders offered to return to the SPR between August 1 and November 30, 2001. In effect, bidders based their offers on their best models of what it would cost them to acquire replacement crude, weighed against the benefit to them of having additional supply at the beginning of the winter. Although there were reports that interest in the swap was thin, this proved not to be the case. DOE awarded 24 million barrels of sweet crude, and 6 million barrels of sour. Under the contracts accepted by DOE, a total of 31.5 million barrels were to be returned to the SPR in 2001.

Over the course of the days between announcement of the swap, and to the day after the awards were made, crude prices softened from \$37 to less than \$31/bbl. It was arguable how much of this was attributable to the swap, or whether, absent the escalation in Middle East tensions during the week of October 9, 2000, the decrease would have been maintained anyway. It may have been that U.S. willingness to use the SPR temporarily took the wind out of a speculative element in the futures market. Some argued that the Administration announcement was a calculated political gesture to affect price, that the circumstances did not merit a drawdown of SPR oil, and that adding crude to the market would do little to boost home heating oil supply because refineries were operating at near capacity. Others contended that there was a legitimate need to call upon SPR supply, that it would increase supply and exert some stabilizing influence.

The preponderant risk in the transaction has been borne by the oil companies or refiners who placed bids. The volume a refiner promised to return, and the price at the time the refiner acquired the replacement crude, determines the refiner's effective return on participating in the swap. However, in the absence of congressional appropriations to acquire oil for the SPR in recent years, the Reserve receives under the swap a net acquisition that it would not have otherwise had. In that sense, it is not especially material whether or not the quantity of oil returned to the SPR is at price parity with the quantity originally borrowed.

Criticism of the swap was renewed when three bidders awarded a total of 10 million barrels of sweet crude were having difficulties securing letters of credit. Two were unable to meet the deadline; on October 14, 2000, DOE awarded the 7 million barrels they controlled to three firms who had been successful bidders in the initial solicitation.

The peculiar circumstances surrounding some of the original bidders spurred fresh criticism and congressional hearings into the swap, as did reports that higher prices for home heating oil in Europe were likely to draw product refined from the SPR crude to overseas market. Senator Murkowski, Chairman of the Senate Energy Committee, issued a press release on October 6, 2000, underscoring the irony that oil from the U.S. SPR might relieve European, rather than domestic markets. While it can be argued that, in a world market, it

does not greatly matter where the product goes, a principal issue here appeared to be the reluctance among some European nations to draw upon their own strategic stocks. Officials in Spain and France called for a coordinated stock drawdown by the European Union in light of the U.S. action, but opinion was divided among the membership, and it was supposed that countries more receptive to such a drawdown would be disinclined to act independently. An advantage of a European drawdown is that these stocks are held in the form of refined products, as well as crude, and would reach product markets faster. European Union distillate stocks were reported to cover 100 days' demand. On October 16, 2000, Secretary of Energy Richardson indicated that several domestic refiners had agreed to temporarily cease exporting home heating oil.

On March 29, 2001, the repayment schedule was renegotiated to allow five companies to return nearly 24 million barrels of the swapped oil between December 2001-January 2003. To compensate for the extension of the schedule, DOE will receive additional oil, bringing the total projected repayment to 33.54 million barrels. It is believed that the schedule was renegotiated to keep pressure off crude markets, and to keep this volume of oil in the private sector where it could be tallied in industry stocks going into the winter of 2001-2002. Delivery of the last 5.9 million barrels yet to be replaced was renegotiated in December 2002 and again at the end of January 2003 as the fall in crude exports from Venezuela contributed to a tightness in world oil markets.

CHRONOLOGY

- 07/31/03** — The Senate passed its own version of H.R. 6. It, too, would permanently authorize the SPR and require that it be filled to its capacity, but does not include any provisions for its expansion.
- 04/11/03** — The House passed comprehensive energy legislation (H.R. 6) that would permanently authorize the SPR, and provide \$1.5 billion to finance expansion of the SPR to 1 billion barrels.
- 02/13/02** — H.J.Res. 2, passed in both the House and Senate, included a 5-year extension of the SPR and NHOR authorities through the end of FY2008.
- 09/24/02** — Conferees on comprehensive energy legislation (H.R. 4) agreed to language that would permanently authorize the SPR and require fill to its current capacity of approximately 700 million barrels. The 107th Congress would adjourn without enacting this legislation.
- 11/13/01** -- President George W. Bush ordered that the SPR be filled to its capacity of 700 million barrels with oil paid to the government as royalty-in-kind.
- 03/29/01** -- DOE agreed to a renegotiated schedule for return of nearly 24 million barrels of the oil "swapped" from the SPR. Five companies are to return oil between December 2001-January 2003, and will provide an additional 2.2 million barrels to compensate for the delay.

- 11/09/00** -- President Clinton signed legislation (P.L. 106-469, H.R. 2884) reauthorizing the SPR and permanently establishing a Northeast Heating Oil Reserve (NHOR).
- 09/22/00** -- President Clinton authorized a “swap” of 30 million barrels from the SPR.
- 08/11/99** — DOE announced that the Weeks Island site had been filled with brine, was stable geologically, and ready to be turned over to the General Services Administration for disposition. Of the oil stored in Weeks Island, 98% was recovered and transferred to other SPR sites.
- 06/16/99** — DOE announced four contracts to provide an additional 9.3 million barrels to the SPR as royalty-in-kind for production from federal leases. This brought the total volume settled upon to date from this program to more than 13 million barrels.
- 02/11/99** — Secretary of Energy Bill Richardson announced a plan that would provide 28 million barrels of oil to the SPR at the rate of 100,000 b/d of crude oil as payment “in-kind” of royalties on federal leases in the Gulf of Mexico.
- 11/13/96** — DOE announced that it had accepted another \$53.5 million in bids for SPR oil authorized to be sold during FY1997, raising total sales for that fiscal year to \$142 million, or roughly two-thirds of the amount authorized by P.L. 104-208.
- 04/29/96** — President Clinton ordered the release of 12 million barrels of SPR oil to help blunt a recent runup in crude and product prices.
- 03/00/96** — DOE completed sale of SPR oil authorized to finance emptying and decommissioning of the Weeks Island site. Owing to higher crude prices, sale of 5.1 million barrels, at an average price of \$18.92/bbl, was sufficient to generate \$96.4 million in revenues.
- 09/30/94** — The FY1995 Department of Interior and Related Agencies Appropriations Act (P.L. 103-332) essentially curtailed oil purchases and fill of the SPR for FY1995, in keeping with the Clinton Administration’s budget proposal.
- 10/24/92** — P.L. 102-486 enacted, broadening the circumstances under which the SPR could be tapped, providing for expansion of the SPR to one billion barrels, and including further provisions affecting leasing, potential purchases of oil stripper well production, and requiring a study of how U.S. insular areas would be accommodated in the event of a disruption.
- 06/19/92** — The SPR took delivery of the first oil since fill was suspended in 1990.
- 05/12/92** — The George H. W. Bush Administration announced purchase of one million barrels of North Sea oil for the SPR at a contract price of \$19.78, plus transportation costs. A few days earlier, arrangements were announced for

delivery of 2.4 million barrels of Naval Petroleum Reserve oil over a 4-month period commencing in June 1992.

- 02/25/91** — The George H. W. Bush Administration announced it was preparing to resume purchase of oil for the SPR on international spot markets at a rate of 25,000 b/d for three months.
- 01/16/91** — Within hours of the initial air attacks on Iraq, President George H. W. Bush authorized a drawdown of the Strategic Petroleum Reserve in support of a plan agreed to just days earlier by the International Energy Agency.
- 08/08/90** — The George H. W. Bush Administration indicated its willingness to use the SPR in the event of “any severe supply interruption,” but indicated that any release of SPR crude would be coordinated with U.S. allies.
- 08/01/90** — Iraqi forces invaded Kuwait. Acquisition of oil for the SPR was suspended.
- 07/11/84** — The IEA agreed in principle that government-owned or -controlled oil stocks should be used early during a supply disruption if deemed helpful to calming nervous oil markets and restraining price increases. The agreement did not supersede the emergency sharing program already in place, but was intended to broaden the repertoire of emergency responses that the IEA may consider.
- 01/24/84** — Secretary of Energy Donald Hodel testified before the Senate Subcommittee on Energy, Nuclear Proliferation, and Government Processes of the Committee on Governmental Affairs that the Reagan Administration supported early use of the Strategic Petroleum Reserve during a petroleum disruption to help stabilize markets.
- 05/00/82** — DOE released a report required by the Omnibus Budget Reconciliation Act of 1981, which concluded that a Reserve larger than 750 million barrels would not provide net economic benefits to the United States.
- 06/30/80** — Congress passed the Energy Security Act requiring that the SPR be filled at a rate of at least 100,000 b/d for FY1981 beginning October 1, 1980. Fill was resumed in late September 1980.
- 03/00/79** — Purchase of oil for the SPR was suspended because of the tight international crude oil market, Saudi objections, and budget considerations.
- 08/00/77** — First crude oil pumped into SPR.

FOR ADDITIONAL READING

U.S. Congress. Senate. Committee on Energy and Natural Resources. Subcommittee on Energy Research, Development, Production and Regulation. *Energy Policy and Conservation Act*. Hearing on S. 1051. Sept. 14, 1999. S.Hrg. 106-329.