Issues Facing the United States Strategic Petroleum Reserve

*By John D. Shages**

In 1975, the United States took two major energy security steps in response to the 1973-74 oil crises. Passage of the Energy Policy and Conservation Act (EPCA) authorized the United States to join other oil consuming nations in the International Energy Agency and authorized the creation of a Strategic Petroleum Reserve (the Reserve) of up to one billion barrels of oil. EPCA also laid out a very precise format for policy related to the Reserve. Some timetables were written into the legislation, but for the most part the creation of the Reserve was to be detailed in a Strategic Petroleum Reserve Plan. That Plan was required to be submitted to Congress, and changes to the Plan required amendments to also be prepared and submitted to the Congress prior to implementation. EPCA and the Reserve Plan as currently amended require that the Department of Energy have a Reserve with 750 million barrels of capacity, that oil be acquired for the Reserve as rapidly as possible, and that the Department submit a plan amendment for expansion of the Reserve to one billion barrels.

Deviations from Course

In 1991 the Department did reach a storage capacity of 750 million barrels with completion of Big Hill, the fifth Reserve site. However, due to increasing concerns about the Federal budget deficit, Congress began stripping the Strategic Petroleum Reserve program of its appropriations for oil acquisition after the Gulf War in 1991. The last oil was acquired in 1994 and the Reserve's inventory peaked at 592 million barrels. Because of the lack of funds to acquire oil, the Department then decided not to complete its plan amendment for a one billion barrel reserve, reasoning that no new capacity would be required until fill could be resumed. Then in 1993, the Department discovered a structural flaw in one of the SPR storage sites, the Weeks Island mine. The Department determined, after reviewing all of the geologic data, that the integrity of the mine could not be trusted, and began the process of decommissioning and abandonment. The loss of the 70 million barrel Weeks Island site reduced the total storage capacity of the Reserve to 680 million barrels.

Unfortunately, the loss of the Weeks Island site precipitated another round of reversals for the Reserve. The estimated cost of decommissioning and abandonment was $100 million – funds not anticipated to be included in the Department's shrinking FY 1996 budget. The solution was to propose a one time sale of $100 million of the Reserve's oil to cover the decommissioning costs. While the Administration and Congress agreed to the Department's proposal, the sale established a precedent for non-emergency oil sales. As a result, an amendment to a later FY 1996 appropriations act directed the Department to sell $227 million worth of oil to allow the funding of education programs. Again in FY 1997, although opposed by the Department, the appropriations act passed by the Congress directed the Department to sell $220 worth of oil, an amount equivalent to the appropriation for the Reserve's operations, maintenance and management. At that point some members of Congress, most notably Senator Murkowski, Chairman of the Committee on Energy and Natural Resources, and Chairman Schaefer of the House Subcommittee on Energy and Power of the Committee on Commerce, took exception to the concept that oil could be sold from the Reserve on a year-to-year basis without knowing when such sales would stop or when progress would be made toward the objectives stated in EPCA and the Reserve Plan. The Department agreed with this assessment and also agreed that it would prepare for the Administration a Statement of Policy on the Strategic Petroleum Reserve. That Statement of Policy will be a guide for the Administration and also give notice to Congress of the limits to which it can go to the SPR "piggy bank" for funds.

Public Comment

The Department of Energy has conducted numerous studies and issued many reports over the course of years on virtually every aspect of Strategic Petroleum Reserve policy, facilities development, size, and financing. Most of the analysis has been performed by Government analysts, contractors, and interested academics. While there was a natural temptation to revisit all of the issues in the same way for the Statement of Policy, 1996 had presented a number of challenges to the Reserve that indicated a growing public awareness of its potential for impacting markets. The two most notable events were the sale of crude oil during the Spring 1996 gasoline price spike and the debate over the creation of a regional heating oil reserve that occurred in September and October 1996 when prices rose to unseasonable levels. Because of that heightened public interest in the Reserve, the Department determined to augment its analysis of Reserve issues by posing open ended questions about the major Reserve issues to the public, oil industry, public interest groups, state governments and think tanks. A Federal Register Notice to that effect was published on April 30, 1997, and comments were received through July 16, 1997. The Federal Register Notice posed the following questions:

1. Should the United States continue to maintain a Strategic Petroleum Reserve?
2. What should be the size and composition of the Reserve's facilities and oil inventory?
3. How should Reserve oil be distributed?
4. What should be the drawdown and distribution capability for the Reserve?
5. What is an appropriate policy for revenue raising sales from the Reserve?
6. Should the Reserve's facilities be available for alternative uses?
7. Should the Reserve attempt to raise funds through alternative financing, innovative financial instruments, or buying and selling inventory?

The Responses:

In response to the Federal Register Notice the Department received comments from:

- 8 oil companies
- 9 associations and interest groups, including the International Energy Agency

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- 11 states, including the Interstate Oil and Gas Compact Commission
- 101 individuals
  - East Coast (8)
  - Gulf Coast (73)
  - Mid West (8)
  - Rockies (3)
  - West Coast (9)

Issue 1: Should the United States continue to maintain a Strategic Petroleum Reserve?

Responses to the Department of Energy's Federal Register Notice support the Administration's recent assertions that the need for a Strategic Petroleum Reserve is just as critical now as it was when the Reserve was created in the 1970's. The overwhelming majority of respondents support the continuation of the Strategic Petroleum Reserve program as it is now constituted. Supporters of maintaining the SPR include nine out of ten state and government agencies; eight petroleum or petroleum related companies; seven major nationwide organizations including the Independent Fuel Terminal Operators Association, Petroleum Industry Research Foundation, National Petroleum Refiners Association, the National Association of Manufacturers, the Chemical Manufacturers Association, American Petroleum Institute and the National Council of Farm Cooperatives; and numerous individuals. The State of Washington wants a Strategic Petroleum Reserve but wants the cost and burden of its maintenance transferred to the petroleum industry.

Issue 2: What should be the size and composition of the Reserve's facilities and oil inventory?

The public interest in the Reserve's size and composition was highly correlated with the level of familiarity and association with the oil industry. Among the companies and associations responding to the notice the most common response (seven) was that the Reserve should have the equivalent of 90 days of imports (about 780 million barrels at current import levels), PIR, Inc. endorsed an interim level of 680 million barrels, and four companies endorsed the current level of 563 million barrels. All companies endorsed the continuation of an all crude oil reserve, citing the flexibility of crude oil. All companies and associations, but for The Science and Environmental Policy Project which recommends not having a Reserve, endorsed the current level of reserve or larger. The states responding were less certain, with only six of ten states expressing a size preference and recommending five different sizes ranging from a minimum of 500 million barrels to one billion barrels (two states recommend a billion barrels). Only two states (Indiana and Louisiana) said that refined products might be considered but they did not endorse specific products or a size for a refined product reserve.

Issue 3: How should Reserve oil be distributed?

Of the many respondents to the question of how the Reserve's oil should be distributed, most endorsed the current concept of unrestricted public sales to the highest responsible bidder. No respondents preferred distributing SPR oil by any means other than the existing competitive sales process, and most recommended a continuation of the current process without change. Three respondents advocated that the sale be limited to U.S. refiners, petrochemical companies, or petroleum marketeers having established processing agreements with refiners. One of these three companies also wanted foreign and domestic speculators excluded from the eligible bidders to prevent possible hoarding of supplies to take advantage of price rises. Some commentators observed that processes could be improved to speed the sales and deliveries.

Issue 4: What should be the drawdown and distribution capability for the Reserve?

Only 60 percent of the oil companies, industry associations, state energy offices and organizations responded to this question regarding the desired drawdown and distribution capability of the Reserve. The majority of the oil companies indicated that the proposed drawdown rate of 4.5 million barrels per day is currently adequate for the SPR. However, a number indicated that this rate needs to be periodically reviewed and potentially increased in the future in light of the rising U.S. import levels. The oil industry also expressed confidence in the Department's ability to establish and maintain an appropriate drawdown rate for the Reserve.

In general, the few associations that opined on this issue indicated support for the planned drawdown rate of 4.5 million barrels per day. In contrast to the oil industry and associations, the state energy offices and state organizations expressed overwhelming support for restoring the Reserve's drawdown rate to 60 percent or more of the U.S. daily import rate. Responses from the general public to this question varied considerably. In general, the majority of responses were almost equally divided between the SPR's current drawdown capability and increasing the SPR's drawdown capability to a level between 50 and 60 percent of the U.S. daily import rate (the 50 to 60 percent objective equates to a 5 to 6 million barrel per day rate in 2005, and 6.5 to 7.2 million barrels per day by 2015).

Issue 5: What is an appropriate policy for revenue raising sales from the Reserve?

A majority of the respondents to the Federal Register Notice opposed further sales of Strategic Petroleum Reserve oil for deficit reduction purposes. This position was supported by 100 percent of the petroleum company, state offices and association responses. Only four out of 97 respondents explicitly advocated sales. One individual suggested that the receipts from the sales be used only for the maintenance of the Reserve. Many respondents urged that the Government only buy oil when prices are low and only sell when prices are high.

Issue 6: Should the Reserve's facilities be available for alternative uses?

The majority of the respondents to the Federal Register Notice favored the lease of unused Strategic Petroleum Reserve capacity to other stockpiling nations. A number of respondents counseled that the Government should proceed with caution on provisions to allow foreign entities to store oil in the SPR and assure that foreign entities agree to terms and conditions that would allow the U.S. to access its own oil without hindrance. One respondent counseled against leasing space to non-International Energy Agency countries out of concern that such lessees might have ulterior motives, and would attempt to make drawdown of the oil ineffective as a response to an emergency.

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Respondents overwhelmingly favor the commercialization of underutilized facilities such as pipelines, provided that their function can be contracted for when needed. The industry responses noted the positive benefits to industry and the elimination of environmental disruptions by avoiding the construction of duplicate facilities for commercial use.

In both the facility and storage cases, respondents were overwhelmingly in favor of the Strategic Petroleum Reserve reducing its net costs by generating revenue from facilities.

Issue 7: Should the Reserve attempt to raise funds through alternative financing, innovative financial instruments, or buying and selling inventory?

The overwhelming response from corporations, institutions, and individuals was that the Government is ill equipped to enter into markets for high risk financial instruments such as options. The oil companies responding were very clear that buying and selling oil for the purpose of financial gain is not the business of the Strategic Petroleum Reserve, and should be avoided. Most respondents were silent on "leasing" or other contractual methods of controlling oil without taking an equity position in the oil.

Assessment of the Issues:

To a significant degree, the responses to the public comments tend to reinforce the current and traditional policies of the Government toward the Strategic Petroleum Reserve. The issue of whether to have a Reserve has not been seriously challenged within the Administration. Proponents of eliminating the Reserve as an unnecessary intrusion into open markets were not supported by the industry, the states or the public. Distribution of the oil via sales to the highest bidder was also thoroughly endorsed; there is no advocacy for an allocation system. The issue of drawdown and distribution capability was widely ignored in the responses, and treated as a technical matter rather than a policy issue. The Department views the value of the Reserve to be very closely tied to its drawdown and distribution capability, and has budgeted to restore the capabilities lost by the decommissioning of the Weeks Island site by enhancements at the other sites.

The Department was opposed to the last two sales of oil from the Reserve and is opposed to the sale of oil that is now required by appropriations bills currently being worked on in the Congress. The Director of the Office of Management and Budget has opposed a sale in FY 1998, and now the majority of respondents have said that the Reserve's inventory should be preserved for energy supply emergencies. Similarly, the Department has had recent successes in leasing and selling its off-reserve terminal and pipeline facilities. Industry and the public endorse putting underutilized facilities to work, and the recently enacted Balanced Budget Act provides specific authority for the storage of foreign strategic oil in the Reserve's unutilized caverns. At this time there does not appear to be any constituency for deviating from that policy.

Issues in Play

Of the seven issues that will be addressed in the Administration's Statement of Policy there are three issues that will occupy the attention of policy makers and which will have advocates for different options. In order of ascending importance they are:

Alternative financing: The Department has been looking at ways of acquiring oil other than by direct purchase since 1990, but to date nothing has come of the limited initiatives. The use of options for both the purchase and sale of SPR has been advocated by various observers of the Reserve program over the years on theoretical grounds of efficiency. On the other side, critics point out the potential for losses and the negative impact that a financial failure of even very limited scope would have on the whole Reserve program. Because the public response to the use of financial derivatives of any type was so negative, there will probably be inertia to continue to acquire and sell oil by direct purchase and to seek to acquire oil by "leasing" or equivalent contractual means as is currently authorized by the Energy Policy and Conservation Act. Acquiring oil through the futures market does not have noticeable opposition, and will probably be further discussed.

Regional Refined Product Reserves: The Department is near to releasing a report on a study of the Northeast heating oil markets and the costs and potential benefits of creating a distillate reserve. All previous reviews of the regional issue were oriented toward the question of whether the Strategic Petroleum Reserve could offset a disruption of imports of refined products. The current study does not focus on import disruptions, but rather the benefits of a refined product reserve in the event of severe winter weather when inventories at the beginning of the weather event are insufficient to keep prices within a normal range, of price fluctuation. Based on the work that the Department has done, there is room to argue both sides of this issue. It is highly notable that the public did not pay much attention to this issue in its responses, and most notable that none of the Northeast state governments nor any individuals from New England responded to the Federal Register Notice solicitation for comments.

Reserve Size and Inventory: The current debate on this issue can be separated into three categories, economic, institutional, and global leadership. The last time that the Department formally looked at size options was in 1990 when it published its report *Strategic Petroleum Reserve Analysis of Size Options*. That analysis depended heavily on a deterministic cost benefit model that required assumptions about the likelihood of disruptions, offsetting production, and the negative impact that a petroleum price spike could be expected to have on the U.S. economy. That analysis concluded that economic analysis supported a Reserve of between 500-600 million barrels. The analysis also considered the national security aspects of the Reserve, and U.S. international leadership. Based on these less quantitative considerations, the Administration at that time endorsed a Reserve of 750 million barrels. In its current reassessment of size, the Department is looking at how supply, demand, price, and potential production offsets have actually tracked relative to the 1990 assumptions. We have also enlisted the Oak Ridge Research Associates to review academic work that suggests a stronger negative impact on the economy of petroleum price spikes than was used in the 1990 study. The Administration's policy makers will also consider the United States' leadership role among the International Energy Agency member countries in a new light. The Reserve has sold 28 million barrels of oil, U.S. private companies are reducing their inventories, and the U.S. precedent of selling oil for non-emergency purposes has spilled over to Germany, which