

# **CBO TESTIMONY**

Statement of  
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on  
The Appropriate Use of the  
Strategic Petroleum Reserve

before the  
Subcommittee on Energy and Power  
Committee on Commerce  
U.S. House of Representatives

May 8, 1996

## **NOTICE**

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**Mr. Chairman and Members of the Subcommittee, I am pleased to appear here today to discuss the appropriate U.S. policy for releasing crude oil from the Strategic Petroleum Reserve (SPR).**

**Since the Arab oil embargo of 1973, the United States has based most of its emergency policy for energy on the SPR, a government-owned stockpile of nearly 600 million barrels of crude oil, held in underground caverns in the Gulf Coast region. The SPR has only been used once in an emergency situation, during the Persian Gulf War, to dampen oil price hikes at that time.**

**In recent months, the Congress has voted on various proposals to sell oil from the SPR for nonemergency purposes. All of the proposals have been linked to oil stored in the Weeks Island facility in Louisiana. Weeks Island is one of five storage sites that compose the SPR. It is being closed because of technical problems. Last year, the President proposed selling up to 7 million barrels of oil from the Weeks Island site to raise \$100 million for decommissioning and other operating costs. Appropriators included this proposal in one of the early continuing resolutions for 1996 and authorized the Department of Energy (DOE) to begin selling that oil in January of this year.**

**The Congress mandated a second sale in the Omnibus Appropriations Act of 1996. That act directed DOE to sell enough Weeks Island oil to generate \$227**



million in receipts. In that case, the receipts were used to keep 1996 spending within Congressionally specified targets and were not directly tied to the operation of the SPR.

Additional sales are being considered as part of deficit reduction measures. The Balanced Budget Act of 1995, which was approved by both Houses of Congress, would have used proceeds from the sale of 32 million barrels of oil from the Weeks Island site to help achieve spending targets. President Clinton's budget request for 1997 proposes to sell 72 million barrels of oil in 2002, which is equivalent to the entire amount of oil originally in the Weeks Island facility. If the Congress were to sell all 72 million barrels, the SPR would contain about 12 percent less oil than it did in 1995.

Those proposals raise important policy issues for the SPR. We understand the Committee's interest in evaluating the costs and benefits of the reserve and in ensuring that oil in the SPR not be sold without carefully considering how such sales would affect the function of the reserve, which is to protect the economy from the effects of supply disruptions. We have three comments about the recent nonemergency sales:

- o First, if the SPR is larger than it needs to be to protect the economy, then the sales that the Congress authorized and the President recently announced may be good policy. That is, those sales may not only serve



budgetary purposes but also adjust the size of the SPR to a more appropriate level. Of course, if the reserve is already smaller than it should be, such sales would lead to a net social cost. However, evaluating the appropriate size of the SPR is difficult, though in my testimony today I will outline some of the reasons why we think that the economically optimal size is smaller than it used to be.

- o Second, once the government has decided to sell oil for the purpose of generating receipts, selling it for the highest price possible makes sense. The sale recently announced by the President, which is being held pursuant to the budget legislation of just two weeks ago, appears to come at a good time. Oil prices are higher than they have been over much of the past year. Consequently, less oil will have to be sold to meet the dollar target the Congress set (\$227 million) than if prices were low. If DOE follows the process it used in its recent \$100 million sale--offering oil under fixed-price terms--it will realize significant budgetary benefits from the still high oil prices. In its emergency sales of SPR oil, however, the government has followed a process that awards sales to the higher bidder but lets the ultimate sale price depend on market conditions up until the time of delivery. That process leaves much to be desired. Later in my testimony, I will review criticisms of





the emergency sale process and cite some alternatives that could be considered.

- o Third, a recent change in budget accounting has removed one barrier to selling federally owned assets, and that change may serve as a temptation to sell oil from the SPR for reasons of budgetary expediency as opposed to the reserve's original intent--as a tool for softening the economic effects of a supply disruption. From 1987 through 1995, budget policy did not provide any incentives for asset sales and, in some cases, may have hindered even considering certain asset sales. In contrast, for fiscal year 1996, the Congress has set in place a change that allows for counting the proceeds of asset sales in budget totals for purposes of Congressional scoring. Under the Balanced Budget and Emergency Deficit Control Act, however, proceeds from asset sales are not counted in determining compliance with the discretionary spending limits or pay-as-you-go requirement. In other words, the Congress has made it easier to use asset sales this year to meet internal budgetary targets, but has not amended the underlying law that prohibits counting the receipts of asset sales for budgetary compliance. (That difference between the Congressional rules and the underlying budget act does not create an issue this year because discretionary spending is sufficiently below the statutory caps.)



Regardless of the scoring rules in place, it is important to consider the policy implications of an asset sale. Budget rules alone should not be counted on to distinguish between "good" and "bad" asset sales. An asset like the SPR is a tempting source of short-term budgetary savings, but decisions on the sale of oil should be based on a long-term assessment of the value and purpose of the reserve as well.

The rest of my statement is drawn from CBO's recent study *Rethinking Emergency Energy Policy*. In that study, we examined some issues about when and how to release SPR oil to offer the best protection for the economy. We did not quantitatively assess whether the current reserve is larger or smaller than may be needed now for emergencies. Consequently, I will not be able to answer directly the question of whether recent sales are causing the reserve to move away from or toward its appropriate size. I will, however, discuss two findings of the study that bear on the issues of this hearing. As I indicated earlier, those findings are that the optimal size of the SPR has declined since it was created and that the procedures used to release oil can be improved.

#### THE OPTIMAL SIZE OF THE RESERVE HAS DECLINED

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At the most general level, the decision about the right size for the SPR involves comparing benefits and costs of changing the amount of oil in the reserve. If the



expected benefits of increasing the reserve by, say, 100 million barrels exceed the costs, then the reserve should be increased. If the benefits are less than the costs, the reserve should not be increased but perhaps decreased. Though its decisions have not always been based on formal analysis, the Congress has increased or decreased the target capacity or the rate of fill at various times in the past. The tightness of the federal budget, in addition to factors directly relating to the optimal size of the reserve, affects the Congress's decisions.

A formal analysis is an extremely complicated task involving hard-to-make judgments about such things as the likelihood of disruptions caused by international incidents or major accidents, the effects of SPR releases of various sizes on petroleum and other markets and the economy, the reactions of other suppliers and users of oil in the world, the costs of changing the size of the stockpile, and a host of other factors. A DOE study from 1990 indicates that the optimal size of the reserve at that time was not larger than 600 million barrels and could have been smaller. The study estimated that the costs of increasing the size of the SPR from 600 million to 750 million barrels exceeded the benefits by a ratio of 2 to 1.

Although analyzing the optimal size is difficult, it is much easier to be confident of the effects that major factors would have on the optimal size. For example, some technical or policy change that cut the likelihood of a major disruptive accident in an oil field would reduce the optimal size of the reserve--less oil would be needed



because the threat of disruption would be less. An increase in the cost of holding oil in the SPR would also tend to reduce the optimal size of the reserve.

Since the early 1970s, three major changes in factors affecting the optimal size of the reserve have taken place. The changes lead us to conclude that such an optimal size is smaller than it used to be. Those changes are that the efficiency of oil markets has improved, partly because of greater diversity of supply; the economy is now less dependent and more flexible in the use of oil than it has been in the past; and world economies are becoming more interdependent. All of those changes reduce the benefits of having a reserve of any given size by lowering the threat of a disruption or the economic costs of a disruption should it occur.

#### The Efficiency of Oil Markets Has Improved

The first factor indicating that the optimal size of the reserve has declined is the dramatic changes that have occurred in the market for oil, both in the United States and elsewhere. Price controls are gone, supplies of oil have diversified, and an active futures market has developed. (Futures markets are federally regulated institutions where traders buy and sell contracts that lock in prices today for goods, such as crude oil and petroleum products, to be delivered in the future.)





Those changes make oil prices better allocators of resources than before. With freer markets, disruptions are now more likely to appear as oil price shocks rather than physical shortages. Users of oil and petroleum products are much better able to deal with increases in price than they were with the threat of physical scarcity. Suppliers of oil and products see more clearly what the market needs and respond more quickly to those needs than they did when prices were controlled. The current relatively high prices of gasoline, for example, create clear signals to refiners and suppliers to get more gasoline to market.

The futures market now allows firms to use financial instruments rather than physical stocks of oil or products to guard against price changes. Before the futures market existed and before the function of the market improved, firms that used oil or oil products tended to hold stocks to protect themselves against the costs of rising prices and the possibility of any physical disruption of supply. Doing so created the somewhat anomalous situation in which firms increased stocks at the onset of a real or threatened supply disruption. That increase in stocks made matters worse by making oil even more scarce. Now, however, the futures market lets firms protect themselves against price shocks without actually holding oil, and more smoothly operating markets make physical shortages much less likely. Firms are now more likely to reduce stocks at the onset of a disruption, thus relieving the situation rather than making it worse.



## The Economy Is Now Less Dependent and More Flexible in the Use of Oil

The second major change is in the way the U.S. economy uses oil. The economy now consumes about 40 percent less petroleum per unit of real economic output than it did 20 years ago. In addition, compared with the situation 20 years ago, vehicles are more fuel efficient, with motor vehicles averaging 17 miles per gallon (mpg) now instead of 12 mpg.

Although the view is subject to some controversy, many analysts believe that the U.S. economy is also more flexible in its use of oil and other energy sources than it was in the past. For example, electric utilities and industrial users have diversified their sources of fuel, and many have installed equipment that can switch from oil-based to other fuels relatively rapidly when economic conditions dictate.

In contrast to the response to oil price shocks in the past, consumers today would reduce their purchases more, and domestic oil producers would raise their output more. Those developments, combined with the changes in stockholding behavior discussed earlier, mean less economic harm would come from any disruption in the oil markets. Oil imports can now drop more quickly in response to a loss of oil supplies. Moreover, a drop in purchases of imported oil can now come about without a commensurate drop in consumer and business expenditures. Oil markets did not respond in that fashion in the early supply disruptions, which helps explain why the



oil price shocks of the 1970s tended to be self-sustaining and contributed to the inflationary cycle.

**World Economies Have Become More Interdependent, Cutting the Likelihood of Disruption**

The third major change is the growing interdependence of world economies-- particularly between oil-producing and oil-consuming areas. The Middle East is still a highly risky source of oil, but one should keep in mind that the oil-producing countries there have invested large amounts of their oil earnings in the United States and other oil-consuming countries. Because any action on their part that harms the U.S. economy also endangers their investments in the United States, oil producers and consumers now have a shared economic interest in stability. That economic interdependence blunts foreign political and economic incentives for disrupting oil supplies.

**PROCEDURES USED TO RELEASE OIL CAN BE IMPROVED**

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Policy dictating when to use the SPR and how to accomplish the release of oil affects the economic benefits of having the reserve as well as its optimal size. For



nonemergency releases of oil, a sale timed and executed to generate the greatest revenues would be best. Acting decisively when prices are relatively high and offering oil under fixed-price terms, as the government did in its recent \$100 million sale of oil from the storage site at Weeks Island, is a good example of that policy.

Current government policy for an emergency release of SPR oil, however, does not achieve maximum benefits for the economy or for taxpayers. Current policy lacks clear guidelines that would signal the oil markets when the government is likely to release oil, involves delays between the decision to release oil and the final sale, and allows the government to rescind a sale offer at any time. Those policies all add to market uncertainty rather than reduce it. Reducing uncertainty is particularly important during times of disruption. Raising uncertainty can increase incentives to hoard oil and thus can diminish the economic benefits of a government release. Also, the government misses an opportunity to lock in its gains and directly influence oil prices. It lets the sale price rise or fall according to market conditions between the award date and the final sale date, and it does not hedge its sale by selling futures contracts--unlike all private oil companies. (New legislation would be needed to enable the Department of Energy to use the futures market.)

Alternatives to current policies on releasing oil should be considered. Under current policy, DOE sets a volume to be released and lets the market set the price. Alternatively, the government could set a single price for all the SPR oil it wants to





sell or establish a multitiered price schedule, with increasing volumes selling at increasingly higher prices.

Those alternatives both set the price for an SPR sale and let the market determine the volume. Their main benefit is that they reduce uncertainty by directly increasing the price responsiveness of world supply. The government may also find it easier to make a decision to release reserves when it only has to pick the sale price. Moreover, adopting alternative sales mechanisms may increase the benefits of the SPR.

For any sales process, the benefits from gaining a quick and complete drop in current oil prices would be greater if the government reduced uncertainty about its intentions to open the reserve and about the sales process itself, expedited the final transfer of title for SPR oil to purchasers, and hedged its sales by the use of futures contracts or some related risk-management tool.

## CONCLUSIONS

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The SPR protects the nation against the economic harm of disruptions in the oil supply by reducing the likelihood of a disruption and lowering the cost of a disruption if it does occur. Over time, changes in oil markets, the economy, and the world



situation have probably reduced the optimal size of the SPR. A billion-barrel reserve is now authorized by law, although capacity has never exceeded 750 million barrels. Few people believe that a reserve of 1 billion barrels is needed--legislation now being considered by the Congress would reduce the authorized size of the reserve to 680 million barrels.

The optimal size is not easily determined. Doing so involves balancing expected benefits over a variety of uncertain conditions against the costs of adding to or maintaining a reserve of any particular size. Although the primary function of the SPR is to mitigate economic effects in energy markets, it also affects the federal budget and efforts to reduce the deficit.

The Congress and the President have determined that reducing the Strategic Petroleum Reserve is a desirable step to take at this time, at least with respect to the Weeks Island facility. The timing of the sale now, while prices are high, seems appropriate both for the benefit it provides the U.S. economy and for the revenues it generates.

Budget accounting may hinder or encourage actions such as selling assets to pay for current programs or decrease the deficit. But budget accounting alone should not be relied on as the way to distinguish between "good" and "bad" asset sales. Only



**careful study and consideration of the costs and benefits of federal ownership of assets, such as oil in the SPR, can do that.**

