STATEMENT OF ALICE M. RIVLIN
DIRECTOR
CONGRESSIONAL BUDGET OFFICE

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Mr. Chairman, I am pleased to appear before this Subcommittee to discuss the financing of the Strategic Petroleum Reserve (SPR). In my remarks today, I will address the following topics:

- The major benefits and costs of the SPR program;
- The various methods of financing the reserve;
- The advantages and disadvantages of these methods; and
- Other issues related to the choice of SPR financing.

The substance of this testimony is drawn from a Congressional Budget Office (CBO) paper now being prepared for the Oversight and Investigations Subcommittee of the Energy and Commerce Committee. We expect to release this study next week.

BENEFITS AND COSTS OF THE SPR PROGRAM

While U.S. oil imports have fallen from their peak of 8.8 million barrels per day in 1977 to the current level of approximately 6.5 million barrels per day, the United States is still vulnerable to severe oil import interruptions. The Strategic Petroleum Reserve was created to address this problem. Several CBO studies have examined the sizable benefits of the SPR. In the event of an oil import disruption of 2.0 million barrels per day

(approximately 11 percent of our projected oil consumption in the mid-1980s), a reserve of 750 million barrels could avert a GNP loss of approximately 3.6 percent and added unemployment of 1.1 percentage points, and abate the significant inflationary effects. Each barrel of SPR oil could mitigate up to $200 in GNP losses associated with a disruption. Although other policy responses could be used during an oil import disruption--such as rationing, special taxes, or a laissez-faire approach--no policy would be as effective as the SPR at minimizing the economic losses resulting from oil shocks.

The costs of the SPR are sizable as well. There are now about 115 million barrels of oil in the reserve. Current Administration plans call for a fill rate of 200,000 barrels per day in fiscal year 1981 and 230,000 barrels per day in fiscal year 1982. This would create a reserve of 250 million barrels by the end of 1982. Maintenance of the latest Administration plan for filling the SPR, which averages approximately 195,000 barrels per day over the next seven years, would create a 750 million barrel reserve by the end of 1989. Filling the reserve under this schedule would require total budget authority of $40.7 billion in fiscal years 1981-1989, including the supplemental $1.3 billion sought by the Administration for this fiscal year. Of this total, $39.0 billion would be for oil procurement, $0.1 billion for administration and maintenance, and $1.6 billion for the construction of storage facilities. Budget authority requirements fluctuate with the annual

planned rate of fill, rising from $4.6 billion in fiscal year 1982, to a peak of $8.0 billion in fiscal year 1987. The total cost of a 750 million barrel reserve, including the amount spent to date, is estimated to be $47.1 billion.

The President has requested a $1.3 billion supplemental appropriation for the SPR in fiscal year 1981. Because of differences between CBO's and the Administration's projected procurement price of oil, CBO estimates that a supplemental appropriation of $1.7 billion will be required to meet SPR obligations that ensue from the President's planned rate of SPR fill. While CBO and the Administration employed identical assumptions for the rate of SPR fill and the timing of commitments for SPR oil, CBO used an average oil procurement price of $46.25 for fiscal year 1982, compared to the Administration's assumed price of $42.29. If a $1.7 billion supplemental appropriation is provided in fiscal year 1982, then CBO estimates that the 1982 budget requirement of the SPR should fall from $4.6 to $4.2 billion.

Rather than continue funding requirements of this magnitude, some have proposed that SPR costs be shifted to the private sector, either by inducing private investors to buy the reserve oil or by requiring firms (predominantly refiners) to hold larger inventories.

CRITERIA FOR EVALUATING THE OPTIONS

The Strategic Petroleum Reserve benefits all sectors of the economy by reducing the potential adverse effects of oil supply interruptions, but building the reserve entails a resource cost to society. Current resources that could be used for consumption are being set aside--in the form of oil--for future use. Regardless of who pays for the SPR, the reserve will claim some share of our economic resources.

Alternative ways of financing this resource cost--of dividing it between taxpayers and private investors or firms--can be evaluated by various criteria: the distribution of risks, degree of federal control, budgetary effect, and speed and level of acquisition.

The Distribution of Risks. The costs of the SPR may eventually be recovered by the receipts from SPR depletion. This would occur if oil prices rose at a rate greater than the rate of interest (usually represented by the Treasury bill rate), since funds expended on the SPR could have been invested at this rate. Thus, whoever finances the SPR assumes the risk that oil prices will not rise faster than the rate of interest, and therefore, that the SPR will not be self-supporting. Different plans to finance the SPR distribute this risk, and, therefore, any potential cost or benefit, differently.

Federal Control. Different SPR options afford different levels of public and private control of reserves. Under current arrangements, the

federal government controls the depletion of the SPR. Yet some mix of federal and private control over reserves might be appropriate. The federal government might be unwilling to draw upon the SPR if disruptions are small or expected to be short-lived. Reserves held by individual firms might be more advantageous in these instances.

Budgetary Effect. SPR financing arrangements should have a predictable budgetary effect, and should promote the efficiency of oil acquisition. While society as a whole cannot avoid the cost of the SPR, moving the reserve to a private source of financing would reduce the federal deficit and the portion of total economic activity attributable to government. This might be seen in the financial and business communities as a precursor to lower inflation rates, and hence, lower interest rates. If this is the case, then moving the SPR to an alternate source of financing might provide this additional benefit.

Speed and Level of Acquisition. Financing options for the SPR should not constrain the rate at which the reserve is built. Moreover, those plans that call for the creation of reserves in the private sector should incorporate methods to ensure compliance.

SPR FINANCING OPTIONS

Three financing options are discussed here:

- o Current Policy. This option calls for financing the SPR from general revenues. Insofar as money spent on the SPR in this fashion could always have been used to reduce the budget deficit or retire the federal debt, each dollar spent on the SPR is effectively borrowed at the Treasury bill rate of interest. Substitution of some other debt instrument would have the same budgetary impact. Thus, issuing a special SPR debt instrument would not be a major departure from current policy.

- o Public Capitalization of the SPR (or, SPR "shares"). This type of financing would allow private investors to purchase shares representing a specified quantity of oil in the reserve. The oil itself would belong to the federal government, but the investor would be guaranteed the market value of the oil represented by the shares to which he held title. Presumably a secondary market would allow for trading of these shares.

- o Development of an Industrial Petroleum Reserve (IPR). This alternative would shift the focus, and much of the cost, of SPR development to firms. Using the authority in the Energy Policy and Conservation Act, the President could require that all oil importers and refiners store up to 3 percent of their annual consumption or oil passing through their facilities ("throughput") in a separate emergency inventory. Such decentralized storage could be created by a Presidential requirement (or "decree"), or firms could be allowed to seek out private investors to store the oil for them ("speculative IPRs"). Investors might be willing to do so if they were guaranteed the speculative appreciation of the oil held in IPRs.

Current Policy--Debt Financing

The current system of SPR procurement may be the most efficient in the long run. Treasury bill financing has the lowest expected financing cost among all types of borrowing, in that it carries the lowest risk, and riskier

investments require higher rates of return. Thus, while the sale of SPR shares might reduce the budget deficit, it might also entail a larger financing cost in the long run. Current policy, however, has the clear disadvantage of having a significant budget impact. By adding to the federal deficit, budget financing of the SPR might add to inflationary expectations.

SPR Shares

The use of SPR shares would have the advantage of allowing investors to determine if they are willing to assume the risks associated with SPR financing. This is the most efficient way to allocate such a risk in a market economy. A second advantage of capitalizing the SPR through the sale of shares would be the ensuing reduction in the federal deficit and the proportion of total economic activity accounted for by government. If these reductions lowered the inflationary expectations of the financial and business community, they might result in somewhat lower interest rates, insofar as lower inflationary expectations induce lower interest rates. Thus, the sale of SPR shares allows for a major potential benefit.

Transferring the financing of the SPR to the private sector would shift the risks associated with future oil prices. Under current policy, taxpayers

assume the risk that oil prices will not rise at a rate equal to or greater than the interest rate. If oil prices rise more slowly, then the SPR will not be self-financing, and its owner will bear a long-term cost. The sale of SPR shares would shift this risk to private investors. This can be seen as an advantage from the perspective of economic efficiency, since the sale of SPR shares would move the risk associated with the SPR to those most willing to bear it in the expectation of a potential economic reward.

The sale of SPR shares could possibly lead to attempts to influence the federal government's control of the SPR. Should shares be sold to the public, it is possible that some SPR share-holders would pressure for a depletion of the SPR when they perceived that its price is at a peak. Transferable titles, however, leading to an active secondary market for SPR shares, might diffuse this pressure.

The major disadvantage associated with this proposal is that the revenues raised by the sale of SPR shares might be insufficient to procure the desired level of the SPR. If this should happen, some federal back-up program, probably outlays from general revenues, would have to pick up the slack. Thus, under the shares plan, a guarantee of prompt completion of the SPR can only be made at potential budgetary cost. In addition, it should be noted that investors will commit speculative funds to the SPR only if they believe that oil prices will increase at a rate faster than the Treasury bill

interest rate. If they are right, and the price of oil rises by more than the riskless Treasury bill interest rate, the government could have paid less for the reserve by financing it through conventional Treasury securities.

IPR Options

The major advantage of an Industrial Petroleum Reserve is that such a decentralized, privately held reserve might be appropriate in some disruption situations. Specifically, the government might be unwilling to deplete the SPR during disruptions that are small or seen as transient. Therefore, IPRs might be a worthwhile supplement to the SPR as a first line of defense against this type of disruption.

Both the "decree" and "speculative" IPR plans have disadvantages. The most important of these is the integrity of the reserve itself. If firms believe that their IPR reserves would be available to them during oil import disruptions, they might be tempted to reduce their conventional inventories. This would seriously reduce the effectiveness of the IPR. Moreover, compliance problems might be experienced, particularly if IPRs are decreed, and firms must build them at their own cost. Firms might declare various forms of unusable inventory, such as pipeline and tank "bottoms," as part of the IPR. Thus, while IPRs could be an effective policy tool during small or

temporary disruptions, problems might be encountered in attempting to develop this type of reserve.

Finally, a decree plan that forced firms to hold their own reserves would also force them to assume the costs of the reserve. Firms would, in turn, pass on some of these costs to consumers. Since the abilities of firms to acquire and store oil, and to pass along cost increase, vary, some firms would be placed at a competitive disadvantage by this option.

RELATED ISSUES

Capital Market Effects

Like any other asset, SPR bonds or shares would compete for investor attention. The design of SPR securities would affect their marketability and the place within capital markets where they would compete. SPR securities tied to the rate of oil price appreciation might be competitive with other "inflationary hedges," such as gold, real estate, or other commodity futures. Securities tied to the market rate of interest would be similar to Treasury bills or bonds. The minimum investment required would also affect the competitiveness of SPR securities: if issued in small denominations, they might compete with savings accounts, the predominant source of mortgage funds.

SPR securities would be issued with maturity dates--three to five years is most often suggested for the life of such securities by the financial community. Thus, some securities would have to be rolled over regularly. This roll-over would allow for reappraisals of the SPR in the future and for its orderly termination if it were never depleted for a supply disruption. If SPR securities were tied to the rate of oil price appreciation, then the revenues realized from depletion of the SPR would allow for full compensation of SPR security holders.

Price Controls

Finally, the emergency depletion of the SPR will occur in a recessionary environment and amid substantial inflation. Under these conditions, there might be strong pressure to implement some type of oil price controls, particularly if the disruption that triggered SPR depletion was seen as transient. The prospect of controls on SPR oil would eliminate the speculative value of SPR securities, and would make their sale impossible. It might be necessary to stipulate some reference price at which SPR security holders are compensated. The average price of imported oil over the week or month of sale, for example, would allow SPR holders to realize their full speculative gain. If controls were imposed, the federal government would have to remit the difference between controlled and market prices to SPR holders, presumably from general revenues.

CONCLUSION

In summary, the probable appreciation in the price of oil makes private financing of the SPR, through the sale of SPR shares, a tenable strategy for financing the reserve. The sale of such shares would allow the market to determine efficiently who will bear the risks associated with the SPR. It would also produce the benefits associated with reductions in the federal budget. The disadvantage of selling SPR shares is the possibility that the revenues raised by such a security would be insufficient to finance the desired level of SPR acquisition. Some back-up system might, therefore, be necessary perhaps one requiring federal expenditures for SPR procurement.

The creation of an Industrial Petroleum Reserve would add to the diversity of the possible policy responses to an oil import disruption. Such a privately held, decentralized reserve might be appropriate for small or transient supply interruptions. IPR options, however, all have the potential disadvantage of reducing the normal level of stocks firms are prepared to hold. If firms believe that their IPR reserves would be available to them when added supplies are needed, they might lower their own conventional inventories. A solution to this problem would have to be developed before the IPR could be considered an effective policy tool.