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EXPANDING AND FUNDING THE STRATEGIC PETROLEUM RESERVE

Statement by

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Before the

Committee on Energy and Natural Resources

U.S. Senate

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Thank you for inviting me to participate in your Committee's hearing on proposed legislation regarding the Strategic Petroleum Reserve (SPR).

I. S. 694

Senate Bill 694 which is the subject of today's hearing contains three features: (1) extending the authority to operate and fill the SPR for 5 years to June 30, 1994; (2) expanding the SPR from its current ceiling of 750 million to 1 billion barrels and (3) permitting some pre-drawdown diversion of SPR oil into the market during an oil emergency. All three of these proposals are clearly in the national interest and should, in principle, be adopted.

A. Extend SPR Authority

The first proposal requires little comment. Filling the SPR and keeping it in a perpetual state of readiness is currently the only activist U.S. energy policy which deals directly with the national security aspect of our rapidly rising oil import dependency. The high probability that this rising trend which started in 1986 will continue well into the 1990's enhances the potential importance of the SPR as our first and foremost protective device against the consequences of a major oil supply disruption for whatever reason.

B. Move to One Billion Barrels

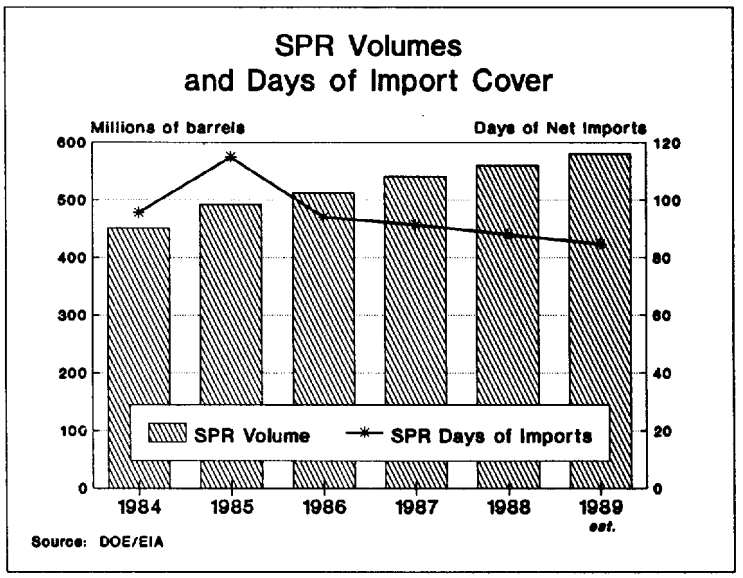
The second proposal, to raise the SPR's ceiling from 750 million bbls to 1 billion bbls, is also, at least directionally, a desirable national security measure. However, there is a considerable cost attached to this expansion. The DOE has estimated it at over $6 billion if oil prices remain around $18/bbl in real dollars to the year 2000. If one assumes, not unreasonably, a somewhat higher average real price during this period, the cost could be considerably more.

Cost considerations are of course important in evaluating the SPR expansion proposal but are not *per se* an argument against it, if the expansion is clearly in the national interest. Whether this is the case, and if so, how much the SPR ceiling should be raised depends primarily on our oil import volume and its share of total world oil trade. In 1985 our gross imports of 5.1 million B/D represented about 21% of world oil imports. Thus, assuming that a foreign oil disruption in that year would have been equally shared among all importers, 21% of the lost volume would have been borne by the U.S. In 1987 the U.S. share of world imports had risen to 24%. No final figures are available on world oil trade in 1988 but the 500,000 B/D increase in U.S. oil imports undoubtedly raised our share of

world oil trade above the 25% level. Thus, our potential volumetric loss of imports from any foreign disruption is steadily rising. Our SPR must therefore be steadily raised to cover the growing potential loss from an import disruption.

1. Tie SPR Volumes to a 90-Day Import Level

As a ratio of our imports the SPR has moved in just the opposite direction. In 1984 our year-end SPR volume was equal to 96 days of net imports during that year. In 1985, as imports declined, the ratio rose to 115 days. Since then it has been declining each year. In 1988 it was 88 days and so far in 1989 the SPR level was equal to only 82 days of net imports (see figure).



Under the International Energy Agency Agreement, each member country is committed to maintain total commercial and strategic stock levels equal to 90 days of its net imports. The U.S. level is of course much higher since our commercial stocks are about 1 billion barrels. However, it is sometimes overlooked that in the U.S. 80-90% of these commercial stocks are not available for consumption but must remain in the distribution, refining and marketing system. For instance, the "minimum operating" stock level for crude oil has been estimated by the National Petroleum Council in a new study at 300 million barrels. The end-March API data show total commercial crude stocks at 326 million bbls, or just 9% above the required minimum operating level. In the case of gasoline, stocks of 231 million bbls were just 13% above the minimum operating level. The recent Alaskan experience has demonstrated the limitation of regular commercial stocks to cope with even relatively small disruptions.

It may therefore be desirable for the U.S. to gradually apply the IEA criterion of a stock volume equal to 90 days of net imports to SPR stocks only. Under this criterion the U.S. would currently be somewhat below the 90-day level, as pointed out before. By 1995 the DOE projects a net import level of 9.5 million B/D in its Base Case. This would require an SPR of 855 million barrels (9.5 x 90). That volume could be obtained with a fill rate of 122,000 B/D for the next 6 1/2 years, about twice the rate (63,000 B/D) so far in calendar 1989 but still much below the 1981-84 fill rate when the price of oil was substantially higher than now. Under the proposed fill rate, the SPR would move gradually towards the 90-day net import target by 1995. The drawdown and distribution capability of

the SPR must of course also be raised during this period. However, the currently planned increase to 4.5 million B/D by 1992 would appear to be sufficient for any realistic eventuality, at least during the first half of the 1990's. Under the proposed higher volumes the maximum drawdown rate could presumably be maintained for a longer period. For the year 2000 the DOE Base Case projects a net import volume of 10.5 million B/D which would require an SPR of almost 1 billion bbls by then.

Thus, if the SPR is to be equivalent to 90 days of net imports and if we accept the DOE's Base Case projection for net imports, we would need authorization to raise the SPR to 850-875 million bbls by 1995 and to 950 million - 1 billion bbls by 2000. I recognize, of course, that the DOE forecast is nothing more than a mid-point estimate which could well be wrong in either direction. But it does provide useful guidance for the expansion of the SPR over the next 10 years.

2. Consider Product Reserves

As the SPR is expanded, there are several reasons to consider a modest product reserve located in consuming markets. Regionally stored products can be put in the market more quickly, providing a buffer to calm the market while the crude reserve is activated. A gasoline reserve on the West Coast, for instance, would have mitigated some of the supply concerns following the Alaskan oil spill. Some regions, like the East Coast, are much more dependent than the rest of the nation on imports. Finally, as capacity utilization has grown, particularly in the downstream conversion units, U.S. refiners no longer have the excess capacity to make up a significant shortfall in the now necessary supply of imported light product. Although the cost of regional light product storage is higher than salt cavern crude oil storage, the total necessary volume is low, so the total cost is as well. Almost 500 thousand B/D of residual fuel oil comes from foreign sources to the East Coast, mostly to utilities. The U.S. should also consider a reserve for resid, since U.S. refiners are unlikely to be able to provide substitute supplies which comply with increasingly stringent environmental regulations.

C. Utilize the SPR Early

The third proposal in S. 694 would introduce a highly desirable flexibility into the utilization of the SPR at the very beginning of an oil supply emergency when it is most needed, by permitting SPR oil in transit at the time to be sold directly into the market instead of requiring it to be first unloaded into SPR facilities.

In this connection, I would like to suggest further measures to speed up the first use of the SPR in a crisis. At present perhaps 30 days would pass between the President's declaration of an energy emergency and arrival of the first supply of SPR crude at U.S.

refineries. And since the President is unlikely to declare an energy emergency at the first sign of a supply disruption, the time lapse between the actual event and the first physical contribution from the SPR could be considerably longer. The delay could be reduced if the Secretary of Energy, or a Cabinet Task Force headed by him, were authorized to activate the SPR for a limited period, say up to 30 days, without a Presidential finding that a national energy emergency exists. This could also prevent the psychological shock effect on the market of a Presidential declaration of an energy emergency. Above all, it would permit limited use of the SPR in sub-crisis situations.

The recent Alaskan oil spill could easily have developed into such a sub-crisis. The spill reduced Alaskan production for only 12 days and by only about half of Alaska's production during that period. Because of the limited duration and relatively small volume loss there was no need to bring the SPR into play. But had Alaska's entire 2 million B/D production been shut in for, say, a month, quick access to some SPR oil, particularly from supplies at sea, could have prevented a regional panic with national reverberations. Yet, the President may well have hesitated to declare a national energy emergency because of a variety of foreign and domestic policy considerations. Thus, an approach under which limited SPR use during a sub-crisis disruption is decided at sub-Presidential levels could possibly avoid a full scale crisis. Let us remember that in 1979 the real supply crisis was not caused by the relatively brief disruption of Iranian oil supplies but by the panic-driven global hoarding of oil stocks long after Iran had restored production to two-thirds of its pre-revolution level.

II. ALTERNATIVE FINANCING MECHANISMS

This Committee has also asked for comments on alternative financing of the SPR. In principle, I believe the SPR should continue to be funded out of general federal sources. The SPR is clearly a national security measure. It does not specifically benefit the oil industry and while it benefits oil consumers by protecting them against physical shortages and excessive price increases in case of a disruption, its benefits go far beyond this direct function. It affects our military strategy, our diplomacy and our trade policy by buying us time and giving us a much higher degree of operating flexibility to deal with a threatening or actual oil disruption than if we had only commercial oil stocks. Thus, the SPR should be viewed as a national security expenditure and continue to be funded accordingly.

If budgetary constraints require alternative financing to fund an accelerated fill rate, the proposed sale of the U.S. Naval Petroleum Reserves (NPR) would seem an acceptable measure. The NPR's have no strategic value other than those of any other operating domestic oil field. Hence, if it can be demonstrated that the government would likely generate more funds by selling the NPR's than by collecting royalties on this operations, it should probably do so and earmark the funds obtained for *incremental* purchases of SPR oil.

Several alternative funding proposals would remove the cost for the accelerated oil fill rate from the general budget and finance it through special government bonds. In the short run this would clearly reduce the call on the federal budget for this purpose. However, since the SPR does not generate any funds as long as there is no supply crisis, the interest payments on the bonds and the funds for their redemption at maturity would eventually have to come out of general revenues. In essence, this form of financing would therefore shift the incremental cost of filling the SPR from the current federal budget to the future national debt.

Another alternative means of funding the higher fill rate to meet the proposed higher SPR ceiling might involve foreign suppliers. Most major producing countries in the OPEC group have substantial readily available excess producing capacity which is not utilized under the OPEC production quota agreement. However, if any of these countries were to supply oil for the SPR out of their unutilized excess capacity, it would arguably not be a violation of the intent of the OPEC quota agreement, since the oil would not go into the market but would remain in controlled non-commercial storage until a supply crisis of some visible magnitude develops and the oil is needed to ease the shortage. Since several OPEC countries have sufficient proved and probable oil reserves to maintain any economically and technically realistic production level for 50-150 years, the present-day cash value of their marginal barrel of oil reserve is very low. It might therefore be in these countries' economic interest to sell or lease this oil to the SPR at prices or fees which have no apparent relation to the current market values for their crude oil. If they *sell* the oil they will earn a current positive cash flow from the transaction as long as the price is perceptibly above their actual production and other direct costs. Thus, they could sell their oil profitably to the SPR substantially below current market value without endangering the market price. There is, however, a question whether OPEC would acquiesce to this type of sale outside the quota.

If the U.S. government were to *lease* incremental SPR oil from these OPEC suppliers, for storage in our facilities, the annual cash cost might be even lower, since the leasing fee paid to the supplier would likely be less than the purchase price of the oil under the above described conditions. A primary contract clause would specify that the oil is under U.S. custody and control, although title could formally remain with the supplier. The term of the lease would have to be negotiated as would the ownership of the oil after expiration of the leasing contract. Aspects such as the price on drawdown also require consideration and clarification.

The communality of interest between buyer and seller in this case is based on the assumption that the U.S. government wishes to procure incremental volumes of crude oil for non-commercial purposes and cannot pay the commercial market price for these incremental volumes. The supplier, on the other hand, should be interested in providing oil at a profit from his unused surplus which would otherwise remain in the ground and earn no money at all for a very long time.