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STATEMENT OF  
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DIRECTOR  
RESOURCES, COMMUNITY AND ECONOMIC  
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BEFORE THE  
SUBCOMMITTEE ON ENVIRONMENT, ENERGY, AND  
NATURAL RESOURCES  
HOUSE COMMITTEE ON GOVERNMENT OPERATIONS

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to testify today on the results of our analyses of the potential impact of the administration's proposal that an indefinite moratorium be placed on SPR development and oil fill at the end of fiscal year 1985.

We recently testified before this Subcommittee at a hearing in Beaumont, Texas, on our initial efforts which centered around the effects of the proposed moratorium on the development of the Big Hill, Texas, storage site. In that hearing, we pointed out that the uncertainties inherent in an indefinite moratorium make it difficult to envision how decisions on storing and maintaining equipment at Big Hill can be made with assurance that the actions decided on will be cost effective. This would also be true at other sites as well. Furthermore, DOE's cancellation of bid solicitations for the raw water and brine pipelines and the second stage of construction at Big Hill has already put site construction behind schedule, even if the Congress does not accept the moratorium proposal.

From our work at this one site, we expanded our analysis to issues related to the SPR as a whole, focusing on the costs and

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benefits of a strategic petroleum reserve sized at various levels, ranging from the proposed moratorium level of 489 million barrels up to the 750 million barrels originally set as a national objective.

#### THE CURRENT SITUATION

SPR storage facilities have been, and are being, developed at six sites under an overlapping three-phased approach. With respect to the six sites, two sites are completed, three are in different stages of development and oil fill, and the sixth site at Big Hill is in the initial construction stage. The status of the three phases can be summarized as follows:

--Phase I, involving 260 million barrels, was completed in 1983.

--Phase II, involving an additional 290 million barrels, is 70 percent complete.

--Phase III, involving the remaining 200 million barrels, is in the initial leaching stage.

The ability to quickly replace large quantities of lost oil imports makes the SPR the cornerstone of our energy emergency preparedness program. Consequently, each phase was designed for a specified rate at which oil could be withdrawn:

--Phase I allows withdrawal of 1.7 million barrels per day.

--Phase II will allow withdrawal of 3.5 million barrels per day when it is completed.

--Phase III would increase total withdrawal capability to 4.5 million barrels per day.

In addition, the size of the SPR was linked to import levels, including our International Energy Agency commitment to maintain a

reserve equal to 90 days of the previous year's U.S. net crude oil imports. While the SPR contained about 466 million barrels of oil on March 31, 1985, DOE expects the level to increase to 489 million barrels by September 30, 1985. DOE officials have stated that this quantity of oil provides substantial protection against the potential for oil import reductions in the foreseeable future and fully satisfies U.S. security requirements.

#### RESULTS OF GAO ANALYSES

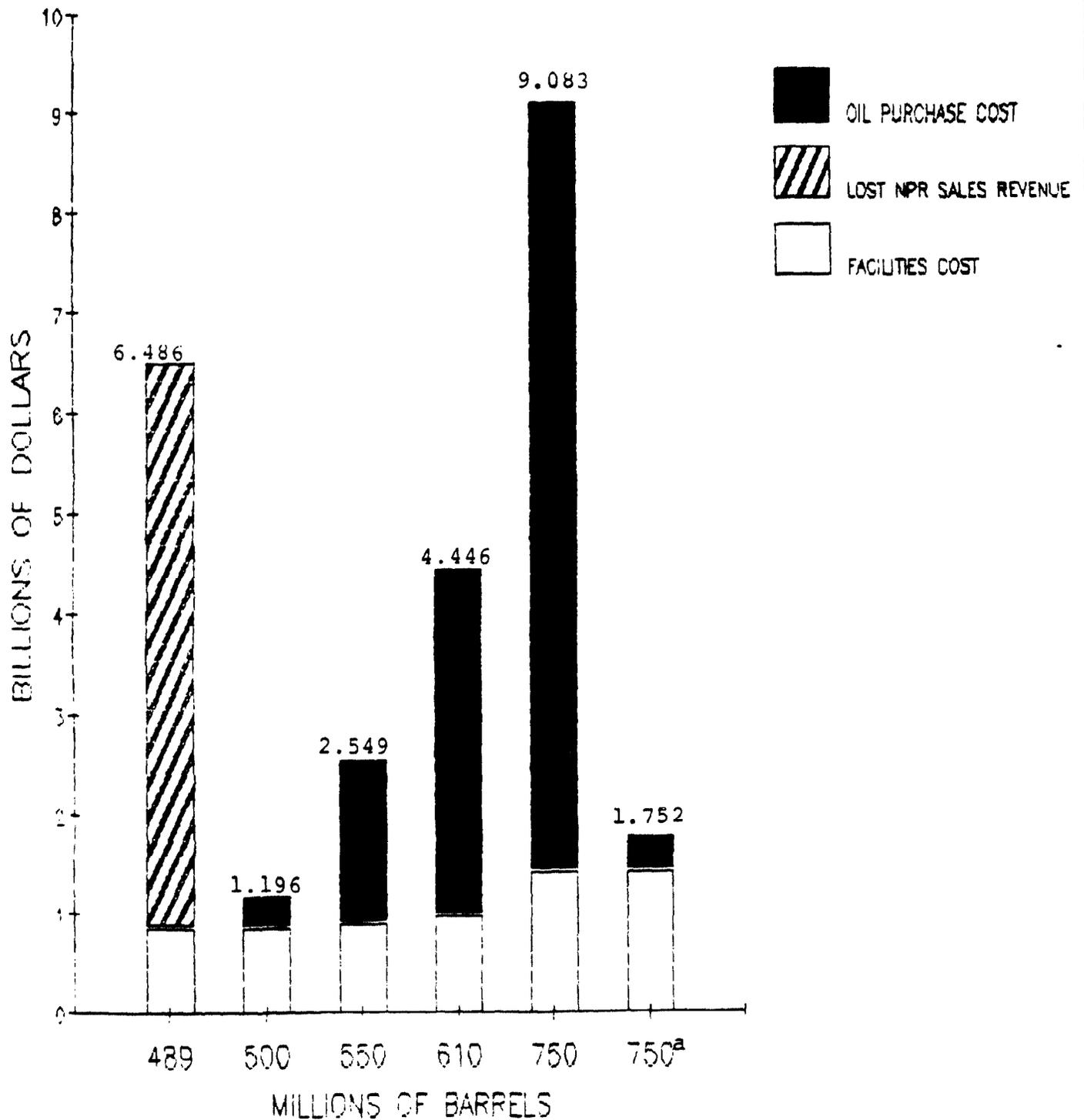
In order to evaluate the relative merits of the administration's proposal, we analyzed other SPR development options and compared the results to the administration's proposal. For presentation purposes, Mr. Chairman, we prepared three charts that we believe graphically portray the principle elements of our analyses. Basically, we looked at (1) the cost to develop and fill the SPR at five different levels, (2) the time period over which each of the optional SPR inventories would provide a 90-day supply offset to net import reductions, and (3) the potential impact that each SPR option has on dampening the expected increase in oil prices resulting from a supply disruption.

#### Cost to develop and fill the SPR

Chart 1 illustrates the estimated cost of developing the SPR under six options

- the administration's proposed 489-million-barrel reserve,
- the 500 million barrel level which under existing law would allow for continued NPR development,
- 550 million barrels which would achieve the initial phase II goal,

ESTIMATED COSTS OF SPR DEVELOPMENT  
 OPTIONS COMPARED TO THE ESTIMATED  
 COST OF A 489-MMB SPR  
 (FY 1986-90)



<sup>a</sup>Reflects cavern development with only sufficient oil fill to reach 500-MMB inventory

- 610 million barrels which would complete all sites except Big Hill, and
- 750 million barrels which would complete the SPR as initially planned.

We also included an option to develop 750 million barrels of storage capacity but only fill to a 500-million-barrel level.

Several observations can be drawn from the chart. For any SPR size, DOE has estimated a basic standby cost of about \$828 million to maintain the facilities over a 5-year period and a FY 1986 cost of \$32 million for distribution enhancements. With no oil purchases under the administration's proposal, this basic standby cost represents the only budget outlays for this option. However, one factor does need emphasizing. As you can see, we have included a potential \$5.6 billion revenue loss associated with a moratorium of the 489-million-barrel level. Title VIII of the Energy Security Act provides that the U.S. share of the Naval Petroleum Reserve may not be sold unless the SPR fill rate averages 100,000 barrels per day until the SPR contains 500 million barrels of oil. A static 489-million-barrel reserve does not meet this criterion, and unless the Act expires or the requirement is waived, the law would appear to require that NPR sales stop.

As the SPR size increases, incremental costs will be incurred, primarily for power costs to create additional storage space and for additional personnel and overhead costs. As shown by the second bar on the chart, the SPR inventory could be increased to 500 million barrels with an estimated incremental

cost of about \$6 million plus about \$330 million to purchase 11 million barrels of oil. This would meet the legislative requirement for continued production of the NPR, thereby amending any future revenue losses.

Compared to the oil purchase costs of the remaining options, the incremental costs for increasing storage capacity tend to be relatively minimal. To go from 489 million to 550 million barrels, for example, would require the expenditure of an additional \$43 million. The largest incremental cost comes when you go to the 750-million-barrel inventory level. While it would cost about \$129 million to expand capacity from 489 to 610 million barrels, an additional \$432 million would be needed to complete the 140 million barrels of capacity at Big Hill. Overall, the cost for 750 million barrels of capacity would total \$561 million over a 5-year period.

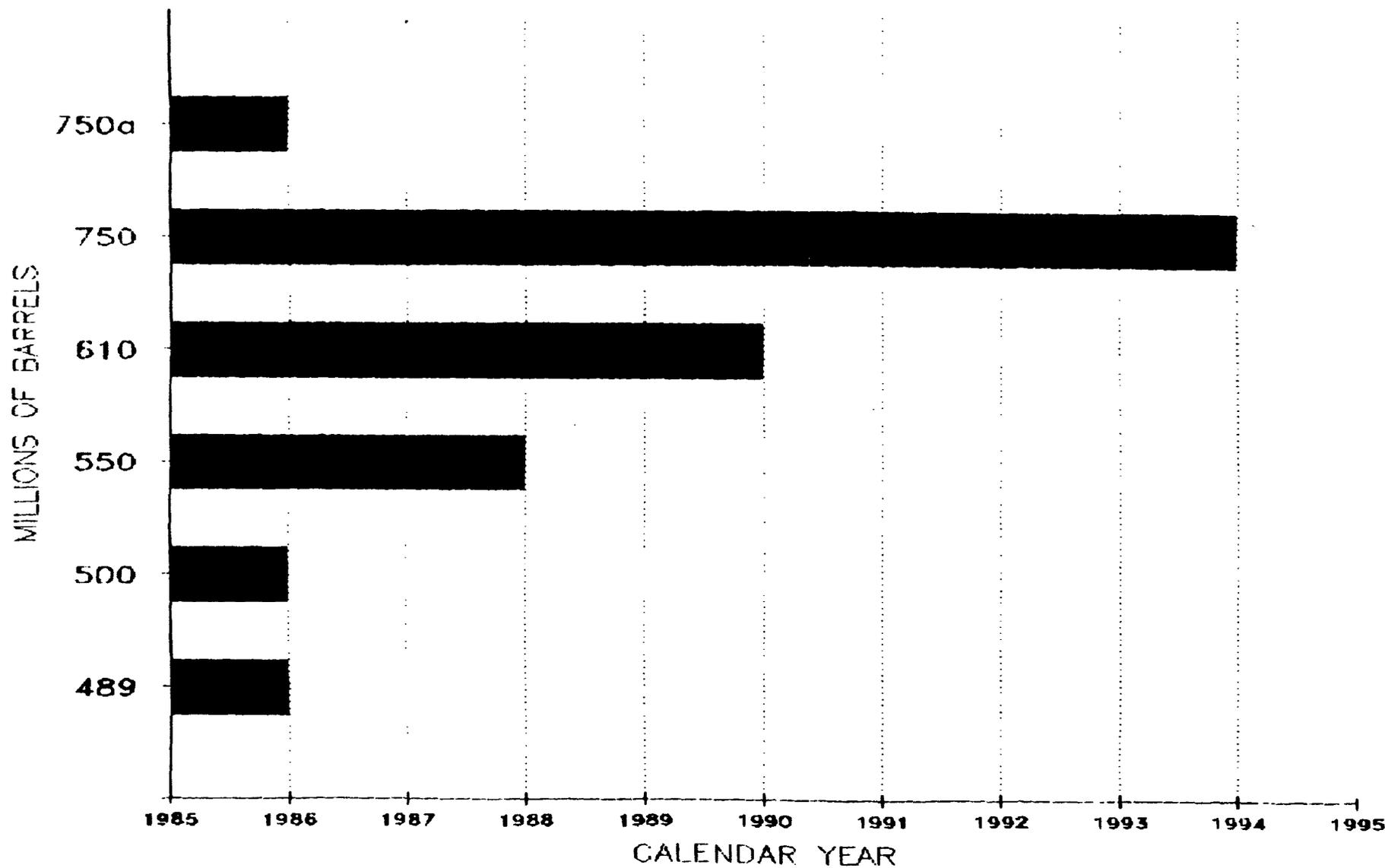
The last option on the chart shows the cost of developing 750 million barrels of capacity but only filling to the 500-million-barrel level so that NPR oil could be sold. This requires the maximum facilities cost of \$561 million but adds only \$330 million for oil purchases.

In contrast to these site development costs, Mr. Chairman, you can see that oil fill costs for each option are considerably greater. For example, under the 750-million-barrel option, oil acquisition costs are about \$7.6 billion as opposed to the \$561 million cost of site development.

#### Offset to import reductions

Chart 2 compares the time period over which the various SPR inventory levels would allow us to meet our commitment under the

COMPARISON OF LAST YEAR IN WHICH OPTIONAL  
SPR INVENTORIES WOULD PROVIDE A 90-DAY  
SUPPLY OFFSET TO NET IMPORT REDUCTIONS



a Reflects cavern development with only minimal oil fill to reach 500-MMB inventory

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International Energy Agency to maintain a reserve equal to 90 days of the previous year's net crude oil imports. Using the Energy Information Agency's mid-case scenario estimates for net oil imports over the 1986-95 period--as reported in its 1984 Annual Energy Outlook--the chart shows that the smaller reserve provides coverage only through 1986 whereas a 750-million-barrel SPR would replace net import reductions through 1994.

#### Impact on oil prices

Past oil supply disruptions have resulted in large oil price increases, and it is generally accepted that the market would react in a similar fashion to future disruptions. To examine the potential impact on such price increases that a release of SPR oil into the market would have, we used a GAO-developed oil price model to simulate a disruption scenario. For modeling purposes, we assumed an 8-million-barrel-per-day disruption for 6 months, with a 3-million-barrel-per-day offset for a net supply shortfall of 5 million barrels. Using a base case where no SPR oil was available, we developed a price path for oil supplies. We then ran a series of simulations in which the quantities of SPR oil available under the different size options were made available to the economy. Under the administration's moratorium proposal, for example, we used a 3-million-barrel per day drawdown rate starting after the first month of the disruption and continuing to provide oil into the seventh month of the scenario when the reserve was depleted.

Comparing the oil price paths of the base case against the administration's proposal, we estimated that the SPR oil served to

dampen the expected price increase by about 30 percent--as shown in our third chart. In comparing the price-dampening effects of each SPR option, it is apparent that a larger reserve can have a rather significant impact on price increases as opposed to a smaller reserve. For example, with a 750-million-barrel reserve, potential price increases could be reduced by 42 percent, or an additional 12 percent. The larger price-dampening effect occurs because the bigger reserve allows oil to be drawn down at a 50 percent greater rate than the 489-million-barrel reserve, and extends the number of days the SPR oil would be available to offset supply shortages.

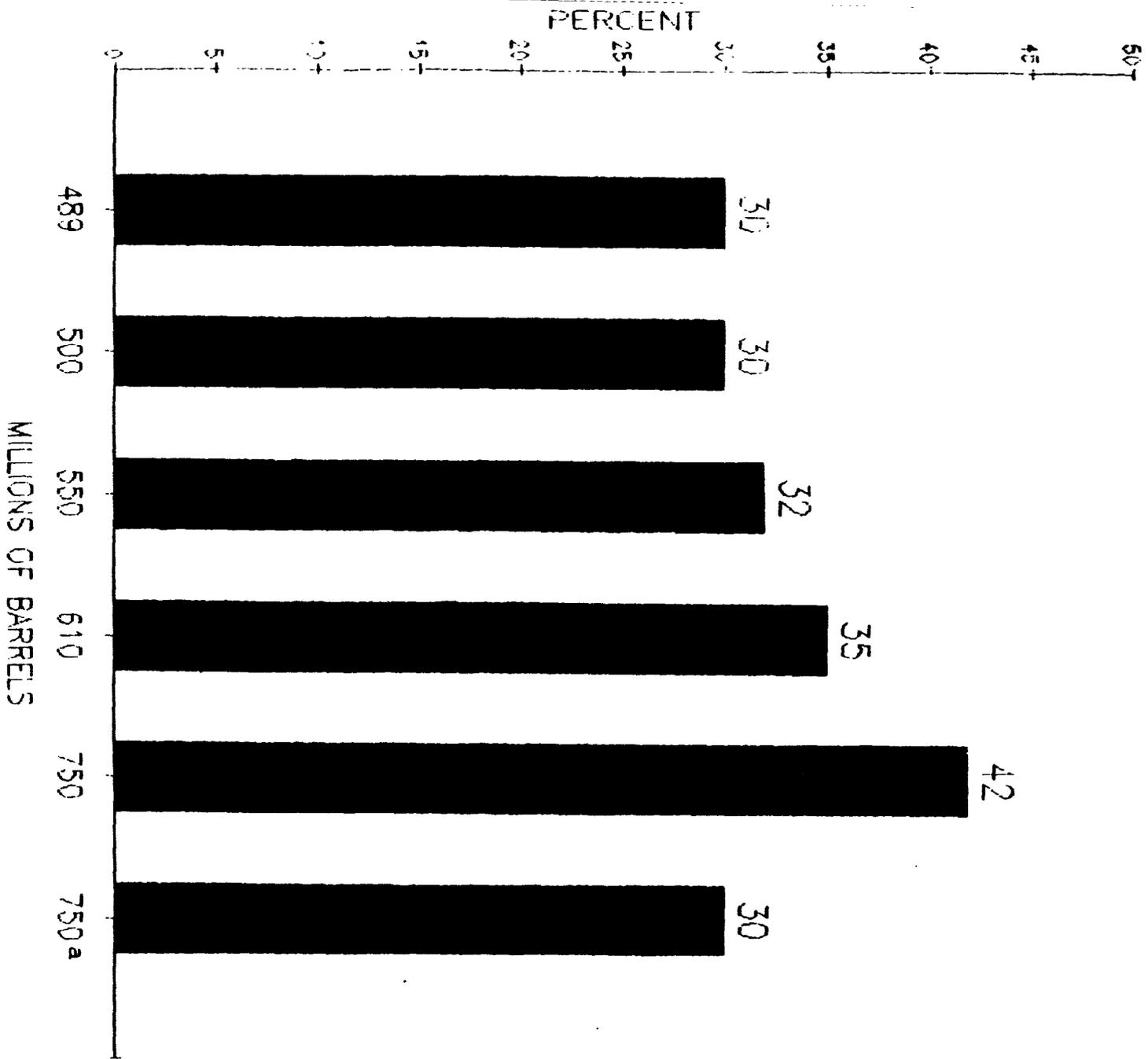
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In summary, Mr. Chairman, our analyses indicates that the decision before the Congress on the size and fill rate of the SPR revolves very much around the values one associates with the immediate need to reduce the budget deficit as contrasted to the need to continue pressing toward the original objective of having a 750-million-barrel reserve. In this regard, our analyses shows that

- Large budget savings come from decreased oil fill, not from stopping facilities development.
- Unless legislative changes are made regarding the production of Naval Petroleum Reserve oil, it would appear that a 500-million-barrel reserve would be the minimum cost-effective level to achieve.

CHART 3

COMPARISON OF THE IMPACT EACH SPR  
INVENTORY OPTION HAS ON DAMPENING  
THE INCREASE IN OIL PRICES RESULTING  
FROM A SUPPLY DISRUPTION



<sup>a</sup>Reflects cover development with only sufficient oil fill to reach 500-MMB inventory

--The combination of increased drawdown capability, a reserve size more likely to exceed the requirement of 90 days of net oil imports, and the related increase in price-dampening effects in a disruption from a larger reserve requires that serious consideration be given to continued development of the storage sites for a larger reserve capacity and tailoring the fill rate in future years to oil availability, price, and relevant budget considerations.

Mr. Chairman, this concludes my prepared statement. I will be happy to respond to any questions.