



## **SPR: More Important Than Ever**

**A Response to the Department of Energy's Request for  
Public Comment on Strategic Petroleum Reserve Policy**

**July 2, 1997**

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## **Comment on Strategic Petroleum Reserve Policy**

The Strategic Petroleum Reserve (SPR) is one of the cornerstones of U.S. energy policy. It remains the most effective policy tool in minimizing the economic dislocations to the U.S. economy that would result from a sudden disruption in the international flow of oil. Yet, the SPR is once again under threat.

The Congress, in its annual budget balancing dance has come to realize that the SPR has no natural constituency. It is therefore a deep and easy pocket to pick. Various bills would again reduce the SPR level despite the fact that the potential of supply disruptions are not only ever present but changing and growing. We warned of this danger several years ago when we suggested that even a small sale of the SPR for budgetary purposes would set a dangerous precedent i.e., the camel's nose under the tent. Since that warning the Congress has authorized the sale of approximately 30 million barrels for just such a purpose and is about to authorize another 10 to 12 million barrel sale.

PIRINC wants to reiterate its view that any sale of a strategic asset to fund current consumption is penny wise and pound foolish. It's in this context

that we are pleased to respond to the DOE's invitation for public comment on the U.S. Strategic Petroleum Reserve (SPR) Policy, as outlined in the *Federal Register Notice* of May 2, 1997. We will address each of the 7 Primary Issues listed and described in the Federal Register.

**Question 1: Should the United States continue to maintain the Strategic Petroleum Reserve (SPR)?**

Our answer is a strong *yes!*

As the Department of Energy re-examines its SPR policy, oil markets are becoming more vulnerable to short-term supply disruptions. Although the nature of potential supply disruptions is changing, the *total* risk over the coming decade will be at least as high as it was when the SPR was created in the early 1970s and in some respects could be higher.

The SPR remains the most viable, secure, and cost-effective tool for preventing and mitigating an oil supply disruption. While the optimal size of the Reserve, the method of financing oil acquisitions, and the timing and procedures of a response are open for debate, long-term security should not be compromised for short-term budget balancing. Yet, for the third consecutive year, SPR oil is under attack by revenue seekers, currently through a House Interior Appropriations bill. The SPR should be maintained and improved, not abandoned, neglected or reduced. The presence of the SPR affords the administration important diplomatic flexibility to fully assess the supply disruption in a calmer environment. Moreover, the mere presence of a sizable

reserve may actually prevent foreign government action aimed directly or indirectly against the U.S.

The National Petroleum Council has estimated that the 1973 and 1979 oil supply shocks cost the U.S. economy a cumulative 2.5% and 3.5%, respectively. Each percentage point loss of GDP today would equate to about \$75 billion per year. In contrast the operating and maintenance costs of the SPR are about \$200 million per year. Thus, it can be calculated if the SPR can stave off or significantly reduce the cost of an oil disruption on the economy, any time in the foreseeable future, it will make a far more positive impact on the economy than the cumulative cost of maintaining and operating the reserve.

Our dependency on imported oil is much higher today than it was in the mid-1970s when we established the SPR (36% in 1975 vs. 48% in 1997) and, according to the EIA forecast, it will increase to between 50% and 70% by 2015.

Similarly, the share of oil which can be substituted by other fuels is much lower today than it was in the mid-1970s. Currently two-thirds of all oil is consumed in the transportation sector where there is no fuel substitution; in 1975 the transportation sector's share was about 50%.

### **Transit Risks Are Becoming a Much Bigger Threat**

In the international arena a new development that may increase the risk of a disruption is the growth in *pipeline* transportation to export crude. Except for the Suez Canal closure in 1956, all postwar oil disruptions involved oil

producing countries. In the future there will be an additional risk -- the pipeline transit countries. This could be of particular importance in the Caspian Sea region. According to a recent State Department report, the "Caspian region could become the most important new player in world oil markets over the next decade". By 2010 the region may export 3-4 million B/D all of which will transit other countries by pipeline to maritime harbors. Several of these transit countries/regions, such as Chechnya, Dagestan, Georgia, Armenia and Azerbaijan, are either politically unstable or have territorial disputes or other conflicts with each other. Thus, temporary disruptions in the transit of Caspian oil exports are a real new risk.

To mitigate pipeline risks, recent developments in drag reduction agents (DRAs) could prove very effective. State of the art technological changes in reducing drag resistance in pipelines could effectively increase the flow capacity by 30-50%. This is an area that IEA member countries in conjunction with large producing and transit regions need to additionally explore. Strategic storage of these additives may very well prove to be very cost effective in minimizing transit disruptions in the future.

#### **A Supply Disruption Anywhere is a Price Increase Everywhere**

In evaluating the continued maintenance of the SPR the question has been raised whether our recent shift in imports from the Middle East to the Western

Hemisphere<sup>1</sup> reduces the risk of an oil import disruption and, hence, the need for an SPR of its present size.

In answer, it should be pointed out that currently the Middle East accounts for nearly half of the world's interregional oil exports, has the lowest production cost, the biggest growth potential based on its proved reserves and contains virtually all of the world's readily available spare producing capacity. Thus, the Middle East is, and will remain, a key determinant in world oil supplies and prices. Since oil is now truly a global commodity with global prices and price mechanisms, any individual country's dependency on Middle East oil imports is irrelevant to the country's oil price structure. This was clearly demonstrated during the Persian Gulf crisis of 1990 when world oil prices rose everywhere at similar rates.

Regarding the Middle East's spare capacity, it currently totals 3 million B/D, or just 4% of world oil production, and two-thirds of it are located in one country, Saudi Arabia<sup>2</sup>. This is less than half the spare capacity that existed during the 1980's. There is no significant spare capacity outside the Middle East.

The Department of Energy has asked how public stocks affect private inventories. In a word they don't. Private stocks and public stocks serve two

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<sup>1</sup> The Middle East's share of U.S. oil imports dropped from 22% in 1991-93 to 17% in 1995-97.

<sup>2</sup> Depending upon the specific circumstances surrounding a disruption, it shouldn't be taken for granted that Saudi Arabia would immediately be willing or able to release its spare capacity.

very distinct purposes. The size of one bears little (if any) relationship to the size of the other.

Firstly, stocks have been declining in response to global economic pressures. Companies in their attempt to remain competitive have been under pressure to reduce their working capital requirements. Oil companies have accomplished this in part by reducing their level of discretionary stocks. Secondly, experience has suggested that private companies initially do not know when, how much, or for how long strategic stocks will be offered to the market. Thus, they are unlikely to look at the SPR as complementary to their own ordinary inventories. Industry stocks are part of the cost of doing business. They are necessary in order to complete a sale. These stocks will fluctuate seasonally as well as in anticipation to sharp price moves either up or down or when the market is backwardated or in contango. Thus, it is impossible to know at any given moment what the level of private stocks will be. On the other hand public stocks (SPR) are designed to meet sudden, large, unanticipated disruptions in supply. Its level of inventory therefore needs to be both large and stable. Thus, the government controlled SPR will continue to be the only emergency oil inventory in the U.S.

**Question 2: What should be the size and composition of the Reserve Facilities and Oil Inventory?**

According to the International Energy Agency, emergency stocks of member countries will fall to their lowest levels this year since 1980. In the U.S.,

emergency stocks are even lower. The SPR's 1997 inventory of 564 million barrels now covers only 67 days of net imports, as shown in the table below.

**U.S. Emergency Stocks and Net Import Cover**

Year	Demand	Net Imports	SPR Level	Days Cover
1985	15.7	4.3	493	115
1988	17.3	6.6	560	85
1991	16.7	6.6	569	86
1996	18.2	8.4	566	67
2010*	21.6	12.9	564	47

\* - DOE projections for demand and imports combined with current SPR level

If the present inventory of the SPR were kept at the current level, net import cover would fall to 47 days by 2010.

While an in-depth study should be conducted to determine the appropriate level of the SPR, an interim goal should be to fill the reserve to its 680 million barrel capacity. *This would still only allow for 53 days of net import cover in 2010, but would at least utilize the existing infrastructure.* Three times in the past decade, Congress has made provisions for a higher SPR level: 750 million barrels in the Omnibus Budget Reconciliation Act of 1986; one billion barrels in the Energy Policy and Conservation Act Amendments of 1990; and again one billion barrels in the Energy Policy Act of 1992. However, these levels look politically infeasible in today's environment, especially after decommissioning the Weeks Island caverns reduced total capacity from 750 to 680 million barrels. Even a move back towards 750 million barrels would result in only 58 days of cover, approximately half the level of protection that existed in the mid-1980s.



### **Sanctions Also Increase the Risks of Supply Disruptions**

While the risks of traditional supply shocks remain, increased risks have emerged as a result of sanctions policies and, as pointed out, the growing transport of oil through volatile regions. Sanctions create new risks by reducing the diversity of supply, a cornerstone of U.S. energy policy. Additionally, sanctions reduce the total level of investment and slow down the rate at which these investments are made.

In addition to creating new risks, sanctions further exacerbate already increasing transit risks. DOE identifies six major “chokepoints” in world oil transit<sup>3</sup>: the Strait of Hormuz, the Strait of Malacca, the Suez Canal and Sumed Pipeline, Russian export pipelines and ports, the Bosphorus, and the Panama Canal. These bottlenecks account for about forty percent of world oil transit. At most, only about one quarter of this transit could be diverted at medium cost. Over one third would be effectively blocked, while the remaining 15% could be diverted at high cost. Critically, the Strait of Hormuz alone accounts for more than 12 MMB/D, or over one third of internationally traded oil. This affords Iran enormous potential political leverage.

When the new risks and increased transit risks are combined with the global production risks that have continued to grow since the SPR was created, *total risk is at least as high now as anytime during the last three decades*. Therefore,

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<sup>3</sup> Energy Information Administration, “World Oil Transit ‘Chokepoints’”, February 1996, at web site <http://www.eia.doe.gov/emcu/cabs/choke.html>

our policy should be to fill the SPR gradually at least to its current capacity of 680 million barrels.

**Question 3: How should Reserve oil be distributed?**

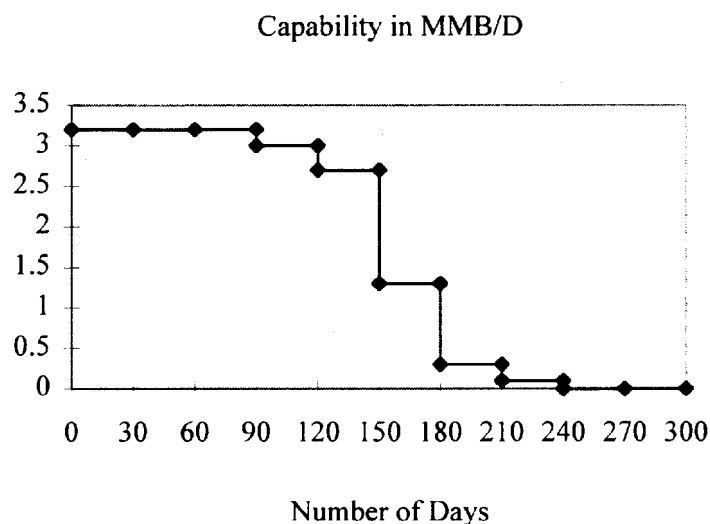
The purpose of the reserve is to calm oil markets and to help make physical barrels incrementally available. The plan and mechanics of the current reserve distribution system seem to have functioned relatively well. The basic terms and conditions of a sale are generally known and well documented.

The mere announcement that a sale will occur will in itself help to calm an overheated market, as was demonstrated during the Gulf War in 1991. Thus the 15 day period between notice to proceed and the deliverability of the oil is not in itself a problem.

However, since the purpose of the reserve is to minimize the economic dislocations to the economy, its greatest benefits will accrue if it is used early in the disruption. Using the Reserve as a last resort may result in the SPR being an insurance policy whose benefits are never fully received.

**Question 4: What should be the drawdown and distribution capability of the Reserve?**

The current maximum drawdown rate is 3.2 million B/D. By next April it will be 3.7 million B/D, and by 2000, 3.9 million B/D, under current announced plans. However, these maximum rates can only be maintained for 90 days, after which they decline, as shown in the figure below.

**Figure 1 - Drawdown/Distribution Capability on December 31, 1996**

Source: Department of Energy, Strategic Petroleum Reserve Annual Report 1996

At first the maximum rates decrease slowly, but after 150 days they decrease very rapidly. Thus, the maximum *average* drawdown rate for the 240 days shown to drain the SPR is about 2 million B/D, given the present level of 546 million bbls.

The planned increases in the drawdown rate for the first 90 days will accelerate the maximum drawdown rate but will of course not extend the drawdown period, as long as the SPR volume remains at its present level.

Yet as we have seen, recent major disruptions have lasted years, not months. The Iran-Iraq War which started in 1980 reduced the two countries' oil exports from 5.5 million in 1979 to about 2 million B/D in the period 1981-83, causing explosive oil price increases worldwide. Similarly, after Iraq's invasion of Kuwait in August 1990, the combined full export loss of nearly 4 million B/D

continued unabated for nearly two years before the first Kuwaiti exports entered the market. Fortunately, several OPEC countries, most importantly Saudi Arabia, had enough spare production capacity to offset the entire loss of Iraq/Kuwait exports within a few months. Today's available spare capacity would only offset about 2/3 of such a loss.

It would therefore seem that while the SPR's planned maximum drawdown rate of 3.9 million B/D by 2000 is adequate, our SPR volume of 564 million is not adequate to cope with potential future disruptions, given our rising import level. Thus, a gradual increase in the SPR volume to its 680 million bbls capacity level seems indicated. A very positive by-product of this increase would be that it would raise the SPR's 90-day drawdown rate to 4.4 million B/D.

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

As the Federal Register Notice clearly indicates in its comments on this question, there is no appropriate policy to raise revenues by selling SPR oil. The two past sales for budgetary purposes were viewed as a mistake by former Secretary of Energy Hazel O'Leary in her last press interview. Nonetheless, sales of SPR oil are yet again being proposed in Congress as a revenue source for the fiscal 1998 budget.

The SPR represents probably one of the lowest-cost national security investments relative to its potential benefit. It takes much of the economic

vulnerability out of our oil dependency. The dependency is inevitable and will keep growing; the vulnerability can be greatly reduced by the SPR.

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

The alternative use most discussed by DOE and others is leasing excess storage capacity. It is certainly reasonable for the Government to consider leasing some of its current spare capacity of about 116 million barrels\*, provided that the facilities are properly maintained. However, such leasing would restrict the government's ability in filling the SPR with its own oil, the most advantageous option.

Since the SPR is not a commercial storage facility which can be drawn down and refilled on an ongoing basis, private companies are unlikely to lease any of its spare capacity. However, the SPR's ready existence may make it a lower cost option for foreign governments and thus might encourage some countries at the margin to store strategic barrels. The risk to the U.S. of letting a foreign entity have access to the SPR does not seem large. The increase in oil prices that would likely occur during a disruption would probably be a sufficient incentive for this entity to want to sell barrels. Given the location of the SPR, the natural market for any sales would be the U.S. Gulf Coast. Moreover, through swaps and exchanges these Governments could also get access to physical barrels in an efficient and timely fashion.

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\* The difference between current SPR capacity of 680 million barrels and the current SPR level of 564 million barrels.

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

Some opponents to the SPR propose that the money tied up in the oil reserves, roughly about \$10 billion, could be better spent on other oil emergency response programs. However, none of the other options are politically or economically able to protect the economy like the SPR would. Oil futures or options would not prevent a physical supply shortage. While they might affect the timing of the release of the Reserve, they can't create a physical barrel of oil. Government price controls exacerbated the crises of the 1970s, and demand-side responses, such as restraints and fuel substitution are a very limited counterweight. Only the SPR can mitigate a large supply disruption and facilitate the rebalancing of the market.

Any sale of options is likely to generate little revenue but it will clearly place the government where it doesn't belong; in the oil business. In addition, it would require the government to make market timing calls and set formally stated specific trigger prices. When this trigger was broached the government would have to be prepared to sell SPR barrels whether or not the reason for the price spike was due to a physical disruption in the international flow of oil or simply due to a transient act that occurs from time to time.

In conclusion, we would like to answer a question raised both in the first and the last issue: Who should pay for the SPR? Conceptually, all Americans should share in its cost because the SPR is a national security device affecting literally

everyone. Its existence and use minimize the economic dislocations during supply disruptions. As a result, the GDP, net income, and employment are higher, while inflation is lower.

Thus our SPR expenditures should be viewed as an insurance premium against a national economic catastrophe. Like with any catastrophe insurance, we should do everything possible to prevent the catastrophe. However, as long as it is a realistic possibility, we should pay the premium, which, as we have shown, is very small relative to the potential cost of a major oil supply distribution.