



Highlights of [GAO-06-872](#), a report to congressional requesters

Why GAO Did This Study

Congress authorized the Strategic Petroleum Reserve (SPR), operated by the Department of Energy (DOE), to release oil to the market during supply disruptions and protect the U.S. economy from damage. The reserve can store up to 727 million barrels of crude oil, and currently contains enough oil to offset 59 days of U.S. oil imports. GAO answered the following questions: (1) What factors do experts recommend be considered when filling and using the SPR? (2) To what extent can the SPR protect the U.S. economy from damage during oil supply disruptions? (3) Under what circumstances would an SPR larger than its current size be warranted? As part of this study, GAO developed oil supply disruption scenarios, used models to estimate potential economic harm, and convened 13 experts in conjunction with the National Academy of Sciences.

What GAO Recommends

GAO is recommending that the Secretary of Energy (1) assess the effectiveness of experts' proposals to use dollar cost averaging when filling the SPR and allow delays in SPR fill; (2) to better serve users, store some heavy sour oil in the SPR; (3) clarify the difference in assumptions and purposes of two models DOE uses to estimate the impact of using the SPR; and (4) periodically reassess the ideal size of the SPR in light of changing oil market conditions. DOE generally agreed with the report and recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-06-872.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Jim Wells at (202) 512-6877 or wellsj@gao.gov.

STRATEGIC PETROLEUM RESERVE

Available Oil Can Provide Significant Benefits, but Many Factors Should Influence Future Decisions about Fill, Use, and Expansion

What GAO Found

The group of experts recommended a number of factors to be considered when filling and using the SPR. They generally agreed that filling the reserve by acquiring a steady dollar value of oil over time, rather than a steady volume of oil over time as has occurred in recent years, would ensure that more oil will be acquired when prices are low and less when prices are high. Experts also suggested allowing oil producers to defer delivery of oil to the reserve at times when supply and demand are in tight balance, with oil producers providing additional oil to the SPR to pay for the delay. Regarding use of the SPR, experts described several factors to consider when making future use decisions, including using the reserve without delay when it is needed to minimize economic damage.

During oil supply disruptions, releasing oil from the SPR could greatly reduce damage to the U.S. economy, based on our analyses and expert opinions. Particularly when used in conjunction with reserves in other countries, the SPR can replace the oil lost in all but the most catastrophic oil disruption scenarios we considered, lasting from 3 months to 2 years. DOE uses one model to estimate the optimal size of the SPR and another to estimate the economic effects of oil supply disruptions. Both models predict positive effects from using the SPR, but the magnitude of such benefits differ. The substantial differences between the results of these two models could lead DOE to provide inconsistent advice about expanding and using the reserve. Furthermore, factors beyond the SPR's ability to replace oil affect the extent to which the SPR can protect the U.S. economy from damage. For example, SPR crude is not compatible with all U.S. refineries. During a disruption of heavy sour crude oil, refineries configured to use this type of oil would have to reduce production of some petroleum products when refining the lighter oil in the SPR, decreasing the reserve's effectiveness at preventing economic damage.

If demand for oil increases as expected, a larger SPR would be necessary to maintain the existing level of protection for the U.S. economy. The Energy Information Administration recently projected increases in U.S. demand for petroleum of approximately 12 percent by 2015 and 24 percent by 2025, compared with the 2005 level. In this regard, a 2005 study prepared for DOE found that the benefits of expanding the reserve to 1.5 billion barrels exceed the costs over a range of future conditions. However, many factors that influence the SPR's ideal size are likely to change over time. For example, although projections show increasing oil demand, the level of demand depends on many factors, including rates of economic growth, the price of oil, policy choices related to alternatives to oil, and technology changes. Consequently, periodic reassessments of the SPR's size in light of new information could be helpful as part of the nation's energy security planning.