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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

ENERGY AND MINERALS
DIVISION

MARCH 20, 1979

B-178205

The Honorable James R. Schlesinger
The Secretary of Energy



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Dear Mr. Secretary:

While monitoring the Department of Energy's (DOE) 1/ efforts to create a strategic petroleum reserve, we noted that the legislation which authorized the regional reserves is not being fully implemented. Specifically, DOE has failed to obtain sufficient data concerning demand and imports of refined petroleum products. Moreover, although DOE has obtained some data on petroleum product demand and imports, it has not gathered this data on either a regional or annual basis, as required by law. DOE's efforts in this area should be improved in order to minimize the risk that sufficient supplies of imported petroleum products would not be available in each region if an oil embargo were to occur.

BACKGROUND

To diminish U.S. vulnerability to the effects of a severe interruption in energy supplies and to provide limited protection from the consequences of interruptions in petroleum product supplies, the Energy Policy and Conservation Act (Public Law 94-163) of December 22, 1975, requires DOE to create a strategic petroleum reserve (reserve). In February 1977, DOE submitted to the Congress a reserve plan which stated that the reserve would contain an estimated 500 million barrels of crude oil by December 1982. In his April 1977 energy message, however, the President called for expanding the program to 1 billion barrels. Subsequently, DOE

1/Many of the statements and actions attributed to DOE in this report were actually stated and performed by the Federal Energy Administration. For simplicity, however, DOE is referred to throughout the report. The functions of the Federal Energy Administration were assigned to DOE on October 1, 1977, pursuant to the Department of Energy Organization Act (P.L. 95-91).

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accelerated the reserve schedule by 2 years and undertook to store 500 million barrels of crude oil by the end of 1980. DOE now plans to store 1 billion barrels by 1985. While DOE has not yet estimated the cost to store 1 billion barrels, DOE's estimated cost to store 750 million barrels is \$14.4 billion.

According to the Conference Report, 1/ section 157(a) of the act requires that

"the Strategic Petroleum Reserve Plan provide for Regional Petroleum Reserves whenever imports of any refined petroleum product or residual fuel oil exceed 20 percent of demand for such product or oil in any FEA region. To implement this provision of the Plan, the Administrator is authorized to establish, as part of the Strategic Reserve, a Regional Petroleum Reserve of such product or oil readily accessible to such FEA Region. The conference substitute permits the Administrator to satisfy the requirements of the Regional Reserve provisions regarding storage of any refined petroleum product or residual fuel oil by substitute storage of petroleum products, including crude oil, without express restriction on the location of substitute storage facilities. The conferees anticipate that the Administrator will rely upon substitution to satisfy Regional Reserve storage requirements only to the extent that the types and volumes of substitute petroleum products stored and the location of the storage facilities will be 'adequate to provide substantial protection' against an interruption or reduction in imports of any refined petroleum product or residual fuel oil for which any FEA Region is dependent upon imports of such oil or product for more than 20 percent of such Region's demand for such oil or product."

According to a DOE official, DOE, in submitting the reserve plan in February 1977, concluded that regional reserves of petroleum products would not be needed. This conclusion was based on the premise that a strategic reserve of crude oil coupled with the flexibility of refiners to alter their mix of refined petroleum products could offset any regional product shortages. Since that time, DOE, in response to

1/Report No. 94-516, December 8, 1975, pp. 134, 135.

congressional concern has been examining this decision. According to DOE officials, although funds have not been included in DOE's fiscal year 1980 budget, a final decision on the regional reserves issue has not been made.

THE PROBLEM

Although the act requires DOE to annually determine the need for storage of petroleum products, DOE has not complied. While DOE has considered the need for a regional reserve of certain products, its analysis of this need may not have been adequate. It has grouped products together rather than consider each individually. These problems are discussed in detail below.

Regional storage needs for each product not considered

To meet the act's requirements, DOE considered regional storage needs for only four petroleum products--motor gasoline, distillate fuels, kerosene, and residual oil. DOE officials stated that they considered these to be major petroleum products. However, according to a DOE official, although there is no universally accepted list of products, the form used by DOE to collect refiner production and inventory information lists about 40 different types of petroleum products, some of which may be further broken down into several other products. Because the act does not specify the petroleum products DOE should consider in calculating import levels, we recognize that DOE should be accorded some discretion in establishing its list of petroleum products. It is our view, however, that in fulfilling the congressional objective of providing "substantial protection against an interruption or reduction in any refined petroleum product" DOE should consider expanding its list of petroleum products for which it develops import and demand data.

To illustrate the problem, we selected for examination one petroleum product--liquefied gases--which according to a DOE official, was not considered. According to DOE, import and demand data for liquefied gases was not available by DOE region; however, it was available for five broader geographic regions--Petroleum Administration for Defense (PAD) districts. We found that imports of liquefied gases exceeded 20 percent of demand for this product during 1974, 1975, and 1976 in two of the five PAD districts. It is evident, then, that one or more of the DOE regions that comprise these broader PAD districts have also imported more than 20 percent of their demand for liquefied gases.

Need to consider
products individually

Three of the four petroleum products for which DOE considered regional storage needs may be broken down as follows, according to DOE product descriptions. No further breakdown was provided for kerosene.

Motor gasoline--leaded motor gasoline, unleaded motor gasoline

Distillate fuels--number 1 heating oil, number 3 heating oil, diesel fuel, number 4 fuel oil

Residual oil--number 5 fuel oil, number 6 fuel oil, heavy diesel oil, Navy special fuel oil, Bunker C fuel oil

DOE, however, considered the need for storage for motor gasoline, distillate fuels and residual oil without considering the need for the individual products of which the broader products are comprised. For example, DOE analyzed import and demand data for distillate fuels as a group but not for its components--number 1 and number 2 heating oil, diesel fuel and number 4 fuel oil. To adequately address regional storage needs, each product should be considered individually rather than as part of a group because products comprising a group cannot always be substituted for each other in the event of a supply shortage.

WHY HAS DOE HAD THESE PROBLEMS?

DOE officials told us that the reason DOE has not determined whether each DOE region is importing 20 percent or more of the demand for particular petroleum products is simply that DOE does not collect import and demand data for each product by DOE region. DOE officials stated that, if the information were available, they would make the necessary analysis. DOE officials further stated that collection of the data necessary to make such analysis may not be cost effective; however, DOE has not made a study of the cost effectiveness of collecting this data.

We discussed a draft of this report with DOE officials who generally agreed that it would be desirable to have, for each DOE region, import and demand data for each petroleum product, to further assure that regions would be protected during a supply interruption. DOE believes, however, that other than for residual oil for which its detailed analysis

disclosed the need for a regional reserve, no other regional reserves are needed. DOE officials stated that the basis for this belief is (1) a strategic reserve of crude oil coupled with the flexibility of refiners to alter the mix (types) of refined petroleum products produced could offset any regional product shortages and (2) concern has not been expressed by the Congress or State officials that DOE has not considered regional storage needs for any other refined product.

We believe that, without further analysis and the data necessary to make such analysis, a determination of whether a regional reserve is needed for other products cannot be made. DOE officials advised us that an analysis had not been made to verify that a crude oil reserve coupled with refiner flexibility could offset any regional shortfall of any petroleum product. This analysis cannot be made without detailed data breakdown by DOE regions on product imports and demand to determine needs and to determine refiner flexibility to meet such needs. Further, we believe that the absence of any expressed concern by the Congress or State officials is not sufficient demonstration that regional storage is not needed for any petroleum product.

CONCLUSIONS

The Energy Policy and Conservation Act requires DOE to annually develop and evaluate product demand and import data for each of its regions to determine whether regional product storage is needed to offset the impact of a supply interruption. DOE has failed to comply with this requirement. While DOE believes that no regional reserves, other than for residual oil, are needed and collection of the data necessary to more effectively implement the law may not be cost effective, DOE has not made the analysis necessary to support this belief.

RECOMMENDATIONS

We recommend that the Secretary, fully implement the legislation which authorized the regional reserve program by expanding and improving the data base used by DOE in considering the establishment of regional reserves of refined petroleum products. Specifically, DOE should expand its list of petroleum products for which it collects import and demand data and gather this data annually by region.

of Energy should

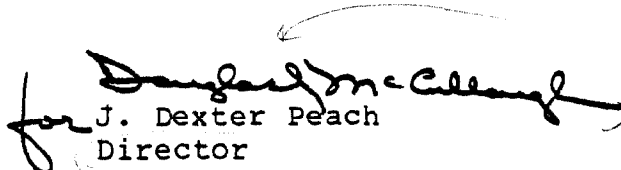
Section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written

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statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

Copies of this report are being sent to the Director, Office of Management and Budget; the Chairmen, House Committees on Appropriations and Government Operations and the Senate Committees on Appropriations and Governmental Affairs; and oversight committees for the agency.

Sincerely yours,

A handwritten signature in cursive script, reading "Douglas M. Cleugh". A curved arrow points from the signature down to the typed name below. To the left of the signature, the word "for" is written in a cursive hand.
for J. Dexter Peach
Director