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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20545

FOR RELEASE ON DELIVERY
Expected at 10:00 a.m., EDT
Monday, September 10, 1979

STATEMENT OF
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BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER HSE02303
OF THE
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
ON
[THE STRATEGIC PETROLEUM RESERVE]

Mr. Chairman and Members of the Subcommittee:

We welcome the opportunity to be here to discuss GAO's work on the strategic petroleum reserve program's management of facility cost, oil supply, and future site development. Although our work in these three areas is still underway, we expect to issue a report in October.

MANAGEMENT OF FACILITY COST

Storing crude oil in salt caverns and mines was a pioneer experience for the Federal Government. Although crude oil has been stored in France and West Germany, the U.S. strategic petroleum reserve program is larger and costlier than any other crude oil storage program.

As you know, a strategic petroleum reserve storage facility consists of mines or caverns for storing oil and related systems for moving the oil, such as pipelines, pumps, cavern entry wells, fire fighting systems, security

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systems, and maintenance buildings. From December 1976 to February 1979, the latest estimate available, the Department of Energy's (DOE's) estimate for constructing and operating the reserve storage facilities for the first 500 million barrels of oil increased almost 100 percent from \$765 million or \$1.53 per barrel to \$1.5 billion or \$2.98 per barrel.

There have been similar patterns of costs spiraling after conservative initial estimates were made in other large projects. For example, the Trans-Alaska Pipeline was originally estimated in 1969 to cost \$863 million, whereas in 1977, the administration estimated final costs to be between \$10.5 and \$13.7 billion.

The initial \$1.53 per barrel cost estimate for the reserve was extremely conservative and did not adequately consider all costs of a program the size of the reserve.

The President's May 1977 decision to accelerate oil fill also increased facility development costs. The original reserve target called for 150 million barrels by December 1978 and 500 million barrels by December 1982, whereas the 1977 Presidential mandate required 250 million barrels by December 1978 and 500 million barrels by December 1980. In May 1977, DOE estimated the cost of the accelerated fill schedules at \$25 million, excluding inflation. By April 1978, a new DOE estimate placed the costs at \$80 million, including inflation.

Initial cost estimates for any large engineering project should be based on thorough planning, design engineering, and certification tests, if possible. Clearly, the public interest is served by insisting on realistic initial assessments. Lacking historical data, the most reliable basis for establishing budget estimates is the development of preliminary engineering design based on as much site-specific data as is economically practicable.

We believe key factors resulting in the poor initial estimates were the lack of historical experience for a project of similar size and the lack of site-specific engineering designs.

For the strategic petroleum reserve, the cost estimates were based on preliminary feasibility studies that did not adequately describe the facilities that would be required. Several costly items, such as marine terminal facilities, dikes around wellheads, and fire fighting systems, were omitted from early cost estimates. Other items, such as pipelines, buildings, and instrumentation were not the right size or quality to do the job. DOE did not develop detailed engineering studies until early 1978--studies which could have provided a basis for realistic cost baselines.

Furthermore, we believe that controlling costs in a program the size of the strategic petroleum reserve requires:

--A basis for measuring progress against a realistic cost and schedule baseline based on detailed engineering study.

--A comprehensive management control system, integrated throughout the project's management, to provide information upon which to judge progress, identify problems, and analyze the impact of alternative courses of action.

--Competent management which is committed to controlling costs.

As we have stated in earlier reports, 1/ DOE's overriding goal was to get oil in storage as quickly as possible. Although meeting that goal is important, it does not carry with it a blank check; cost control is also important and should have received greater attention. Only late in the project did DOE attempt to put in place cost control systems.

DOE's management of facility costs appears to be at a turning point. In late 1978, the Office of Management and Budget (OMB) and DOE agreed that DOE funding requests for future facilities would be based on engineering studies. The studies would include identification of major uncertainties. Also, engineering cost data for general design are

1/Letter report, EMD-79-42, Mar. 27, 1979; "Information on Department of Energy's Management of the Strategic Petroleum Reserve," EMD-79-49, Mar. 22, 1979; "Need to Minimize Risks of Using Salt Caverns for the Strategic Petroleum Reserve," EMD-78-25, Jan. 9, 1978; and "Questionable Suitability of Certain Salt Caverns and Mines for the Strategic Petroleum Reserve," EMD-78-65, Aug. 14, 1978.

to be developed and include the actual cost experience on similar sites.

In addition, in mid-1978 DOE established a Configuration Control Board to review the technical and economic justification of proposed contract changes and is currently developing an automated Integrated Management Information System which it plans to implement later this month. As currently planned, the new system will:

- Present cost, schedule, and technical baselines and track actual performance against plans.
- Identify variances from baseline and planned levels.
- Allow DOE to assess the financial impact of planned actions on the whole project.
- Provide information to all levels of management.

This system could be used to provide the information needed to identify and timely resolve potential cost and schedule problems.

It appears that DOE is instituting the systems and reviews needed to help management control costs. In addition, DOE has more time to emphasize cost control now because the oil fill schedule for the second 250 million barrels spans 6 years in comparison with the 2 years planned for the first 250 million barrels.

These changes in approach and new systems, however, can only be as effective as management makes them by diligently

monitoring the systems to ensure that they are actually working to control costs. Consequently, it remains to be seen how good and effective DOE's cost control program will be.

FUTURE OIL SUPPLY

Like the control of facility costs, the purchase of oil for the reserve is also at a turning point. DOE now has about 90 million barrels of oil in storage but the availability of future imported oil for the reserve is highly uncertain. In July 1979, the President imposed an oil import quota of 8.5 million barrels per day. It is currently uncertain how that quota will affect future oil supplies for the reserve, or what price the Nation would be willing to pay for supplies which might be available. In addition, questions are being raised about the size of the reserve.

In June 1979, we issued a report on "Factors Influencing the Size of the U.S. Strategic Petroleum Reserve" which observed that no study has shown that 1 billion barrels is the optimum-size reserve. A 1 billion barrel reserve is larger than that of any other nation, and is sized to meet a supply disruption of far greater magnitude than ever experienced in the past. We noted that other options could be used in conjunction with a federally funded reserve including improving demand and supply management and establishing an industrial reserve.

We understand that DOE and OMB are reevaluating the size of the reserve. Because of the preliminary stage of

their deliberations, we were not able to review any of their recent internal work.

Contractors' failure to deliver
crude oil

Because of its experience in buying refined oil products for the Department of Defense, DOE delegated the reserve's crude oil procurement responsibility to the Defense Fuel Supply Center. DOE still determines the types and quantity of oil needed and the timing of deliveries.

Purchase of oil for the reserve stopped after the recent Iranian oil supply interruption. Although the Defense Fuel Supply Center's contracting officer tried to procure oil eight times since December 1978, no bids were received. Also, since April 12, 1979, DOE has not allowed oil purchase for the reserve in order to free up limited supplies for domestic consumption. It is uncertain when oil purchase will be resumed.

Since October 1978, four contractors failed to deliver 12 million barrels of crude oil or about 11 percent of all reserve purchases. The contractors claim that their delivery failures were excusable principally because of the tight oil market. However, five other suppliers did deliver over 26 million barrels of oil through June 30, 1979. The question at this point is whether delivery failures were excusable or not.

If delivery failures are found to be excusable, the contracts would be terminated or modified to reflect cost increases. Because of recent oil price increases, the 12 million barrels of undelivered oil would cost about \$110 million more than the contract price. In either case, the Government's cost to procure the oil would increase by \$110 million.

If not excusable, the contracts would be terminated for default. When additional oil is procured, the defaulted contractor may be responsible for the cost increase. The contracting officer's decision to terminate for default can be appealed to the Armed Services Board of Contract Appeals, the U.S. Court of Claims and the Supreme Court. Such appeals are not only expensive but very time-consuming.

Another option available is a compromise where the Government and contractor would share the price increase. This is not actively being considered, but would obviously be based on the strength of the Government's case.

Generally, the contractor is requested to document his individual situation and his inability to perform. The Defense Fuel Supply Center contracting officer has terminated one contract for default and is expected to make an early decision on two other contractors. Also the contracting officer is currently evaluating data supplied by the fourth contractor. The contract terminated for default involved 3 million barrels. The contractor appealed the

decision to the Armed Services Board of Appeals but no hearing has been scheduled to date.

FUTURE SITE DEVELOPMENT

The last area I would like to discuss is future site development for the reserve. DOE is developing the storage sites in three phases of about 250 million barrels capacity each, but it has not yet decided on a method for developing the fourth 250 million barrels. In Phase I, DOE purchased five sites in Louisiana and Texas. DOE began filling these sites in July 1977. Phase I construction is scheduled for completion in about October 1979.

Phase II, which started in early 1979, involves expansion of two of the sites by leaching new caverns. These sites will be ready to begin oil fill in 1981 and expansion will be completed in 1986.

In Phase III, DOE plans to add about 220 million barrels of oil storage capacity at several new sites. As DOE explained to this Subcommittee last December, turnkey procurement is being considered as the primary option for developing Phase III. The intent of turnkey is to place cost schedule and performance responsibility with the private sector contractor. In this regard, DOE solicited competitive proposals for 142 million barrels of capacity and non-competitive proposals for 80 million barrels of

capacity at three sites. On August 30, 1979, DOE announced it would not award contracts for any of the solicited competitive proposals.

A separate decision on whether to award the non-competitive turnkey contracts for 80 million barrels capacity is pending the outcome of negotiations.

Non-competitive procurement

DOE justified non-competitive procurement of storage sites at Ironton, Ohio; Napoleonville, Louisiana; and Cote Blanche, Louisiana, on the basis of a need for storage capacity which can be filled during 1981; a period after completion in 1980 of Phase I but before the first of the Phase II and III sites become available in 1981 and 1982.

In view of the uncertainty related to the needed size of the reserve, and the availability of oil for the reserve, we believe DOE must fully consider the advantages and disadvantages of awarding non-competitive contracts now for Phase III site development. For example, if it is determined that only about 530 million barrels--Phase I and II--is adequate, the Phase III sites would of course not be needed.

In addition, as I discussed earlier, future oil supplies for the reserve are uncertain. Given this uncertainty, DOE should reassess the need to purchase non-competitively 80 million barrels of additional storage capacity at this time.

Further, we believe that if it is determined that the benefits of proceeding with Phase III site development now outweigh the risks and costs, DOE should carefully evaluate the advantages and disadvantages of the non-competitive proposals as they relate to competitive alternatives.

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In summary Mr. Chairman, the reserve is at a turning point in three key areas--management of facility costs, future oil supply, and future site development:

--It appears DOE is instituting the proper tools it will need to better manage and control facility costs. These tools, however, can only be as effective as management makes them by diligently monitoring the systems to insure that they are actually working.

--Future oil supply is uncertain. It is affected by availability of imported crude oil and the price the Nation is willing to pay for it.

--The need and timing of future site development must be analyzed in the context of ongoing deliberations concerning the size of the reserve and of uncertain oil supplies. This has potential implications for decisions on Phase III site development.

That concludes my written statement, Mr. Chairman.

We would be happy to respond to questions.