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

FOR RELEASE ON DELIVERY
Expected at 11:00 a.m.
Monday, March 30, 1981

STATEMENT OF
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DIRECTOR, ENERGY AND MINERALS DIVISION
BEFORE THE
SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES
OF THE
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
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 (SPR) Program. We have been following the Federal Government's progress in developing the SPR for several years, and have reported on various aspects of the program. Our ongoing SPR work is in response to a July 23, 1980, bipartisan request from members of the Senate Energy and Natural Resources Committee and the former House Interstate and Foreign Commerce Committee that we prepare status reports on the administration's activities to implement title VIII of the Energy Security Act (P.L. 96-294). We have issued four in a continuing series of status reports and expect to continue issuing status reports about monthly. My testimony this morning is based on these reports and our most recent work concerning the status of the program.



Title VIII requires the President to fill the SPR at an average rate of at least 100,000 barrels per day for fiscal year 1981 and succeeding years. The Department of Energy's (DOE's) fiscal year 1981 appropriation (P.L. 96-514) provided that the President should seek to fill the SPR at an average annual rate of at least 300,000 barrels per day or at a rate which will fully utilize appropriated funds.

My comments today focus on

--the status of SPR fill activities, including DOE's request for supplemental fiscal year 1981 and fiscal year 1982 appropriations, and

--the adequacy of SPR storage capacity to sustain the fill rates proposed in DOE's budget or higher fill rates.

SPR FILL ACTIVITIES

First, I would like to provide a brief summary of DOE activities to fill the SPR. DOE is implementing a three-phase construction plan to achieve a 750-million-barrel oil storage capacity. The first construction phase involves storage capacity of 249 million barrels. Although these storage facilities are complete, about 32 million barrels of this capacity is not ready to accept oil. DOE expects it to come on line in July of this year. The second phase is expected to add about 290 million barrels of capacity to bring the total storage capacity to about 539 million barrels. Construction has started on this phase and is

expected to be completed by 1987. Phase III construction is expected to start during fiscal year 1982 and to be completed during 1989.

As of March 25, 1981, about 118 million barrels of oil had been delivered to the SPR. DOE plans call for additional deliveries of about 50 million barrels by the end of fiscal year 1981. Of this amount 26 million barrels has been contracted for and another 24 million barrels is expected from contracts yet to be made. If these expectations are met, DOE will reach its average fill rate goal for fiscal year 1981 of 207,000 barrels per day. Thus far, the fill rate for the fiscal year will average about 142,000 barrels per day. During fiscal year 1982, DOE plans to add 84 million barrels for an average fill rate of 230,000 barrels per day.

FUNDING FOR THE RESERVE

Now I would like to turn to DOE's budget request to support those fill rates. Of the \$4.0 billion made available for oil purchase DOE has spent about \$2.0 billion. DOE plans to use the remaining \$2.0 billion of available funds, plus the \$1.3 billion fiscal year 1981 supplemental funds requested, to obligate funds for about 87 million barrels of oil.

As I indicated earlier, of this amount, 24 million of these 87 million barrels must be delivered during fiscal year 1981 if DOE is to meet its fill goals. DOE expects that the

balance of about 63 million barrels will be delivered in fiscal year 1982 in partial fulfillment of its fill goals for that year. DOE's fiscal year 1982 budget request continues this carryover feature in that only 21 of the 75 million barrels which could be purchased with requested funds is planned for delivery in fiscal year 1982. Expressed in dollars DOE's fiscal year 1982 budget request estimates the cost of 75 million barrels of oil at \$3.7 billion.

Assuming oil prices averaging \$40 per barrel, DOE currently has sufficient funds to satisfy its fiscal year 1981 fill plans and about 26 million barrels of its 1982 fill plans. However, DOE would require additional funds to complete its 1982 fill plans and would need to obligate funds early enough in that year to insure timely oil delivery in the following year.

NEED TO EXAMINE STORAGE CAPACITY

This brings us to an issue which is critical to the effectiveness of the SPR program and one which we believe is in need of more attention--the adequacy of SPR storage capacity to sustain the fill rates proposed by DOE or higher fill rates.

Capacity available under three fill rates

The actual rate and timing of oil fill will ultimately determine the adequacy of SPR storage capacity. For illustrative purposes, however, in our February status

report 1/ we estimated the Phase I storage capacity available at fill rates of 100,000, 215,000, and 300,000 barrels per day. In that report we concluded that DOE has sufficient Phase I storage capacity

- to maintain an average fill rate of 100,000 barrels per day during fiscal year 1981 through 1983, and
- to maintain a fill rate of 215,000 barrels per day beginning in June 1981 and continuing through December 1982, assuming capacity at two of the storage sites comes on line as planned.

We also concluded, however, that DOE cannot maintain a fill rate of 300,000 barrels per day for more than 1 year, or until about July 1982, assuming oil injection at this level begins in June 1981.

We believe that any early effort to fill the reserve at the rate of 300,000 barrels per day will require complementary efforts to insure alternative storage capacity or accelerate the completion of planned capacity. If DOE were to maintain a fill rate beyond 1982 of 300,000 barrels per day, it would need to make a decision soon on how to store the oil. DOE is aware of these capacity limits and is examining options for increasing SPR storage capacity.

1/"Status of Strategic Petroleum Reserve Activities--
February 1981" (EMD-81-46, Feb. 24, 1981).

This is an area where we believe the Secretary of Energy should give more attention and reach a decision soon on actions needed to insure storage capacity is available when needed. Further, if DOE's efforts fail to solve the problems resulting from the September 1978 fire at an 8-million-barrel West Hackberry cavern, and if problems arise in the testing of 24 million barrels of capacity at Sulphur Mines, DOE will not be able to maintain the 215,000-barrel-per-day rate through December 1982 with existing capacity. Let me expand briefly on these points.

After the fire at West Hackberry, DOE tested the affected wells for pressure losses. Initial tests during late 1980 identified potential sources of pressure leaks in two wells. DOE officials told us that they recently found the source of the problem in one well and plan to start immediately on repairs. We were also told that DOE is continuing work to locate the leak at the other well. DOE hopes to have all three wells operative by April 20, 1981. Then it must retest the cavern for potential pressure losses. It hopes to successfully accomplish this and have the cavern ready for storage by July 1981.

Before the Sulphur Mines facility can be used to store oil, DOE needs to successfully complete a series of start-up

tests. DOE expects that the Sulphur Mines facility will be available for storage by July 1981.

We do not wish to raise any unnecessary concern at this time, but the situation does require careful watching. Also, it points up the very tight schedule which has to be met to keep pace with a desired accelerated fill rate.

Plans for additional
Phase II capacity

Now I would like to turn to DOE's plans for expanding capacity during Phase II. As I mentioned earlier, DOE's plans for expanding SPR storage capacity call for adding about 290 million barrels of Phase II capacity by December 1987. Its goal is to add a total of 29 new storage caverns, each with a 10-million-barrel capacity. If DOE adheres to its schedule, the first of these new caverns will be completed in January 1983. DOE officials believe that this new storage capacity will sustain a 215,000-barrel-per-day fill rate through the third quarter of fiscal year 1984.

The new SPR storage cavern will be created by leaching underground salt formations. 1/ DOE currently plans to fill the caverns with oil as capacity becomes available during leaching.

1/Leaching involves injecting water, which dissolves salt, into the formation and removing the salt-saturated water, or brine.

In order to increase the leaching rate, DOE must obtain a permit at Bryan Mound from the Environmental Protection Agency to increase the brine disposal rate from 680,000 to 1 million barrels of brine per day. DOE hopes to have this permit by June 15, 1981. The Department believes, however, that its expansion schedule can be maintained without this permit. DOE also must obtain State approval of its operating plans for Phase II at West Hackberry. It is too early to tell whether DOE will meet its schedule and complete its Phase II expansion by December 1987.

OTHER MATTERS

Before concluding, I would like to offer some overall comments regarding the SPR program. Although we have been critical from time to time of the lack of progress made in filling the reserve and of program management, we believe the SPR has unquestionable value as a major national security measure in diminishing U.S. vulnerability to interruptions in imported-petroleum supplies.

The law creating the reserve allows considerable discretion in deciding how the reserve can most effectively be established. This Subcommittee and others are now considering various options for financing the cost of the reserve.

We have not done any recent work which would allow us to comment on the merits of specific financing options

including those contained in S. 707 and H.R. 2304. In the final analysis whether or not one type of financing mechanism should replace or supplement direct appropriations is a policy decision. However, we do support consideration of alternative financing options and have in the past recommended such consideration. At the same time, we would caution against any decision which may seriously jeopardize the success or effectiveness of the reserve itself.

CONCLUSIONS AND RECOMMENDATIONS

In summary, Mr. Chairman:

--DOE has acted to increase the SPR fill rate above the minimum of 100,000 barrels per day required by the Energy Security Act. Our February status report concludes that DOE has enough existing capacity to fill at a 100,000-barrels-per-day rate through fiscal year 1983.

--DOE can maintain a fill rate of 215,000 barrels per day with existing capacity through December 1982, assuming storage sites come on line as planned. DOE believes that it can maintain this fill rate through the third quarter of fiscal year 1984 under its Phase II expansion schedule. It is too early to tell whether this schedule will be met, however.

--DOE cannot maintain a fill rate of 300,000 barrels per day beyond July 1982, assuming oil injection at this level begins in June 1981.

Our February report sets forth recommendations to the Secretary of Energy. Specifically, we recommended that the Secretary:

- Set specific goals for SPR fill during 1981 and succeeding fiscal years consistent with congressional intent.
- Insure that adequate storage capacity is available on a timely basis to meet the needs of an accelerated SPR fill effort.
- Report to the Congress on (1) the costs, advantages, and disadvantages of an accelerated construction program and other storage options, and (2) the feasibility and appropriateness of SPR financing mechanisms which may be used to reduce financing through appropriated funds.

This concludes my prepared statement. My colleagues and I will be pleased to respond to questions you or other members of the Subcommittee may have.