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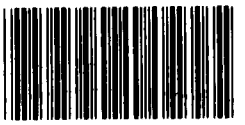

STATEMENT OF
F. KEVIN BOLAND
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ENERGY AND MINERALS DIVISION
BEFORE THE
SUBCOMMITTEE ON FOSSIL AND SYNTHETIC FUELS
OF THE
HOUSE COMMITTEE ON ENERGY AND COMMERCE
ON
[~~THE~~ STRATEGIC PETROLEUM RESERVE]

Mr. Chairman and Members of the Subcommittee:

We welcome the opportunity to be here to discuss GAO's work on the Strategic Petroleum Reserve (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, request from members of the former House Interstate and Foreign Commerce Committee and the Senate Energy and Natural Resources 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 series of status reports and expect to issue another at the end of this month.

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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.

DOE has recently taken steps to exceed the 100,000-barrel-per-day minimum supply requirements during fiscal year 1981. We understand that DOE intends to fill the reserve at an average rate of 207,000 and 230,000 barrels per day during fiscal years 1981 and 1982, respectively.

My testimony today will focus on the adequacy of SPR storage capacity to sustain these or higher fill rates. It is an issue of critical importance to the effectiveness of the program and one which we believe is in need of more attention.

NEED TO EXAMINE STORAGE CAPACITY

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. DOE has not developed plans for the final 220-million-barrel increment of the reserve.

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

--to maintain an average fill rate of 100,000 barrels per day during fiscal years 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.

1/"Status of Strategic Petroleum Reserve Activities--February 1981" (EMD-81-49, Feb. 24, 1981).

We believe 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 its inability to maintain a 300,000-barrel-per-day fill rate beyond July 1982, and has examined options for increasing SPR storage capacity. DOE examined such options as accelerating the current Phase II construction schedule, acquisition of additional SPR sites, and the purchase or lease of tankers for temporary SPR storage. No decision has been made to date concerning these options.

This is an area where we believe the Secretary of Energy should give more attention. Further, if DOE's efforts fail to solve the problems resulting from the September 1978 fire at the 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 cavern for pressure losses. Initial tests during late 1980 identified several potential sources of pressure leaks. These problems must be resolved before the cavern

receives oil. DOE is conducting additional tests to pinpoint the reasons for losing pressure in the cavern and hopes to have the problems solved 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.

Creating new SPR storage capacity involves a three-stage activity of drilling, testing, and a process called

leaching. A well is drilled through sands and rock into the salt formation. The well is lined with steel casing which is set in cement to set off fresh water beds and other formations. When the casing is tested for pressure leaks, and found to have none, the well is certified. The cavern is then created by leaching--injecting water, which dissolves salt, into the formation and removing the salt-saturated water, or brine. DOE currently plans to fill the caverns with oil as capacity becomes available during leaching.

In order to increase the leaching rate, DOE must obtain a permit 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. DOE 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. It is too early to tell whether DOE will meet its schedule and complete its Phase II expansion by December 1987.

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.