



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

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JANUARY 16, 1979

ENERGY AND MINERALS
DIVISION

B-165546

The Honorable James R. Schlesinger
The Secretary of Energy

AGC 912?

Dear Mr. Secretary:

"Deterioration in the weapons complex is serious and must be addressed soon if the 1980s projected workload is to be met." This is the conclusion reached by a Department of Energy (DOE) Controller's task group, and the consensus of several studies which examined the physical and technological condition of equipment and utilities comprising the nation's nuclear weapons complex. In recognition of the problem, DOE was directed by Public Law 95-509, October 24, 1978, to submit to the Congress an analysis of measures required to restore the complex, along with a plan containing schedules for carrying out and funding the restoration program. Accordingly, studies are continuing to further evaluate the extent of the physical deterioration and technological obsolescence of equipment and utilities.

GAO has completed a survey of the physical condition and technological status of equipment and utility systems at DOE's Savannah River Plant, Aiken, South Carolina, and the Y-12 facility at Oak Ridge, Tennessee. We also analyzed an appraisal made of the condition of the weapons complex by DOE's Albuquerque Operations Office, and a study of special nuclear materials facilities conducted by the operating contractor at the Savannah River Plant.

The plant capacity needed to meet Department of Defense requirements was not addressed in the DOE studies we examined. Thus, in our opinion, the studies cannot be relied on to make valid estimates of funds required to restore the nuclear weapons complex. We also found indications that constrained funding arrangements in the past contributed to the deterioration and technological obsolescence of the nuclear weapons complex.



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STUDY METHODOLOGY

We reviewed the methodology and the procedures used by Savannah River to study the deterioration problem and found them to be adequate with one exception--forecasted weapons requirements were not considered.

Officials at the Albuquerque Operations Office directed statistical appraisals of equipment and utility systems to be performed at six weapons production sites, the three weapons research and development laboratories, and the Nevada Test Site. The appraisals formed the basis for DOE's projection that \$595 million (in fiscal year 1980 dollars) is needed to reverse the trend of deterioration and obsolescence in the weapons complex.

Because of the significance of the problem, DOE Controller's task group examined the statistical construction of the appraisals, interviewed the original appraisers, and made its own evaluation of the samples. The Controller found that (1) some of the samples drawn included excess equipment or had no known future use and should have been purged from the population and (2) the replacement cost of certain samples was used when the sample item could be upgraded by less expensive repairs. As a result, the Albuquerque estimate was reduced from \$595 to \$451 million.

The Controller expressed concern that equipment requirements should be better correlated with production plans, rather than replacing all poor or inadequate equipment, whether it will be needed or not. He stated that the validity of the appraisal results depends heavily on the accuracy of production predictions, but recognized the difficulty of predicting future weapon requirements.

Participants in the Albuquerque study told us that equipment replacement projections at the Oak Ridge facility were based on statistical sampling techniques and should not be used to establish budget priorities. They suggested that a 100-percent survey be made to compile a priority list of equipment and utility systems to be repaired or replaced. Savannah River officials are making a 100-percent survey of equipment and utilities to identify priority needs.

FUNDING ARRANGEMENTS

It appears that the facilities we visited were generally maintained in a safe operating condition; however, funding constraints for construction, capital equipment, and maintenance

over the past several years have contributed to the poor physical condition and technological obsolescence that currently exists. As an example, Savannah River and the other special nuclear materials facilities received only 60 percent of the funds they requested for these categories over the past 3 years. Department of Energy Headquarters reduced funding requests by 12 percent to stay within Office of Management and Budget (OMB) targets. OMB reduced the requests an additional 26 percent during its review process, and the Congress further reduced the requests by 2 percent during appropriation hearings.

Aging facilities, coupled with limited funds for replacement of equipment at Savannah River, resulted in maintenance cost increases from \$4.4 million to about \$11.1 million over a 4-year period. As a result of increasing equipment problems, extended shutdowns for technological upgrading, and downtime due to shortages in operating funds, only 81 percent and 69 percent of the expected special nuclear material product was produced at Savannah River in fiscal years 1977 and 1978, respectively. DOE officials estimated that about half of the production shortfall in fiscal year 1978 is attributable to equipment aging and obsolescence, with the remaining half attributable to facility shutdowns for technological upgrading and a shortage of operating funds.

Savannah River and Oak Ridge officials we talked with about the deterioration of the weapons complex believe a multiyear, full funding arrangement is needed to effectively restore the facilities. For example, improvement projects may take several years to complete considering engineering, procurement of hardware or equipment, installation, and checkout.

We also believe full funding could improve many aspects of management, such as facilitating equipment purchases and installation, minimizing construction delays, allowing better budget estimates, and providing cost savings in conjunction with multiyear contracting. This full funding concept also gives DOE, the Congress, and the public, knowledge of the full dimension and cost of the project when first presented for consideration.

RECOMMENDATIONS

We recommend, therefore, that you

--establish the desired plant capacity goal directly tied to Defense requirements;

- make a 100-percent survey to determine the physical condition and technological status of equipment and utilities;
- identify the priority needs of the plants by contrasting current capacity with the computed goal;
- analyze various funding approaches to restore the weapons complex, including multiyear, full funding of the restoration project; and
- submit a funding proposal to the Congress to bring the weapons complex to the physical condition and technological status adequate to meet forecasted Defense requirements.

AGENCY COMMENTS

DOE officials responsible for nuclear materials production agreed with our recommendations. Officials responsible for weapons production, however, did not completely agree with our multiyear, full funding proposal. They prefer to present the Congress with an overall cost estimate for restoring the complex over a 5-year period, based on a statistical appraisal. Furthermore, they prefer requesting restoration funds on an annual basis and fully funding each line item needed, as a part of the normal budget process. A reappraisal of the needs to restore the complex would be made each year, including a priority list of items or projects to be included in the fiscal year budget.

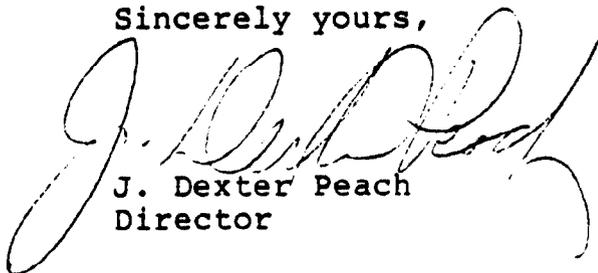
In our opinion, whether the Department of Energy establishes a restoration plan based on a multiyear, full funding of the project or an annual basis, the overall plan provided to the Congress must set out in specific terms the items or work required to restore the facilities with a time schedule for carrying out a restoration program. The plan should be closely tied to a cost baseline by which progress of the restoration program can be measured.

We are sending copies of this letter to the Director, Office of Management and Budget. We are also sending copies to the Chairmen of the House and Senate Committees on Appropriations and Armed Services, the House Committee on Government Operations, and the Senate Committee on Governmental Affairs.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs 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.

We would appreciate advice of any specific action taken regarding this matter.

Sincerely yours,

A handwritten signature in black ink, appearing to read "J. Dexter Peach". The signature is fluid and cursive, with a large initial "J" and a long, sweeping underline that extends to the right.

J. Dexter Peach
Director