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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

IN REPLY REFER TO: R-115398

March 6, 1978

The Honorable Henry M. Jackson
Chairman, Committee on Energy
and Natural Resources
United States Senate

Dear Mr. Chairman:

This replies to your February 23, 1978, letter in which you and Senator Hansen, as Ranking Minority Member, asked that we conduct an audit of the current Clinch River Breeder Reactor (CRBR) project funding situation to assist the Committee when it considers the fiscal year 1979 authorization for the Department of Energy. Our representatives were informed that you and Senator Hansen wish to be provided with information concerning the present financial status of the project. The purpose of this data would be to serve as a baseline for determining what additional funds, if any, should be authorized for the project in fiscal year 1979. We were also asked to examine certain other matters including progress made in the project since our June 1977 review of CRBR activities and any effects reductions in the level of project activity may have had with respect to the termination clauses in the CRBR contractual arrangement.

In performing our review we examined the financial plans and documents associated with the CRBR project. We did not, however, undertake a detailed analysis of supporting materials to these documents. We also reviewed the Executive branch's actions from the standpoints of the CRER authorizing legislation, the Impoundment Control Act of 1974, and the multi-party cooperative arrangement for the project.

In summary, we found:

- the overall project schedule has slipped a minimum of 18 months;
- Department of Energy obligations and expenditures to date on the project have totaled about \$505 million;
- as of February 1978, the Department of Energy had about \$2.3 million in unobligated budget authority available for obligation;

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- the industry participants in the project are withholding about \$15.5 million in contributions which could become available for obligation if the project is continued;
- if the \$80 million in the fiscal year 1978 supplemental appropriation legislation for the CRBR becomes law, project estimates show a minimum of \$242 million would be needed in fiscal year 1979 to resume and continue full project activities;
- if apportionment of all or part of the \$80 million appropriation to the project is delayed due to a rescission or deferral proposal, the required fiscal year 1979 budget authority could be somewhat less than \$242 million and the project could slip further;
- the Executive branch is complying with the CRBR authorizing legislation in its conduct of the project;
- no impoundment of funds presently exists; and
- delay in project progress could bring into play the termination provisions of the cooperative arrangement.

Enclosed is a detailed discussion of our findings and conclusions. In order to meet the tight reporting deadline we did not obtain written agency comments.

A similar letter is being sent today to Senator Hansen. A copy of the report will also be sent to the Department of Energy.

Sincerely yours,



Comptroller General
of the United States

Enclosure

REVIEW OF THE PRESENT STATUS
OF THE CLINCH RIVER BREEDER REACTOR PROJECT

BACKGROUND

The Liquid Metal Fast Breeder Reactor (LMFBR) is the principal advanced nuclear reactor concept being developed by the United States and other industrially advanced nations. Under the two previous administrations, the LMFBR was this country's highest priority and its most expensive energy research and development program, costing about \$3 billion through fiscal year 1976.

The LMFBR has great potential for expanding the amount of energy available in the Nation's uranium resources. Current nuclear reactors can use only 1 to 2 percent of the potential energy in uranium. In contrast, the LMFBR actually creates (breeds) more fuel than it uses and can extract more than 60 percent of the energy in uranium. The LMFBR has the potential for providing a virtually inexhaustible energy source through the 21st century and beyond.

However, despite the LMFBR's exceptional promise, uncertainties have to be resolved concerning the economics and safety of the reactor. Specifically, the fuel the LMFBR uses is plutonium, a very hazardous substance; plutonium can be used to make bombs and is a highly toxic substance that could cause cancer if inhaled or exposed to an open wound; and plutonium remains radioactive for thousands of years, thus posing long-term storage and disposal problems.

The focal point of LMFBR development is the design, construction, and operation of the Clinch River Breeder Reactor (CRBR) project. The CRBR was conceived as the Nation's first large-scale LMFBR demonstration plant and was envisioned as helping to resolve some of the uncertainties surrounding LMFBR development. The reactor is to have a 380 megawatt capacity and is currently estimated to cost about \$2.2 billion.

The administration is concerned that increased plutonium availability will encourage nuclear proliferation. Therefore, it has proposed to defer any further U.S. commitment to advanced nuclear technologies that use plutonium as a fuel. The administration proposes to drastically reduce the LMFBR

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program, including cancelling construction of the CRBR and all component construction, licensing, and commercialization efforts.

In keeping with its April 1977 proposal to curtail the scope of the project, the administration had planned to begin terminating certain program activities at the end of July 1977. However, by letter dated June 23, 1977, B-115398, this Office held that the authorities and restrictions in the basic legislation authorizing construction of the CRBR project (section 106 of Public Law 91-273, as amended by section 103 of Public Law 94-187) require that any funds appropriated for the CRBR project can only be used to continue the project and not to terminate it. In short, the administration cannot use appropriated funds to terminate the project without specific additional authority. Since June, the Department of Energy has continued the CRBR project in what could be called an austere mode. While engineering design and major component fabrication have continued, no site preparation or construction activities have begun, and there have been no licensing activities since April 1977.

PROJECT SCHEDULE AND PROGRESS

Before the President's proposal to curtail the project, site preparation for the reactor was scheduled to start in October 1977, with actual construction to begin in October 1978. The reactor was scheduled to go into operation in mid-1984. Since the President's April 1977 proposal to curtail the project, licensing activities have been suspended. Project officials said that if authority to do so was obtained, licensing activities could be resumed as early as April 1978. And, if licensing activities were resumed in April 1978, we were told that the reactor could go into operation in January 1986. It thus appears that the original project schedule has slipped at least 18 months.

In our June 1977 review of CRBR activities we found that design, procurement, and component fabrication for the project were 25 percent complete. As of January 1978, about 34 percent of these activities had been completed.

PROJECT FUNDING

At the time of our June review, the Federal Government has spent about \$254 million on the project. Since then, the Feder

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Government has spent an additional \$108 million on the project for total expenditure of about \$362 million. To date, industry participants have accrued project costs of about \$112 million. Of this amount, industry participants are withholding about \$15.5 million pending a decision on the project's future. In addition to the amounts expended on the project, the Department of Energy (DOE) had obligated another \$143 million as of February 1978. Thus, DOE obligations and expenditures on the project have totaled about \$505 million. As of February 1978, DOE had about \$17.8 million in unobligated budget authority remaining. This includes about \$15.5 million in industry contributions which are currently being withheld from the project. The remaining \$2.3 million has been apportioned by the Office of Management and Budget to DOE and is available for obligation. These funds have been made available for obligation by the Department to cover project office expenses for such items as maintenance, supplies, and services that may occur during the balance of fiscal year 1978.

Required fiscal year 1979 funding

Assuming the fiscal year 1978 supplemental appropriations bill recently approved by the Congress (H.R. 9375) becomes law, the \$80 million provided in the bill would not be adequate to complete the project. Estimates available at DOE indicate that a minimum of \$242 million would be needed in fiscal year 1979 budget authority to resume and continue full project activities. By comparison, agency budget estimates show that about \$323 million would have been needed for fiscal year 1979 activities to continue the project had the President not decided to curtail it.

In the event the administration proposes to rescind or defer all of the \$80 million, it would be possible to continue the project with some stretch-out of contractor activities through the end of the current fiscal year. In the event apportionment of all or part of the \$80 million to the project is delayed due to a rescission or deferral proposal, the required fiscal year 1979 budget authority could be somewhat less than \$242 million; the lower funding requirement in fiscal year 1979 being attributable to delays in initiating those project activities that are dependent upon the availability of the \$80 million. If the President vetoes the supplemental appropriation and the veto is not overridden, the CRBR project Director told us he believed it could have the effect of a "de facto termination"

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of the project. He believes the project would start losing its major contractors and that project personnel would start leave in large numbers. Furthermore, he felt that rescission of all or part of the \$80 million or failure to disapprove a proposed deferral of all or part of the \$80 million could have the same effect--"de facto termination" of the project caused by the loss of a large number of personnel.

STAFFING LEVELS

According to project officials, no personnel have been terminated as a result of the President's policy to curtail the CRBR. However, some personnel have voluntarily left the project. Specifically, in June 1977 there were 1,962 DCE and contractor personnel involved in the project, compared to a manpower level of 1,727 in January 1978. Of the 235 individuals who have left, at least 10 were key management personnel, including the project managers for 2 of the 5 major contractor

LEGAL MATTERS

In addition to reviewing the status of the CRBR project we have analyzed the Executive branch's conduct of its responsibilities in connection with the project from the standpoint of the CRBR authorizing legislation (section 106 of Public Law 91-273, June 7, 1970), the Impoundment Control Act of 1974 (Pub. L. No. 93-344, July 12, 1974, 31 U.S.C. 1401 et seq.), and the multi-party cooperative arrangement for the construction and operation of the liquid metal fast breeder at the Clinch River site. The results of our legal analysis are discussed below.

Compliance with the CRBR project authorizing legislation

In our opinion and analysis of June 23, 1977, we conclude that the President's proposal to curtail CRBR objectives was substantially inconsistent with those set forth in the existing program criteria that were approved by the Joint Committee on Atomic Energy in accordance with section 106 of Public Law 91-273. These criteria, which are incorporated by reference into the authorizing statute, contemplate the design, development, construction, and operation of a liquid metal fast breeder reactor. Accordingly, we held that the Executive branch lacked the legal authority to implement its curtailment plan.

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The existing authorizing legislation and the approved criteria for the CRBR have not been changed since our June 23, 1977, letter. Thus, the same constraints on the Executive branch's conduct of the CRBR project still apply.

As noted above, design, procurement, and component fabrication activities on the CRBR have progressed from 25 percent completion in June 1977 to about 34 percent completion as of January 1978. Total Federal expenditures on the project have increased from \$254 million in June 1977 to \$362 million as of February 1, 1978. In addition, DOE has outstanding unliquidated obligations totaling about \$143 million. Of all budgetary resources currently available to DOE for the CRBR project, only \$2.3 million remains unobligated. These funds, however, have been apportioned by the Office of Management and Budget to DOE and have been made available for obligation by the Department.

We believe that the magnitude and way in which the budgetary resources have been committed to the CRBR project support the conclusion that the Executive branch has complied with the CRBR authorizing legislation and, therefore, has used appropriated funds in accordance with law. Obviously, this does not mean that the administration has abandoned its plan to curtail the scope of the project. The President is still seeking to terminate site construction activities, component construction, licensing activities, and commercialization plans for the CRBR. To this end the President is seeking only \$13.4 million in fiscal year 1979, to be used to terminate the project as it is presently authorized.

The Impoundment Control Act of 1974

Because all available budgetary resources for the CRBR have been apportioned to DOE and made available within the Department to carry out the CRBR, it does not appear that the Executive branch is now impounding any funds in connection with the project.

We point out, however, that the President might choose to propose a rescission or deferral of all or part of the \$80 million provided for the CRBR in H.R. 9375, the Supplemental Appropriations Act, 1978, if that bill becomes law. This legislation has been sent to the President for signature. If an

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impoundment were proposed, the Congress would have an opportunity to consider such a rescission or deferral under section 1012 or 1013 of the Impoundment Control Act of 1974, 31 U.S.C. 1402, 1403, as appropriate.

The cooperative arrangement

In our June 1977 opinion, we held that the President lacked the authority to unilaterally curtail the scope of the CRBR without additional authority. This does not mean that the existing cooperative arrangement for the project is "termination-proof." Paragraph 11 of the contract sets forth procedures and criteria which, if satisfied, would enable one of the parties to the arrangement to begin contract termination.

As discussed above, the present status of the project indicates that there has been significant slippage (about 18 months) in accomplishing certain program targets. Much of this slippage appears to be directly related to the President's decision to curtail the scope and objective of the CRBR. In particular, we point out that the Executive branch's activities in connection with obtaining a limited work authorization license for the CRBR were suspended in April 1977 and licensing procedures for construction were never started.

Paragraph 11.4.1.1 of the cooperative arrangement sets forth one of the criteria for terminating the contract:

"Any necessary governmental permit, license, authorization or approval required for the construction or operation of the Plant shall not have been secured within six months following the schedule time for such action on ERDA's approved Project schedules, and the Project is seriously delayed or hindered thereby."

In view of the continuing efforts of the President to eliminate certain aspects of the CRBR project and the congressional consideration of these matters, the delays that have occurred could operate to bring into play paragraph 11.4.1.1, above.