

DOCUMENT RESUME

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[Status of the Tokamak Fusion Test Reactor Project].
PSAD-78-129; B-164105. July 10, 1978. 2 pp. + enclosure (1 pp.).

Report to Secretary, Department of Energy; by Monte Canfield, Jr., Director, Energy and Minerals Div.

Issue Area: Federal Procurement of Goods and Services: Notifying the Congress of Status of Important Procurement Programs (1905).

Contact: Procurement and Systems Acquisition Div.

Budget Function: Natural Resources, Environment, and Energy: Energy (305).

Congressional Relevance: House Committee on Science and Technology; Senate Committee on Energy and Natural Resources.

The Tokamak Fusion Test Reactor project is the Department of Energy's (DOE's) largest single effort in trying to bring about an experimental fusion power reactor. The completion date has changed from June 1980 to March 1982, and the estimated cost has risen from \$215 million to \$239 million, exclusive of costs to be funded from operating expense appropriations. Although the project is dependent upon capital and operating funds, DOE has limited project definition to capital funded activities. The current total estimated cost to complete the project is \$387.6 million, including \$148.6 million to be funded from the operating budget. The total cost of the project is not readily ascertainable because the DOE reports only the capital funded portions when presenting project cost data. The DOE should provide the Congress with all estimated costs associated with the project. Also, alternatives should be presented outlining the effects on cost and schedule if stated funding requirements are not approved. (Author/HTW)



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

ENERGY AND MINERALS
DIVISION

B-164105

JULY 10, 1978

The Honorable
The Secretary of Energy

Dear Mr. Secretary:

The General Accounting Office reviewed cost, schedule, and management aspects of the Tokamak Fusion Test Reactor project as part of our responsibility to report on the status of major system acquisitions. As you are probably aware, the Tokamak project is DOE's largest single effort to bridge the gap between current fusion devices and the first experimental fusion power reactor. It is to be developed, built and operated by Princeton University's Plasma Physics Laboratory in conjunction with the Lawrence Berkeley Laboratory and several industry subcontractors.

The completion date has changed from June 1980 to March 1982. The estimated cost of the project has risen from \$215 million in September 1976 to \$239 million in September 1977, exclusive of certain project costs to be funded from operating expense appropriations. This increase was attributed to escalation associated with (1) the delay in authorization and appropriation for fiscal year 1976, and (2) reductions in the fiscal year 1976, 1977, and 1978 project budgets with attendant project stretch-out.

Although the project is dependent upon capital and operating funds, the Department has limited project definition to capital funded activities. The current project estimate does not include \$135.1 million for supporting research and development activities not related to construction and other costs prior to project completion and operation. This additional amount is being funded from a separately appropriated operating budget. Additional operating funds estimated at \$13.5 million will be used for development of the Tokamak neutral beam injectors by the Lawrence Berkeley Laboratory through agreement with the Plasma Physics Laboratory.

Specifically, operating funds are designated for all costs associated with the following:

- Development of systems and components specifically for the Tokamak.
- Design, analysis, fabrication and testing of prototypes.
- Developmental efforts undertaken prior to the actual selection of Tokamak systems and components; and

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--Preparation for facility operations including formulation of radiation and electrical safety plans, development of procedures for handling radioactive materials, startup and pre-operational planning, training and performance testing of systems beyond capital funded acceptance tests, and environmental monitoring surveillance.

As detailed in the enclosure, the current total estimated cost to complete the project is \$387.6 million, including \$148.6 million to be funded from the operating budget. Project officials acknowledge the vital role operating fund activities play in the successful completion of the project.

While DOE officials indicated that, starting with the fiscal year 1978 budget presentation construction data sheets for new projects have included--for information purposes only--all non-construction and research and development costs, this is not being done for ongoing projects. The total cost of the project is not now readily ascertainable by the Congress and others outside the agency because the Department only reports the capital funded portions when presenting Tokamak project cost data.

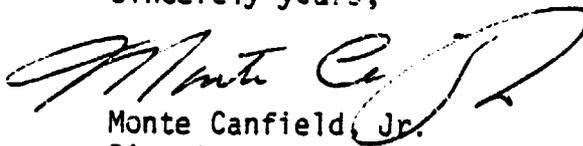
We therefore recommend that the Department of Energy provide the Congress with all estimated costs associated with this project, including those funded from operating expense appropriations.

Alternatives should also be presented outlining the effects on cost and schedule if stated funding requirements are not approved according to scheduled needs.

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 Senate Committee on Governmental Affairs and the House Committee on Government Operations 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 are sending copies of this report to the Director, Office of Management and Budget.

Sincerely yours,


Monte Canfield, Jr.
Director

Enclosure

ENCLOSURE

ENCLOSURE

SEMIANNUAL
COST ESTIMATES THROUGH 1977

	<u>December</u> <u>1976</u>	<u>June</u> <u>1977</u>	<u>December</u> <u>1977</u>
Plant and Capital Equipment		(000's)	
Construction	\$149,341	\$154,643	\$166,955
Engineering, design, implementation and administration	42,979	44,357	50,195
Contingency	27,312	19,821	11,400
G and A, and Fee	8,368	9,179	10,450
Subtotal	<u>228,000</u>	<u>228,000</u>	<u>239,000</u>
Operating Funds			
Princeton	126,918	126,918	135,072
Lawrence Berkeley	12,800	12,800	13,500
Subtotal	<u>139,718</u>	<u>139,718</u>	<u>148,572</u>
Total	<u>\$367,718</u>	<u>\$367,718</u>	<u>\$387,572</u>