ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
UNITED STATES ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

January 13, 1972

Honorable James R. Schlesinger
Chairman
U. S. Atomic Energy Commission
Washington, D. C. 20545

Subject: REPORT ON FAST FLUX TEST FACILITY

Dear Dr. Schlesinger:

At its 141st meeting, January 6-8, 1972, the Advisory Committee on Reactor Safeguards continued its review of the Commission's Fast Flux Test Facility (FFTF). The Committee reported previously on this project on July 13, 1971. The project was also considered at a Subcommittee meeting in Washington, D. C., on January 4, 1972. During its current review, the Committee has had the benefit of discussions with representatives and consultants of the Commission's Division of Reactor Development and Technology, the Westinghouse Hanford Company, the Hanford Engineering Development Laboratory, the Westinghouse Electric Corporation, the Bechtel Corporation, and the AEC Regulatory Staff. The Committee also had the benefit of the documents listed.

In its previous report, the Committee concluded that it was acceptable to proceed with initial construction of the containment provided that flexibility was retained to accommodate modifications that might later be found appropriate. The main areas of Committee concern with regard to this flexibility were the ability of the reactor cavity and access cell to contain postulated core-disruptive accidents of larger than 150 megawatt-seconds work energy and the ability to provide a post-accident core retention and cooling system below the reactor. The portions of the containment affected are permanently-placed internal structures above elevation -74 ft. (referred to finished grade). The previous report indicated that the design provisions proposed by the contractor to provide the desired flexibility should be reviewed before concrete is placed above elevation -74 ft.

Based on the present review, the Committee concludes that adequate flexibility is being retained in the containment design. However, it recommends that an intensive program be started now to develop an ex-vessel, post-accident core retention and cooling system suitable for installation below the reactor, so that the required information will be available in time to enable installation prior to reactor startup, should the system be needed.

The Committee believes that, subject to the comment above and to satisfactory resolution with the Regulatory Staff of the seismic design basis, it is acceptable to proceed with construction above elevation -74 ft. while the balance of the review is being completed.

Sincerely yours,

/s/

C. P. Siess
Chairman

References Attached.

References - Fast Flux Test Facility (FFTF)

1. DRD&T Memo dated July 8, 1971, Supplementary Information on FFTF Seismic Investigations; R. Sharpe-J. Blume & Associates "Status Report on Subsurface Investigations at Wooded Island, FFTF Site, Horn Rapids, Gable Mt., dated June 9, 1971; HEDL-TME-71-101, "A Discussion of Sand Dikes in the FFTF Excavation", dated June 7, 1971

2. DRD&T Memo dated July 16, 1971; HEDL-TME-71-69, "Gas Bubble Dispersion Test Reactor Inlet Model", May 1971

3. DRD&T Memo dated August 26, 1971; "Answers to Questions Contained in DRL Request No. 2"

4. DRD&T Letter dated September 27, 1971; "Answers to Questions Raised by Regulatory Staff and ACRS in Their Review of FFTF"

5. DRD&T Memo dated October 18, 1971; FRA-514, "FFTF Control Rod Misalignment and Interaction Load Analysis", w/Report, "Effects of an In-Core Pressure Pulse on Control Rod Insertion Capability"; HEDL-TME-71-120, Rev. 1, "Contextual Index for FFTF PSAR Supplementary Documentation"; HEDL-TME-71-18, "The Feasibility of Lithium Addition as an Alternate Shutdown Method for the FTR"; Answer to Question 23, ACRS Request No. 1

6. DRD&T Memo dated November 5, 1971; HEDL-TME-125, Rev. 1, "FFTF Design Flexibility for Hypothetical Accident Mitigation", October 25, 1971

7. DRD&T Memo dated December 3, 1971; JABE-WADCO-07, "Subsurface Geologic Investigations for FFTF Project in Pasco Basin", dated October 1971, by J. A. Blume & Associates, with attachments

8. DRD&T Memo dated December 10, 1971; "Final Soil Investigation Report for FFTF", dated October 1971