ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 16 1975

Honorable William A. Anders
Chairman
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: REPORT ON LOFT FACILITY

Dear Mr. Anders:

At its 183rd meeting, July 10-12, 1975, the Advisory Committee on Reactor Safeguards reviewed the safety of operation of the Loss of Fluid Test (LOFT) facility for the proposed experimental mode involving primary system blowdown into a pressure suppression tank. Subcommittee meetings on this project were held on July 9, 1975, and on July 25, 1973. Members of the Committee visited the facility on July 24, 1973. In its review, the Committee had the benefit of discussions with representatives of the Energy Research and Development Administration (ERDA), Aerojet Nuclear Corporation, and the Nuclear Regulatory Commission (NRC). The Committee also had the benefit of the documents listed. The Committee reported previously on the construction of LOFT on August 28, 1964. At that time, different experimental objectives existed for LOFT.

The LOFT facility is located in southeastern Idaho on the 894 square mile site of the Idaho National Engineering Laboratory, which is approximately 30 miles from Idaho Falls. The test reactor is located in Test Area North, which has a daytime population of about 2100.

The nuclear steam supply system is mounted on the Mobile Test Assembly (MTA), which was initially assembled at the Technical Support Facilities (TSF) and then transported by rail to the LOFT containment vessel. The reactor is rated at 55 MW(t), and has the capability of being transported back to the TSF.

The current purpose of LOFT is to serve as a vehicle for conducting integrated LOCA-ECCS test programs. The NRC Staff has reviewed only that phase of the overall experimental program for which the primary system is caused to blow down into the pressure suppression tank rather than into the containment. Also, the NRC Staff has not evaluated safety matters related to moving the MTA out of the containment.

LOFT was designed and constructed over a considerable period of time and does not meet current NRC requirements in all aspects. The NRC Staff has recommended that several specific areas be addressed by ERDA as part of ERDA's responsibility for the safe operation of the facility. The Committee wishes to call particular attention to the importance of proper requalification of LOFT systems and components after severe transient tests and the establishment of an effective administrative apparatus for review of the continued safe operation of the plant, keeping in mind the needs for the experimental information being sought.

The ACRS recognizes that from the very nature of the facility, the probability of an accident in LOFT may be greater than for a typical commercial reactor. However, the total power is relatively low and operation is intermittent; also, the site is remote and emergency planning is kept in a state of readiness.

The ACRS believes that, in light of the above considerations, operation of LOFT in the pressure suppression mode for the proposed blowdown experiments should not pose an undue risk to the public health and safety. The Committee recommends that other experimental programs for LOFT be reviewed and evaluated for safety by ERDA, and by the NRC Staff if appropriate, maintaining a proper balance between the safety questions arising from a particular proposed experimental program and the need for the information to be gained.

Sincerely yours,

W Kerr

W. Kerr
Chairman

REFERENCES:

1. Aerojet Nuclear Company, Final Safety Analysis Report (FSAR), Vols. 1-3, for LOFT Integral Test System, March 29, 1974.

2. Supplements 1 & 1A to FSAR.

3. Aerojet Nuclear Company, LOFT Integral Test System - Design Basis Report, January, 1974.

4. U. S. Nuclear Regulatory Commission, Safety Evaluation of the Loss of Fluid Test Facility, May, 1975.