UNIVERSITY OF MISSOURI

Research Reactor Facility

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June 8, 1984

Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. Cecil O. Thomas, Chief
Standardization & Special Projects Branch

Reference: Docket 50-186
University of Missouri
License R-103

Subject: Report as required by Technical Specification 6.1.h(2)

Description

On May 11, 1984 at 1053, with the reactor operating at 10 MW, the personnel airlock doors operated out of sequence, allowing both inner and outer doors to open at the same time. The reactor was immediately shutdown by manual rod run in. The outer airlock door gasket had been pulled partly from its seat, due to the door driving with the gasket inflated. The gasket was replaced in its seat, the airlock door alignment and electrical control circuit operation were checked and the airlock doors were cycled several times to ensure they would sequence normally. The airlock doors were back in operation at 1100.

The reactor was operated for a period of seven minutes out of compliance with Technical Specification 3.5.a(1) which states that "containment integrity shall be maintained at all times except when: (1) the reactor is secured, and irradiated fuel with a decay time less than sixty days is not being handled". For reactor containment integrity to exist one of the personnel airlock doors must be closed with the gasket inflated.

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Analysis

The basis for Technical Specification 3.5.a is to assure that the containment building can be isolated at all times except when the plant conditions are such that the probability of release of radioactivity is negligible. When the airlock doors malfunctioned deviating from the limiting conditions for operation, a reactor shutdown was immediately commenced to make the already extremely low probability of release of radioactivity even more negligible. The cause of the out of sequence airlock door operation could not be reproduced.

Corrective Action

A reactor shutdown was immediately commenced on failure of the door sequence. The outer airlock door gasket was reinserted and the doors were tested for proper operation. The University of Missouri Reactor management will evaluate the need to change the Technical Specifications regarding a failure of a system or component required as a limiting condition for operation. The change would pursue allowing MURR to take credit for a timely reactor shutdown as an action statement for failure or loss of the required component or system. This would alleviate the generation of a Licensee Event Report for conditions which did not pose a safety question for either the general public or the MURR staff due to timely corrective actions.

Sincerely,

J. C. McKibben
Reactor Manager

Endorsement:
Reviewed and Approved

Don M. Alger
Associate Director

cc: U.S. Nuclear Regulatory Commission
c/o Document Management Branch

James Keppler, Regional Administrator
Region Operations - Region III

Reactor Advisory Committee

Reactor Safety Subcommittee

John H. Tolan, Radiation Safety Officer