



UNIVERSITY OF MISSOURI

Research Reactor Facility

Research Park
Columbia, Missouri 65211
Telephone (314) 882-4211

October 27, 1981



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

Reference: Docket 50-16
University of Missouri
License R-103

Subject: Failure of Emergency Electrical Generator to Start

Description

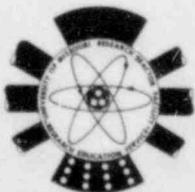
On September 28, 1981, the emergency generator failed to start when the starting sequence was initiated by the automatic weekly exerciser. Because it was a scheduled maintenance day, and the reactor was shutdown, no one was in the control room at the time of the failure. It was at 1400, during a machinery routine patrol, that the "fail to start" light was discovered lit and the cranking limiter was found tripped. The cranking limiter trip secures the starter motor if the generator fails to start within one minute.

The generator had been run normally on September 21, 1981 when it was started by the automatic weekly exerciser. Therefore, it could be assumed that the generator was not operable during the previous seven days of operation which is a deviation from Technical Specification 3.10.a.

Analysis

The emergency generator is equipped with an electric fuel pump. This fuel pump is controlled by a switch which permits either "hand", or "auto" operation. During routine patrols, this switch is checked in the "auto" position every four hours. Upon examination of the switch operating mechanism, it was found that an internal mechanical stop which prevents the switch from being turned past the "auto" position was broken. This caused all contacts on the switch to be open, and prohibiting the electric fuel pump from running when the switch was checked in the "auto" position. The emergency generator was started within five minutes of finding it in the tripped condition.

The emergency generator is not required to protect the fuel cladding as analyzed in Hazards Summary Report Addendum 5 sections 2.4.1 and 2.5.



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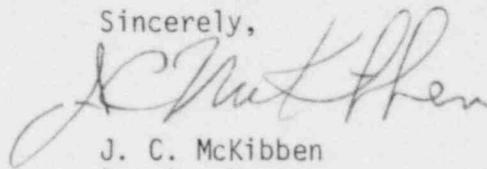
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Corrective Action

The electric fuel pump control switch was disassembled, and a new mechanical stop was installed on the cover, to prevent the switch from being able to be turned past the "auto" position.

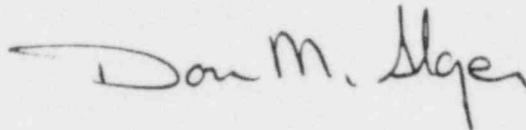
The generator was then tested with the fuel pump switch repaired and it performed satisfactorily. No change in switch design is anticipated, since our records show the fuel pump switch was an original installation part and performed its intended function for over fifteen years, a reasonable life-time for this component.

Sincerely,



J. C. McKibben
Reactor Manager

Endorsement:
Reviewed and Approved



Don M. Alger
Acting Director

JCMK:vs

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

James Kepler, Director
Regulatory Operations - Region III

Reactor Advisory Committee

Reactor Safety Committee

John H. Tolan, Radiation Safety Officer