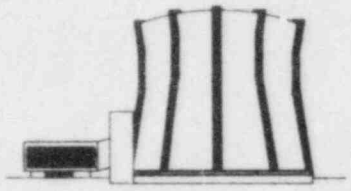
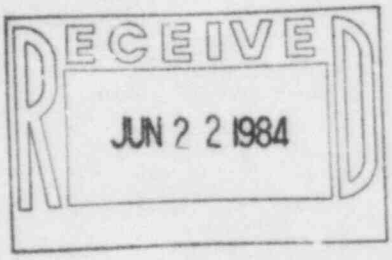
TEXAS ENGINEERING EXPERIMENT STATION
THE TEXAS A&M UNIVERSITY SYSTEM
COLLEGE STATION, TEXAS 77843-3575



NUCLEAR SCIENCE CENTER
409/845-7551

15 June 1984



Mr. E. Johnson
Office of Inspection and Enforcement
Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76012

Dear Mr. Johnson:

I am forwarding the final report of the reportable occurrence of 4 June 1984. This report is being submitted in accordance with NSC Technical Specification requirements Section 6.6.2 of the Nuclear Science Center Reactor, License R-83, Texas A&M University.

Respectfully,

Barry L Willits

Barry Willits, Manager
Reactor Operations

BW/ym

Enclosure

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Reportable Occurrence #84-3
Reactor Safety System Malfunction:
Loss of Signal to Safety Monitoring Channel

Reportable Occurrence

On 4 June 1984 at approximately 1109 during a normal startup of the NSCR, the Reactor Operator observed that Safety Power Measuring Channel #2 was not responding as reactor power level was increased beyond 30 Kw. The Safety Channel Instrument had responded satisfactorily during the pre-startup check. The Pre-startup Check List requires a channel test of the Safety Channel Instrument and a check of the scram functions, including the high power scram and the scram on loss of detector high voltage. As the Reactor Operator was monitoring the response of these channels during the startup to 950 Kw as required by the Standard Operating Procedure, SOP II-C, only Safety Channel #1 indicated properly. All other reactor power and temperature instruments responded normally and were consistent. The reactor was shutdown and NSC management was informed of the incident. This incident is determined to be a reportable occurrence, in accordance with section 1.29 of the NSCR Technical Specifications. This incident constitutes a failure of a reactor safety system component (Safety Channel #2) during reactor operation in violation of section 3.2.2 of the NSC Technical Specifications.

Investigation of the problem revealed that the Safety Channel #2 signal cable had been pulled loose from the connector, on the reactor bridge. The connector was replaced and a satisfactory pre-startup check was performed. The NSCR was returned to power while Safety Channel #2 was closely monitored. Proper response was obtained on Safety Channel #2 and reactor operation was continued with no further recurrence of the Safety Channel problem.

Corrective Action

All cables are run to the reactor bridge from a cable tray along the Upper Research Level floor in two large bundles and are protected by a zippered sleeve up to approximately two (2) feet from the reactor bridge cable way. These cable runs must always be repositioned as the reactor bridge is maneuvered to different locations in the pool. The length of the cable runs that are not covered by the zippered sleeve have been laced tightly into a bundle following this incident to prevent one or more of the individual cables from being snagged by some device projecting out from the pool wall, as the reactor is moved. All operators are cautioned to closely observe the two cable bundles as the reactor bridge is moved to prevent any unnecessary stress being placed on the cables, or one or two cables from becoming snagged along the pool wall. It is the opinion of the NSC staff that these corrective actions are sufficient, since no definitive cause for the incident can be determined and this is not seen as a recurring sort of problem.