



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
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*Original
enclosed for
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July 21, 1981

MEMORANDUM FOR: Dudley Thompson, Director, Enforcement and Investigation, IE
FROM: James G. Keppler, Director, Region III
SUBJECT: SELECTION OF SEVERITY LEVEL - UNIVERSITY OF MISSOURI
RESEARCH REACTOR

A recent routine inspection at the 10 MW PWR University of Missouri (Columbia) research reactor revealed two problems which appear at first glance to be significant safety issues. A literal application of Supplement I of the Interim Enforcement Policy to the matters would result in one Severity Level II violation and one Severity Level III violation. However, our evaluation indicates that these matters, which were reported by the licensee, had little potential impact on the health and safety of the public or licensee employees and, therefore, a literal application of the Interim Enforcement Policy inaccurately characterizes these matters. The results of our evaluation along with the philosophy contained in EGM-81-02 and EGM-81-11 have lead us to conclude that the matters should be categorized as Severity Level IV violations. Following are discussions of the matters and our conclusions.

Item 1 - Containment Valve Open During Operation

Citation - Technical Specification 4.2.c requires that the containment building leakage rate shall not exceed 16.3 ft³/min at STP with an overpressure of one pound per square inch gauge or 10% of contained volume over a 24 hour period from an initial overpressure of 2 pounds per square inch gauge.

Contrary to the above, on February 23, 1981, a 3/4 inch containment test valve was found open which would have caused the containment leak rate to be approximately five times that allowed by TS 4.2.c under test conditions.

The licensee discovered the valve to be open during a tour by a employee. Prior to discovery, there was no information that existed which should have alerted the licensee to the degraded containment condition.

The TS cited is not an LCO but rather is what is termed a Design Feature TS which is basically the acceptance criteria for the periodic containment leak rate test. The containment integrity LCO as defined in the TS was not violated since it does not include a requirement to comply with the

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Design Feature TS. The violation meets the description in IEP Supplement I.B.1 which is Severity Level II because the containment, a system designed to prevent or mitigate serious safety events, was not able to perform its intended safety function. The violation existed for an undetermined period of time but evidence suggests it was less than two months.

Accident analyses submitted in the past by the licensee and approved by NRR reveal that there are no credible accidents, including the design basis accident, which could elevate the containment pressure above atmospheric. Therefore, the only time there could be leakage from the containment to atmosphere would be during barometric changes. During a design basis accident with maximum local historical barometric changes, the containment valve being open would not have resulted in releases above a small percentage of the 10 CFR Part 100 values.

We believe the safety function of the containment should be viewed as being degraded rather than lost. The event had little potential impact. As stated above, the licensee did not have information which should have alerted him to the degraded containment condition. Therefore, we believe application of EGM-81-02 is appropriate which results in a categorization of this matter as a Severity Level IV.

Item 2 - Inoperable High Pressure Scram

Citation - Technical Specification 3.3.a requires that the single instrument channel for Pressurizer High Pressure be operable to provide a safety system scram whenever the reactor is operated.

Contrary to the above, the instrument channel for Pressurizer High Pressure was inoperable for a period of about 20 operating days during the period between April 17 and May 18, 1981. The channel was inoperable because a valve was closed isolating pressure switch PS939 which actuates the high pressure scram.

The licensee discovered the valve to be closed during a routine equipment check by employees. Prior to discovery, there was no information that existed which should have alerted the licensee to the inoperable instrument channel. The mechanical relief valves, pressure indication, and the high pressure alarm were not affected and remained operable.

The TS cited is an LCO which has no action statement. Therefore, operating for the 20 days with the inoperable instrument channel constitutes a violation meeting the description in IEP Supplement I.C.1 which is a Severity Level III because an LCO was exceeded.

Accident analyses submitted in the past by the licensee and approved by NRR indicate that the TS limit on primary system pressure could not have been