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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

December 18, 1980

Gentlemen:

The enclosed IE Supplement No. 4 to Bulletin No. 80-17 is forwarded to you for information. No written response is required. If you desire additional information regarding this matter, please contact this office.

Sincerely,

James G. Keppler
Director

Enclosure: IE Supplement No. 4
to Bulletin No. 80-17

Docket No. 50-358

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

December 18, 1980

IE Supplement 4 to Bulletin No. 80-17: FAILURE OF CONTROL RODS TO INSERT DURING A SCRAM AT A BWR

NRC staff evaluation of failures of the continuous monitoring system (CMS) for the scram discharge volume (SDV) at an operating BWR has identified the need for licensee actions in addition to those requested by IEB 80-17 and Supplements 1-3. The purpose of these actions is to provide assurance that the CMS has been tested to demonstrate operability as installed, remains operable during plant operation, and is periodically surveillance tested to demonstrate continued operability.

The occurrence of CMS failures at Dresden Nuclear Power Station was discussed in IE Information Notice 80-43, which was issued on December 5, 1980 to those operating BWR's with CMS recently installed. Subsequently, investigation into the cause of the failure to receive the alarm with the SDV essentially full revealed several items which required correction, including:

1. Excess portions of transducer cable were placed in physical positions which would increase external noise sensitivity.

2. The UT transducers were not placed in a physical position to optimize system sensitivity.

3. A certain amount of "cross-talk" was occuring between redundant transducers located a few feet apart on the same run of 4" pipe.

Station and vendor personnel shortened and rerouted transducer cables to improve noise rejection. Vendor specialists optimized transducer placement and synchronized both transducers to the same ultrasonic instrument internal clock to minimize cross-talk and improve signal to noise characteristics. Following these actions the CMS appeared to function properly.

Further difficulties were encountered when apparently minor quantities of water leaked into the SDV as a result of control rod drive scram valve maintenance activities and minor scram outlet valve leakage. It appears that the transducers are located on a section of SDV piping which forms a local low point. Accordingly, small amounts of water can accumulate to a depth which triggers the high level alarm (at 1-1/4") before the water drains to the instrument volume. The licensee in conjunction with the NSSS vendor, performed a unit specific analysis for a conservative [illegible] point to 2-1/2". The system now appea[illegible] alarm time delay was also installed to[illegible]