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DUKE POWER

September 8, 1994

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: Catawba Nuclear Station
Docket Nos. 50-413 and 50-414
Reactor Coolant Leakage Detection Systems -
Containment Airborne Particulate Radiation Monitor

The Catawba Safety Evaluation Report (SER) related to the application for an operating license for Catawba Nuclear Station, Units 1 and 2, dated February, 1983, Section 5.2.5, "Detection of Leakage Through Reactor Coolant Pressure Boundary" includes a review of the various Catawba reactor coolant leakage detection systems. One of the two systems which provides indication of unidentified leakage from the reactor coolant pressure boundary into the containment is the Containment Airborne Particulate Radiation Monitors (EMF 38 - Units 1 & 2). The subject SER states that EMF38 is seismic Category I. A recent engineering review of the seismic classification of the EMF38 monitors at Catawba has determined that these monitors are not seismic Category I monitors. The purpose of this letter is to request that the Nuclear Reactor Regulation (NRR) staff evaluate the acceptability of the attached justification for these monitors to be classified as non-seismic. Both unit 1 and 2 EMF38 will remain inoperable until your evaluation has been completed.

During a recent engineering review, it was determined that documentation does not exist to show that EMF38 is designed to withstand a Safe Shutdown Earthquake (SSE). Both units' EMF38 were subsequently declared inoperable, and remain inoperable. Although technically inoperable, both Catawba units' EMF38 monitors remain available. The inoperability of these monitors does not affect continued unit operation (Technical Specification 3.4.6.1, "Reactor Coolant System Leakage") unless both the Containment Ventilation Unit Condensate Drain Tank (VUCDT) Level Monitoring Subsystem and EMF38, collectively categorized as one of three Reactor Coolant System Leakage Detection Systems, become inoperable at the same time on the same unit. To date, only Catawba Unit 1 has experienced the inoperability of both the VUCDT Level Monitoring Subsystem and EMF38 during the period of August 23 - 25, 1994. During that period, the Technical Specification 3.4.6.1 Limiting Condition for Operation Action was appropriately implemented.

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While neither unit is currently under a Technical Specification "Limiting Condition for Operation Action" and the operation of both units could continue indefinitely, it is requested that your staff evaluate the attached "Technical Review For EMF38 Seismic Classification" and provide concurrence or comments, as these monitors remain inoperable until such concurrence or other acceptable alternatives are established. The attached review concludes that the seismic classification of these monitors is unnecessary.

If you have any questions regarding this issue, please contact Jeff Lowery at (803) 831-3414.

Very truly yours,



D.L. Rehn, Site Vice-President
Catawba Nuclear Station

xc: S.D. Ebnetter,
Regional Administrator, Region II

R.E. Martin, ONRR

R.J. Freudenberger,
Senior Resident Inspector

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TECHNICAL REVIEW FOR EMF38 SEISMIC CLASSIFICATION

The Reactor Coolant Leakage Detection Systems are provided to detect structural degradation of the reactor coolant pressure boundary on a timely basis. This ensures that corrective actions are taken before such degradation becomes sufficiently severe that it jeopardizes the safety of the reactor coolant system, or before the leakage could increase to a level beyond the capability of the makeup system to replenish the coolant loss. The containment airborne particulate radiation monitor (EMF38) is a component of the leakage detection systems. Reference 1 states that the monitor is seismic Category I.

The margin of safety is not increased by classifying the monitor as seismic Category I, for the following reasons:

- 1) During normal operations without an earthquake having occurred, upon receipt of containment airborne particulate radiation monitor (EMF38) alarm in the control room, the operators are directed by Reference 3 to verify the alarm and take the appropriate actions to determine if reactor coolant system leakage exceeds 1 gpm,
- 2) In the event that an Operational Basis Earthquake (OBE) occurs, the operators are directed by Reference 4 to bring the unit(s) to Hot Standby (Mode 3). Hot Standby is a mode for which the Reactor Coolant Leakage Detection Systems are required operable per Reference 5. In March of 1994, a visual inspection of both units' sample lines to EMF38 revealed that they are well supported and are capable of functioning following an OBE and a Safe Shutdown Earthquake (SSE). A failure of other components that support the operation of EMF38 would result in an alarm in the Control Room that would alert the Operator of a malfunction of the monitor and the appropriate Technical Specification LCO would be followed as appropriate.
- 3) In the event that an SSE occurs, the operators are directed by Reference 4 to bring the unit(s) to Cold Shutdown (Mode 5). Cold Shutdown is a mode for which the Reactor Coolant Leakage Detection Systems are not required operable per Reference 5. Thus, the containment particulate monitor is not required to remain functional during and after a SSE.

In addition to the above discussion, reference 2 concluded that an acceptable technical basis is provided so that the asymmetrical blowdown loads resulting from double ended pipe breaks in main coolant piping need not be considered as a design basis for the Westinghouse Owner's Group plants, provided the following condition is met:

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- " Leakage detection systems at the facility should be sufficient to provide adequate margin to detect leakage from the postulated circumferential throughwall flaw utilizing the guidance of Regulatory Guide 1.45, 'Reactor Coolant Pressure Boundary Leakage Detection Systems', *with the exception that the seismic qualification of the airborne particulate radiation monitor is not necessary.*"

Duke Power Company requested pipe break criteria relief, pursuant to Reference 2, for the Reactor Coolant loops by letters dated April 17, 1985 for Catawba Unit 2, and November 27, 1985 for Catawba Unit 1. The NRC granted such relief for Catawba Unit 2 by letter dated April 23, 1985 and determined that the technical basis was the same for both Catawba units by letter dated April 7, 1987. Therefore, the acceptability of non-seismic containment airborne particulate radiation monitors has been determined to be acceptable for Catawba by the staff for this application.

For these reasons, it has been concluded that the seismic classification for these monitors is not necessary.

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REFERENCES

1. Catawba Safety Evaluation Report, Relating to Application For Operating License, dated February, 1983, Section 5.2.5, "Detection of Leakage Through Reactor Coolant Pressure Boundary",
2. NRC Generic Letter 84-04, "Safety Evaluation of Westinghouse Topical Reports Dealing with the Elimination of Postulated Pipe Breaks in PWR Primary Main Loops", February 1, 1984,
3. CNS Computer Alarm Response Manual, Units 1 and 2, Point ID P0590,
4. RP/0/A/5000/07, "Procedure for Natural Disaster and Earthquake",
5. CNS Technical Specifications, Section 3.4.6.1, "Reactor Coolant System Leakage Detection Systems",
6. CNS-1465.00-00-0007, "Plant Design Basis Document for Seismic Design".