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AUTH. NAME AUTHOR AFFILIATION
 TUCKER, H. B. Duke Power Co.
 RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Responds to NRC 870505 ltr re violations noted in Insp Repts
 50-269/87-02, 50-270/87-02 & 50-287/87-02. Corrective actions:
 valve HP-2 closed & power removed from HP-2.

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DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

TELEPHONE
(704) 373-4531

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

June 4, 1987

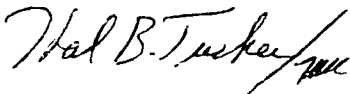
U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
IE Inspection Report Nos. 50-269, -270, -287/87-02

Gentlemen:

Please find attached Duke Power's (Duke) response to the subject Notice of Violation which was provided by an NRC letter dated May 5, 1987. For reasons discussed in the attached response, Duke believes that the cited item of non-compliance is consistent with the definition provided by 10 CFR Part 2, Appendix C Section III for Severity Level IV violations, and, as such, should have been categorized as a Severity Level IV violation. Accordingly, Duke requests that the severity level for the Notice of Violation provided by the May 5, 1987 NRC letter be reduced from Level III to Level IV.

Very truly yours,



Hal B. Tucker

PFG/34/sbn

Attachment

xc: Dr. J. Nelson Grace, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Ms. Helen Pastis
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. J. C. Bryant
NRC Resident Inspector
Oconee Nuclear Station

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VIOLATION

10 CFR 50.48(b) requires, in part, that all nuclear power plants licensed to operate prior to January 1, 1979 shall satisfy the requirements of 10 CFR Part 50, Appendix R, including specifically, Section III.G, Fire Protection of Safe Shutdown Capability.

Section III.G.2 specifies that, where cables or equipment, including associated non-safety circuits that could prevent operation or cause maloperation due to hot shorts, open circuits, or shorts to ground, of redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located within the same fire area outside of primary containment, a means to ensure that one of the redundant trains is free of fire damage shall be provided.

Section III.G.3 requires an alternative or dedicated shutdown capability independent of cables, systems or components in the specified fire area under consideration where the protection of systems does not satisfy the requirements of Paragraph G.2.

Contrary to the above, as of January 26, 1987, cabling to the motor operator for the letdown cooler B outlet valve (HP-4), for each Oconee unit, which is required to satisfy the alternative shutdown capability of Section III.G.3 above, was not independent of the specific design basis fire area. The cabling was routed through the east penetration room, the design basis fire area. A fire in this area could result in the loss of reactor coolant inventory in excess of the makeup capacity of the specified safe shutdown equipment.

This is a Severity Level III violation (Supplement I).

RESPONSE

(1) Admission or denial of the alleged Violation:

This violation is admitted, however, Duke takes exception to the Severity Level assessed for the violation. Accordingly, Duke requests that the Severity Level be reduced from Level III to Level IV.

(2) Reason for Violation:

The cause for the violation is attributed to inadequate communication to verify the normal state of valve HP-4, which led to the use of an improper assumption when preparing the Appendix R Fire Protection Analysis. Duke has requested that Severity Level for the violation be recategorized as a Level IV. The subsequent discussion summarizes the mitigating factors that form the basis for categorizing the violation as a Level IV. Each of these mitigating factors significantly reduce the probability of an uncompensated Loss of Reactor Coolant inventory:

- (a) A design basis assumption for the Standby Shutdown facility (SSF) is that no spurious valve actuation will occur during the first ten minutes following a fire event. The SSF is activated within ten minutes; procedural steps in this activation include transfer of control to the SSF and closure of the A and B letdown cooler outlet isolation valves HP-3 and HP-4. Once this has been accomplished, circuit analysis shows

that a fire in the East Penetration Room has no effect on valve HP-4. The East Penetration Room fire would thus have to damage HP-4 power cabling within the first ten minutes, with HP-4 in the open position, to have a potential loss of reactor coolant inventory in excess of the SSF RC Makeup pump capability.

- (b) The East Penetration Room, although not considered in Duke's Appendix R assessment for Oconee, is essentially a separate fire area. The walls, floor and ceiling of the East Penetration Room are concrete or masonry block and penetrations are sealed with fire resistant materials comparable to the West Penetration Room. Although no credit was taken for HPI, at least one train of this system should have been available if the fire was contained within the East Penetration Room. One HPI train can supply reactor coolant makeup in excess of what would be lost through the letdown coolers.
- (c) Cabling for valve HP-4 was routed along the Reactor Building wall, minimizing the potential for fire damage.
- (d) Valve HP-5 is downstream of HP-4 and can be used to isolate letdown flow. This valve is closed as one of the immediate manual actions following reactor trip.
- (e) HP-5 is located in the East Penetration Room which is a controlled low traffic area having no ignition sources and is covered by operator rounds.
- (f) HP-5 fails closed on loss of air and/or power thus requiring a "smart" fire to disable control or to spuriously open it without burning through the cable or air supply line, while at the same time burning through the cable for valve HP-4 within the first 10 minutes of the event.
- (g) Two additional downstream valves (HP-6 and HP-7) can be used to isolate letdown flow; they are located in the East Penetration Room and also fail closed upon loss of power and/or air.

When taken together, these factors made the probability of an uncompensated loss of reactor coolant inventory incredibly low; thus the health and safety of the public were not jeopardized and there was no cause for significant concern.

(3) The corrective steps which have been taken and the results achieved:

In order to close the small window of vulnerability, valve HP-2 was closed and power was removed from HP-2 for all three units on January 29, 1987. In a subsequent action, power and control cabling for HP-4 have been rerouted on units 1 and 3 to avoid the East Penetration Room. Unit 2 cables will be rerouted in similar manner during the next outage of sufficient duration. The station was instructed to return power to HP-2 upon rerouting of HP-4's cables. A complete review has been conducted to assure that there are no other potential high-low pressure interfaces which could result in excessive letdown under the Appendix R scenario.

In addition, Duke recognized several years ago that there was a significant difference between new plant design and plant modification design, and thus, began a deliberate program to accomplish the transition. Details of this effort was discussed in a Duke letter to the NRC dated April 13, 1987 which was submitted in response to Inspection Reports 50-269/86-16, 50-270/86-16, and 50-287/86-16. This program, as discussed in the April 13, 1987 Duke letter, should resolve the reason for the violation (i.e., inadequate communication). This program was discussed with the NRC during a meeting held in Atlanta on March 6, 1987.

(4) Corrective step(s) which will be taken to avoid further violations:

No additional corrective steps, beyond what is discussed above, are necessary as a result of this incident.

(5) Date of full compliance:

Full compliance was achieved on January 29, 1987, when power was removed from valves 1, 2, 3 HP-4.