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DUKE POWER

August 17, 1990

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

Subject: Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413 and 50-414
NRC Inspection Report No. 50-413, 414/90-15
Reply to a Notice of Violation

Gentlemen:

Enclosed is the response to the Notice of Violation issued July 20, 1990 by the NRC concerning the improper installation of solenoids on three pilot valves associated with the Catawba Nuclear Station Unit 2 high pressure carbon dioxide fire protection system.

Very truly yours,

A handwritten signature in cursive script that reads "Hal B. Tucker".

Hal B. Tucker

MHH/58/lcs

xc: Mr. Stewart D. Ebnetter
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta St., NW., Suite 2900
Atlanta, Georgia 30323

Mr. W. T. Orders
NRC Resident Inspector
Catawba Nuclear Station

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DUKE POWER COMPANY
REPLY TO A NOTICE OF VIOLATION
413/90-15-04

10CFR50, Appendix B, Criterion XI, Test Control, requires that a test program be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures. The test program shall include, as appropriate, proof tests prior to installation, pre-operational tests, and operational tests during nuclear power plant operation, of structures, systems, and components.

Technical Specification 3.7.10.3(b) requires that the high pressure carbon dioxide fire protection system be operable whenever the equipment protected by the system is required to be operable. The protected equipment consists of the auxiliary feedwater pump rooms. Auxiliary Feedwater is required to be operable in Modes 1, 2, and 3.

Technical Specification 4.7.10.3.3.b(1) requires that the high pressure system be demonstrated operable at least once per 18 months by verifying that the system actuates manually and automatically upon receipt of a simulated actuation signal.

Contrary to the above, the solenoids on the three pilot valves associated with the Catawba Unit 2, high pressure fire protection system were installed backwards during construction. Pre-operational testing of the system failed to identify the error which prevented the components/system from operating satisfactorily in service. Routine surveillance was inadequate in that it did not demonstrate that the system was operable by verifying system actuation either manually or automatically upon the receipt of a simulated actuation signal.

RESPONSE:

1. Admission or Denial of Violation

Duke Power admits the violation.

2. Reasons for Violation if Admitted

This incident was attributed to a Construction/Installation Deficiency in that the solenoids were installed backwards and that inspections did not identify this condition. This incident was also attributed to a Deficient Procedure in that the pre-operational test procedure did not identify failed pilot valve solenoids.

3. Corrective Actions Taken to Avoid Further Violations and Results Achieved

- (A). The electrical actuation signals of the high pressure CO₂ system were inspected, and found to be working properly (reference W/R 46490CPS).
- (B). The high pressure CO₂ header was pressure tested using N₂, and it was observed that pressure was escaping from the exhaust vent of the pilot valves (reference W/R 6228SWK).
- (C). The solenoid's orientation was corrected on the three pilot valves (reference W/R 2558MES).
- (D). The Unit 1 solenoid's orientation was verified to be installed correctly.
- (E). A post-maintenance N₂ pressure test was performed on the high pressure CO₂ header, and verified that the solenoids would hold until an actuation signal is received (reference W/R 6228SWR).
- (F). Performance and Design Engineering met to discuss improvements within the high pressure CO₂ system design documents. This meeting resulted in the following:
 - 1) Design Engineering has initiated a preliminary review of as-built systems to vendor documentation.
 - 2) Performance has assigned a System Engineer to the Fire Protection System to improve station knowledge in this area.

4. Corrective Actions to be Taken to Avoid Further Violations

The present methods of testing the operability of CO₂ fire protection systems will be evaluated by 2/1/91 to determine if additional testing is necessary, to insure that the surveillance requirements of T/S are being met.

(PERFORMANCE)

Design Engineering will update system design documents or initiate replacement of the current CO₂ control system by 2/1/91.

5. Date of Full Compliance

Duke Power is now in full compliance.