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SUBJECT: Responds to NRC ltr re violations noted in insp rept  
50-261/92-19. Corrective actions: differential pressure  
conditions for valves FW-V2-6A, B & C have been reevaluated,  
applying failure of feedwater valves to stop flow.

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NRC INSPECTION REPORT NO. 50-261/92-19 REPLY TO A NOTICE OF VIOLATION

Gentlemen:

Carolina Power and Light Company hereby provides the enclosed reply to the Notice of Violation identified in Inspection Report 50-261/92-19. Enclosure 1 provides a description of the violation, the causal factors and root causes identified, and a discussion of the corrective actions taken and planned for the violation.

Should you have any questions regarding this matter, please contact Mr. J. L. Harrison at (803) 383-1433.

Very truly yours,  
*Ray H. Chambers for*  
Charles R. Dietz  
Vice President  
Robinson Nuclear Project Department

RDC:sgk

Enclosure

cc: Mr. S. D. Ebnetter  
Mr. L. W. Garner  
INPO

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PDR ADDCK 05000261  
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REPLY TO A NOTICE OF VIOLATION

RII-92-19-01: Inadequate Design Control Involving Unverified Assumptions  
Related to D/P for Valves FW-2V-6A, B, and C.

10 CFR 50, Appendix B, Criterion III and the licensee's accepted Operations Quality Assurance Program, updated Final Safety Analysis Report (FSAR), Section 17.2.3, Design Controls, collectively require that the adequacy of design changes be verified by the performance of design reviews, alternate calculations or qualification testing. Control measures for control of design verification activities shall include reviews to assure that design parameters are defined and that inspection and test criteria are identified.

In January 1992 design basis calculation number RNP-M/MECH-1398, 1399, and 1400 determined the differential pressure across feedwater block valves FW-2V-6A, B, and C to be 50 psid based on postulated assumptions that (1) the feedwater regulating valves located downstream of each block valve will close in seven seconds upon receipt of a safety injection (SI) signal and (2) the reactor feedwater and condensate pumps will trip and coast to a stop.

Contrary to the above, on June 15, 1992 feedwater block valve FW-2V-6A failed to close fully because of a high differential pressure of 480 psid. The differential pressure was the result of the condensate pump discharge pressure being greater than 50 psid and an unverified assumption that the condensate pump is tripped upon receipt of an SI signal. The condensate pump can only be tripped manually by operator action and not by an auto trip signal.

REPLY

1. The Reason for the Violation

CP&L acknowledges that the violation occurred. The violation occurred because a single failure of the feedwater regulating valves to close, and stop flow, had not been considered.

In order to adequately address the violation, a correction to information contained in the Notice of Violation should be noted. The Notice of Violation refers to design basis calculation numbers RNP-M/MECH-1398, 1399, and 1400 as determining the differential pressure across feedwater block valves FW-V2-6A, B, and C. However, the calculations that established the thrust and torque requirements for these valves were RNP-M/MECH-1244, 1245, and 1246. These thrust calculations were based on differential pressures provided in the Design Basis Differential Pressure Report DP-027-FW for the subject MOV's, and which presented the differential pressure scenarios for both normal and accident conditions for the MOVs FW-V2-6A, B, and C. For the accident differential pressure scenario, this report used pressure conditions originally derived from an Engineering Evaluation, and while assuming the condensate pump was still running providing line pressure, it did not consider the failure of the feedwater regulating valves to close and stop flow, resulting in a higher differential pressure.

2. The Corrective Steps That Have Been Taken and the Results Achieved

Nuclear Engineering Department Adverse Condition Report ACR 92-0088 was initiated to document this condition and to provide for a root cause investigation.

The differential pressure conditions for valves FW-V2-6A, B, and C have been reevaluated, applying a failure of the feedwater regulating valve to stop flow. The new differential pressure conditions are evaluated in revisions to calculations RNP-M/MECH-1244, 1245, and 1246. Also, the new (higher) differential pressure conditions were used in these calculations to revise the MOV thrust requirements. After the MOV set up criteria for FW-V2-6A, B, and C were revised, all three valves were adjusted in the field, using torque switch and "VOTES" thrust measuring diagnostic equipment, to achieve the required thrust.

With regard to control measures for control of design verification activities, improvements have been made in the Design Verifier Training process. Nuclear Engineering Department Design Verifiers must now be qualified in accordance with a procedurally controlled training process with a term limit.

3. The Corrective Steps That Will Be Taken to Avoid Further Violations

To ensure the differential pressures (DP) are correct in the mechanical analysis and calculations for the MOVs subject to NRC Generic Letter 89-10, a sample of safety related MOVs DP reports that established the differential pressure will be evaluated, and revised as appropriate. Also, a revision to the Final Safety Analysis Report will be initiated to address the potential for single failure of the Feedwater Regulating Valves.

4. The Date When Full Compliance Will Be Achieved

Full compliance will be achieved by June 30, 1993.