CP&L

10CFR2.201

Carolina Power & Light Company
Robinson Nuclear Plant
PO Box 790
Hartsville SC 29551

Robinson File No.: 13510E
Serial: RNP/94-1689

SEP 29 1994

Director, Office of Enforcement
U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
NRC INSPECTION REPORT NO. 50-261/94-16
REPLY TO A NOTICE OF VIOLATION

Gentlemen:

This provides the Carolina Power & Light (CP&L) Company reply to the Notice of Violation identified in NRC Inspection Report 50-261/94-16, which was transmitted by letter dated August 30, 1994. The Notice of Violation and Proposed Imposition of Civil Penalty involves the failure to implement adequate design reviews and suitable testing programs to verify that the Control Room Ventilation System was capable of performing its intended safety function. Additional violations identified in the Inspection Report that are not assessed a civil penalty involve the failure to ensure conditions adverse to quality were promptly identified and corrected.

As requested in the letter transmitting the Notice of Violation and Proposed Imposition of Civil Penalty, the enclosure restates each violation, followed by our reply. Also, enclosed is our check in the amount of $75,000 for payment of the Civil Penalty.

Should you have any questions regarding this matter, please contact Mr. R. M. Krich at (803) 383-1802.

Very truly yours,

CS Hinnant

C. S. Hinnant
Vice President

RDC:rdc
Enclosures
c: Mr. S. D. Ebneter, Regional Administrator, USNRC, Region II
Ms. B. L. Mozafari, USNRC Project Manager, HBRSEP
Mr. W. T. Orders, USNRC Senior Resident Inspector, HBRSEP

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Affidavit

C. S. Hinnant, having been first duly sworn, did dispose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

C S Hinnant

C. S. Hinnant

Deborah W. Martin

Notary (Seal)

My Commission Expires: 6/23/98

REPLY TO A NOTICE OF VIOLATION

I. Violation Assessed a Civil Penalty

10 CFR 50, Appendix B, Criterion III, Design Control, requires, in part, that design control measures be provided for verifying or checking the adequacy of design, such as by design reviews or suitable testing programs.

10 CFR 50, Appendix B, Criterion XI, Test Control, requires, in part, that a test program shall be established to assure that all testing required to demonstrate that systems will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the acceptance limits contained in the applicable design documents.

The licensee's Updated Final Safety Analysis Report (UFSAR) sections, 6.4 and 9.4.2 require, in part, that the control room ventilation system (CRVS) be capable of maintaining the control room at a positive differential pressure with respect to adjacent areas and the outdoors when the CRVS is operated in the emergency pressurization mode of operation.

Contrary to the above, from February 1, 1991 until May 7, 1994, the licensee did not implement adequate design reviews or suitable testing programs to verify that the control room ventilation system was capable of performing its intended safety function as described in UFSAR sections 6.4 and 9.4.2. Specifically, the design review failed to consider plant configurations that resulted in the pressure in areas adjacent to the control room exceeding the control room pressure, as evidenced by the positive pressure relative to the control room of Reactor Auxiliary Building room E1/E2 during testing on May 7, 1994. In addition, testing programs did not confirm that a positive pressure could be maintained in the control room with respect to areas adjacent to the control room during the emergency pressurization mode of operation.

1. Admission or Denial

Carolina Power & Light (CP&L) agrees that the violation occurred as described.

2. The Reasons for the Violation

The CRVS design as compared with different areas of the Reactor Auxiliary Building (RAB) was incomplete, in that, it did not consider all modes of Heating, Ventilation, and Air Conditioning (HVAC) system lineups and the effect of these lineups on Control Room habitability. The CRVS design was based on the assumption of a Loss of Coolant Accident (LOCA) coincident with a loss of off-site power (LOOP). The design did not take into account the impact of a post accident configuration of the ventilation system serving adjacent rooms, on the CRVS during the Emergency Pressurization mode of operation. The design should have considered the scenario of a LOCA with off-site power available, coincident with the failure of a non-safety related ventilation exhaust fan (i.e., HVE-7). During this scenario, the safety-related RAB supply fan (i.e., HVS-1) would continue to supply air to the RAB, while credit can not be taken for HVE-7 to exhaust air from the E1/E2 room. This configuration would allow the building air pressure to increase in relation to the Control Room ventilation envelope, resulting in pressure in areas adjacent to the Control Room exceeding the Control Room air pressure. A potential pathway for accident releases into the Control Room would thus be established.

The testing program to confirm that a positive pressure could be maintained in the Control Room with respect to areas adjacent to the Control Room, was inadequate due to failure of the modification design to consider the impact of potential ventilation configurations on the safety function of the CRVS during the Emergency Pressurization mode of operation. This failure occurred due to an inadequate understanding of the testing requirements and commitments, and the resultant failure to properly incorporate these requirements and commitments into the surveillance test program.

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

Plant operating procedures and Emergency Operating Procedures were revised to place operating restrictions on HVS-1. The refueling frequency surveillance test procedure is being revised to add specific initial conditions and acceptance criteria to be used when measuring Control Room pressures and makeup air flow to Control Room HVAC system, during the Emergency pressurization mode of operation.

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

The corrective actions necessary to address this violation have been completed with implementation of the procedure changes delineated above. Additionally, a representative sample of other modifications performed as a result of commitments to changes described in NUREG-0737, "Clarification of TMI Action Plan Requirements," is under evaluation to determine the adequacy of the initial design inputs, possible interactions with other systems, and associated surveillance testing adequacy. This action will be completed by December 20, 1994.

5. The Date When Full Compliance Will Be Achieved

Full compliance has been achieved with respect to this issue.

II. Violations Not Assessed a Civil Penalty

Violation A:

10 CFR 50, Appendix B, Criterion XVI, requires that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

Contrary to the above, between issuance of the operating license on September 23, 1970 and February 7, 1994, the licensee performed testing of the safety-related main steam isolation valves (MSIVs) with non-safety-related instrument air aligned to the valves' actuators, an activity that was a condition adverse to quality in that a non-safety-related system was being utilized to ensure a safety-related component could perform its intended safety function. The licensee's March 8, 1985 response to a violation issued in NRC Inspection Report 84-44, dated February 6, 1985, indicated that under certain accident situations, isolation of the steam generators by the MSIVs could not be assured if instrument air was isolated.

1. Admission or Denial

CP&L agrees that the violation occurred as described.

2. The Reasons for the Violation

Testing of the MSIVs to comply with Technical Specifications (TS) requirements was performed under the hot, no load condition with non-safety related instrument air supplied to the MSIV actuators and, as a result of an NRC cited violation in 1984, under the cold conditions without non-safety related instrument air supplied to the MSIV actuators. A concern regarding the safety function of the MSIVs to be susceptable to a single failure was also identified in response to the 1984 violation (i.e., MSIV closure could not be assured if instrument air was isolated and the accumulator vent valve failed). A modification that eliminated this susceptibility was planned in 1985 and implemented in March, 1986. In October, 1985 the NRC issued Information Notice 85-84, "Inadequate Inservice Testing of MSIVs." This Information Notice identified the inappropriateness of testing MSIVs with non-safety related air supplied to the MSIV actuators. An evaluation of Information Notice 85-84 that was performed in 1985, concluded that the actions being taken in response to the 1984 violation adequately addressed the Information Notice. As a result, further evaluation of the potential need to provide a supply of safety-related instrument air to the MSIV accumulator, was not performed until February 1994.

A review of historical test data shows that the TS required closure time (i.e., ≤ 5 seconds) of the MSIVs is more significantly affected by temperature conditions than by the supply or isolation of instrument air to the accumulators. Accordingly, we have concluded that the previous surveillance testing of the MSIVs provided reasonable assurance that the MSIVs would have performed its intended safety function under the most limiting, postulated Main Steam Line Break accident conditions analyzed in the Updated Final Safety Analysis Report (UFSAR).

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

On February 7, 1994, additional MSIV accumulator tanks were installed to provide an increased accumulator air volume capacity to provide additional margin for MSIV closure time within the required five second time period. Following completion of this modification and subsequent post-modification testing, all three valves were declared operable.

Procedure OST-501 is now conducted with the plant in hot shutdown conditions with the main steam header warmed and pressurized. The procedure establishes a no flow condition downstream of the MSIVs and is performed with instrument air isolated. The test was successfully performed prior to returning the unit to power operations on February 11, 1994.

Procedure OST-702 was revised to allow hot testing of the MSIVs by including sections to establish a no flow condition downstream of the MSIVs and to isolate instrument air during the MSIV operability portion of the test. This test was also performed prior to returning the unit to power operations on February 11, 1994.

The Design Basis Document for the Main Steam System has been revised to include references to the licensing basis for the system and supporting calculations and studies that define the details of expected MSIV performance.

A revision to the UFSAR has been initiated to ensure that it correctly characterizes the accident mitigation requirements for the MSIVs. This revision will be included in the next UFSAR submittal, scheduled for 1995.

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

The corrective actions necessary to address this violation have been completed with the actions described above. As additional measures, the adequacy of periodic testing that is currently in place to verify the MSIV air actuation system leak tightness will be verified, and the need for additional post-accident controls to ensure the MSIVs remain closed, will be evaluated.

5. The Date When Full Compliance Will be Achieved

Full compliance has been achieved.

Violation B:

10 CFR 50, Appendix B, Criterion XVI, requires that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

Contrary to the above, between June 30, 1992 and June 14, 1994, conditions adverse to quality, identified in an internal assessment of compliance with Technical Specification (TS) Table 4.1-1, were not corrected. Specifically, as identified in the internal assessment, between June 30, 1992 and January 6, 1994, the 4 KV undervoltage trip was not tested on a monthly frequency and the circuit between bi-stable outputs PC-502 and PC-503 and test switches TC-456 and TC-455C, respectively, of the Overpressure Protection System were not included in the 18 month calibration as required by Technical Specification (TS) 4.1, Operational Safety Review, and TS Table 4.1-1, Minimum Frequencies for Checks, Calibrations and Test of Instrument Channels. In addition, between June 30, 1992 and June 14, 1994, a finding that indicated that deficiencies existed in the implementation of the requirements of TS tables was not addressed. During review of the finding on June 14, 1994, the licensee determined that the High Steam Flow in 2/3 Steam Lines setting was 111.5 percent of full steam flow rather than 110 percent as required by TS Table 3.5-1.

1. Admission or Denial

   CP&L agrees that the violation occurred as described.

2. The Reasons for the Violation

   Failure to take adequate corrective action in a timely fashion for the potential Technical Specifications (TS) deficiencies identified by Enercon was caused by lack of management oversight and involvement in the Corrective Action Program. The corrective action process was not effectively utilized to administer the methods and schedules for resolution of the specific procedural deficiencies identified. In addition, the Plant Nuclear Safety Committee initiated an evaluation of the issue when it was identified during 1990. Because this study was performed for a "committee" rather than an organizational unit, clear accountability was not established for resolution.

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

Increased management standards and expectations have been delineated for involvement and oversight of the Corrective Action Program implementation. Additionally, the Corrective Action process and management oversight of the program implementation has been strengthened. PNSC Action Items are now assigned to organizational units and tracked to completion.

Evaluation of the testing practices recommended by Enercon has been completed. As a result, specific improvements have been initiated to the Surveillance Test program. These improvements include centralized test scheduling, and established setpoint bases.

4. The Corrective Steps That Will be Taken to Avoid Further Violations

A substantial effort has been expended on review of TS tables, containing the majority of instrumentation circuits for identification of missed TS surveillance requirements. An evaluation of an additional sample of other TS circuit surveillance requirements has been conducted. This evaluation confirmed that the associated surveillance requirements have been properly implemented.

5. The Date When Full Compliance Will Be Achieved

Full compliance with respect to the concerns identified in the report prepared by Enercon has been achieved with the above actions. Any concerns identified in the future will be dispositioned and reported as appropriate.