



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA STREET, N.W.  
ATLANTA, GEORGIA 30303

Report No.: 50-261/78-27

Docket No.: 50-261

License No.: DPR-23

Licensee: Carolina Power and Light Company  
336 Fayetteville Street  
Raleigh, North Carolina 27602

Facility Name: H. B. Robinson 2

Inspection at: H. B. Robinson Site, Hartsville, South Carolina

Inspection conducted: November 28 - December 1, 1978

Inspector: T. J. McHenry

Reviewed by: H. C. Dance  
H. C. Dance, Chief  
Reactor Projects Section No. 1  
Reactor Operations and Nuclear Support Branch

12/12/78  
Date

Inspection Summary

Inspection on November 28 - December 1, 1978 (Report No. 50-261/78-27)

Areas Inspected: Routine, unannounced inspection of licensee event followup, IE Bulletin followup, plant tour and independent inspection effort. The inspection involved 33 inspector-hours on site by one NRC inspector.

Results: Within the four areas inspected, no items of noncompliance or deviations were identified.

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## DETAILS I

Prepared by: H C Dance / jr  
 T. J. McHenry, Reactor Inspector  
 Reactor Projects Section No. 1  
 Reactor Operations and Nuclear  
 Support Branch

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Dates of Inspection: November 28 - December 1, 1978

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 Reactor Projects Section No. 1  
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1. Persons Contacted

- \*R. B. Starkey, Jr., Plant Manager
- R. E. Morgan, Operations Supervisor
- H. S. Zimmerman, Engineering Supervisor
- \*B. W. Garrison, Quality Assurance Supervisor
- C. Wright, Engineering Technician
- \*R. H. Chambers, Senior Engineer
- R. S. McGirt, Senior Nuclear General Specialist
- W. T. Traylor, Administrative Supervisor
- \*J. M. Curley, Senior Engineer
- F. Bishop, Electrical Engineer

Several Control Room, Shift Foremen and Plant Operators.

\*Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

No previous items of noncompliance or deviations were reviewed during this inspection.

3. Unresolved Items

No new unresolved items were identified during this inspection.

4. Exit Interview

A meeting was held on December 1, 1978, with Mr. R. B. Starkey, Plant Manager, and staff members denoted in paragraph 1. The scope and findings of the inspection were discussed.

## 5. Review of Licensee Event Reports (LERs)

The inspector reviewed three LERs for consistency with the requirements of Technical Specifications, Section 6.9. The inspector examined the licensee's analysis of the event, the corrective action taken, and discussed the LERs with licensee representatives. The following LERs were reviewed and are closed:

- 78-23      Boric Acid Storage Tank Low Level
- 78-24      Engine Driven Fire Pump Failed to Start
- 78-25      PPS Leakage Through CNMT Purge Valve

## 6. Calorimetric Procedure Review

The inspector reviewed PT-1.7, Power Range Calculation During Power Operation, to verify the accuracy of formulas, conversion factors and constants utilized for calculation of reactor thermal power. In addition, several completed copies of PT-1.7 were checked to assure mathematical accuracy of the completed calorimetric data sheets. The inspector verified that values for enthalpy, specific weight and flow constant were consistent with data contained in ASME steam tables and design documentation. No problems were identified.

## 7. Fire Protection System Modification

The licensee identified a potential conflict between the fire protection system design modification and Technical Specification 3.14.5, Fire Barrier Penetration Fire Seals. The licensee's concern was based upon the fact that the fire protection design modification requires new penetration be made in existing fire barriers, and Technical Specification 3.14.5 was not written to cover the fabrication of new penetrations. The licensee discussed the manner in which they intended to control new penetration in order to maintain fire barrier integrity during the design modification. The inspector reviewed the requirements and basis of Technical Specification 3.14.5 and further discussed the matter with Region II personnel.

Based upon the review and discussion identified above, the inspector stated that new fire barrier penetrations not actually being worked on, i.e., workman at the penetration, must either be sealed by a method prescribed in design modification procedures or the requirements of Technical Specification 3.14.5.2a or b. must be satisfied.

In addition to the above requirement, the inspector recommended the following additional actions be considered.

- a. Personnel involved in the design modification should be clearly made aware of Technical Specification requirements associated with unsealed fire barrier penetrations and the significance of potential hazards.
- b. Procedural controls should establish necessary checks to assure penetrations are not left unsealed during lunches, backshifts, weekends, etc.

The licensee stated that the stated requirements would be adhered to during the design modification and consideration would be given to recommended actions.

8. Additional Followup on IE Bulletin (IEB) 78-04

IE Bulletin 78-04 had been previously closed in Inspection Report No. 50-261/78-12. The bulletin as written expressed an NRC concern that certain types of non-environmentally qualified stem mounted limit switches used in valve control circuits could fail causing containment isolation valves to open during accident conditions. It has been determined that IEB 78-04 should have also expressed concern for non-environmentally qualified limit switch used for position indication. The concern for limit switches used for position indication is based upon NRC position that containment isolation valve position indication to the control room operator is essential during and following a LOCA.

The inspector discussed the current design and qualifications of stem mounted limit switches utilized for position indication with licensee representative. It was determined that all stem mounted limit switches presently used for position indication are of a similar type identified in IEB 78-04 and are therefore not environmentally qualified.

The inspector discussed this matter and the NRC concerns with the plant manager. In addition, Region II personnel discussed this matter with CP&L corporate representatives. Licensee corporate representatives stated that the matter would be reviewed and a supplement to IEB 78-04 would be submitted. The inspector stated that this item would remain open pending a review of the licensee's supplemental response (50-261/78-27-01).

9. Spare Containment Penetrations

The inspector discussed the status of spare containment penetrations with licensee representatives to ascertain if spare penetrations were

sealed as required. The inspector determined that only one spare piping penetration existed which is flanged on both ends and tested for leakage if flanges are removed for access during refueling. Spare electrical penetrations are maintained in a similar manner as the electrical penetration being used. Since the H. B. Robinson FSAR is silent on spare penetrations and the existing program appear adequate to insure integrity of spare penetration, the inspector had no further questions in regard to this matter.

#### 10. Protection Relay Failures

The inspector determined from a control room log entry that a relay in the reactor protection system had been replaced on December 28, 1978. The inspector discussed the relay changes with the engineer in charge of the maintenance to ascertain that maintenance was performed. No problems were identified with the maintenance controls and testing requirements associated with the relay replacement.

During the above review it was determined that the relay had been replaced due to the fact that two similar relays which were in a long-term testing program established by the licensee had been found stuck in the energized condition. Based upon the relay failures in the test program, the licensee decided to test selected normally energized relays in both trains of reactor protection. This further testing revealed one additional stuck relay.

At time of exit by the inspector, licensee representatives had partially evaluated the failures with the apparent cause due to breakdown of a glue material with temperature and time for normally energized relays.

The inspector discussed the relay failures with the plant manager and expressed the NRC interest in this matter as a generic concern. The plant manager indicated that when the failure assessment was completed the matter would be reviewed for reportability as required by Technical Specification, Section 6.9.2.a.(9).

#### 11. Facility Tours

The inspector toured portions of the facility including the auxiliary building, turbine area and control room to ascertain the general state of cleanliness and housekeeping. Control room operations, including performance of incore surveillance testing were observed and discussed with control room personnel to assure compliance with Technical Specifications. No problems were identified.