

CP&L

Carolina Power & Light Company

HARRIS NUCLEAR PROJECT

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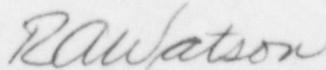
Gentlemen:

In reference to your letter of January 8, 1987, referring to RII: 50-400/86-88, the attached is Carolina Power & Light Company's reply to the violation identified in Enclosure 1.

It is considered that the corrective actions taken are satisfactory for resolution of the item.

Thank you for your consideration in this matter.

Very truly yours,



R. A. Watson
Vice President
Harris Nuclear Project

RAW:sig

Attachment

cc: Dr. J. N. Grace (NRC - RII)
Mr. B. C. Buckley (NRC)
Mr. G. Maxwell (NRC - SHNPP)

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Attachment to CP&L Letter of Response to NRC Report RII:
50-400/86-88

Reported Violation:

10 CFR 50, Appendix B, Criterion V as implemented by CP&L accepted QA program (FSAR Chapter 17.2) requires that activities affecting quality shall be prescribed by documented instructions, procedures or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings.

Contrary to the above, one example of inadequate preoperational testing of engineered safety features (ESF) components and two examples of a failure to conduct preoperational tests on ESF components to demonstrate they will perform in service as follows:

- Preoperational test procedures (5095-P-01, 02, 07, 08) failed to adequately test the SN and SM relay circuitry which is designed to trip open the Emergency Diesel Generator (EDG) 1A-SA and 1B-SA output electrical breaker upon a receipt of a safety injection signal, when the EDG is operating and connected to offsite power. Significant wiring errors went undetected in the SN relay circuitry until a surveillance test (OST-1823) of the EDG 1A-SA on October 25, 1986, showed that the output breaker would not trip open when required.
- Preoperational tests were not performed to verify the design function of the PX blocking relays when the 1A-SA or 1B-SB sequencer panel is placed in the "test mode." The PX blocking relay feature was not subjected to a simulated safety injection signal or actuation of the "test stop" button. These signals are designed to de-energize any sequencer program relays before the PX blocking relays are opened, thus preventing the starting of ESF equipment out of sequence or during normal plant operations.
- Preoperational test procedures were not performed to test the design function of the 27UV blocking relay for the 6.9 KV ESF buses. Preoperational test 5175-P-01 did not fully test the same blocking relay in the 480V buses.

This is a Severity Level IV violation (Supplement II).

Denial or Admission and Reason for the Violation:

The violation is correct as stated. The violation involves inadequate or lack of documented preoperational testing of two different blocking circuit functions and one test circuit function of the load sequencer panels. The violation occurred because the particular control logic functions were not included in preoperational tests 1-5095-P-07, 1-5095-P-08, 1-5165-P-01, and 1-5175-P-01, which tested the other control and blocking functions of the load sequencers.

Corrective Steps Taken and Results Achieved:

Formalized testing of the SM Relay functions, the UVX Relay functions, and the self-test circuitry of the load sequencers was completed by several engineering periodic tests and operations surveillance tests which are listed below. The test results were reviewed and approved by the Joint Test Group (JTG). The JTG also approved a Test Report Addendum which was filed with preoperational test packages 1-5095-P07, 1-5095-P-08, 1-5165-P-01, and 1-5175-P-01 documenting the testing and results achieved.

The functions identified in the violation were tested as follows:

1. Function - SM Relay trips the diesel breaker if the diesel is running in test on the grid and an SI signal is initiated.

Testing - Wiring errors were identified and corrected. Testing of this function was accomplished by OST-1823 for the A load sequencer and OST-1824 for the B load sequencer.

2. Function - UVX Relay disables the under-voltage circuits in the 6.9KV and 480V busses when the sequencer is operating.

Testing - Wiring errors were identified and corrected. Testing was accomplished by running EPT-033, Attachment 8.4 on both the A and B sequencers.

3. Function - The "self-test" circuit relay logic PX blocking relays prevent ESF components from being actuated during internal testing of sequencer programs A, B, and C.

Testing - A design change to the relay logic was implemented to eliminate "relay racing" in the test circuit. The sequencer test circuit was subsequently retested by EPT-033, EPT-033 - Attachment 8.3, EPT-029T, and EPT-030T. These tests verified the ability of the sequencer to be self tested without operating plant equipment and verified the ability to remove the sequencer from the self-test mode by: (A) the test stop push button, (B) the receipt of an under-voltage condition, and (C) the receipt of an SI signal.

The above corrective action was completed on December 31, 1986.

Corrective Steps Taken to Avoid Further Noncompliance:

A review of all sequencer functions was performed to ensure that all functions have been tested. At the time of the violation, the sequencer panel jurisdictional control had been transferred from the Start-Up group to the Plant Operating Organization. All current and future sequencer panel testing will be performed using Plant Operating Manual surveillance test procedures which are written, reviewed, and approved under Plant Operating Manual (POM) administrative controls. The Preoperational Test Program is being totally closed out and thus no additional steps are required to avoid further noncompliance.

Date When Full Compliance Was Achieved:

Full compliance was achieved on December 31, 1986.