



Carolina Power & Light Company

P. O. Box 101, New Hill, N. C. 27562  
March 3, 1983

NRC REGION II  
ATLANTA, GEORGIA

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Mr. James P. O'Reilly  
United States Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Northwest (Suite 3100)  
Atlanta, Georgia 30303

NRC-46

CAROLINA POWER & LIGHT COMPANY  
SHEARON HARRIS NUCLEAR POWER PLANT  
1986-90 - 900,000 KW - UNITS 1 & 2  
SOLID STATE PROTECTION SYSTEM, PURCHASE ORDER NY-435002,  
ITEM 100

Dear Mr. O'Reilly:

Attached is an interim report on the subject item which was deemed reportable per the provisions of 10CFR50.55(e) and 10CFR, Part 21, on October 12, 1982. The vendor (Westinghouse) has evaluated these deficiencies and is designing a modification to correct the reported condition. It is currently projected that corrective action and submission of the final report will be accomplished by January 12, 1984.

Thank you for your consideration in this matter.

Yours very truly,

R. M. Parsons  
Project General Manager  
Shearon Harris Nuclear Power Plant

RMP/sh

Attachment

cc: Mr. G. Maxwell (NRC-SHNPP)  
Mr. V. Stello (NRC)

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CAROLINA POWER & LIGHT COMPANY  
SHEARON HARRIS NUCLEAR POWER PLANT

UNIT NO. 1

Interim Report

Solid State Protection System

Item 100

March 1, 1983

Reportable Under 10CFR50.55(e) and 10CFR21

SUBJECT: Shearon Harris Nuclear Power Plant, Unit 1  
10CFR50.55(e) and 10CFR Part 21, reportable  
deficiency design in the Solid State Protection  
System (SSPS) purchased under Purchase Order  
NY-435002, Westinghouse Shop Order 300

ITEM: On-line test circuit for the SSPS

SUPPLIED BY: Westinghouse Electric Corp., Pittsburgh, Pennsylvania

NATURE OF  
DEFICIENCY: The subject Unit 1 equipment has been received at the  
Shearon Harris plant. Basic equipment design is not  
unique to the Harris Plant.

During a review of the schematic diagram of the SSPS,  
Westinghouse engineers discovered that an undetectable  
failure could occur in the on-line test circuits.

This consists of a normally closed contact(s) in a  
safeguards circuit(s) that is purposely opened during  
the test.

Reclosure of the contacts when testing is complete  
cannot be verified with present design.

DATE PROBLEM  
OCCURRED: Problem was verified by Westinghouse on August 3, 1982.

DATE PROBLEM  
REPORTED: September 9, 1982 - CP&L (N. J. Chiangi) notified the  
NRC Region II (A. Hardin) that this item was potentially  
reportable under 10CFR50.55(e) and 10CFR21.

October 12, 1982 - CP&L (L. Jones) notified the NRC  
Region II (A. Hardin) that this item was reportable  
under 10CFR50.55(e) and 10CFR21.

SCOPE OF  
PROBLEM:

The SSPS is redundant, Trains A and B. Either train will actuate the safeguards system.

Each train has sixteen (16) of the subject contacts. Failure of one (1) or more contacts to reclose in Train A would block operation of a part of the safeguards system if the like contact in Train B also failed to reclose. A total of thirty-two (32) contacts must be verified.

SAFETY  
IMPLICATION:

As stated in "Scope of Problem", failure of a single contact in Train A and Train B, which perform the same safeguards function, would make this safeguards function inoperable. Additional like failures would render further safeguards functions inoperable.

REASON  
DEFICIENCY IS  
REPORTABLE:

The safeguards system could be rendered inoperable.

CORRECTIVE  
ACTION:

Westinghouse is continuing to review its design prior to change recommendations.

For this interim period, Westinghouse has revised test procedures for operating plants to verify contact reclosure.

Since Harris Plant is still in the construction stage, CP&L will take corrective action as mutually decided and agreed upon by Westinghouse and CP&L.

Present design revision intent will negate revised test procedure. The original procedure will be valid.

FINAL REPORT:

A final report will be issued when the Westinghouse study has been completed and satisfactory corrective action has been taken.

The projected final report date is January 12, 1984.