

# CP&L

Carolina Power & Light Company

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P. O. Box 101, New Hill, NC 27562  
October 1, 1984

Mr. James P. O'Reilly  
United States Nuclear Regulatory Commission  
Region II  
101 Metta Street, Northwest (Suite 2900)  
Atlanta, Georgia 30323

NRC-276

CAROLINA POWER & LIGHT COMPANY  
SHEARON HARRIS NUCLEAR POWER PLANT  
1986 - 900,000 KW - UNIT 1  
POTENTIALLY SIGNIFICANT FAILURE OF THE  
REACTOR PROTECTION SYSTEM FOLLOWING A  
SECONDARY HIGH ENERGY LINE RUPTURE  
(STEAM GENERATOR REFERENCE LEG HEATUP) - ITEM 41

Dear Mr. O'Reilly:

Attached is our sixth interim report on the subject item which was deemed reportable per the provisions of 10CFR50.55(e) on July 7, 1980. CP&L is pursuing this matter, and it is currently projected that corrective action and submission of the final report will be accomplished by November 30, 1984.

Thank you for your consideration in this matter.

Yours very truly,



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

RMP/jam

Attachment

cc: Messrs. G. Maxwell/R. Prevatte (NRC-SHNPP)  
Mr. R. C. DeYoung (NRC)

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CAROLINA POWER & LIGHT COMPANY  
SHEARON HARRIS NUCLEAR POWER PLANT

UNIT 1

SIXTH INTERIM REPORT

POTENTIAL SIGNIFICANT FAILURE OF THE  
REACTOR PROTECTION SYSTEM FOLLOWING A SECONDARY  
HIGH ENERGY LINE RUPTURE  
(STEAM GENERATOR REFERENCE LEG HEATUP)  
ITEM 41

SEPTEMBER 28, 1984

REPORTABLE UNDER 10CFR50.55(e)

SUBJECT: 10CFR50.55(e) Reportable Item  
Shearon Harris Nuclear Power Plant Unit 1  
Potential Significant Failure of the Reactor  
Protection System Following a Secondary High Energy  
Line Break (Steam Generator Reference Leg Heatup)

ITEM: Steam Generator Level Measurement for SHNPP Unit #1

SUPPLIED BY: Westinghouse Water Reactor Division

NATURE OF DEFICIENCY: Westinghouse notified the NRC under 10CFR21 in June 1979 of a potentially significant failure of the reactor protection system following a secondary high energy line break. Such a break within containment could result in the heatup of the system generator level measurement reference leg. A heatup of the reference leg would result in severe density changes which would give erroneous indication of steam generator water level.

DATE PROBLEM WAS CONFIRMED TO EXIST: Westinghouse Letter CQL-5801 dated March 20, 1980, received March 28, 1980.

PROBLEM REPORTED: N. J. Chiangi notified the NRC (Mr. J. Bryant) that this item was reportable under 10CFR50.55(e) on July 7, 1980.

CP&L letter dated July 8, 1980, N. J. Chiangi to J. P. O'Reilly transmitting an interim report.

CP&L letter dated December 23, 1981, N. J. Chiangi to J. P. O'Reilly transmitting a second interim report.

CP&L letter dated June 1, 1983, R. M. Parsons to J. P. O'Reilly transmitting a third interim report.

CP&L letter dated March 30, 1984, R. M. Parsons to J. P. O'Reilly transmitting a fourth interim report.

CP&L letter dated July 30, 1984, R. M. Parsons to J. P. O'Reilly transmitting a fifth interim report.

SCOPE OF PROBLEM: Unit 1 steam generators (three per unit).

SAFETY IMPLICATIONS: An erroneous indication of the steam generator water level could result in delayed signals to the reactor protection system.

REASON PROBLEM

IS REPORTABLE: Delayed reactor protection signals could lead to a degraded safety condition.

CORRECTIVE

ACTION:

Westinghouse has now adopted insulation of the steam generator reference leg as a permanent solution to the heatup concern. Corrective action will be achieved by issuance of design changes that incorporate insulation of the steam generator reference legs.

FINAL REPORT:

A final report will be issued when the corrective action has been completed. This is now anticipated to be November 30, 1984.