CP&L
Carolina Power & Light Company
P.O. Box 101, New Hill, N.C. 27562
July 30, 1984

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

NRC-250

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 fifth 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 October 2, 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

FIFTH INTERIM REPORT

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

JULY 31, 1984

REPORTABLE UNDER 10CFR50.55(e)

SUBJECT: 10CFR50.55(e) Reportable Item
Shearon Harris Nuclear Power Plant
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 steam 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.

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. Since containment piping insulation is not yet scheduled, corrective action will be achieved by implementing design changes to 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 anticipated to be October 2, 1984.