

CP&L -CPL

Carolina Power & Light Company

05 MAY 13 1985
P. O. Box 101, New Hill, N C 27562
April 30, 1985

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Publicly Available

Dr. J. Nelson Grace
United States Nuclear Regulatory Commission
Region II
101 Marietta Street, Northwest (Suite 2900)
Atlanta, Georgia 30323

NRC-358

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 Dr. Grace:

Attached is our final report on the subject item which was deemed reportable per the provisions of 10CFR50.55(e) on July 7, 1980. With this report, Carolina Power & Light Company considers this matter closed.

If you have any questions regarding this matter, please do not hesitate to contact me.

Yours very truly,

R. M. Parsons

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

RMP/bs

Attachment

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

LEAB/WOODRUFF

NO 85 SEARCH
TO SEE IF
THIS IS
IN 85 FILE

* 85-087

* 85-103

XXE-SEI/1-OS5

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CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT

UNIT 1

FINAL REPORT

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

April 30, 1985

REPORTABLE UNDER 10CFR50.55 (e)

XEX-SEI/3-OS5

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 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

**DATE PROBLEM
REPORTED:**

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

**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 has been achieved by the issuance of a design change that incorporates insulation of the steam generator reference legs.

FINAL REPORT:

This item is considered resolved based on the issuance of the design change which resolves the design deficiency.