CP&L
Carolina Power & Light Company

P.O. Box 101, New Hill, NC 27562
November 8, 1984

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

NRC-289

CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT
1986 - 900,000 KW - UNIT 1
6.9KV SWITCHGEAR CIRCUIT BREAKERS - GENERIC
ITEM 168

Dear Mr. O'Reilly:

Attached is the final report on the subject item, which was deemed reportable per the provisions of 10CFR50.55(e) and 10CFR, Part 21 on April 20, 1984. 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
Project General Manager
Shearon Harris Nuclear Power Plant

RMP/das

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 NO. 1

FINAL REPORT

CIRCUIT BREAKER CONTROL WIRING CONFIGURATION

NCR-84-799

ITEM No. 168

NOVEMBER 9, 1984

REPORTABLE UNDER 10CFR50.55(e) AND 10CFR21

SUBJECT: Shearon Harris Nuclear Power Plant/Unit No. 1 10CFR50.55(e) and 10CFR Part 21 reportable deficiency. Wiring for the control circuitry for 6.9kV switchgear was such that the trip coil could remain energized following a trip of the breaker. This would have resulted in the inability to reclose the breaker.

ITEM: Wiring for 6.9kV switchgear breakers

SUPPLIED BY: Siemens-Allis, Inc., Sanford, North Carolina.

NATURE OF DEFICIENCY: During 1980, the switchgear division of Siemens-Allis, Inc., Sanford, North Carolina, shipped 6.9kV switchgear breakers to the CP&L site on Purchase Orders NY-435112 and NY-435113. As part of the start-up testing of these breakers, they are routinely cycled before a breaker is put in service. During this testing, it has been found that in some cases the trip coil would remain energized preventing the breaker from being reclosed. The only way to restore operability to the breaker is to disconnect the control voltage source and then reenergize.

Investigation of this problem has determined that the problem results from the control wiring of the trip coil. It was CP&L-Ebasco's intent to monitor the trip coil both in the breaker closed and breaker open position. This is not a Siemens-Allis standard wiring technique, so they were unaware that there is sufficient current through the green (open) indicator light circuit to hold the trip coil in an energized state once the breaker is tripped.

DATE PROBLEM OCCURRED: Refer to above section.

DATE PROBLEM REPORTED: On March 26, 1984, CP&L (N. J. Chiangi) notified the NRC (Mr. A. Hardin) that this item was potentially reportable under 10CFR50.55(e) and 10CFR, Part 21.

On April 20, 1984, CP&L (K. V. Hate') notified the NRC (Mr. A. Hardin) that this item was reportable under 10CFR50.55(e) and 10CFR, Part 21.

SCOPE OF PROBLEM:

This problem affects safety and nonsafety breakers as supplied by Siemens-Allis under Ebasco Purchase Orders NY-435112 and NY-435113. For the nonsafety breakers, this is not a safety concern, but it is an operational limitation. This will affect 25 safety breakers and 57 nonsafety breakers.

SAFETY IMPLICATION:

Safety-related loads during a loss of coolant accident and loss of off-site power will be tripped from the plant electrical system and reloaded onto the emergency diesels. As previously wired, some of the breakers could have failed to reclose following the transfer to the emergency diesel generators.

REASON DEFICIENCY IS REPORTABLE:

This is reportable as a design error since, as previously designed, the switchgear could prove to be inoperative during a plant emergency condition, such as loss of coolant accident or any other circumstance requiring the initiation of loads onto the plant emergency power system as supplied by the emergency diesel generators.

CORRECTIVE ACTION:

1. Rewiring of the green indicator lights to the negative side of the trip coil will eliminate the current flow through the indicator lights from holding the trip coil in an energized state following the tripping of a breaker.

2. Since as previously wired there was not sufficient length of wire to move the wire from the green indicator light to the negative terminal of the trip coil, Siemens-Allis has supplied a new wire to go from the 52b contact to the negative terminal of the trip coil. The previous wiring from the 52b contact to the high side of the trip coil has been removed and discarded. The removal of the old wire and installation of the new wire has been completed. The equipment has been cycled to verify proper operation. Rewiring and testing of the referenced breakers completes the corrective action required for this deficiency.