



Carolina Power & Light Company

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P. O. Box 101, New Hill, N. C. 27562  
May 17, 1984

Mr. James P. O'Reilly  
United States Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Northwest (Suite 2900)  
Atlanta, Georgia 30303

NRC-217

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

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 April 20, 1984. CP&L is pursuing this matter, and it is currently projected that corrective action and submission of the final report will be accomplished by July 31, 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: 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

INTERIM REPORT

6.9KV SWITCHGEAR CIRCUIT BREAKERS  
(CIRCUIT BREAKER CONTROL WIRING CONFIGURATION)

ITEM 168

MAY 16, 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 is such that the trip coil may remain energized following a trip of the breaker. This would result 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 will 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 the 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 all 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 presently wired, some of the breakers could fail to reclose following the transfer to the emergency diesel generators.

REASON  
DEFICIENCY IS  
REPORTABLE:

This is reportable as a design error since, as presently designed, the switchgear could prove to be inoperative during a plant emergency condition, such as a 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 presently wired there is not sufficient length of wire to move the wire from the green indicator light to the negative terminal of the trip coil, Siemens-Allis will supply a new wire to go from the 52b contact to the negative terminal of the trip coil. The existing wiring from the 52b contact to the high side of the trip coil will be removed and discarded. This work will be performed by CP&L Operations personnel. The equipment will be cycled to verify proper operation prior to the breaker being placed back into service. Rewiring and testing of all Siemens-Allis supplied breakers will complete the corrective action required for this deficiency.

FINAL REPORT: Based on projected delivery and installation of the required wiring to all breakers, the final report is projected to be issued by July 31, 1984.