CP&L
Carolina Power & Light Company

P.O. BOX 101, New Hill, NC 27562

March 29, 1985

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

NRC-341

CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT
1986 - 900,000 KW - UNIT 1
AIR FLOW SWITCHES
INCORRECT MATERIAL, ITEM 198

Dear Dr. Grace:

Attached is our final report on the subject item which was deemed reportable per the provisions of 10CFR50.55(e) and 10CFR, Part 21, on January 17, 1985. With this report, Carolina Power and 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
Completion Assurance
Shearon Harris Nuclear Power Plant

RMP/sae

Attachment

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

XEX-rt-6/1-055

1/1 IE21

CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT

UNIT 1

FINAL REPORT

AIR FLOW SWITCHES FOR ELECTRIC HEATING COILS

ITEM NO. 198
(NCR-84-2332)

March 25, 1985

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

IBMD-WKJD04-0S4

SUBJECT: Shearon Harris Nuclear Power Plant, Unit 1
10CFR50.55(e) and 10CFR21, reportable deficiency.
Air flow switches for electric heating coils
purchased from Brasch Manufacturing Company under
Purchase Order NY-435152.

ITEM: Air flow switches installed in HVAC electric heating coils. Total of twenty-one switches, one each in twenty-one heating coils (thirteen - not safety-related; eight - safety-related, only four of which have been determined reportable; designated by *). See attached list.

SUPPLIED BY: Brasch Manufacturing Company, Inc., Maryland Heights, Missouri. Air Flow Switches manufactured by Dwyer Instruments, Inc., Michigan City, Indiana, as subvendor to Brasch Manufacturing.

NATURE OF DEFICIENCY: In October, 1984, Brasch Manufacturing advised CP&L that previously shipped electric heating coils contained air flow switches with acrylic scale enclosures which limits the airflow switch maximum temperature for reliable operation to 130°F, whereas the same switch with glass scale enclosure has a 180°F rating. The switch was specified by Brasch to have glass enclosures, however, they were inadvertently ordered and shipped with acrylic enclosures. Acrylic scale enclosures, when exposed to excessive temperatures as may be experienced in a post accident environment or during testing, could warp resulting in a leak path. This would cause the airflow switch to sense ambient pressure on both sides of the diaphragm when installed in negative pressure portions of systems, which in turn would erroneously indicate loss of air flow through the electric heating coil/air cleaning unit. Such erroneous indication would de-energize the electric heating coil.

DATE PROBLEM CONFIRMED TO EXIST: Based on a letter from the vendor, dated October 22, 1984, NCR-84-2332 was issued December 5, 1984. On December 19, 1984 the item was determined to be potentially reportable.

DATE PROBLEM REPORTED: On December 20, 1984, Mr. F. E. Strehle notified the NRC (Mr. A. Hardin) that the subject item was potentially reportable. On January 17, 1985, Mr. N. J. Chiangi notified the NRC (Mr. A. Hardin) that the December 20, 1984 potentially reportable item had been evaluated and found to be reportable per the provisions of 10CFR50.55(e) and 10CFR Part 21.

SCOPE OF PROBLEM: The deficiency involves the twenty-one identified heating coils for Unit 1 shipped on Purchase Order NY-435152. These heating coils have the subject airflow switches installed. (See attached list.)

SAFETY IMPLICATION: The four electric heating coils denoted by * are provided to limit effluent humidity through the RAB and FHB emergency exhaust systems to less than 70% RH. Upon failure of the subject heating coils, the effluent could reach 100% RH thereby saturating the charcoal adsorbers. Excessive relative humidity severly reduces the charcoal adsorber efficiency. During applicable post accident scenarios, the air cleaning units associated with the four subject coils would discharge to the plant vent stack and could release uncontrolled effluents.

REASON DEFICIENCY IS REPORTABLE: If left uncorrected, failure of the air flow switch scale enclosure could result in off-site exposures of radioactive effluent in excess of 10CFR100 limits.

CORRECTIVE ACTION: Brasch Manufacturing indicated in their letter dated October 22, 1984 that they would provide and install replacement glass scale enslosures as originally specified for SHNPP Unit One affected components. On February 21 & 22, 1985, scale enclosures per attached list were changed from Acrylic to glass by Brasch Manfacturing in accordance with their proposed resolution and therefore no further action is required.

WKJD04

EHC Tag No.	Safety Classification	Casing Diff. Press. W.R.T. Ambient
*EHC-17 (1-4X-SA)	SC3/Seis. Cat. 1	Negative
*EHC-18 (1-4X-SB)	SC3/Seis. Cat. 1	Negative
EHC-24 (1X-SA)	SC3/Seis. Cat. 1	Positive
EHC-26 (1X-SB)	SC3/Seis. Cat. 1	Positive
*EHC-30 (1A-SA)	SC3/Seis. Cat. 1	Negative
*EHC-30 (1B-SB)	SC3/Seis. Cat. 1	Negative
EHC-72 (1A-SA)	SC3/Seis. Cat. 1	Positive
EHC-72 (1B-SB)	SC3/Seis. Cat. 1	Positive
EHC-10 (1X-SN)	NNS/Seis. Supported	Not Relevant
EHC-12 (1X-SN)	NNS/Seis. Supported	Not Relevant
EHC-20 (1X-NNS)	NNS	Not Relevant
EHC-21 (1X-SN)	NNS/Seis. Supported	Not Relevant
EHC-23 (1X-SN)	NNS/Seis. Supported	Not Relevant
EHC-25 (1X-SN)	NNS/Seis. Supported	Not Relevant
EHC-101 (1X-SN)	NNS/Seis. Supported	Not Relevant
EHC-111 (1X-SN)	NNS/Seis. Supported	Not Relevant
EHC-112 (1X-SN)	NNS/Seis. Supported	Not Relevant
EHC-119 (1A-SN)	NNS/Seis. Supported	Not Relevant
EHC-119 (1B-SN)	NNS/Seis. Supported	Not Relevant
EHC-120 (1A-SN)	NNS/Seis. Supported	Not Relevant
EHC-120 (1B-SN)	NNS/Seis. Supported	Not Relevant