



Carolina Power & Light Company

P. O. Box 101, New Hill, N. C. 27562
November 30, 1984

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

NRC-291

CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT
1986 - 900,000 KW - UNIT 1
**SHOP WELDING DEFICIENCIES IN SEISMIC I PIPE HANGERS
SUPPLIED BY BERGEN-PATERSON, ITEM 95
UNDERSIZE SKEWED TEE FILLET WELDS ON SEISMIC I
PIPE HANGERS, ITEM 72**

Dear Mr. O'Reilly:

Attached is our final report on the subject items which were deemed reportable per the provisions of 10CFR50.55(e) and 10CFR, Part 21, on August 13, 1982 (Item 95) and November 5, 1982 (Item 72). 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/dd

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

SHOP WELDING DEFICIENCIES IN SEISMIC I
PIPE HANGERS SUPPLIED BY BERGEN-PATERSON
ITEM 95

UNDERSIZE SKEWED TEE FILLET WELDS ON
SEISMIC I PIPE HANGERS
ITEM 72

NOVEMBER 30, 1984

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

SUBJECT:

Deficient shop welds on pipe hangers previously accepted by Bergen-Paterson (B-P) and Ebasco welding inspectors.

ITEM:

Seismic Pipe Hangers

SUPPLIED BY:

Bergen-Paterson Pipe Support Corporation, Laconia, New Hampshire

NATURE OF DEFICIENCY:

1. Missing and undersized welds
2. Cosmetic weld defects
3. Undersized skewed tee welds
4. Deficient welds accepted by B-P inspectors and Ebasco Vendor Quality Assurance (VQA) inspectors

**DATE PROBLEM
OCCURRED:**

Prior to October 1, 1982

**DATE PROBLEM
REPORTED:**

On August 13, 1982 CP&L (Mr. N. J. Chiangi) notified the NRC (Mr. A. Hardin) that this item (Item 95) was reportable under 10CFR50.55(e) and 10CFR, Part 21. In our November 5, 1982 letter, CP&L (Mr. R. M. Parsons) notified the NRC (Mr. J. P. O'Reilly) that this item (Item 72) was reportable under 10CFR50.55(e) and 10CFR, Part 21.

SCOPE OF PROBLEM:

Seismic Category I pipe hangers which were inspected at the source of fabrication prior to October 1, 1982.

SAFETY IMPLICATIONS:

Deficient welds could cause a safety-related pipe hanger to fail under seismic conditions. As a result, if not corrected, they could adversely affect the safe operation of this facility. However, no hangers evaluated to date with the above type deficiencies have been found to adversely affect the safe operation of this facility.

**REASON THE DEFICIENCY
IS REPORTABLE:**

The conditions reported in Item 95 and Item 72 represent breakdowns in B-P and Ebasco QA programs which allowed supports to be shipped with welds which were not in accordance with design criteria. This incident was identified as reportable under 10CFR50.55(e) and 10CFR, part 21, due to the extensive evaluation required and the breakdown in the QA programs.

CORRECTIVE ACTION:

1. Hangers with shop weld deficiencies were identified during the following processes:
 - A. Receipt Inspection.
 - B. Inspection in the warehouse prior to hanger issuance to the field.

CORRECTIVE ACTION (cont'd):

- C. Inspection in the field of installed hangers which had not been previously inspected by CP&L for shop weld deficiencies (does not include those hangers that were in Reinspection -See D).
 - D. Reinspection of pipe hangers that were installed or partially installed and inspected prior to June 26, 1982. This includes the hangers which were previously reinspected as part of the Corrective Action to NRC Report 50-400/82-03. The June 26, 1982 date was selected because the QC weld inspection program was expanded to include shop welds. The hangers which had been installed and inspected prior to June 26, 1982 and which were removed, voided, or declassified to non-seismic by a subsequent drawing revision were not reinspected.
2. Approximately 500 hangers with defective shop welds were identified by processes A and B (see above).

Approximately 1900 hangers were reinspected by Processes C and D. Approximately 40% were identified with shop weld deficiencies.

Deficiencies were resolved as follows:

Welds were cut out.

Design drawing revisions were issued as a result of Engineering evaluation.

Welds were reworked and upgraded to meet the site weld acceptance criteria.

3. Those hangers remaining in the warehouse are controlled as follows:

Hangers requisitioned for field installation are inspected for compliance to the site weld acceptance criteria. Weld acceptance and deficiencies are documented on a Seismic Weld Data Report (SWDR), deficiencies reworked or repaired, and final weld acceptance documented on the SWDR.

**PREVENTIVE MEASURES
TAKEN TO AVOID FURTHER
NONCOMPLIANCE:**

1. Site weld acceptance criteria were developed and issued to provide weld inspection acceptance criteria for both field and shop welds based on the AWS D1.1 code and B-P design criteria. (Welds are inspected to CAR-2165-A-003, formerly FCR-H-979).
2. Ebasco VQA began performing in-process inspections and 100% inspection of hanger welds on October 1, 1982. This was performed throughout the remainder of the B-P purchase order.
3. Ebasco VQA management regularly visited the B-P Laconia facility to confer with the Ebasco VQA representative and to witness the VQA inspector's activities.
4. B-P welders and Ebasco VQA inspectors have received additional training in weld acceptance criteria.
5. 100% shop weld inspections will continue until the remaining shop welds are inspected by our quality control organization.

FINAL REPORT:

The corrective actions stated above have now been completed or implemented.