CP&L

Carolina Power & Light Company

P. O. Box 101, New Hill, N. C. 27562

July 1, 1983

50-400
50-401

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

NRC-94

CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT
1986-90 - 900,000 KW - UNITS 1 & 2
SEISMIC PIPE HANGERS PREVIOUSLY ACCEPTED BY QC WELDING INSPECTOR - ITEM 96
UNDERSIZE SKEWED TEE FILLET WELDS ON SEISMIC I PIPE HANGERS - ITEM 72

Dear Mr. O'Reilly:

Attached is an interim report on the subject items which were deemed reportable per the provisions of 10CFR50.55(e), on August 13, 1982 (Item 96) and November 5, 1982 (Item 72). CP&L is pursuing this matter, and it is currently projected that corrective action and submission of the final report will be accomplished by October 3, 1983.

Thank you for your consideration in this matter.

Yours very truly,

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

RMP/dh

Attachment

cc: Messrs. G. Maxwell/R. Prevatte (NRC-SHNPP)
Mr. V. Stello (NRC)

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CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT

UNIT NO. 1

INTERIM REPORT

PIPE HANGERS PREVIOUSLY ACCEPTED BY QC WELDING INSPECTORS
ITEM 96

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

JULY 1, 1983

REPORTABLE UNDER 10CFR50.55(e)

SUBJECT: Deficient field welds on pipe hangers previously accepted by QC welding imspectors.

ITEMS: Seismic Pipe Hangers

SUPPLIED BY: N/A - Hangers furnished by Bergen-Paterson, but problem deals with field welds.

NATURE OF DEFICIENCY:

1. Missing and undersized welds
2. Cosmetic weld defects
3. Inaccurate and incomplete QC documentation
4. QC inspections performed by personnel whose work was suspect
5. Undersized skewed-tee field welds
6. Poor workmanship

DATE PROBLEM OCCURRED: Prior to July 29, 1982

DATE PROBLEM REPORTED: August 13, 1982 - CP&L (N. J. Chiangi) notified the NRC (A. Hardin) that this item (Item 96) was reportable under the provisions of 10CFR50.55(e). In our November 5, 1982 letter, CP&L (R. M. Parsons) notified the NRC (J. P. O'Reilly) that this item (Item 72) was reportable under 10CFR50.55(e).

SCOPE OF PROBLEM: Seismic Category I pipe hangers that were installed or partially installed and inspected prior to June 26, 1982 were identified and reinspected. This reinspection effort included measurement of skewed-tee fillet welds for undersize (refer to Item 72). Those 349 hangers previously reinspected as part of the corrective action to NRC Report 50-400/82-03 were not included in this reinspection. The June 26, 1982 date was selected because the QC weld inspection program was expanded to include shop welds on installed hangers (refer to Item 95). Inspector training was conducted prior to June 26, 1982 to ensure satisfactory inspector performance. Inaccessible welds encountered during this reinspection are being evaluated by Engineering.

SAFETY IMPLICATION:

Deficient welds could cause a safety-related pipe hanger to fail under seismic conditions. As a result, if not corrected could adversely affect the safe operation of this facility.

REASON THE DEFICIENCY IS REPORTABLE:

The conditions reported in Item 96, and Item 72 represent a breakdown in the QA Program as well as deficiencies in construction.

CORRECTIVE ACTION:

3,458 hangers were reinspected and some were not reworked at the time of reinspection due to those hangers being in an engineering hold status for various reasons including redesign, reanalysis, pending later drawing revision, voided drawing, etc.. These hangers will be reworked when engineering holds are released.

PREVENTIVE MEASURES TAKEN TO AVOID FURTHER NONCOMPLIANCE:

1. A pipe hanger inspection documentation instruction (QCI) 19.3 was developed and issued.

2. Additional training classes were held with required attendance for both craft and QC weld inspection personnel involved in pipe hanger inspection. Training classes covered items such as measurement of skewed-tee welds, visual acceptance criteria, proper documentation, applicable work procedures, etc.

3. New QC weld inspector candidates are interviewed by the QA/QC Specialist in addition to passing a written examination to ensure they are aware of project requirements pertinent to their assignments.

4. Each inspector's documentation of weld inspections is reviewed after each phase of inspection to ensure completeness and correctness.

5. Supervisory audits are routinely performed in accordance with Quality Assurance Instruction (QAI) 1.3 on each QC inspector's field work to ensure his satisfactory performance and to ensure that the work complies with the design documents.

6. A system was developed to aid in the resolution of technical inquiries that inspector supervision is unable to resolve. Technical inquiries are stated on a Request for Information (RFI) form and forwarded to the QA engineering unit which was established on-site to provide engineering support for inspection activities.

7. Weld Reject Trend Reports are utilized by QC supervisors in conjunction with Welding Engineering to focus attention to problem areas in field weld quality.

8. Field Change Request (FCR) H-979 was developed and issued to provide weld inspection acceptance criteria for both field and shop welds based on AWS D1.1 code and Bergen-Paterson design criteria. Procedure NDEP-605 was issued to address the specific conditions governing pipe hanger weld inspections.

FINAL REPORT: The above corrective action and preventive measures are considered adequate to close this item. However, to ensure all hangers installed prior to the start of the reinspection were identified, the pipe hanger work package transmittals are being checked against the hanger reinspection log to ensure all appropriate hangers were considered for reinspection. The accept/reject status of hangers in the reinspection log is being double checked.

Finally, to ensure that no hangers subject to the reinspection were overlooked, measures will be established to ensure a further check is done when the hanger work packages are reviewed during subsequent installation and inspection phases. Any hanger inadvertently missed during the initial reinspection effort will be reinspected and appropriately dispositioned.

A final report will be issued once the measures described above have been completed. It is currently projected that the submittal date will be October 3, 1983.