

CP&L

Carolina Power & Light Company

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P. O. Box 101, New Hill, N. C. 27562
June 1, 1984

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

NRC-229

CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT
1986 - 900,000 KW - UNIT 1
DEFICIENCIES IN BOLTED STRUCTURAL CONNECTIONS, ITEM 112

Dear Mr. O'Reilly:

Attached is our third interim report on the subject item which was deemed reportable per the provisions of 10CFR50.55(e) on April 26, 1983. CP&L is pursuing this matter, and it is currently projected that corrective action and submission of the final report will be accomplished by January 1, 1985.

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

THIRD INTERIM REPORT

**DEFICIENCIES IN BOLTED STRUCTURAL CONNECTIONS
ITEM 112**

June 1, 1984

REPORTABLE UNDER 10CFR50.55(e)

SUBJECT: Shearon Harris Nuclear Power Plant/Unit No. 1 10CFR50.55(e), reportable deficiency. Deficiencies in Bolted Structural Steel Connections.

ITEM: Bolted structural steel connections in the Unit No. 1 Turbine Building with flame cut bolt holes and undersized bolts.

SUPPLIED BY: Not a supplier-related deficiency. All structural connections were field assembled.

NATURE OF DEFICIENCY: The Turbine Building is seismically designed per Regulatory Guide 1.29. These flame cut bolt holes were oversized, irregular in shape and exceeded minimum edge distances. The bolts in some of these holes were smaller in diameter than specified. The connections were previously inspected and accepted.

DATE PROBLEM OCCURRED: December 13, 1982.

DATE PROBLEM REPORTED: On December 29, 1982, Mr. N. J. Chiangi notified the NRC (Mr. A. Hardin) that this item was potentially reportable. On April 26, 1983, Mr. Chiangi notified Mr. Hardin the item was reportable per the provisions of 10CFR50.55(e).

SCOPE OF PROBLEM: A reinspection of the Turbine Building, including all those connections where there exists a probability bolt holes would have been burned (e.g., to ease fit-up), or where, per engineering evaluation, they would be safety significant, has been completed. Approximately 878 connections were reinspected, with a total of 25 connections with burned holes and 1 with undersized bolts.

SAFETY IMPLICATION: The reduced edge distance caused by the oversized hole could result in a shear failure on the clip or plate. The undersized bolt would have a smaller allowable load, thus contributing less to the clamping force between the mating surfaces than that for which it was designed.

Either of these conditions could reduce the allowable load of the connection below the actual load imposed, resulting in a failure of the connection.

REASON DEFICIENCY IS REPORTABLE: Reportable due to the extensive evaluation and/or rework required.

CORRECTIVE ACTION:

Inspection and craft personnel have received additional training in inspection and erection of structural steel, both in formal classes and on-the-job training. Permanent Waivers (PW's) were written, requiring engineering evaluation, for the deficient connection. Each connection has been accepted "as-is" if not significantly deficient, or has been or will be repaired to make it acceptable, based on the engineering evaluation. To date, all connections with torch cut holes have been evaluated, and all with torch cuts alone have been repaired or accepted as-is, and the undersized bolts have been replaced. Some of the connections with torch cut bolt holes also had gaps between mating surfaces for which rework is required before reinspection and final acceptance.

FINAL REPORT:

A final report will be issued when the rework is complete. We now expect to issue a final report by January 1, 1985.