

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-228

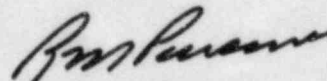
CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT
1986 - 900,000 KW - UNIT 1
**GREASE IN FRICTION TYPE STRUCTURAL CONNECTIONS,
ITEM 102**

Dear Mr. O'Reilly:

Attached is our third interim report on the subject item which was deemed reportable per the provisions of 10 CFR 50.55(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

**GREASE IN FRICTION TYPE STRUCTURAL CONNECTIONS
ITEM 102**

June 1, 1984

REPORTABLE UNDER 10CFR50.55(e)

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

ITEM: Bolted structural steel connections in the Unit No. 1 Turbine and Containment Buildings have evidence of grease between mating surfaces.

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, and the Containment Building is a Seismic Class I structure. All structural connections were designed as friction type connections, requiring grease-free mating surfaces. These connections were previously inspected and accepted.

DATE PROBLEM OCCURRED: August 30, 1982.

DATE PROBLEM REPORTED: On September 15, 1982, Mr. N. J. Chiangi notified the NRC (Mr. C. Hehl) that this item was potentially reportable.

On April 26, 1983, Mr. Chiangi notified the NRC (Mr. A. Hardin) that the item was reportable per the provisions of 10CFR50.55(e).

SCOPE OF PROBLEM: A reinspection of the entire Turbine and Containment Buildings, including all connections where engineering evaluation indicated grease in the connection could have safety significance, has been completed. Approximately 878 connections were reinspected in the Turbine Building and 500 in the Containment, with evidence of grease being found in approximately 366 and 67, respectively. An additional 59 connections in the Turbine Building have been identified as having evidence of grease since the reinspection addressed by this reportable item was completed. The connections were found to lack documentation, indicating no previous inspection.

SAFETY IMPLICATION: These structural connections were designed as friction type connections, with the ability of the connection to resist a shear failure dependent on the friction coefficient of the mating surfaces. The grease on these surfaces, by reducing the slip resistance, could allow the shear load to be transferred to the bolts, for which they were not designed.

**REASON DEFICIENCY
IS REPORTABLE:**

Reportable due to the magnitude of the problem plus the extensive evaluation and/or rework required.

CORRECTIVE ACTION:

Appropriate site work and technical procedures have been revised to specifically require mating surface inspection during fit-up, and to specifically forbid the use of lubricants to fit up bolts. Inspection and craft personnel have received additional training in inspection and erection of structural steel in formal classes and on-the-job training.

Permanent Waivers (PW's) were written, requiring engineering evaluation, for each deficient connection. Each connection has been accepted "as-is" if not significantly deficient, or will be repaired to make it acceptable, based on this engineering evaluation. To date, 100% of the connections with evidence of grease in the Turbine Building and the Containment Building have been evaluated. Of these totals, none with grease alone have required rework but have been found to be acceptable "as-is". However, several connections with grease also had gaps between mating surfaces which will require corrective action, which is in progress.

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.