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CP&L

Carolina Power & Light Company

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SHEARON HARRIS NUCLEAR PROJECT
P. O. Box 101
New Hill, North Carolina 27562

MAY 29 1986

File Number: SHF/10-13510E
Letter Number: HO-860301 (O)

Dr. J. Nelson Grace NRC-450
United States Nuclear Regulatory Commission
Region II
101 Marietta Street, Northwest (Suite 2900)
Atlanta, Georgia 30323

Dear Dr. Grace:

In reference to your letter of April 30, 1986, referring to RII: WCL 50-400/86-21-01 the attached is Carolina Power & Light Company's reply to the deviation identified in Enclosure 1.

It is considered that the corrective actions taken are satisfactory for resolution of the item.

Thank you for your consideration in this matter.

Yours very truly,

R A Watson

R. A. Watson
Vice President
Harris Nuclear Project

RAW:bwh

Attachment

cc: Messrs. G. Maxwell (NRC-SHNPP)
B. C. Buckley (NRC)

IE01

Attachment to CP&L Letter of Response to NRC Report RII:
WCL 50-400/86-21-01

Reported Violation:

Appendix B of 10 CFR 50, Criteria V, as implemented by Harris PSAR Section 17.1.5, requires that activities affecting quality shall be accomplished in accordance with documented instructions, procedures and drawings.

Paragraph III.B of Harris Design Guidelines 7.2.c, requires that design verification and documentation shall be performed in accordance with the requirements of ANSI N45.2.11-1974. It also requires that HPES Final Review/Checker shall review design calculations for completeness, consistency with previous field changes/modifications, and consistency with the latest drawing revision. The design calculation package shall include the signature of the checker.

Contrary to the above, activities affecting quality had not been accomplished in accordance with documented procedures in that a review of the final design calculations for support 1-SI-H-1284, Rev. OS4, in the safety injection system revealed the following discrepancies:

1. Information on field modification MOD OS3-M-6 was not incorporated into the latest drawing revision for which a field weld still showed at the wrong location between member item 9 and item 19.

2. Weld evaluation was not addressed in the design calculations for structural plates item 19 and item 6 which were utilized to withstand an external load of 2730 pounds.

3. STRUDL analysis computer run was performed on November 4, 1985 for the support design. This computer analysis had not been signed by a qualified checker as required by the procedure. As a result, the accuracy of the computer analysis can not be assured.

4. Input of the computer analysis for members 12 and 13 had not been made to reflect the actual size of the structural plates which together were utilized to withstand an external force of 5461 pounds. Accordingly, the output of the computer analysis for member forces, member stresses, and joint displacement could not represent the actual structural behavior of these two structural members.

This is a Severity Level V violation (Supplement II.)

Denial or Admission and Reason for the Violation:

The violation is correct as stated. The discrepancies occurred as a result of errors made by the qualified checker. The drafting mistake should have been detected by the checker. The evaluation of the welds was an error of omission, since the checker considered the welds to be acceptable by comparison to welds already evaluated in the calculation. The checker should have stated this evaluation in the calculation.

Despite the noted deficiencies, the erected support was not deficient in safety and quality since no hardware changes were required.

Corrective Steps Taken and Results Achieved:

1. The drafting error was corrected to incorporate field modification OS3-M-6. Drawing No. SI-H-1284 now reflects the as-built condition of the support.

2. The calculation was revised to address the subject welds. Stress levels in question were less than 15% of the weld allowable.

3. The checker has confirmed his verification of the STRUDL analysis computer run and has signed the computer analysis.

4. Although the members (structural plates) were modeled as rigid members, the deflection and stresses in the plates were evaluated in the package by hand calculation. This choice of modeling would not affect the results in the remainder of the structure, and the use of hand calculation for a detailed evaluation and an alternative verification is considered to be acceptable.

   To provide evidence of our compliance with the established procedures, a random sample of twenty support calculation packages containing computer structural analysis were independently reviewed in detail to confirm the computer modeling competence of engineers and the effectiveness of the final design verification program. In each case the computer analysis was signed by the qualified checker. Discrepancies in the computer analyses noted by the independent review were already noted by the qualified checker of the calculation and were evaluated or reanalyzed as deemed necessary by the qualified checker. From the results of the sample review, it is concluded that the deficiencies noted on Support SI-H-1284 do not indicate a generic problem with the support as-built program.

Corrective Steps Taken to Avoid Further Noncompliance:

This violation resulted from individual error on the part of the qualified checker. The individual responsible for the verification of this calculation has been retrained as to his responsibilities for the verification of any calculation according to the engineering procedures.

Date When Compliance Was Achieved:

Full compliance was achieved on May 14, 1986.