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O'REILLY,J.P. REGION 2, ATLANTA, OFFICE OF THE DIRECTOR

SUBJECT: PRELIMINARY RESPONSE TO IE BULLETIN 79-02,"PIPE SUPPORT BASE PLATE DESIGNS USING CONCRETE EXPANSION ANCHOR BOLTS." REVIEW OF RECORDS REVEALED QC DOCUMENTATION NOT AVAILABLE TO SUFFICIENTLY SUPPORT PROPER BOLT INSTALLATION.

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Carolina Power & Light Company
May 22, 1979

FILE: NG-3513 (R) SERIAL: GD-79-1340

Mr. James P. O'Reilly, Director
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

H. B. ROBINSON STEAM ELECTRIC PLANT
UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
PRELIMINARY RESPONSE - IE BULLETIN 79-02

Dear Mr. O'Reilly:

Analyses and inspections required by the subject bulletin are currently in progress for H. B. Robinson Unit No. 2. Although response to the Bulletin is not due until July 6, 1979, in view of the upcoming start-up following refueling for the Robinson Plant (anticipated May 26, 1979,) it was believed prudent to provide this preliminary report detailing progress thus far in the program.

A review of records revealed that QC documentation is not available to sufficiently support the proper installation of the existing expansion anchor bolts at H. B. Robinson Unit No. 2.

Additionally, a review of seismic analyses revealed that the base plates for the piping systems at H. B. Robinson are "flexible" by definition and that the plates were considered as rigid at the time of original design. Therefore, a program was initiated to investigate current design requirements relative to the concerns in the Bulletin, along with an inspection effort to verify installation. Following is a description of this program, including progress thus far.

The site program was initiated as a joint effort by Carolina Power & Light Company and Ebasco Services, Inc., on April 24, 1979, to acquire data necessary to answer the required action items listed in the Bulletin.

The Seismic Category I piping systems that have and are being investigated are defined in the H. B. Robinson FSAR.

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For the investigation program, the increase in bolt load due to base plate flexibility is determined by analysis. The increased bolt loads are then used to determine the appropriate factor of safety for each support system. The determination of the actual factor of safety of the expansion anchors includes the summation of all loads. In addition, this program assures that the anchor installation satisfies the cyclic load requirements for anchors at H. B. Robinson.

The testing and inspection program was developed to verify that the expansion anchor bolts installed have the minimum factor of safety as specified in the Bulletin. The testing program randomly selects and tests one anchor bolt in each base plate. If a rejection is determined in this initial test, then all other bolts within that base plate are similarly tested. When the expansion anchor bolts have been determined analytically or by test to have a factor of safety less than required, a modification to the anchor system is initiated. An analysis is made to determine the extent of the modification required to bring the support into compliance with the requirements stated in the Bulletin. The modifications, where necessary, are performed using wedge type anchor bolts and appropriate documentation is retained to verify their proper installation.

To date, the inspection and testing program has progressed to the point where all piping systems required for plant start-up and operation as defined by the Plant Technical Specifications have been inspected and the appropriate modifications have been initiated. The modifications are active and are expected to be completed shortly. In any event, the modifications on these systems will be completed prior to criticality following refueling.

Over five hundred and fifty base plates have been inspected. Approximately 15% of the anchors tested thus far require some corrective measures; 37% of these require only minor repair, such as the use of a larger bolt to increase thread engagement. There are base plates remaining to be tested; however, they are installed in those systems not required to satisfy License Conditions. These, therefore, can be tested and repaired, if necessary, during operation. It is expected that the testing, inspection and modification stage for these latter base plates will be completed before mid-June.

A final report detailing the results of the entire program will be submitted consistent with the requirements of the Bulletin.

Yours very truly,

E. E. Utley
Executive Vice President
Power Supply

JMC:CSB:jmb*