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Alabama Power
the southern electric system

October 7, 1980

Joseph M. Farley Nuclear Plant
NRC Inspection of June 17-20, 1980
File: A-35.10.03
Log: 80-978

Mr. James P. O'Reilly
U. S. Nuclear Regulatory Commission
101 Marietta Street N. W. - Suite 3100
Atlanta, Georgia 30303

Re: RII:WPA 50-348/80-16 - Unit 1
50-364/80-19 - Unit 2

Dear Mr. O'Reilly:

This is an amended response to the inspection report transmitted by your letter dated July 23, 1980. Our original response was dated August 12, 1980.

The noncompliances in the inspection report are Infractions 348/80-16-02 and 364/80-19-01 and Deficiencies 348/80-16-01 and 364/80-19-02.

The following actions have been taken in response to the inspection report.

348/80-16-02 (Torque Multipliers - Infraction)

- 1) Corrective steps which have been taken and the results achieved.

Alabama Power and our A/E, Bechtel Power Corporation, have been in contact with vendors to determine required installation torques for concrete expansion anchor bolts in Farley Unit 1 on which it is suspected a torque multiplier would have been used (i.e., bolts of 3/4 inch diameter or larger). Alabama Power has also completed testing and analysis to determine the probable error introduced through the improper use of torque multipliers. Based on results from these efforts, Alabama Power Company believes that the conservatism present in installation/test torque values used in Alabama Power Company's I.E.B. 79-02 program is more than sufficient to offset any errors caused by improper use of torque multipliers. For example, results for a 3/4 inch diameter Hilti expansion bolt show the following:

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- a) The manufacturers recommended torque value is 100 ft-lbs.
 - b) 100 ft-lbs is sufficient to install the bolt and load it to design values assuming a safety factor of 4:1.
 - c) Alabama Power Company selected 200 ft-lbs as its installation/testing torque value.
 - d) The minimum actual torque any of the multipliers would have applied to an anchor bolt when being used to torque a 3/4 inch bolt to 200 ft-lbs, is 130 ft-lbs which is 30% higher than the torque (100 ft-lbs) required to prove proper installation and design loading.
- 2) Corrective steps which will be taken to avoid further noncompliance.

Alabama Power Company has purchased new torque wrenches specifically for use with the multipliers. These wrenches will measure the actual torque being applied to the bolt by the torque wrench-multiplier combination. Installation and repair procedures will be revised to ensure that only calibrated torque wrench-multiplier combinations will be used in the future. Calibration of these wrenches will be performed and maintained in accordance with existing Unit 1 procedures. When Unit 2 is placed in service, the Unit 1 procedures will apply to Unit 2 also.

- 3) The date when full compliance will be achieved.

Alabama Power Company received design approval of the as-left conditions of all bolts 3/4 inches in diameter or larger and justification for this design approval on September 24, 1980.

364/80-19-01 (Torque Multipliers - Infraction)

- 1) Corrective steps which have been taken and results achieved.

Three (3) new torque wrenches which read output rather than input were purchased for use with multipliers. These can be used with any multiplier.

- 2) Corrective steps which will be taken to avoid further noncompliance.

A procedure for matching torque wrench and multiplier so that calibrated reading would result was developed and instructions given for their use. Reverification of anchors, which are suspect of having been torqued with the inadequate combination, has been completed.

- 3) The date when full compliance will be achieved.

Reverification completed September 1, 1980

348/80-16-01 (Hanger Modification Procedure - Deficiency)

- 1) Corrective steps which have been taken and results achieved.

PCN 79-409, Rev. 337 was issued to modify hanger CVC-R254. This modification included the installation of a new base plate and four (4) new concrete anchor bolts. CWR #1-80-9110 was issued to implement this modification and stated the modification was to be performed in accordance with Construction Procedure 6.1 and Construction QC Procedure 5.4.2.1, Addendum 1. Neither of these procedures contains any installation or inspection requirements for concrete anchor bolts. The anchor bolts required by PCN 79-409, Rev. 337 were installed, inspected and documented in accordance with Procedure FNP-1-GMP-43 Appendix D, Installation of a Concrete Expansion Anchor in a New Hole in an Existing Hanger Base Plate, except the QC Inspector completing the data sheet indicated "NO" in the data sheet column entitled "Installation per FNP-1-GMP-43, Appendix D" and wrote "Test information only" on the face of the data sheet. The reason given by QC for indicating "NO" on the data sheet was that the procedure title and scope restricted the use of the procedure to installation of concrete anchors in an existing plate, and the installation being documented on CWR 1-80-9110 for hanger CVC-R254 was for anchor bolts installed in a new base plate.

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All installation parameters (i.e., anchor type, anchor length, anchor diameter, torque, nut engagement, nut bottoming out and embedment length) for the anchor bolts installed per CWR 1-80-9110 were examined and were satisfactory for Acceptance Criteria given in PCN 79-409, Rev. 337 and FNP-1-GMP-43, Appendix D. The QC record for hanger CVC-R254 has been revised to include the above information.

- 2) Corrective steps which will be taken to avoid further noncompliance.

Procedure FNP-1-GMP-43, Appendix D will be revised to include installation of concrete anchor bolts in new base plates. Any Work Requests issued for PCN's which include anchor bolt installations will require installation per FNP-1-GMP-43 or other appropriate procedure.

- 3) The date when full compliance will be achieved.

Procedural changes were completed August 18, 1980.

364/80-19-02 (Documentation of I.E.B. 79-14 Inspections -
Deficiency)

- 1) Corrective steps which have been taken and results achieved.

A reinspection of numerous piping systems during plant hot functional testing provided additional assurance that no pipe interferences existed. The following are examples of the systems reinspected during hot functional testing:

- Main Steam Lines
- Main Feedwater (inside Containment)
- Steam Generator Blowdown Lines
- Residual Heat Removal Lines
- High Head Safety Injection Lines
- Auxiliary Feedwater Lines

A review of previous inspection reports revealed items similar to this one had been documented and reported previously. Two examples were found on SK-P16-CV105 and SK-P16-CV116.

The results of these efforts indicate that all pipe interferences are inspected for and the 3/4" pipe plug is an isolated case of a pipe inspector's oversight.

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This item was added to the list of deviations attached to SK-G12-CV-210 as deviation I. A Construction Work Request was issued to cut off the 3/4" plug. This removed the contact with the reactor make-up water piping and cleared up deviation I.

- 2) Corrective steps which will be taken to avoid further noncompliance.

Instructions were issued to inspectors to expand the interpretation of inspection and reportable items. Instructions are to document items which could affect the function or integrity of the pipe system.

- 3) The date full compliance will be achieved.

Compliance was achieved September 15, 1980.

2nd Example, Hanger Discrepancy and Correction Report

- 1) Corrective steps which have been taken and results achieved.

A sample of 100 hangers were selected at random for examination to determine if identified deviations had been corrected and the hanger sketch subsequently accepted by a quality control inspector. All 100 of the selected hangers were found to be satisfactory in this regard.

When the deficiency was identified on hanger 2SI-R130 during the inspection, steps were taken to record the subject discrepancy on a hanger discrepancy and correction report form. This report was placed in the 2SI-R130 hanger package in lieu of the memo tablet sheet that had been used.


- 2) Corrective steps which have been taken to avoid further noncompliance.

Since the point in time when the deficiency was identified, all hanger discrepancies have been recorded on the hanger discrepancy and correction report form as required by QCP 5.4.2.1, Addendum 1.

- 3) The date full compliance was achieved.

Full compliance was achieved on the date the deficiency was identified.

Yours very truly,


F. L. Clayton, Jr.

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cc: Mr. W. H. Bradford
Mr. D. Price
Mr. W. P. Ang