

CP&L

NRC REG: 11
ATLANTA, GE

Carolina Power & Light Company

Raleigh, N. C. 27602
DEC 18 1980

December 11, 1980

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

Dear Mr. O'Reilly:

In reference to your letter of November 20, 1980, referring to RII: JJB 50-400/80-23, 50-401/80-21, 50-402/80-21, 50-403/80-21, the attached is Carolina Power and Light Company's reply to the deficiencies identified in Appendix A. Our evaluation of conditions relative to Appendix A, item A fail to indicate that a violation of procedures or commitments existed. Please consider the attached response information for possible reclassification of the item. It is considered that the corrective and preventive actions taken are satisfactory for resolution of items B and C.

Thank you for your consideration in this matter.

Yours very truly,



P. W. Howe
Vice President
Technical Services

NJC:jp

Attachment

cc: Mr. J. A. Jones

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Infraction

Condition Reported:

- A. As required by 10CFR50, Appendix B, Criterion IX, and implemented by PSAR Section 1.8.5.9, Measures shall be established to assure that special processes, including welding, heat treating, and nondestructive testing are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements. The applicable ASME Boiler and Pressure Vessel Code, Section V, 1974 Edition with addenda through Winter 1976 requires the magnetic particle powder to be removed with a gentle air stream and requires adequate lighting of the test surface for easy observation of powder patterns.

Contrary to the above, the magnetic particle examiner removed magnetic particle powder with vigorous blowing and did not always have adequate lighting on the test surface during application of the magnetic particle powder.

- B. As required by 10CFR50, Appendix B, Criterion V and implemented by PSAR Section 1.8.5.5, activities affecting quality shall be accomplished in accordance with instructions, procedures, or drawings. Procedure MP-03, provides instructions for the handling and protection of coated welding electrodes.

Contrary to the above, on September 30, 1980, in the pipe fabrication shop and on October 2, 1980, in the auxiliary building electrode caddies were found to be unplugged and the caddies and contents were cold to the touch. In addition, on September 30, 1980, while two welders were working on a main steam valve weld in the fabrication shop a bundle of covered electrodes were found on top of the valve; these electrodes were damp from rainwater dripping through the protective cover.

- C.. As required by 10CFR50, Appendix B, Criterion XVII and implemented by PSAR Section 1.8.5.17, Quality Assurance Records, Quality Assurance Records will be maintained for the life of the plant in a manner such that the records are retrievable.

Contrary to the above, on October 1, 1980, the QA Records for Deficiency and Disposition Report No. 374A were not properly maintained in that the technical report which justified the acceptance of the conditions described in the DDR was incomplete.

Corrective Steps Taken and Results Achieved:

- A.. The illumination and powder removal techniques recommended in Paragraph 5 of the "Standard Method for Dry Powder Magnetic Particle Inspection", SE-109, are for purposes of recognizing lightly held powder patterns produced by subsurface discontinuities. The magnetic particle examinations (MT) observed by the USNRC inspectors were conducted using a magnetic yoke in the AC mode for purposes of detecting surface flaws on joints where we had the option of using either MT or PT. This technique is not intended to produce lightly held subsurface indications.



The MT examiner that was observed by the USNRC inspector as vigorously removing excess MT powder with a syringe was subjected to performance testing of his MT techniques using test specimens in which surface discontinuities could be verified. The magnetic yoke in the AC mode and the syringe used in the examinations observed by the USNRC inspector were utilized. In no case did the MT examiner in question fail to identify the discontinuities.

In order to assure that the syringes and techniques utilized by our MT examiners meet ASME Code, CP&L has conducted tests in accordance with the recommendations of ASME Section V, Article 25, SE-109, Winter 1976, Addenda to determine the amount of air pressure exerted by MT inspectors operating the two (2) types of hand air syringes available at the SHNPP site.

The tests were conducted observing twelve (12) certified MT inspectors using the syringes in question. A lab stand and clamp to hold the nozzle end of the syringes steady was used. The gauge was positioned and stabilized so that the nozzle was one (1) inch away from the opening in the manometer and located so that the inspector operating the syringe could not observe the manometer gauge. The tests were conducted using a Magnehelic 0 to 3" aneroid manometer (Dwyer Instrument Catalog #2003) calibrated against an incline manometer. The aneroid manometer was selected as it gives a more accurate measure of momentary pressure than a liquid manometer.

Each of the inspectors was instructed to squeeze the syringe as he would when performing a production MT examination. Each man squeezed the syringe six (6) to ten (10) times in rapid succession; the lowest and highest manometer readings (extremes) were recorded. The mean pressure noted (not calculated) was derived from observation of the needle deflections. The following results were obtained:

Syringe #1 (This is the same syringe used by MT examination personnel when observed by the USNRC inspector.) Ten (10) inspectors produced an observable mean deflection of from 1.2 to 1.7 inches of water as measured with the aneroid manometer. Two (2) inspectors produced an observable mean deflection of 2.2 and 2.0 (one of whom was the inspector observed by the USNRC inspector). The entire range of deflections was from .4 to 3 inches with the averages of all inspectors producing deflections that ranged from 1.2 to 2.0 inches.

Syringe #2 (A rubber aspirator with a 2 inch long rubber hose attached on one end and a check valve on the other.) Twelve (12) inspectors produced an observable mean deflection of .7 to 1.4 inches of water. The range of deflection was from .2 to 1.8 inches with an observable mean deflection being about 1.2 inches.



CP&L feels that the results of the above tests indicate that the syringes and the techniques used by site MT examiners produce effects which meet the intent of the SE-109 recommendations for the air pressure to be used in removing excess magnetic powder.

In view of the data described above, CP&L feels that no violation of procedures or commitments existed; however, the following actions were taken to minimize errors in our MT examination techniques:

- (1) The two (2) inspectors who were observed to be exerting the higher pressure were cautioned to use less vigorous hand action when using hand syringes in examinations intended to recognize subsurface indications.
 - (2) All MT inspectors have been re-instructed in the requirements of the Engineering and Construction Quality Assurance, Shearon Harris Nuclear Power Plant MT procedure, NDEP-301 for illumination of test surfaces, and the application and removal of magnetic powder.
- B. The weld on the main steam isolation valve was radiographed to ensure there was no porosity or crack due to the possible use of electrodes with moisture. Only a small amount of rejectable slag was found which would not be associated with moisture. This area containing slag was repaired and accepted on 10/7/80.

Welder A-92 and B-49 were given a written reprimand and instructed in Welding Material Control Procedure MP-03. The welding electrodes found outside the caddy and inside the cold caddies were discarded.

- C. The technical report in question was part of the Corrective Action Report of Deficiency and Disposition Report (DDR) number 374-A. This report consisted of fifteen (15) sheets, three (3) of which were printed on both sides. The individual who photocopied the report for the DDR file in QA Records inadvertently overlooked the three (3) pages which were printed on both sides.

Immediately following the USNRC inspection, the original report was obtained and copies of the missing pages were placed in the appropriate DDR Corrective Action package.

A sampling of other DDR Corrective Action packages was reviewed for similar deficiencies and none was found.

Corrective Steps Taken to Avoid Further Noncompliance:

- A. None required.
- B. Additional instructions were issued to all welding supervisors and superintendents as to the importance of enforcing Material Control in accordance with MP-03. Welding Superintendents and Welding Inspectors were also requested to ensure compliance.



- C. QA Records personnel have been reinstructed to pay closer attention to details while performing their completeness review of document packages prior to transmitting them to the QA vault. This nonconformance is considered to be an isolated incident as reflected by the results of the review performed on other closed DDR Corrective Action packages in the QA vault.

Date When Full Compliance Will Be Achieved:

- A. Full compliance is considered to have not been violated.
- B. Full compliance is considered to have been achieved on October 7, 1980.
- C. Full compliance is considered to have been achieved on October 1, 1980.

