



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report Nos. 50-400/82-17 and 50-401/82-17

Licensee: Carolina Power and Light Company
411 Fayetteville Street
Raleigh, NC 27602

Facility Name: Shearon Harris

Docket Nos. 50-400 and 50-401

License Nos. CPPR-158 and CPPR-159

Inspection at the Shearon Harris site near Raleigh, North Carolina

Inspector: A.K. Harden for 6/7/82
G. F. Maxwell Date Signed

Approved by: A.K. Harden for 6/7/82
C. W. Burger, Section Chief, Division of Project and Resident Programs
Division of Engineering and Technical Programs Date Signed

SUMMARY

Inspection on April 20 - May 20, 1982

Areas Inspected

This routine, announced inspection involved 137 inspector-hours on site in the areas of open items, mechanical installations (Unit 1), soils and concrete (Unit 1 and 2).

Results

Of the six areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Licensee Employees

- *R. M. Parsons, Project General Manager
- *G. L. Forehand, Director, QA/QC
- *A. M. Lucas, Senior Resident Engineer
- *L. I. Loflin, Manager Harris Project Engineering Section
- *G. M. Simpson, Principal Construction Specialist
- *E. E. Willett, Resident Engineer, Mechanical
- *J. F. Nevill, Civil Engineer, Harris Project Engineering Section
- *E. M. McLean, Mechanical Construction Engineer
- *L. T. King, Senior Engineer
- *D. C. Whitehead, QA Supervisor
- *R. St. Pierre, QA Specialist
- *T. Cockerill, Senior Electrical Engineer

Other licensee employees contacted included 8 construction craftsmen.

Other Organizations

- *W. D. Goodman, Daniel Construction Company, Project Manager
- *B. B. Isom, Daniel Construction Company, Construction Manager

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on May 20, 1982, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

- a. (Closed) Inspector Follow-up Item (400, 401/82-04-02) Meggering Activities QC inspection item. The applicable construction procedure, TP-38, has been drafted to require inspection personnel to witness all meggering activities of IE cables after the cable has been installed. This item is closed.
- b. (Open) Inspector Follow-up Item (400, 401/82-04-02) Identification of Approved Cable Pulling Lubricants. An FCR was written (FCR-E-369, dated February 26, 1982 to document the approved types of cable pulling compounds, approved April 25, 1982.

This item remains open pending incorporation of this FCR into implementing procedures.

- c. (Closed) Inspector Follow-up Item 400, 401/82-04-03, Use of Non-Certified Inspectors as Classroom Training Inspectors. TP-40, rev. 4, paragraph 4.1.2, has been clarified to specify the application of non-certified inspectors as instructors for other inspectors where those persons have sufficient experience. This item is closed.
- d. (Open) Unresolved Item (400, 401/82-10-04, Inspection Documentation Requirements for Fire Protection Water Supply Cathodic Protection. This item remains open pending revisions to the applicable construction procedures to provide inspection acceptance criteria for inspecting cathodic protection installation activities.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Mechanical Installations - Unit 1

- a. The inspector observed portions of the installation inspections which were being conducted as they relate to the reactor make-up water pumps and motors. The pumps and motors, identified as 1B-SN and 1A-SN, are located in the tank building at elevation 236'. The inspector took independent measurements to determine if the pumps and motors were placed at their correct locations and if the pump and motor dimensions meet the requirements of the vendor drawings. The drawings and procedures which were being utilized by the Construction Inspectors (CI) were reviewed and found to provide the required information and were found to be of the most current revisions. The inspector interviewed those CI personnel concerned with the installation and found them to be familiar with the required procedural and installation requirements.
- b. Prior to and during the CI inspections the RII inspector observed the stored condition of the above pumps and motors. The observations included an evaluation of protective covers and caps, identification, space heating, dust and dirt control handling and CI inspection of the pump conditions. As a result it was observed that the pump flanges for pump 1B-SN had been damaged by the installation personnel (scratched) and will require repair. Also, the pump casing contained a thin layer of clay colored dust. Each of these conditions was also identified by CI personnel who documented the conditions to require correction prior to final acceptance.
- c. On May 6, 1982 the inspector requested to see the seismic data for the metal platforms to which the above pumps and motors are attached. The platforms, constructed of a material approximately 1/8" thick, will

have concrete grout poured around under it, once the required alignment and belting requirements have been attained. The inspector was informed that the requested information was not available at the site. This is an unresolved item, "Seismic data for the platforms for the reactor make-up water pump," 400/82-17-01.

During the above observation the following were referred to for requirements; drawings CAR-2165-G-250, CAR-2165-G-251 and 1364-1687; construction procedures WP-105, WP-106 and TP-28; and PSAR section 1.4 and 1.8.

No violations or deviations were identified in the areas inspected.

6. Soils and Concrete - Units 1 and 2

- a. The inspector observed portions of the number four stone being placed and tested just north of the emergency service water intake structure at about elevation 235'. The test, identified as IS-25, was conducted to assure that adequate compaction prevailed. The test results indicated that the material had been compacted as required to meet the requirements of applicable specifications and procedures. The inspector interviewed the responsible craft and inspection personnel and found them cognizant of specification and procedural requirements.
- b. The inspector observed portions of concrete placements being made in Unit 1 fuel handling building (pours numbered 1FHSL216015 and 1FHXLW2-26006) and Unit 1 auxiliary building (pours numbered 1ACSL324006 and 1RAXW320001). The above observations included the following:
 - (1) The condition of the concrete forms was inspected for cleanliness, level and tightness.
 - (2) Concrete placement activities were inspected as they pertained to delivery time, rate of rise, free fall and testing of the concrete at the point of delivery and consolidation.
 - (3) Construction inspection personnel were present to assure compliance with the specification and procedural requirements.
 - (4) Suitable weather protection was provided, as applicable.
 - (5) Surveillance of the pre-placement activities was conducted by responsible CP&L QA personnel.
- c. The inspector observed in-process testing of two craftsmen who were taking their qualification tests for reinforcing steel cadwelding. One of the craftsmen (identified as a symbol CO-140) was being tested on number eighteen reinforcing steel cadwelding in three positions:

vertical, horizontal and diagonal. The other craftsman (identified as a symbol CO-139) was being tested in the horizontal and diagonal positions utilizing number eighteen reinforcing steel.

The following were referenced during the above observations: PSAR section 1.4, 1.8; design specification CAR-SH-CH-6 and CAR-SH-CH-8; construction procedures WP-01, WP-05, WP-15, CQA-6, TP-15, TP-17 and TP-02.

No violations or deviations were identified in the areas inspected.

7. Electrical Equipment - Unit 1

- a. On May 3, 1982 the inspector observed the transportation, rigging and handling of one section of one of the main control room electrical consoles. The console, identified on the applicable drawing as 1A1, had been received by the site on or about May 1, 1982 and the received conditions were documented by CP&L personnel on receiving inspection report RIR-82-89. In brief, the console arrived with some 84 components or parts missing. The console was subsequently "conditionally released" by CP&L management to allow its placement.
- b. On May 3, 1982 the inspector observed craft personnel (millwrights) installing class IE electrical cabinets. The cabinets were identified as process instrumentation control cabinets numbered C09 and C13 and were located in the reactor auxiliary common building at elevation 305'. The inspector inquired as to whether or not the responsible CI personnel were aware of the installation being made. The inspector was informed by the responsible CI personnel that they were not aware that the equipment was being permanently fastened to its installed embedded plates. As a result of the inspector's inquiry and observations of the "as found" conditions of the cabinets, CP&L QA electrical personnel evaluated the fastening hardware which was being utilized by the craft during the installation. During the evaluation, several of the fastening nuts were found to have deep separations, which appeared to be cracks, located on one of their top sections and also inside the threaded areas. The condition of the nuts was later documented by CP&L QA on a nonconformance report number DDR 906.

Subsequently the inspector discussed in detail, with CP&L management, the concern of CI not being aware of the equipment installations taking place and the use of fastening nuts which appeared to be cracked. The inspector was shown revisions to the applicable construction procedures which may reduce such occurrences in future installations. The revisions included a rewrite of TP-28 and a deviation change to WP-105, requiring the responsible CI personnel to be notified when equipment is to be installed by use of such techniques as denoted in the applicable field change request (FCR-M-462). At this time, the inspector has no further questions about the potential notification problem as they

relate between CI and the millwright personnel, or the usage of the potentially cracked fastening nuts. However, during subsequent inspections both the implementation of the revisions to the applicable procedures and the corrective action that results from DDR 906 will be evaluated.

During the above observations the following were referred to for requirements: PSAR section 1.8, 1.4; field change requests numbered FCR-M-462, FCR-M-485 and their references; construction procedures WP-105, revision 6 and revision 5, TP-28, CQC-2 and procedure deviation number four as it affects WP-105 revision 6.

No violations or deviations were identified in the areas inspected.

8. Welding - Units 1 and 2

- a. The inspector examined the welding activities for a weld joint identified as A6-236-1BR-227-1-SW-1 (observed fit-up). The activities were examined to determine whether the applicable specifications and procedures were being met.
- b. The above observations included examination to determine: If weld identification and location are as specified, if the weld traveler sheet was in accordance with applicable code requirements, if welding techniques and sequences were specified and adhered to, if welding personnel were qualified, if the welding materials were as specified by the applicable welding procedure.
- c. The inspector randomly examined twenty-five portable weld caddies which contained coated welding electrodes. The caddies were examined to determine whether the procedural requirements were being met relative to maintaining the electrodes above ambient temperature.
- d. The inspector attended a site entrance meeting which was conducted by a nuclear survey team for the ASME. The team representatives informed CP&L that they were visiting the site to evaluate CP&L's ASME QA Program manual and its implementation. The overall evaluation started on May 10 and ended on May 12, 1982. The RII inspector participated as an observer while the survey team evaluated the implementation of the ASME QA Program manual as it applied to the sections of the manual that addressed: design, procurement, instructions and procedures, document control, control of purchased material, control of special processes, handling and storage. The implementation members of the survey team utilized the ASME QA Manual, and preprinted checklists which contained inspection points for the various sections of the manual being evaluated. During the evaluation the survey team conducted numerous interviews during which a continuous flow of questions and answers occurred. Many of the questions were beyond those which were documented on the pre-printed checklists. The survey team made known

to CP&L the changes and/or improvements which they felt necessary as they affected the CP&L ASME QA Program. CP&L responded to the team's requests; an exit meeting was held between the survey team and CP&L management during the afternoon of May 13, 1982.

During the above observations the following were referenced for requirements: PSAR section 1.8 and 1.4, ASME Section III Division 1, CP&L's ASME QA Program manual; construction procedures MP-03, MP-07, and welding procedure 8-B-2

No violations or deviations were identified in the areas inspected.

9. Construction Status - Units 1 and 2

- a. The inspector discussed the status of the site construction status as it relates to piping hangers in Unit 1 auxiliary building and the containment building, and status of walkdown on piping (IE Bulletin 79-14) and Class IE cable pulling in Unit 1. The following information was provided with the understanding that they are subject to changes.
 - (1) The piping hangers in the auxiliary building are about 33% complete for phase I inspection and 10% complete for phase I inspection in the containment building.
 - (2) Class 1 E electrical cable pulling activities are expected to start on or about July 1, 1982 (Unit 1)
 - (3) The IE Bulletin (79-14) type walk down on piping has three parts: the associated site personnel training is expected to be completed by July 1, 1982; the sequence of inspection will be phase I piping; phase II hangers and then phase II pipe/phase III hanger inspection combined. (The hanger installation and inspection has three phases); the first site system which will be ready for all phases will probably be the waste gas system.
- b. On May 18, 1982, two individuals from the NRC Washington office visited the site. The purpose of the visit was to examine the dams and water supplies as they relate to the current review which is being conducted relative to CP&L's recent application for an operating license for Units 1 and 2.

No violations or deviations were identified in the areas inspected.