



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

Report Nos.: 50-400/82-37 and 50-401/82-37

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

Docket Nos.: 50-400 and 50-401

License Nos.: CPPR-158 and CPPR-159

Facility Name: Harris 1 and 2

Inspection at Shearon Harris site near Raleigh, North Carolina

Inspector: J. R. Harris 1/5/83  
for J. R. Harris Date Signed

Approved by: T. E. Conlon 1-5-83  
T. E. Conlon, Section Chief Date Signed  
Engineering Program Branch  
Division of Engineering and Operational Programs

SUMMARY

Inspection on December 14-17, 1982

Areas Inspected

This routine, unannounced inspection involved 27 inspector-hours on site in the areas of licensee action on previous enforcement matters, structural concrete, a licensee identified item, and a previously identified inspector followup item.

Results

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

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*A. B. Cutter, Vice President, Nuclear Engineering Department
- \*R. B. Parsons, Project General Manager
- \*A. M. Lucas, Assistant Project General Manager
- \*J. A. Jones, Corporation Nuclear Representative
- \*N. J. Chiangi, Manager, Engineering and Construction QA
- \*G. L. Forehand, Site Director, QA/QC
- \*W. O. Pridgen, Senior Engineer
- \*D. C. Whitehead, QA Supervisor
- \*L. F. Garner, Senior Construction Specialist, Civil
- E. L. Kelly, Civil QC Supervisor
- W. E. Seyler, Principal Civil Engineer

Other licensee employees contacted included five construction craftsmen, three technicians, and two office personnel.

#### NRC Resident Inspector

- \*G. F. Maxwell

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on December 17, 1982, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection findings. The following item was opened. Inspector Followup Item 400/401/82-37-01, Concrete Testing.

### 3. Licensee Action on Previous Enforcement Matters

(Closed) Violation (400/82-32-01), Failure to Verify that Process Control Cabinets were Seismically Qualified as Installed. In order to level the cabinets on an unlevel floor, shims were placed around anchor bolts between the cabinets and the plates mounted in the floor. This resulted in the cabinets being point loaded instead of having 100 percent bearing as qualified during seismic qualification tests. The inspector examined the licensee's response dated November 3, 1982. FCR-M-485 was issued calling for filling the gaps between the base of the cabinets and the floor with epoxy grout to provide 100 percent bearing. The design organization is reviewing mounting details for all seismically qualified equipment to verify concurrence between vendor requirements and design documents. This item is closed.

(Closed) Unresolved Item (400, 401/82-35-01), Review of Results and Tests Performed on Concrete Aggregates and Cement. Review of tests on aggregates and cement disclosed failing results for reactivity tests on aggregates and loss of ignition tests on cement. Results of testing was opened as an unresolved item pending NRC determination that the failing test results were promptly identified as a nonconformance and required corrective action was taken. Review of records showed that the failing test results were received on October 29, 1982, and that a nonconformance report was written on November 1, 1982. Six retests on the aggregates and cement by two separate laboratories showed that the cement and aggregates met specification and ASTM requirements. This item is closed.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection Effort (92706)

The inspector examined the following:

- a. Soils and concrete testing laboratory and currentness of calibration.
- b. Preparation for the final concrete placement in the Unit 1 dome.
- c. Ongoing curing controls and completed concrete structures in the Unit 1 power block.

Within the areas examined, no violations or deviations were identified.

6. Containment Structural Concrete II (47054) - Unit 1

The inspector observed preparation and partial placement of concrete pour numbers DG IDGS1327001, 1FHSL324002, DGXW328002, IWPSL321006, and partial placement of the access shaft wall in the Unit 1 containment building. Acceptance criteria examined by the inspector appear in the following documents:

- a. PSAR Section 5
- b. EBASCO Specification CAR-SH-CH-6
- c. CP&L Procedure, CQA-6, WP-11, TP-15, TP-22, and TP-40
- d. American National Standard, ANSI/ASME N45.2.5-1978

Forms were tight, clean and level. Rebar was properly installed and clean. Placement activities pertaining to delivery time, free fall, flow distance, layer thickness, and consolidation conformed to specifications. Concrete placement activities were continuously monitored by construction and QA inspectors. Examination of batch tickets showed that the specified design mix was being delivered. Samples of plastic concrete were obtained from the pumpline discharge and tested in accordance with specification requirements. Test results showed that plastic concrete being placed met requirements for

slump, air content, and temperature. Post placement observations showed that proper curing controls were being maintained.

Within the areas examined, no violations or deviations were identified.

7. Containment Structural Concrete II (47056) Unit 1

The inspector examined inprocess testing records for the concrete pour numbers listed below. Acceptance criteria examined by the inspector are listed in paragraph 6.

|               |                  |
|---------------|------------------|
| a. CBEF309001 | n. CBSL216008    |
| b. CBXW236003 | o. CBSL221005    |
| c. CBXW226002 | p. CBSL246001    |
| d. CBSL204002 | q. CBSL286004 P3 |
| e. CBSL190002 | r. CBSL216002    |
| f. CBIW26001  | s. CBSM180002    |
| g. CBIW245001 | t. CBSM201007    |
| h. CBIW266003 | u. WPIW272024    |
| i. CBIW282001 | v. WPIW288014    |
| j. CBIW282003 | w. WPSL200005    |
| k. CBIW237001 | x. FHSL266001    |
| l. CBXW219001 | y. WPSL236010    |
| m. CBSL216001 | z. WPSL321004    |

Review of inprocess testing records disclosed that approximately 70 cubic yards of concrete with an air content less than the required four percent were placed in pour number WPSL321004. Records showed that the air content varied between 3.0 and 3.2 percent. Deficiency report DR-C-1704 was written to document and correct the problem. Management held a meeting with responsible engineers and inspectors to improve the testing program so that the potential for the placement of nonconforming concrete would be minimized. Control of placement of nonconforming concrete will be examined by the NRC in future inspections and was identified to the licensee as Inspector Followup Item 50-400/82-37-01, Concrete Testing.

8. Licensee Identified Item (92700)

(Open) CDR 50-400/82-71, Deficiencies in Welded Studs on Embedded Strip Plates. This item was reported to NRC Region II on February 17, 1982. The licensee submitted a final report to NRC on March 19, 1982, and an addendum to the final report on April 15, 1982. During receipt inspection of strip plates which are to be embedded in concrete, licensee inspectors found plates which contained studs with inadequate weld connections to the plate. These plates which were supplied by Alfab, Inc., were received onsite on January 10 and 29, February 25, and April 2, 1982. Of the 1,993 plates received on those dates, licensee inspectors rejected 96 plates. The licensee has determined that the rejected plates could not meet the plate design criteria with the defective studs. Plates found to obtain defective studs were returned to Alfab or repaired on site. Discussions with responsible engineers and review of licensee documentation showed that Alfab

was removed from the licensee approved vendor list as a supplier of Seismic Category I structural steel on April 20, 1982. This item is closed.

9. Inspector Followup Item (IFI)

(Closed) IFI 400, 401/82-32-02, Clarification and Implementation of Procedure QCI 6.1, Receiving Inspection Statistical Sampling. Procedure QCI-6.1, Rev. 1 was not clear in the area of selecting the sample size. Review of the revised procedure and discussions with receiving inspectors showed that the area of sample size has been clarified and that the revised procedure is being correctly implemented. This item is closed.