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

Report Nos.: 50-413/83-19 and 50-414/83-17

Licensee: Duke Power Company
422 South Church Street
Charlotte, NC 28242

Docket Nos.: 50-413 and 50-414

License Nos.: CPPR-116 and CPPR-117

Facility Name: Catawba 1 and 2

Inspection at Catawba site near Rock Hill, South Carolina

Inspector: J E Conlon for 8/9/83
J. R. Harris Date Signed

Approved by: J E Conlon 8/9/83
T. E. Conlon, Section Chief Date Signed
Engineering Program Branch
Division of Engineering and Operational Programs

SUMMARY

Inspection on July 19-22, 1983

Areas Inspected

This routine, unannounced inspection involved twenty eight inspector-hours on site in the areas of structural concrete and followup of findings in the civil area identified during the licensee's self evaluation.

Results

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

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. C. Rogers, Project Manager
*L. R. Davison, Project QA Manager
*S. W. Dressler, Engineering Manager
*R. A. Morgan, Senior QA Manager
*H. L. Atkins, Surveillance Supervisor, QA

Other licensee employees contacted included three construction craftsmen and six technicians.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on July 22, 1983, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection findings.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection (92706)

The inspector examined the following areas:

a. Soils and concrete laboratory and currentness of calibration of laboratory equipment

b. Controls on concrete test cylinder curing room

c. Grout placement on base plates for hanger numbers CN 1684YC019A and CN 1684RE001A in the auxiliary building.

Within the areas examined no violations or deviations were identified.

6. Containment Structural Concrete - Unit 1 (47054)

The inspector observed placement of pour number 504 for the unit one reactor

building equipment hatch door. Acceptance criteria examined by the inspector appear in the following documents:

a. FSAR, Section 3.8

b. Procedure M-2, Inspection of Design Concrete

c. Specification CNS-1109. 00-1, Concrete for Category I Structures

d. Drawing number CN-1091-11, R12, Reactor Building - Unit 1 Equipment Hatch and Door Concrete

e. Drawing number CN-1091-13, R7, Equipment Hatch Reinforcing

f. Drawing number CN-1091-11g, Equipment Hatch Miscellaneous Steel

Preplacement inspection was indicated by the properly signed pour card. Examination of reinforcing drawings, observation of inplace steel and discussions with responsible QA inspectors showed that reinforcing and miscellaneous steel were installed in accordance with design drawings. Placement activities pertaining to delivery time, free fall, layer thickness, and consolidation conformed to specifications. Activities were monitored by QC personnel.

Sampling for temperature, slump, air content, and cylinder molding were taken in accordance with specifications and procedures. Test results for slump and air content met specification requirements. Examination of the batch plant and batch tickets showed the specified mix design was used and batched in accordance with requirements.

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

7. Review of Findings Identified in Licensees Self Evalua on (SE) (25210)

The inspector examined the following findings identified in the licensees self intiated evaluation. The items were examined for safety significance and licensees action taken to correct the concerns identified by the findings.

a. Self Evaluation Report Item number cc.4-1, Managers and Supervisors Do Not Always Enforce Adherence to Plant Policies and Procedures (page number 34 in the SE report).

Examples in the civil area appear on pages 35 and 36. Examples are:

- Rebar not installed in accordance with design drawings

- Area engineer did not document design information provided to craft

- Placing crew had not planned their activities

- Placing crew had difficulty placing concrete in congested form.

The finding on rebar installation involved insufficient clear distance between the rebar and forms and unspecified splice lengths for circular bars installed in the Unit 2 pressurizer cavity. Discussions with responsible engineers and review of licensee documentation showed that the item of clear distance between the rebar and forms had also been identified by the area engineer and evaluated, approved, and documented in accordance with ACI-301, Specifications for Structural Concrete for Buildings. The item of unspecified lap lengths for circular bars was identified by the area engineer and QC inspectors as well as the SE inspector. In subsequent discussions between construction engineers and design engineering it was noted that design engineers informed responsible construction engineers that the design splice lengths were not shown on the drawings because the drawings showed the specified bar lengths and that if the bars were installed as shown by the drawings, the design splice length (overlap) would be assured. The area engineer and QA inspectors disagreed with design engineering and Variation Notice 34862 was written. The design splice lengths were provided by design and checked by responsible contruction engineers and found to be in accordance with design requirements.

The item of placing crews not planning their activities was identified by the SE inspector because pour number 4960 did not take place as scheduled. Examination of records and discussions with responsible engineers showed that the prepour inspection sheet was not signed for placement by QC because some activities pertaining to preparation for the placement had not been completed. When these activities were completed to the satisfaction of QC inspectors, the placement was made.

The item regarding the placing crew having difficulty placing concrete in congested forms was identified as a result of problems encountered during the placement of pour number 4958. The tremie chute which is used to control free fall and to place concrete in the lower parts of the forms became lodged between the rebar and forms. This caused the tremie chute to become plugged with concrete. Discussions with responsible engineers and examination of records showed that the forms were removed, the tremie chute freed, and that the pour continued without any further problems. No problems with consolidation of the concrete with vibrators were identified.

Examination of the above items indicated that the SE inspectors concerns were also identified by the licensees system and were being evaluated and corrected in accordance with the licensees QA program. No safety-related concerns were disclosed in review of these items.

b. Self Evaluation Report Item Number cc.7-1, Supervisors in the QC Organization Do Not Always Enforce Adherence to The Required QA Construction Procedures (page number 45 in the SE report).

Examples appear on page number 46 in the SE report. Examples are:

- Scale number CKSC TB-2 used in the soils/concrete laboratory had a calibration sticker, but was not in the calibration program as required by procedure O-1, R15

- Scale number 2157 and several soil sieves in the soils/concrete laboratory had expired calibration dates on their calibration stickers

- A 200 mesh sieve number CKQUA-19707 had a tear in the mesh. Procedure CP-620 requires any damaged sieve to be removed from the test area and calibration program and to be disposed of.

Discussion with responsible engineers and examination of records showed Nonconformance Report Number 15749 was issued as result of this finding being identified by the SE inspector.

Examination of the disposition of Nonconformance Number 15749 showed that the items were properly addressed and that proper action was taken to correct the items and to prevent recurrence of the item. No QA work was done with any of the equipment. A check was made on all instruments and equipment in the civil area to assure that they were entered or removed from the calibration program in accordance with procedure O-1. Responsible inspectors were instructed to assure that all necessary steps are taken when entering or removing equipment from the calibration program.

Examination of this item for reportability under 10 CFR 50.55(e) criteria indicated there were no significant safety problems associated with the examples under this item and that the item was not reportable.

c. Self Evaluation Report Item Number cc.3-1, Site Receipt Inspection Does Not Ensure That Material and Equipment Received on Site Are Evaluated Against the Requirements of The Procurement Specifications (SE Report page number 30).

An example of this item appears on page 32 in the SE report. The example is stated as follows:

- During a review of No. 10 Cadweld operation in the Auxiliary Building, it was learned that the Cadweld sleeves and powder had not been received by QC Receiving. These items were received from another site as non-quality items, and the QC inspector was not aware of the 16, No. 51144, sleeves until notified by his supervisor. The work has stopped.

  Examination of receiving documents and discussions with responsible engineers indicated that the materials were requisitioned

and received from the cancelled Cherokee site as non QA material. After distributing the material, responsible receiving personnel realized that all Cadweld materials should be requisitioned and received under the QA program. Responsible QC personnel were notified that the specified Cadweld materials were issued as non QA materials and should not be used. The materials were recovered and returned to the warehouse and proper documentation was issued. None of the materials were installed and as a result had not yet been checked by the QC inspector. Had the materials been installed, they would not have been approved by the QC inspector since the non QA Cadweld materials would not have been on the QC inspectors approved Cadweld release log.

The licensee has established a group to review all requisitions for QA applicability to prevent any recurrence of improper requisition and distribution of QA materials.

Review of this item indicated a weakness in the system that allowed QA materials to be requisitioned and purchased as non QA items. However, the licensees system identified the problem and corrective measures were taken to correct the problem and to prevent recurrence. No safety related concerns were disclosed in review of this finding.

d. Observation Of Concrete Operations (SE report pages 160 through 183).

In this section of the report, in addition to those items discussed in paragraphs 7a and 7b, the SE inspector stated that site perosnnel are not properly trained in the use of the additive "m" element.

Review of documentation and discussions with responsible engineers indicated that this item was identified by the SE inspector because controls on the use of "m" element resulted in excessive wasting of concrete. Excessive wasting of concrete is an economic concern and not a safety-related concern. Review of procedure CP-601, Batching, Mixing and Testing of Superplasticized Concrete Mix, showed that the procedure has been revised to lessen the amount of concrete wasted due to adding "m" element to concrete.

Review by this NRC inspector of other observations by the SE inspector discussed on pages 160 through 183 disclosed no safety-related concerns or items reportable under 10 CFR 50.55 (e) criteria.

Within the areas examined no violations or deviations were identified.