



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

FEB - 4 1980

Report Nos. 50-566/80-01 and 50-567/80-01

Licensee: Tennessee Valley Authority
500A Chestnut Street Tower II
Chattanooga, Tennessee 37401

Facility Name: Yellow Creek Nuclear Plant

Docket Nos. 50-566 and 50-567

License Nos. CPPR-172 and CPPR-173

Inspection at Yellow Creek site near Iuka, Mississippi

Inspector: J. J. Lenahan For
J. J. Lenahan

2/1/80
Date Signed

Approved by: T. E. Conlon For
T. E. Conlon, Section Chief, RCES Branch

2/1/80
Date Signed

SUMMARY

Inspection on January 22-24, 1980

Areas Inspected

This routine unannounced inspection involved 16 inspecor-hours onsite in the areas of lakes, dam, and canals work activities, structural concrete quality records, level D storage areas, and soils and concrete laboratory.

Results

Of the areas inspected, no items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

Licensee Employees

- *M. M. Price, Project Manager
- *L. S. Cox, Construction Engineer
- *C. Burshears, Project Geologist
J. Adams, Assistant Construction Superintendent
- *J. B. Nelson, QA Engineer
- *C. G. Wayes, Assistant Construction Engineer
G. B. Alexander, Civil QC Unit
- *C. M. Freeman, Civil QC Unit

Other licensee employees contacted included six civil quality control inspectors.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on January 24, 1980 with those persons indicated in Paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. New unresolved items identified during this inspection are discussed in paragraph 7.

5. Independent Inspection Effort

The inspector examined the following areas:

- a. Construction status
- b. Level D storage areas
- c. Concrete and soils laboratory and currentness of calibration of laboratory equipment
- d. Quarry at Cherokee, Alabama, which furnishes coarse aggregate for the project.

- e. Partial placement of pour number A1-N10, a wall in the Unit 1 auxiliary building, pour number C1-A13, a base mat in Unit 1 control building, and pour number W-C8, interior walls in the waste management building.
- f. Curing of pour numbers A1-N9 and A1-N10
- g. Geologic mapping of Units 1 & 2 power block areas.

No deviations or items of noncompliance were identified.

6. Lakes, Dams and Canals - Observation of Work and Work Activities - Units 1 and 2

The inspector examined the completed excavation for the Unit 1 spray pond and excavation of Unit 2 spray pond. Acceptance criteria examined by the inspector appears in the following documents:

- a. Section 2.5 of the PSAR
- b. Paragraph 2.5.3. of the SER
- c. Specification N8C-882, "Earth and Rock Foundations and Fills"
- d. Drawing Number 1YE-225-Y1, "Excavation and Backfill of Category I Structures"

Dewatering of the completed Unit 1 excavation is being controlled by ditches and sumps. Final approval of the spray pond foundations before placement of the impervious liner materials will be through a foundation inspection team made up of engineers and geologists from the site and engineering design.

No deviations or items of noncompliance were identified.

7. Containment (Structural Concrete I) - Review of Quality Records - Units 1

The inspector examined the following records for pour numbers A1-J1 and A1-J2 in the Unit 1 containment building. Pour number A1-J1 was placed on November 13, 1979, and pour number A1-J2 on November 28-29, 1979. Records examined included:

- a. Results of 7 and 28 day concrete cylinder compressive strengths.
- b. Results of inprocess testing of plastic concrete, including slump, air content, unit weight and temperature.
- c. Concrete batch records for batches on which inprocess testing was performed

- d. Concrete curing records
- e. Receiving inspection check and certified material test reports for bulk cement delivered to project in November, 1979
- f. Results of mechanical analysis tests performed on fine and coarse aggregate in November, 1979
- g. Monthly quarry inspection records for months of April, 1979 through January, 1980.
- h. Qualification and training records of five Civil QC inspectors

Acceptance criteria examined by the inspector in Section 3.8 of the PSAR, TVA Specification G-2, procedures QCI C-201, C-202, C-204 C-205, C-208 and C-212, and drawing number 4 RE-417-5R-1.

Examinations of the above concrete batch and slump records disclosed the following unresolved item. For mix number 401.5 BFW, which was placed in pour number A1-J1, concrete production records indicate the water content of the batches varied from 720 to 980 pounds per 4 cubic yard batch. Review of slump data for the batches disclosed that there is no apparent correlation between the total water content in the mix and slump. For example, the plastic concrete representative of cylinder number 1302 had a slump of 1 1/4 inches. Concrete production records indicate that this batch contained 980 pounds of water. However, the plastic concrete representative of cylinder number 1304 had a slump of 2 inches while concrete production records indicate that the batch contained only 720 pounds of water. Review of records for mix number 201.5 BFW-2 which was placed in Unit 2 control building as fill concrete indicated a similar lack of correlation between slump and total water content of the mix. Due to the fact that there is no correlation between slump and the total water content of concrete batches, the inspector questioned the accuracy of the figures stated in the records for the total batch water content. This was identified to the licensee as unresolved item 566/80-01-01 and 567/80-01-01, "Documentation of Water Content in Concrete Batches", pending further evaluation by the licensee and NRC. Examination of results of strength tests showed that all test cylinder breaks met the design strength requirements.

No deviations or items of noncompliance were identified.

8. Previously Identified Inspector Followup Items

(Open) Inspector Followup Item 566/79-12-01 and 567/79-12-01, Batch Plant Scale Zeroing during Concrete Production". The inspector examined the batch plant, observed production of several batches of concrete, and discussed the problem of the failure of the batch plant scales to zero after each batch with site QC personnel. The corrective action taken by the licensee has been to adjust the scales and dial gages as required

during each shift when concrete is being produced in order to assure that the scales return to zero after each batch. The adequacy of the licensee's corrective action to resolve this problem will be reviewed by NRC in a subsequent inspection. All Category I concrete placed to date meets specification and design requirements.

This item remains open.