UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323

Report No: 50-425/87-15

Licensee: Georgia Power Company
P. O. Box 4545
Atlanta, GA 30302

Docket No: 50-425 License No: CPPR-109

Facility Name: Vogtle 2

Inspection Conducted: March 23-27, 1987

Inspector: J. R. Harris 4-7-87
J. R. Harris Date Signed

Accompanying Personnel: M. Jung, Korea Advanced Energy Institute
S. Song, Korea Advanced Energy Institute

Approved by: T. E. Conlon 4-7-87
T. Conlon, Section Chief Date Signed
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, announced inspection was conducted in the areas of structural concrete, foundations and coatings and previously identified Inspector Followup Items.

Results: No violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*D. M. Fiquett, Unit 2 Field Construction Manager
*E. D. Groover, QA Site, Manager Construction
*C. Hayes, Vogtle Quality Assurance Manager
*N. Lankford, Civil QC Supervisor
*G. A. McCarley, Project Compliance Manager
*P. Rice, Project Director

Other licensee employees contacted included construction craftsmen, engineers, and technicians.

NRC Resident Inspector

*H. Livermore, Senior Resident Construction

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on March 27, 1987, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings. No dissenting comments were received from the licensee.

The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection Effort

Construction Progress

The inspector conducted a general inspection of coatings work in the Unit 2 containment building. The inspection included a review of applicable specifications and procedures and preparation of concrete and steel surfaces and application of coatings. Observations of application

of coatings showed that Keeler and Long Co. 4129 (Clear Epoxy Sealer) and 4000 (Epoxy Coating) were being used on concrete and that CZ 11 (inorganic zinc) was being used on the containment liner plate. Observations showed that surface preparation, application and inspection of coatings were being done in accordance with specifications and procedures.

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

6. Geotechnical/Foundation Activities - Work Observation (45053) - Unit 2

The inspector examined controls in backfilling in the Unit 2 powerblock and observed compaction, sampling and testing of the backfill. Controls for the backfill are specified in specification X2AP01 C2.2 Rev. 17, Earthwork and Related Site Activities, and Procedure CD-T-01 Rev. 17, Earthwork Quality Control. Observation of work activities and review of test results showed that the backfill was being controlled in accordance with specification and procedure requirements.

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

7. Geotechnical/Foundation Activities - Record Review (45055) - Unit 2

The inspector examined records for compaction controls for backfill placed in the Unit 2 side of the powerblock. Records examined were for backfill placed from January 6, 1987 to February 26, 1987. Records examined included sandcone density tests, moisture tests, laboratory proctor tests, and calibration controls for laboratory test equipment.

Examination of records showed that the backfill is being compacted to the 97 percent of the maximum dry density as determined by ASTM 1557. The records review also showed that the moisture control of the placed fill is being maintained within the specified plus 2 percent and minus 3 percent of the average laboratory optimum moisture. Review of calibration data on the test equipment showed that calibration requirements were being maintained.

Within the areas examined no violations or deviations were identified.

8. Structural Concrete, Work Observation (46053) - Unit 2

The inspector observed concrete and grout placements made in Unit 2 buildings. Observation of concrete placements included pour numbers 2072-005A, in the Unit 2 Diesel Generator building and pour number 2-301-023 in the Unit 2 condensate Storage Tank Valve House slab. Observation of grout placements included placement of Master Flow 713 under the following base plates in the Fuel Handling and Containment building:

S2-1212-072-H764	Fuel Handling building
S2-1212-071-H758	Fuel Handling building
25K5Y-052-77A-H025	Containment building
25K5Y-052-77A-H022	Containment building
25K5Y-052-77A-H021	Containment building
25K5Y-052-77A-H020	Containment building
25K5Y-0267-A-H01	Containment building
25K5Y-052-67-A-H02	Containment building
25K5Y-0267-A-H01	Containment building
25K5Y-08878D-H01	Containment building
25K5Y-02009A-H02	Containment building
25K5Y-02009A-H03	Containment building

Acceptance criteria examined by the inspector appear in the following documents:

Specification X2AP01, Forming Placing, Finishing and Cutting Concrete

Procedure CD-T-02, Concrete Quality Control

FSAR Section 3, and 17

Observations of concrete placements showed that forms were tight and clean and that rebar was properly installed and clean. Placement activities pertaining to delivery time, free fall, flow distance, layer thickness, and consolidation conformed to specification requirements. Concrete placement activities were continuously monitored by QC inspectors. Examination of batch tickets showed that the specified design mixes were delivered. Samples of plastic concrete were obtained from designated sampling points and were tested in accordance with specification requirements. Test results showed that the plastic concrete being placed met requirements for slump, air content, and temperature. Examination of the testing laboratory and batch plant showed that batching and testing equipment were in calibration and that test cylinders were being cured properly.

Observation of grout placements under base plates showed that the grout was being mixed, placed and cured in accordance with the requirement of procedure CD-T-02. Observation of the grout placements also showed that the placements were being observed and inspected by QC inspectors.

Within the area inspected no violations or deviations were identified.

9. Structural Concrete Record Review (46055) - Unit 2

The inspector examined quality records for the following concrete and grout placements:

A-081-072X4	2-301-022B
A-082-004X2	2-44A-215
A-082-096	2-05A-0256
A-082-012A	2-05A-086A
A-09B-026G	2-051-015C
A-091-003A	2-051-015B
A-11A-107X5	2-072-011A
2-301-018	A-08A-097X3
2-301-022A	A-08D-004E
2-05A-032A	2-05A-032B
2-072-005A	2-071-103, 104, 105
2-051-008	2-051-015A

Acceptance criteria examined by the inspector appear in specification X2AP01, Forming, Placing Finishing and Cutting Concrete and Procedure CD-T-02 Concrete Quality Control.

Records examined by the inspector included batch tickets, batch plant inspection reports, preplacement inspection, test data for air slump and temperature, strength test results, curing, rebar splicing, aggregate and cement storage and nonconformance reports.

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

10. Inspector Followup Items (IFI)

(Closed) IFI 50-424/86-42-01, Incorporation of Additional Calculation Considering Stiffening Effect of Buttresses Into Vogtle Calculation Record. This item was identified as a finding by the Stone and Webster Engineering Corporation IDR team during the GPC Readiness Review Program. The licensee's response to this finding only addressed the membrane portion of the containment cylindrical shell. The NRC inspection team agreed with the finding, but considers that the project response should be extended to include the nonmembrane portion where the moment and shear are affected significantly by the buttress due to the discontinuity at the wall-mat interface.

Further information on this item was sent to NRC I&E on July 28, 1986. This item was evaluated and addressed by I&E in Inspection Report 50-424/86-128. In paragraph 4 of this report the NRC concluded that a technically adequate design process has been successfully implemented. This item is closed.

(Closed) IFI 50-424/86-42-02, Revise calculation X2CJ.9.0 to Indicate that Rebar Stresses are Within Allowables.

This item was also evaluated and addressed by I&E in Inspection Report 50-424/86-128. As a result of information provided by the licensee it was concluded that a technically adequate design process has been implemented.

(Closed) IFI 50-424/85-28-04, Acceptance of Response to Concern Number 3 Without Reviewing Revised Calculations.

The independent design reviewers accepted the response to Concern No. 3 in Section 7.0 without reviewing the revised calculations which justified the deviation from ACI 318-71 code requirements.

In response to this item, a subsequent review of the calculations by the IDR team verified the accuracy of the projects response to this concern. Review of the calculations by NRC inspections verified that the intent of ACI 318-71 code requirements were met. This item is closed.