



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

Report No.: 50-416/78-11, 50-417/78-11

Docket No.: 50-416 and 50-417

License No.: CPPR-118 and CPPR-119

Category: A2, A2

Licensee: Mississippi Power and Light Company
P. O. Box 1640
Jackson, Mississippi 39205

Facility Name: Grand Gulf Nuclear Station, Units 1 and 2

Inspection at: Grand Gulf, Mississippi

Inspection Conducted: June 28-30, 1978

Inspectors: J. R. Harris

Reviewed by:

J. C. Bryant
J. C. Bryant, Chief
Engineering Support Section No. 1
Reactor Construction and Engineering Support
Branch

8/10/78
Date

Inspection Summary

Inspection on June 28-30, 1978 (Report No. 50-416/78-11 and 50-417/78-11)
Areas Inspected: Previously identified item; structural concrete (Unit 2);
anchor bolt installations (Unit 1). The inspection involved 21 inspector-
hours on site by one NRC inspector.

Results: Of the three areas inspected, no apparent items of noncompliance
or deviations were identified in two areas; one apparent item of
noncompliance (infraction - failure to control curing temperature on
concrete test cylinders - paragraph 4) was identified in one area.

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DETAILS I

Prepared by:

J. R. Hargis
John R. Hargis, Civil Engineer/
Geologist
Engineering Support Section No. 1
Reactor Construction and Engineering
Support Branch

8/10/78
Date

Dates of Inspection: June 28-30, 1978

Reviewed by:

J. C. Bryant
J. C. Bryant, Chief
Engineering Support Section No. 1
Reactor Construction and Engineering
Support Branch

8/10/78
Date

1. Persons Contacted

a. Mississippi Power and Light Company (MP&L)

- *T. E. Reaves, Manager of Quality Assurance (QA)
- P. W. Sly, QA Field Supervisor
- *J. C. Fuller, Piping QA Representative
- *W. M. Garner, Civil QA Representative

b. Contractor Organizations

Bechtel Power Corporation (Bechtel)

- *R. L. Scott, Project QA Manager
- *D. W. Strohman, QA Engineer
- *J. H. McCarthy, Project Field Quality Control Engineer
- J. R. Jordon, Batch Plant and Concrete Testing Laboratory Inspector
- E. W. Jessemer, Lead Civil QC Engineer
- B. Poppell, Field Engineer, Civil
- M. Robinson, Assistant Project Field QC Engineer
- A. Bentencourt, QA Engineer
- J. Temen, Electrical QC Engineer
- M. Hindershot, General Foreman (Electrical)

*Attended exit interview.

2. Licensee Actions on Previous Inspection Findings

(Closed) Unresolved Item (417/78-08-01): Unusual variation in slump and air test data for concrete pour number Q2 T-21-W-21093.

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Examination of licensee records and discussions with responsible engineers and testing personnel indicated testing and work related equipment has been reinspected and recalibrated, testing personnel were knowledgeable and certified in areas of responsibility and that work activities are continuously inspected by QC personnel and periodically observed by QA personnel. The inspector has no further questions regarding this item.

3. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Two unresolved items disclosed during the inspection are discussed in paragraph 5.

4. Independent Inspection

The inspector examined the following areas:

- a. General inspection of the site and ongoing work activities,
- b. Installation of cinch anchors, and controls for cutting of reinforcing steel in the Unit 1 Auxiliary building,
- c. Work activities at the soils and concret laboratory.

Observation of work activities at the concrete laboratory disclosed the following noncompliance:

Specification number 964-C-191.0 and referenced ASTM Standard C 31-69 require that concrete test cylinders made in the field be stored under conditions that maintain the temperature in the range of 60 to 80 degrees Fahrenheit.

Contrary to the above requirement, during the inspection test cylinder sets 2650 A-D, 2651 A-D, 2652 A-D, 2653 A-D and 2654 were on the floor of the concrete lab exposed to full sun and an ambient temperature of 99 degrees Fahrenheit. The situation occurred as a result of the roof and sides at the laboratory recently having been removed to repair damage caused by a tornado on April 17, 1978. When the inspector pointed out the nonconforming curing condition, the licensee issued NCR number 2733 and took immediate steps to correct the matter.

Failure to perform test activities as required by documented instructions is contrary to Criterion V of Appendix B to 10 CFR 50 and was identified to the licensee as Infraction 417/78-11-01.

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5. Containment (Structural Concrete I) - Review of Quality Records,
Unit 2

A follow-on inspection was made of quality records on pour number Q2T21-W-2109320A in the Unit 2 Auxiliary building basemat. Acceptance criteria examined by the inspector appear in the following documents:

- a. PSAR, Section 3.8.1.7.5
- b. FSAR, Section 3.8.1.6.5
- c. Specification 9645-C-191.0, Revision 13, Materials Testing Services
- d. Specification 9645-C-103.0, Revision 17, Form, Place, Finish and Cure Concrete,
- e. Specification 9645-C-101.0, Revision 14, Furnish and Deliver Concrete,
- f. Specification 9645-C-115.0, Install Reinforcing Mechanical Splices,
- g. Specification 9645-C-112.0, Placement of Reinforcing Steel,
- h. QCI 9.1, Concrete Inspection Activities,
- i. QCI 9.1.7, Inspection of Reinforcing Mechanical Splices,

Records examined included:

- a. Certification records of Pittsburg Testing Laboratory (PT&L) and Bechtel inspectors,
- b. Certification records of ten Cadweld inspectors,
- c. Cadweld daily inspection and test frequency logs and tensile strength data,
- d. Cadweld location drawings, FSK-C-1062, 1063, 1068, 1070 and 1216,
- e. WPIR Q 2T-21-W-21093 which contained batch tickets, cylinder breaks, concrete mix reports, preplacement and placement reports, in process test data and concrete yield work sheets. _

Examination of the above documents and discussions with responsible MP&L and Bechtel personnel disclosed the following unresolved items:

a. Acceptance Criteria on Air Temperature and Slump at Batch Plant

Acceptance criteria for in process tests on air temperature and slump performed at the batch plant on pumped concrete do not appear to be clearly defined in the specifications. Discussions with QC and QA personnel indicated that the specifications are not being interpreted uniformly. This was identified to the licensee as Unresolved Item 417/78-11-02.

b. Frequency of In-process Correlation Testing, Pumped Concrete

Examination of records indicated the location and frequency of sampling for testing of air, temperature and slump were not in accord with the PSAR. Discussions with MP&L and Bechtel personnel indicated changes in the location and frequency of sampling were based on correlation tests, engineering evaluation and changes in the current ANSI Standard N45.2.5 - 1978. They indicated their specification in use and FSAR currently at NRR, which was scheduled for docketing on June 30, 1978, reflected their present mode of testing.

The licensee indicated his mode of operation, change, and basis for changes that have occurred to date are as follows:

(1) PSAR, December 1974 - August 1977

Sample and test at point of placement every 50 yards for slump and temperature and every 100 yards for air and test cylinders.

(2) FSAR, August 1977 to February 1978 (Change reflected in FSAR based on correlation testing and engineering evaluation during operations between December 74 - August 77)

Sample at batch plant every 50 yards for slump and temperature and every 100 yards for air and cylinders. Make correlation tests every 200 yards at point of placement for air, temperature and slump; working limits at point of placement.

(3) Specification 9645-C-191.0, Revision 13, February 1978 to July 7, 1978 (change based on engineering evaluation of operations to date and ANSI standard N45.2.5 - 1978).

Sample at batch plant every 50 yards for slump and temperature and every 100 yards for air and cylinders. Make correlation tests for air, temperature and slump every 500 yards at point of placement; working limits at point of placement.

Subsequent examination of the FSAR and ANSI Standard N45.2.5 - 1978 at Region II indicated the licensee's current mode of in-process testing appeared to be a deviation from the FSAR and ANSI Standard N45.2.5-1978.

The licensee was notified on July 5, 1978 of NRC's concern regarding the mode of in-process testing. On July 7, 1978, per telephone conversation with Region II IE, the licensee agreed to return to the mode of operation stated in the FSAR and as discussed in paragraph 5b(2) (appears to agree with ANSI N45.2.5-1978).

Following several phone conversations with NRR, Headquarters IE, and responsible personnel at MP&L and Bechtel, the licensee was notified per telephone on July 18, 1978 that the matter regarding frequency of in-process correlation testing would be an unresolved item pending RII IE review of the licensee's justification for deviating from the PSAR, FSAR, and ANSI Standard N45.2.5, 1978.

This is unresolved item 417/78-11-03.

6. Containment (Structural Concrete II) - Review of Quality Records, Unit 2

The inspector examined quality records on pour numbers Q2M22-W-23243WXA(A), Q2M22-W-23243WXA(B) and Q2M22-W-23243WXA(C) in the A, B and C rings of the Containment Building. Acceptance criteria examined by the inspector are the same as those listed in paragraph 5. Records examined included:

- a. Certification of PT&L and Bechtel QC inspectors,
- b. Certification records of ten Cadweld inspectors,
- c. Cadweld daily inspection and test frequency logs and tensile strength data,

- d. Cadweld location drawings FSK-C-1199, 1115, 1118, 1112, 1111, 1121 and 1110,
- e. Work package and inspection report numbers Q2M22-W-2343WXA(A) and Q2M22-W-23243WXA(B) which contained batch tickets, concrete mix reports, preplacement and placement reports, in process test data and concrete yield sheets,
- f. NCR number 2695.

Records on correlation testing indicate the frequency of correlation tests are not in accord with the FSAR as discussed in Unresolved Item 417/78-11-03, paragraph 5.

7. Containment (Structural Concrete II) - Observation of Work and Work Activities, Unit 2

The inspector observed partial placement of pour number Q2M22-W-23243WXA(C) in the C ring of the containment building. Acceptance criteria examined by the inspector are the same as those listed in paragraph 5.

Forms were tight and clean. Examination of Cadweld records indicated rebar placement and splicing was as required by specifications. Preplacement inspection was indicated by the signed preinspection form. Placement activities pertaining to delivery time, piping, free fall, layer thickness and consolidation conformed to specifications. Activities were continuously monitored by QC personnel.

An examination of the batch plant indicated proper mixes were being delivered to the specified site, materials were being controlled and accurate batch plant records were being generated.

Post placement examination of records indicated samples for temperature, slump and air were taken every 50 yards at the batch plant and that correlation tests were taken every 500 yards at the point of placement.

The above records indicate the frequency of correlation tests are not in accord with the FSAR as discussed in Unresolved Item 417/78-11-03, paragraph 5.

8. Exit Interview

The inspector met with licensee representatives denoted in paragraph 1 at the conclusion of the inspection on June 30, 1978. The licensee was apprised of the scope of the inspection which included examination of work performance, quality records and QA implementation on structural concrete, anchor bolts and a previously identified item. The licensee acknowledged the item of noncompliance discussed in paragraph 4 and the unresolved item discussed in paragraph 5a and indicated measures would be taken to resolve the items.

The licensee was notified by telephone of the second unresolved item as discussed in paragraph 5b.



MISSISSIPPI POWER & LIGHT COMPANY

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P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

PRODUCTION DEPARTMENT

September 20, 1978

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U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Attention: Mr. J. P. O'Reilly, Director

Gentlemen:

SUBJECT: Grand Gulf Nuclear Station
File 0272/0494/15521
Units 1 and 2
RII: JJB
50-416, 417/78-12
IE Inspection Report of
July 18 through July 21, 1978
MQBC 78/156
AECM-78/75

In response to your letter of August 29, 1978, transmitting IE Inspection Report of the July 18 through July 21, 1978 inspection, we find no proprietary data contained therein.

Yours truly,

J. P. McGaughy, Jr.

for J. P. McGaughy, Jr.
Director of Power Production

JRF:dwe

cc: Mr. N. L. Stampley
Mr. R. B. McGehee
Mr. T. B. Conner

Dr. Ernst Volgenau, Director
Division of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555