



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

Report Nos.: 50-416/78-21 and 50-417/78-21

Docket Nos.: 50-416 and 50-417

License Nos.: CPPR-118 and CPPR-119

Categories: A2 and A2

Licensee: Mississippi Power and Light Company
Post Office Box 1640
Jackson, Mississippi 39205

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

Inspection at: Grand Gulf and Jackson, Mississippi

Inspection conducted: December 13-15, 1978

Inspectors: J. K. Rausch, M. J. Gouge

Reviewed by:

A. R. Herdt

A. R. Herdt, Chief
Projects Section
Reactor Construction and Engineering Support Branch

1/3/79
Date

Inspection Summary

Inspection on December 13-15, 1978 (Report Nos. 50-416/78-21
and 50-417/78-21)

Areas Inspected: QA program implementation; welding activities; NCR reporting; cadwelding observation; AE audits and inspection of construction activities. The inspection involved 36 inspector-hours on site by two NRC inspectors.

Results: No items of noncompliance or deviations were disclosed.

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DETAILS

Prepared by:

J. K. Rausch
J. K. Rausch, Principal Inspector
Projects Section
Reactor Construction and Engineering
Support Branch

1-2-79
Date

M. J. Gouge
M. J. Gouge, Reactor Inspector
Projects Section
Reactor Construction and Engineering
Support Branch

1-2-79
Date

Dates of Inspection: December 13-15, 1978

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A. R. Herdt
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Projects Section
Reactor Construction and Engineering
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1. Persons Contacted

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

- *T. E. Reaves, Manager of QA
- *J. C. Fuller, QA Representative
- *P. W. Sly, QA Field Supervision
- *B. C. Lee, QA Representative - Electrical
- *S. F. Tanner, QA Representative

b. Bechtel Power Corporation (Bechtel)

- *R. L. Scott, Project QA Manager
- *D. Strohman, Quality Assurance Engineer
- *R. J. Alexander, LFWE
- *C. A. Torell, Project Superintendent

Other Grand Gulf employees contacted during this inspection included technicians and mechanics.

*Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

No previous inspection findings were examined.

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. An unresolved item disclosed during the inspection is discussed in paragraph 4a.

4. Independent Inspection

- a. The inspectors performed a walk-through inspection of the containment, auxiliary, turbine and control buildings. During the walk-through, a worker expressed to one of the NRC inspectors a concern relating to the welding at the Grand Gulf Nuclear Plant. The inspector questioned the worker as to the specifics of his concern so that it could be thoroughly followed up and evaluated. The worker only had second and third-hand knowledge.

The inspector pursued the welding concern with other workers which centered around using welding procedure P1-AT-LH Rev. 1. This weld procedure is used in conjunction with specification M-1830, Appendix 035, Rev. 3, General Welding Standard - FM, Rev. 3 which states in part, paragraph 4.4.6:

Welding shall not be interrupted until at least one-fourth of the weld groove depth is filled or the weld thickness reaches 3/8 inch, whichever is less. . . . A lesser thickness may be deposited providing:

When welding with a combination gas tungsten-arc (GTAW) and shielded metal-arc (SMAW) procedure on piping of wall thickness greater than 1/2 inch, all of the GTAW welding is completed and at least one layer of SMA welding is completed.

The inspector found contrary to the above, the minimum required weld metal was not deposited prior to interruption on the following weld:

<u>SYSTEM</u>	<u>MPL NO.</u>	<u>DRAWING</u>	<u>WELD NO.</u>	<u>WALL THICKNESS</u>	<u>PIPE DIAMETER</u>
DBD-16	N1N21	M-1323A	FW 96	1.438	28"

The above weld is in the feedwater line, balance of plant, and located in the turbine building. However, since this weld was designated as a critical weld, the work was being documented as if it was safety-related. This means using the same control procedures, weld procedures and weld travellers.

Upon further inquiry it was determined that the involved personnel (QC, welding engineering, craft supervision) could be and are transferred from the balance of plant work to safety-related activities. On account of these possibilities, the inspector inquired into the licensee's controls to assure this welding error has not and will not occur in safety-related areas. The licensee has issued Discrepancy and Correction Report (D&CR) 1124 and agreed to pursue these concerns. This item is identified as unresolved item No. 416/78-21-02, Non-Safety-Related Welding Controls.

No items of noncompliance or deviations were identified.

b. Nonconformance Report (NCR) System (Units 1 and 2)

The NCR systems implemented by the architect-engineer, Bechtel Power Corporation, was reviewed by the Region II inspector. Bechtel QC Procedure 7.1 Rev. 6 entitled "Nonconformance Control" is the applicable instruction for control of nonconforming items identified within the nuclear plant. Bechtel's Nonconformance Report Log and NCR's 3060 through 3165 were inspected for conformance to QC Procedure 7.1 Rev. 6 and adequacy of the proposed corrective action. Several QC hold tags in the Unit 1 containment building were inspected for proper posting in accordance with the requirements of QC Procedure 7.1 Rev. 6. The NCR system was found to be implemented and functioning in accordance with applicable procedures.

No items of noncompliance or deviations were identified in the above area inspected.

c. Pittsburgh Testing Laboratory (PTL) Inspection (Units 1 and 2)

The Region II inspector reviewed the qualification records of four concrete testing personnel employed by PTL. The

qualification records were inspected for content, accuracy and conformance to the requirements of ANSI N45.2.6-73. The qualification records of one level III inspector, two level II inspectors and one level I inspector were reviewed. The four qualification records were found to be adequate.

The concrete testing facility maintained by PTL was inspected for general cleanliness and proper calibration of measuring and test equipment. The concrete testing facility was clean and all measuring and test equipment was in calibration.

No items of noncompliance or deviations were identified within the above areas inspected.

d. Cadwelding Operations (Unit 2)

The fabrication of cadweld splice AH 929 located on the Unit 2 containment building was observed by the Region II inspector. The cadweld splice was made correctly in accordance with Bechtel Specification 9645-C115.0. The qualification record of the individual performing cadweld splice AH 929 was reviewed. The qualification record was found to be adequate and up-to-date.

No items of noncompliance or deviations were identified in the above area inspected.

5. Licensee Identified Items

- a. (Closed) 10 CFR 50.55(e). Item 416/417/78-04-01, Containment Design. MP&L reported a potential deficiency regarding the subject design on August 2, 1976. Two interim reports dated August 31, 1976 and July 5, 1977, were subsequently filed. The reports related MP&L plans to analyze the dynamic effects of quencher loadings on the containment structure. On November 28, 1978, MP&L submitted a final report advising that the results of the analysis effort on the subject design continuing since August 1976 has been included in the FSAR submitted to the NRC staff on June 30, 1978.

MP&L further advised Region II in their final report of November 28, 1978, on this subject that no deficiencies in the design or in the construction of the containment are known to exist and therefore is no longer considered to be reportable as defined in 10 CFR 50.55(e).

The inspector reviewed paragraph 3.8.3.3 and Appendix 6A of the FSAR which include the results of the analysis of the dynamic effects of quencher loadings on the containment structure. Amendment 25 to the FSAR dated August 8, 1978, was also examined by the inspector to assure that the additional Safety/Relief valve loadings committed to in the initial submittal of the FSAR were further analyzed. In addition the inspector reviewed Bechtel Management Corrective Action Report MCAR-GGNS #15 which has been closed and corrective action verified by Bechtel management.

On the basis that the subject item is not considered a deficiency by the licensee and that all pertinent information has been included in the FSAR for the NRC staffs review this item will not be carried in additional RII construction reports. This item is closed.

- b. (Closed) 10 CFR 50.55(e) Item 416/78-21-01 Structural Steel Floor Framing. MP&L Company notified the NRC on August 11, 1978, that during the engineering review of the design calculations, they found that an erroneous design criteria had been used to design the Unit 1 floor framing. The floor framing for the support of a removable galvanized bolted grating must also support suspended loads either with or without the grating installed without distortion. The corrective action was to redesign the floor framing which in turn required reinforcement by bracing. The work has been completed and MCAR #45 has been signed by Bechtel management to verify that corrective action has been completed and action taken to preclude recurrence. This item is closed.

6. Containment Concrete Dome Pour Surveillance, Unit 1

The inspector examined the Bechtel records to gain assurance that the containment concrete dome pours nearing completion at the time of this inspection had the attention of the Bechtel QA auditing section. The records show that an inprocess inspection identified as Q1M22-W-1102 QOA was made on the dome and verification made that the following had been achieved as specified by Bechtel Technical Specification 9645-C-103.0:

- (1) Forms were properly constructed in accordance with paragraph 6.1
- (2) Proper form parting agents (in accordance with paragraph 6.3) had been used

- (3) Embeds were properly placed/protected in accordance with paragraph 6.4
- (4) Control joints, contraction joints and expansion joints were made per paragraph 7.0

Records indicate that additional verification of the QC control was made by Bechtel audits in the following areas:

- (1) Cleanup preparation was performed per paragraph 11.2 of 9645-C-103.0 and 6.2.7 of QCI 9.1-1
- (2) Placement protection was provided per paragraph 11.5 of 9645-C-103.0
- (3) Concrete was conveyed and placed per paragraph 11.0 of 9645-C-103.0

No items of noncompliance or deviations were identified.

7. Organizational Structure and QA Personnel

The organizational structure described in the QA manual Chapter 2 conforms to the description in the SAR Chapter 17. The Quality Assurance manager reports to the Vice President of Production. MP&L procedures QAP 1.20F and QAP 1.30G define the qualifications, responsibilities and duties of QA personnel sufficiently to assure adequately qualified personnel. A review of both the licensee and constructor organizational charts indicate that the "independence and freedom of action" requirements are being met.

Established procedures for construction activities require that both the Bechtel Manager of QA on site and the MP&L Quality Assurance Field Supervisor on site have authority to stop any activity which does not conform to applicable quality requirements.

No items of noncompliance or deviations were identified.

8. Record Storage

The inspector examined the storage vault facility for QA records to determine if the licensee's retention of records was in accordance with the Bechtel QC procedure 13.1, paragraph 9.4. The inspector noted that records are protected by storage cabinets within a concrete block vault. Smoke detectors designed to activate alarms in case of fire in

both the area outside the vault and the guard shack have been installed. In addition a severity patrol checks the vault area hourly during the unattended hours.

No items of noncompliance or deviations were identified.

9. Quality Assurance Committee

MP&L advised NRC licensing on November 13, 1978, of their dissolution of the Quality Assurance Committee. MP&L identified that the responsibilities of this committee are handled by the present QA organization and by presentations and/or reports submitted to the Vice President of Production and Engineering semi-annually. In addition, the inspector established that paragraph 2.5.4 of the QAM requires "Management Audits". That is, the MP&L Internal Auditing Department responsible to the President of the company performs management audits and reports them to responsible management.

No items of noncompliance or deviations were identified.

10. Mississippi Power and Light (MP&L) QA Audits (Units 1 and 2)

The QA audit program conducted by MP&L was inspected for conformance to the licensee's commitments in this area. MP&L Quality Assurance Manual Policy 10 entitled "Quality Assurance Audits" was reviewed and found to be an acceptable method of conducting periodic audits. The Region II inspector reviewed MP&L Audit Report #15 performed on the activities of Bechtel Power Corporation. The audit was found to be adequate and met the requirements of QAM Policy 10.

No items of noncompliance or deviations were identified in the above area inspected.

11. Qualification and Training of MP&L Lead Auditors (Units 1 and 2)

The qualification record of one MP&L lead auditor was reviewed in detail by the Region II inspector for conformance to MP&L QAP 2.40 Rev. 2. The qualification and training program conducted by MP&L for lead auditors was found to be adequate. The reviewed qualification record was found to be complete, accurate, and in accordance with the requirements of QAP 2.40 Rev. 2.

No items of noncompliance or deviations were identified in the above area inspected.

12. Exit Interview

The inspection scope and findings were summarized on December 15, 1978, with those persons indicated by an asterisk in paragraph 1 above. The licensee acknowledged the unresolved item concerning the non-safety-related welding controls and committed to further evaluation to prevent recurrence in non-safety and safety-related areas.