



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

Report Nos. 50-416/81-40 and 50-417/81-17

Licensee: Mississippi Power and Light Company  
Jackson, MS 39205

Facility Name: Grand Gulf

Docket Nos. 50-416 and 50-417

License Nos. CPPR-118 and CPPR-119

Inspection at Grand Gulf site near Port Gibson, Mississippi

Inspector: J. L. Coley 10-14-81  
Date Signed

Accompanying Personnel: J. J. Blake, Region II  
Martin Hum, NRC/NRR  
A. R. Herdt, Region II  
J. F. Cook, NRC Consultant

Approved by: A. R. Herdt 10-19-81  
Date Signed  
A. R. Herdt, Section Chief  
Engineering Inspection Branch  
Engineering and Technical Inspection Division

SUMMARY

Inspection on September 28 - October 1, 1981

Areas Inspected

This routine, announced inspection involved 50 inspector-hours on site in the areas of review of work packages for NIS Owner's Data Reports (Unit 1), previous inspection findings (Unit 1), independent inspection (Unit 1) and NRC/licensee meeting to review preservice inspection program (Units 1 and 2).

Results

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

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- G. Rodgers, Site Manager, Construction
- \*J. W. Yelverton, QA Field Supervisor
- \*J. G. Cesare, Supervisor of Licensing
- C. K. McCoy, Plant Manager, Operations
- \*S. M. Pruitt, Inservice Inspection (ISI) Coordinator
- \*S. F. Daugherty, Senior Plant Quality Representative
- \*J. M. Kelly, QA Specialist

#### Other Organizations

- \*R. E. Edwards, ISI Service Manager, General Electric

#### NRC Resident Inspector

- \*A. G. Wagner

- \*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on October 1, 1981 with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings listed below:

(Open) Unresolved Item 416/81-40-01 and 417/81-17-01: UT weld volume coverage when performing full vee-path examinations - paragraph 8.a.

(Open) Unresolved Item 416/81-40-02 and 417/81-17-02: Qualification of ultrasonic indications as geometric reflectors - paragraph 8.b.

### 3. Licensee Action on Previous Inspection Findings

- a. (Closed) Unresolved Item 416/81-11-02: Lack of licensee audits of NDE performance during preservice inspection. The inspector reviewed approximately 12 monitoring audits of the PSI program performed by plant quality personnel. These audits dealt primarily with ultrasonic testing (UT) since the majority of the inspections performed during the period of 1979 through 1981 were UT. In addition, General Electric (GE) supervisors were required to conduct biweekly surveys utilizing checklist of the work performance of GE NDE examiners in each NDE discipline. The inspector is satisfied that the above mentioned monitoring/audits performed were adequate to provide assurance of the adequacy of examinations performed in the PSI program.

- b. (Open) Unresolved Item 416/81-11-03: Visual examination of pressure retaining bolting for preservice inspection is questionable. This item dealt with the failure of the licensee to perform a visual examination of B-G-1 and B-G-2 items prior to installation. The licensee had intended to inspect the bolting in the installed condition, however the inspector pointed out that for B-G-2 Category items visual inspection was to be performed prior to installation. The licensee's position was that removal of pressure retaining bolting 2" and less in diameter for visual examination is not required as this bolting had already received a more stringent examination (magnetic particles) prior to "N" stamping of the particular Section III part or component. The inspector concurred that technically magnetic particle examination was superior and asked to see MT records for bolted flanges that the licensee had installed on Unit 1. The above magnetic particles inspection reports were not available for review at this time. This item will be reviewed on a subsequent inspection.
- c. (Open) Violation 416/81-20-02: Inadequate inspection activities. This item dealt with failure of Atwood Morrill to properly bend locking devices on valves B21F028B and B21F028C. The inspector stated in this violation that the licensee's planned inspection program did not verify design safety features such as locking devices, since this was the vendor's responsibility. The licensee took exception to the inspector's statement and referenced Chapters 4.23 and 5.11 of the Checkout and Turnover Organization (CTO) Manual as the necessary requirements for inspection of locking devices. This inspector reviewed both references and found them inadequate for insuring locking devices would be properly installed. In addition, the licensee has not notified the vendor in writing of the discrepancy. The inspector requested that the licensee amend the response to this item to address the inspector's concerns stated above.

#### 4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraphs 8.a and 8.b.

#### 5. Independent Inspection Effort (Unit 1)

The inspector conducted a general inspection of the reactor building and auxiliary building to observe construction progress and construction activities such as welding, welding material control, housekeeping and storage.

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

6. Review of NIS-1 Owners Data Reports (Unit 1)

Mississippi Power and Light Company (MP&L), in accordance with the requirements of ASME Section XI Code, Article IWA-6000, submitted copies to Region II of NIS-1 Owner's Data Reports for repairs, replacements, and modifications that had been performed on Grand Gulf Unit 1 on June 3, 1981. The following ASME Section XI repairs, replacements, and modifications were performed:

1. Feedwater Safe-end Replacement NIS-1-00001;
2. Recirculation Discharge Block Valve Modification NIS-1-00002;
3. Feedwater Nozzle 30°AZ(N4A) Repair NIS-1-00003;
4. CRD Return Line Nozzle Capping NIS-1-00004;
5. Recirculation Inlet Nozzle Safe-end Replacement NIS-1-00005.

The repairs, replacements, and modifications were performed by GE under contract to MP&L and Bechtel Power Corporation, using procedures meeting the requirements of ASME Section XI 1974 Edition, up to and including the Summer 1975 Addenda.

The inspector reviewed the completed work packages containing the original NIS-1 Owner's Data Reports and procedures used in the ASME Section XI repair, modification or replacement activity, as well as final examination results, for NIS-1 items 00003, 00004, and 00005 above.

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

7. Inspector Followup Items (Unit 1)

- a. (Closed) Inspector Followup Item 416/81-11-01: Preservice inspection program clarifications and corrections. Based on recent meetings between NRR in Washington and MP&L, it was decided to use GE isometrics to review the GGNS Preservice Program. Therefore, the use of the Preservice Program Abstract for NRC review of the GGNS PSI program, will no longer be needed. Paragraph 8 of this report describes certain clarifications Region II has requested as a result of a NRR, IE, MP&L, and GE review of GGNS PSI program conducted on September 30 and October 1, 1981. Region II concerns as a result of this meeting will continue to be tracked by unresolved items 416/81-40-01; 417/81-17-01; 416/81-40-02 and 417/81-17-02.
- b. (Open) Inspector Followup Item 416/81-11-04, Records of qualification test specimen do not identify built-in defects. GE had not completed corrective action on this item. GE stated that when their corrective action is complete Region II will be notified and verification can be performed in Norcross, Georgia.
- c. (Closed) Inspector Followup Item 416/81-20-01: Effectiveness of QC monitoring checklists. The inspector reviewed QC monitoring checklists from June 1981 until the present and found that the licensee is presently making effective use of the QC monitoring checklists.

8. Grand Gulf Nuclear Site Preservice Inspection Program Meeting (Units 1 and 2)

On September 30 and October 1, 1981, a meeting was conducted at Grand Gulf with NRC/NRR, NRC/IE, MP&L and GE to discuss GGNS PSI program. The following topics were discussed by the above:

- (1) Summary of NRC/NRR and MP&L August 6, meeting
- (2) Applicant's summary of PSI program and submittal
- (3) Relief request
- (4) Exemption application
- (5) Class II collection
- (6) Review of reactor vessel PSI report
- (7) Resolution of detailed questions on PSI Abstract
- (8) Review of procedures and results
- (9) Demonstration of procedures
- (10) Summary and conclusions

It is our opinion that this meeting was beneficial and has provided for a better understanding of GGNS PSI program and also of NRC inspection and enforcement issues. There were, however, several areas in GGNS PSI program that NRC felt MP&L should clarify. This report will only deal with clarifications requested by Region II.

- a. GE examiners performed a UT demonstration of Procedure UT-14-380, Revision 1, on weld joint No. 62-8-3 (MP&L System No. 1G35G002). This weld joint was an eight-inch schedule 80 pipe to elbow. The GE examiners first tried to inspect this weld joint using a half vee examination and scanning from both sides of the weld. This technique would not inspect the weld volume due to the thin pipe wall and the large weld reinforcement. The examiners then conducted the examination as it had been performed during preservice. This technique consisted of a full vee examination from the pipe side of the weld on one surface. The inspector noted during this inspection that if the half vee inspection could not be performed then the full vee inspection would have to include calibration and examination for a minimum to the 12/8ths vee-path and possibly to the 16/8ths vee-path in order to inspect the weld volume and the heat effective zone on the far side of the weld. Paragraph 6.2.5.1 of GE's Procedure UT-14-380, Revision 1, however, stated in part; "when the calibration block size permits, the 12/8ths vee-path (2nd ID notch) appears at the 6th major division." This qualifying statement cannot be applied to the 12/8th vee-path calibration since this vee-point is essential. GE's representative stated, that to his knowledge GE does not have a calibration block that the 12/8th vee-path could not be obtained, however this would be verified and the qualifying statement would be taken out of paragraph 6.2.5.1 since it would also contradict calibration requirements for the 12/8th vee-path noted in paragraph 6.2.5.3 when calibration



standards equal to or exceed  $\frac{1}{2}$ -inch thickness. The licensee should also review other UT procedures to determine if deletion of this qualifying statement would also be applicable. This item was reported to the licensee as unresolved item 416/81-40-01 and 417/81-17-01: UT weld volume coverage when performing full vee-path examinations.

- b. The inspectors' review of preservice UT examination records revealed that geometric indications were recorded as required in paragraph 6.3.3 and paragraph 6.3.3.1 of GE's Procedure UT-14-380, Revision 1. These paragraphs, however gave no guidance on how to qualify UT indications as a geometric reflector in accordance with Section IWB3514.5 of the 1977 Edition of the ASME Code. UT records reviewed by the inspectors revealed that the only qualifying requirement GE used was if the indication could be detected intermittently around the weld joint. The inspectors noted that cracks, lack of root penetration and lack of fusion at the root could also occur intermittently around the root. The Winter 1975 Addenda of the 1974 Edition of the ASME Code and the 1977 Edition of the ASME Code states in part:

"The presence of a geometric reflector shall be noted for the record.

To qualify an ultrasonic indication as a geometric reflector, the following requirements shall be met.

- (1) The area containing the geometric reflector shall be examined and interpreted in accordance with Appendix III.
- (2) The presence of geometric reflectors shall be confirmed either by review of the fabrication drawings of the pipe weld edge preparation, the nondestructive examination records, or supplemental examination results.
- (3) Supplemental examination methods shall be used, if necessary, to confirm the presence of geometric reflectors."

This item was reported to the licensee as unresolved item 416/81-40-02 and 417/81-17-02: Qualification of ultrasonic indications as geometric reflectors.