



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

Report No. 50-416/81-11

Licensee: Mississippi Power and Light Company
 Jackson, MS 39205

Facility Name: Grand Gulf

Docket No. 50-416

License No. CPPR-118

Inspection at Grand Gulf near Port Gibson, Mississippi and at General Electric Nuclear Services facility in Norcross, GA

Inspector: *L. D. Zajac* *6/8/81*
 L. D. Zajac Date Signed

Approved by: *A. R. Herdt* *6/8/81*
 for A. R. Herdt, Section Chief Date Signed
 Engineering Inspection Branch
 Engineering and Technical Inspection Division

SUMMARY

Inspection on May 5-8 and May 27, 1981

Areas Inspected

This routine, unannounced inspection involved 36 inspector-hours on site in the areas of Preservice Inspection - review of program, observed ultrasonic and liquid penetrant examinations, review of QA records, review of personnel NDE qualification records and review of licensee audit reports; Safety-Related Piping - review of radiographic films and records; Review of previously identified inspector followup item.

Results

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

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *T. H. Cloninger, Project Engineer Manager
- *A. S. McCurdy, Plant Staff
- *R. A. Courtney, Plant Quality
- ***J. M. Kelley, QA
- *S. F. Tanner, Construction QA Coordinator
- ***S. M. Pruitt, ISI Coordinator

Other Organizations

- *M. R. Lindsey, Bechtel Power Corporation
- P. Bailey, General Electric Corporation
- **W. R. Winters, Manager QA, General Electric Company
- **J. L. Polk, Manager Nuclear Support Services, General Electric Company
- **D. A. Yoder, QA Supervisor, General Electric Company
- **J. W. Stoute, NDE Supervisor, General Electric Company
- **R. Edwards, Service Manager, General Electric Company

NRC Resident Inspector

- *A. Wagner

- *Attended exit interview of May 8, 1981
- **Attended exit interview of May 27, 1981
- ***Attended both exit interviews

2. Exit Interview

The inspection scope and findings were summarized on May 8, 1981 at the Grand Gulf site for the inspection conducted at the site, and on May 27, 1981 for the inspection conducted at the General Electric facility with those persons indicated in paragraph 1 above. The following specific items were discussed:

Inspector Followup Item 416/81-11-01, "Preservice Inspection Program Clarifications and Corrections", Paragraph 5.a.

Unresolved Item 416/81-11-02, "Lack of Licensee Audits of NDE Performance During Preservice Inspection", Paragraph 5.d.

Unresolved Item 416/81-11-03, "Visual Examination of Pressure Retaining Bolting for Preservice Inspection is Questionable", Paragraph 5.e.

Inspector Followup Item 416/81-11-04, "Records of Qualification Test Specimens Do Not Identify Built-in Defects", paragraph 5.b.

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 violations or deviations. New unresolved items identified during this inspection are discussed in paragraphs 5.d. and 5.e.

5. Preservice Inspection

a. Review of Preservice Inspection (PSI) Program

The inspector reviewed the revised preservice inspection program to determine if it complies with Section XI of the ASME Code, 1977 Edition with summer 1978 addenda. The written program is titled, "Preservice Examination Program" and was forwarded to Region II by Mississippi Power and Light Company (MP&L) letter AECM-81/132 dated April 6, 1981. Review of the program disclosed areas needing clarification, examples of which are identified below.

- (1) The cover page on the program is not dated, nor is there an MP&L approval signature.
- (2) The table for Nuclear Boiler System B21 (Main Steam) has the following discrepancies:
 - (a) Columns 01 and 05 do not indicate the correct size or thickness respectively for the bolting (Category B-G-1).
 - (b) Column 07 for Category B-G-1 does not list the correct item numbers. B6.21, B6.22, B6.23 should be B6.210, B6.220 and B6.230 respectively.
 - (c) The required information for columns 01, 03, 04 and 05 is not specified for categories B-J, B-K-1 and B-K-2. Also category B-J, item B9.11 appears to be repeated needlessly further down on the table.
 - (d) Columns 01 and 05 do not indicate the correct size and thickness respectively for the bolting (category B-G-2).
- (3) The table for Nuclear Boiler System B21 (Feedwater) has the following discrepancies:

- (a) The method of inspection is not indicated for category B-K-1, item B10.10. Also, B-K-1 is entered a second time on the table without an item number or any other information.
 - (b) The required information for columns 01, 03, 04 and 05 is not specified for categories B-K-2, C-C and C-E. Also no item number is specified with C-E.
 - (c) Category B-J, item B9.11 is entered twice on the table and the second entry does not specify the number of items in column 08 nor the required volumetric examination of column 11.
 - (d) Category C-F, item C5.21 is entered twice on the table.
- (4) The table for Reactor Recirculation System B33 has the following discrepancies:
- (a) Columns 01 and 05 do not indicate the correct size and thickness respectively for the bolting (category B-G-1).
 - (b) Column 07 for category B-G-1 does not list the correct item numbers. B6.18, B6.19 and B6.20 should be B6.180, B6.190 and B6.200 respectively.
 - (c) The required information for columns 01, 03, 04 and 05 is not specified for categories B-G-2, B-J, B-K-1, B-K-2, B-L-2 and B-M-2.
 - (d) The method of inspection is not indicated for category B-K-1, item B10.30, nor is the number of items (column 08) specified. This discrepancy also applies to B-K-2, item B11.30. In addition, the method of inspection is not specified for B-K-2, item B11.20.

The above discrepancies are examples of what is indicative of all the tables. The licensee stated that some of these discrepancies had been detected by their own review and many were typographical errors. In addition, the program lacks the details of Section XI such as the amount of base metal to be examined adjacent to welds, identifying the total length of reactor vessel welds from which a percentage of the weld can be derived from inservice inspection, the length of longitudinal and circumferential welds actually examined during preservice inspection, etc. The licensee agreed to review the tables and the program details and to clarify/modify them accordingly. This will be carried as Inspector Followup Item 416/81-11-01, "Preservice Inspection Program Clarifications and Corrections."

b. Observation of Ultrasonic and Liquid Penetrant Examination

Since the preservice examinations (except for visual) are complete the inspector requested the licensee to perform an ultrasonic and a liquid penetrant examination in the lab on test specimens that simulate production work. The inspector observed both these examinations and verified that they were performed in accordance with Section XI of ASME and the licensee written procedures. The inspector also reviewed the qualification records for the examiner conducting these tests and the qualification records for his supervisor.

As part of the inspection, the inspector visited the General Electric facility in Norcross, GA on May 27, 1981 to review the NDE personnel training program, the written and practical exams that are administered, and selected personnel qualification records. One discrepancy was noted wherein no records were available that described the test specimen with the location and type of defects that the examiner candidate was expected to detect during the qualification nondestructive examination. The Level III examiner advised the NRC inspector that they had just recently moved to their current location and many of the original test specimens were lost. Thus, several of the qualification test specimens were new and records which mapped out defects for the Level III examiner's use had not yet been accomplished. The Level III examiner agreed to develop such records accordingly. This will be carried as Inspector Followup Item 416/81-11-04, "Records of Qualification Test Specimens Do Not Identify Built-In Defects".

c. Review of QA Records

The inspector reviewed the record system and specific records for the welds of safety-related systems, and of the reactor vessel, listed below, to determine if the records met Section XI of ASME Code requirements.

<u>System</u>	<u>Weld Identification</u>	<u>ISO/Drawing</u>
Residual Heat Removal	W-4	M-1348A
Reactor Water Cleanup	W-2	M-1347A
Reactor Core Isolation Cooling	W-13-8-11	M-1347A
High Pressure Core Spray	W-15	M-1349A
Low Pressure Core Spray	W-25	M-1350B
Main Steam	W-6	762E950
Main Steam	G-11-D1-H	762E950
Feedwater	W-3	M-1328J
Feedwater	W-7-11-4	M-1328J
Reactor Vessel	Longitudinal Weld BE	351N80B0007

<u>System</u> (Continued)	<u>Weld Identification</u>	<u>ISO/Drawing</u>
Reactor Vessel	Longitudinal Weld BH	351N80B0007
Reactor Vessel	Girth Weld AD	351N80B0007
Reactor Vessel	Nozzle Weld N1-A	351N80B0007
Reactor Vessel	Skirt Weld CG	351N80B0007
Reactor Vessel	Longitudinal Weld DM	351N80B0007

It should be noted that records for reactor vessel welds were reviewed at the General Electric facility in Norcross, GA on May 27, 1981.

d. Audits of Preservice Inspection Functions

The inspector reviewed the audit program and several audit reports related to PSI functions. It was noted that most of the audits are of the "paper-work" type. Although a General Electric QC supervisor conducts biweekly surveys of the work performance of the General Electric NDE examiners, it appears the licensee has not performed audits of actual examinations in liquid penetrant, magnetic particle or visual areas. In addition, the licensee appears to have only performed two audits of ultrasonic performance - one in July 1979 and one in December 1980. The licensee agreed to review their audit program to determine if it has been effective and if adequate emphasis has been placed on auditing actual performance of nondestructive examinations. This is Unresolved Item 416/81-11-02, "Lack of licensee audits of NDE performance during preservice inspection".

e. Visual Examination of Bolting

The inspector intended to review records of visual examination of pressure retaining bolting. However, no visual examination of bolting had been accomplished under the preservice inspection program. It should be noted that nearly all bolting (studs, bolts, nuts, washers, and bushings) has been installed. The inspector asked why the bolting had not been visually examined prior to installation. The licensee stated that Table IWB-2500-1 of Section XI of the ASME Code permitted the visual examination to be performed in the installed condition per note (1) of the table for category B-G-1 and B-G-2 items. Therefore, the licensee considered that the visual examination could be performed anytime. The inspector pointed out, however, that note (1) did not apply to the preservice inspection stage for B-G-2 category items; that in this case note (1) only applied to inservice inspection. Thus, the licensee should have examined B-G-2 category bolting prior to installation. The licensee had misunderstood this requirement, but stated that visual examinations were conducted prior to installation per Section III of the ASME Code requirements and that these records could

also be used to satisfy preservice inspection requirements. In addition, the licensee stated that sample bolting could be removed and inspected, if necessary to satisfy preservice inspection requirements. The inspector pointed out that if Section III records are to be used, the visual examiners had to have been qualified to the same extent as required by Section XI and that the same conditions had to have been evaluated as required by Section XI. The licensee agreed to resolve this item accordingly. This is Unresolved Item 416/81-11-03, "Visual examination of pressure retaining bolting for preservice inspection is questionable."

No violations or deviations were noted.

6. Safety-Related Piping Welds

The inspector reviewed radiographic films and records of the joints listed below to determine if the radiography was performed and interpreted in accordance with Section V of the ASME Code and licensee procedures.

<u>System</u>	<u>Weld Identification</u>	<u>ISO/Drawing</u>
Low Pressure Core Spray	W-79	M-1350A
Low Pressure Core Spray	W-78	M-1350A
High Pressure Core Spray	W-32	M-1349B
High Pressure Core Spray	W-44	M-1356E

No violations or deviations were noted.

7. Inspector Followup Items

(Closed) Inspector Followup Item 416/81-06-01, "Radiographic Records". The inspector reviewed the corrective actions taken by the licensee and reviewed recent radiographs, as indicated above in paragraph 6. Based on the actions taken and the radiographs reviewed, this item is considered satisfactorily resolved and is therefore closed.