



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA ST., N.W., SUITE 3100
 ATLANTA, GEORGIA 30303
 JAN 10 1980

Report Nos. 50-416/79-34 and 50-417/79-30

Licensee: Mississippi Power and Light Company
 Jackson, Mississippi

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:	<u><i>A. R. Herdt</i></u>	<u>1/9/80</u>
	<i>for</i> P. K. VanDoorn	Date Signed
Approved by:	<u><i>A. R. Herdt</i></u>	<u>1/9/80</u>
	A. R. Herdt, Section Chief, RCES Branch	Date Signed

SUMMARY

Inspection on December 11-14, 1979

Areas Inspected

This routine unannounced inspection involved 23 inspector-hours onsite in the areas of reactor coolant pressure boundary piping - observation of welding and review of radiographs; safety-related piping - observation of welding and review of radiographs.

Results

Of the two areas inspected, no items of noncompliance or deviations were identified in one area; one item of noncompliance was found in one area. (Infraction - Failure to follow specification for radiography - paragraph 5).

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DETAILS

1. Persons Contacted

Licensee Employees

- *C. K. McCoy, Site Manager
- *T. E. Reaves, Jr., Manager of QA
- *J. W. Yelverton, QA Field Supervisor
- *H. D. Morgan, Construction Supervisor
- *D. L. Hunt, Plant Quality Supervisor
- *S. F. Tanner, QA Representative
- D. D. Little, QA Representative

Other licensee employees contacted included three construction craftsmen, three inspectors and two office personnel.

Other Organizations

Bechtel Power Corporation (Bechtel)

- *R. L. Scott, Project QA Manager
- *D. M. Lake, Field Construction Manager
- *A. S. Bettencourt, QA Engineer

General Electric Company (GE)

- *T. E. Sigman, QC Site Representative

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 14, 1979, with those persons indicated in Paragraph 1 above. The noncompliance and unresolved items described in paragraphs 5 and 6 were discussed in detail. Additional details concerning the unresolved item described in paragraph 6 were provided to the licensee (S. F. Tanner) via telephone on December 19, 1979.

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 noncompliance or deviations. New unresolved items identified during this inspection are discussed in paragraphs 5 and 6.

5. Independent Inspection Effort (Units 1 and 2)

- a. (Units 1 and 2) The inspector conducted a general inspection of the Units 1 and 2 containment and auxiliary building areas to observe activities such as filler metal control, material storage and pipe handling.
- b. (Unit 1) Piping is being installed in accordance with the ASME Boiler and Pressure Vessel Code, Section III, 1974 edition with no addenda. The inspector observed fitting up of weld no. 43, ISO M-1328K and intermediate welding of weld nos. 10, ISO M-1347A; 41, ISO M-1328K and 10C, ISO M-1355D for conformance to code and procedure requirements. Areas reviewed included weld travelers, filler metal issue records, weld identification, weld procedure used, physical appearance of weld and welder qualification.
- c. (Unit 1)
 - (1) Class 1 Recirculation System piping welds are required to be tested in accordance with the ASME Boiler and Pressure Vessel Code, Section III, 1974 edition with no addenda. This requirement is delineated in paragraphs 2.2.1 and 5.1 of Purchase Specification No. 21A2005, Rev. 2.
 - (2) Class 1 Main Steam System piping welds are required to be tested in accordance with the ASME Boiler and Pressure Vessel Code, Section III, 1974 edition plus addenda through summer 1974. This requirement is delineated in paragraphs 2.2.1 and 5.1 of Purchase Specification No. 21A9519, Rev. 0.
 - (3) The inspector reviewed radiographs of the welds on Main Steam System Spool Q1B21-G001-G003-C-1 and Recirculation System Spools Q1B33-G001-G007-A-1 and Q1B33-G001-G011-A-770-15'-1 for conformance to Code requirements.
 - (4) ASME, Section V (referenced by Section III, paragraph NB-5112 for examination of welds), paragraph T-235.1 requires that the film identification not obscure the area of interest. Also Section V, paragraph T-262.3 requires density in the areas of interest to be within minus 15 percent of the penetrameter density.

On December 13, 1979, the inspector noted that radiographs for welds A and B of Main Steam System Spool Q1B21-G001-G003-C-1 had a flash-card type film identification over area 35 preventing proper evaluation of this area. Also the radiograph for weld B of Recirculation System spool Q1B33-G001-G007-A-1 contained a density of 2.11 at area 0. The density of the penetrameter used for this radiograph is 2.71. These items are two examples of noncompliance with Criterion V as implemented by the Grand Gulf PSAR paragraph 17.1.5. This is Infraction 50-416/79-34-01 - Failure to follow specification for radiography.

d. (Unit 1)

- (1) Class 2 prefabricated piping spools are manufactured and tested in accordance with the ASME Boiler and Pressure Vessel Code, Section III, 1971 edition plus addenda through summer 1973 as required by Specification No. 9645-M-201.0, Rev. 25. The inspector reviewed radiographs of selected Class 2 welds of offsite prefabricated piping spools for conformance to Code and specification requirements. Radiographs for the following welds were reviewed.

Spool No.	Size	Weld No.
Q1E12-G007-3-10	18"	5*
Q1E12-G007-7-10	12"	1*, 8*
Q1E12-G010-5-8	18"	2
Q1E12-G014-29-8	6"	6*
Q1E12-G016-5-11	12"	2
Q1B21-G031-38-8	28"	1
Q141-G001-14-11	6"	2**

- (2) ASME, Section III, Appendix IX, paragraph IX-3334.2 requires use of source side penetrameters unless it is "impractical to do this", in which case a film side penetrometer may be used. This requirement is generally interpreted to mean that source side penetrameters are required unless the area is inaccessible by hand. On December 13, 1979, the inspector noted that welds identified in the above table by a single asterisk (*) appeared to be accessible for use of source side penetrameters. However, film side penetrameters were used. It should be noted that the weld identified in the above table by a double asterisk (**) appeared to have at least as much accessibility restriction as the previously identified welds. However, a source side penetrometer was used in this case. The use of film side penetrameters where accessibility does not prevent use of source side penetrameters appears to be in noncompliance. However, until the extent and severity of this problem can be fully identified and it can be determined if additional information is available to clarify this problem, this is Unresolved Item 50-416/79-34-2 - Use of film side penetrameters in lieu of source side penetrameters.

No items of noncompliance or deviations, except as identified in paragraph 5.c., were identified.

6. Reactor Coolant Pressure Boundary Piping (Welding) - Observation of Work and Work Activities (Unit 1)

- a. The applicable Code for reactor coolant pressure boundary piping welding is delineated in paragraph 5.b. The inspector observed intermediate welding of 12-inch weld no. 15 of ISO M-1348T for conformance to Code and procedure requirements. Areas reviewed

included weld identification; use of applicable welding procedure; welder qualification; interpass temperature; use of specified weld material; grinding of starts, stops and undercut areas and physical appearance of the weld.

- b. On December 12, 1979, the inspector noted that General Welding Standard GWS-SN, Rev. 5, paragraph 4.4.9.3 for stainless steel material and General Welding Standard GWS-FM, Rev. 7, paragraph 4.4.10.3 for ferritic and martensitic materials states that "The technique, weave, oscillations or stringer beads shall be as required in the WPS or schedule." Review of the welding procedure specifications (WPS's) revealed that the technique does not appear to be specified as required. Examples are P1-AT-Lh, Rev. 1; P1-AT-Lh(CVN), Rev. 6; P1-T, Rev. 0 and P8-AT-Ag, Rev. 0. The applicable Code for procedure (WPS) qualification is the ASME Boiler and Pressure Vessel Code, Section IX, latest edition and addenda in effect at the time of the qualification. The latest Section IX in effect, 1977 through winter 1978 addenda, lists "an increase in heat input, or an increase in volume of weld metal deposited per unit length of weld, over that qualified" (QW-409.1) as a supplemental essential variable (notch toughness materials) for the Gas Tungsten Arc (GTAW) and Shielded Metal Arc (SMAW) welding processes included in the above WPS's. In addition, Section IX lists "A change from the stringer bead technique to the weave bead technique, or vice versa" (QW-410.1) as a nonessential variable for the GTAW and SMAW processes. Also it is common industry practice to control heat input for stainless steel welding via control of bead width to limit the degree of sensitization of base metal. Until qualification data can be reviewed and the full extent and severity of this problem can be identified, this is an Unresolved Item and is assigned numbers 50-416/79-34-03 and 50-417/79-30-01 - Specification of welding technique and heat input controls in welding procedures.

No items of noncompliance or deviations were identified.