



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

Report No. 50-417/82-14

Licensee: Mississippi Power and Light Company  
Jackson, MS 39205

Facility Name: Grand Gulf

Docket No. 50-417

License No. CPPR-119

Inspection at Grand Gulf site near Port Gibson, MS

Inspector: B. R. Crowley 10/19/82  
B. R. Crowley Date Signed

Approved by: J. J. Blake 10/20/82  
J. J. Blake, Section Chief Date Signed  
Engineering Inspection Branch  
Division of Engineering and Technical Programs

SUMMARY

Inspection on September 27-30, 1982

Areas Inspected

This routine, unannounced inspection involved 26 inspector-hours on site in the areas of reactor coolant pressure boundary piping, safety related piping, containment steel structures and supports, licensee identified 50.55(e) Items and IE Bulletins.

Results

No violations or deviations were identified.

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

T. Cloninger, Unit 2 Project Manager  
\*J. Yelverton, Nuclear Site QA Manager  
\*S. Tanner, QA Manager  
\*D. Little, QA Representative  
M. Lacey, QA Consultant

Other licensee and contractor employees contacted included construction craftsmen, QC personnel, security force members, and office personnel.

#### Other Organizations

##### Bechtel Power Corporation

\*J. Valdez, QA Supervisor  
M. Shows, Lead Field Welding Engineer  
J. Sessum, Assistant Lead Field Welding Engineer  
G. McClain, Lead Civil Engineer  
B. Rood, Lead Civil QC Engineer  
S. Lewis, Welding QC Engineer

##### General Electric

T. Drake, Project Manager  
J. Pettitt, Lead Engineer  
J. Gresham, QC Supervisor

#### NRC Resident Inspector

A. Wagner, Senior Resident Inspector  
D. Scott, Resident Inspector

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on September 30, 1982, with those persons indicated in paragraph 1 above. The licensee was informed of the inspection findings listed below. The licensee acknowledged the inspection findings with no dissenting comments.

Unresolved Item 417/82-14-01, Requirements For Qualification of AWS D1.1 Visual Inspectors-paragraph 8.b.

## 3. Licensee Action on Previous Enforcement Matters

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 paragraph 8.b.

## 5. Independent Inspection Effort (92706)

The inspector conducted a general inspection of the reactor and auxiliary buildings to observe activities such as welding, material control, house-keeping and storage.

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

## 6. Reactor Coolant Piping

The inspector observed welding and non-welding work activities and reviewed selected records for reactor coolant piping to determine whether applicable code and procedure requirements were being met. The applicable code for reactor coolant piping is the ASME Boiler and Pressure Vessel Code, Section III, Subsection NB, 1974 Edition including Addenda through the Summer of 1974. General Electric (GE) was in the process of replacing the reactor vessel feedwater and recirculation nozzle safe-ends. The applicable Code Addenda for safe-end replacement is the Summer of 1976.

## a. Observation of Welding Activities (55173)

The inspector observed the below listed welds at various stages of completion:

<u>ISO</u>	<u>Weld</u>	<u>Size</u>	<u>Status</u>
M-2347-A	9C	10"	Repair to pipe end in process
M-2328-J	2	24"	Weld complete
N/A	Recirc. Noz. "A" safe-end	12"	Welding automatic fill passes
N/A	Recirc. Noz. "C" safe-end	12"	Root and hot passes welded

The welding was observed to determine whether:

- (1) Work is conducted in accordance with a document which coordinates and sequences operations, references procedure, establishes hold points, and provides for production and inspection approval.
- (2) Weld identification and location are as specified.
- (3) Procedures, drawings, and other instructions are at the work station and readily available.
- (4) WPS assignment is in accordance with applicable code requirements.
- (5) Welding techniques and sequence are specified and adhered to.
- (6) Welding filler materials are the specified type and traceable to certifications.
- (7) Weld joint geometry is in accordance with applicable procedure and is inspected.
- (8) Alignment of parts is as specified.
- (9) Preheat and interpass temperatures are in accordance with procedures.
- (10) Electrodes are used in positions and with electrical characteristics specified.
- (11) Shielding gas is in accordance with the welding procedure.
- (12) Welding equipment is in good condition.
- (13) Interpass cleaning is in accordance with applicable procedures.
- (14) Temporary attachments are removed in accordance with applicable procedures.
- (15) Welding and inspection personnel are qualified.
- (16) Weld history records are adequate.
- (17) Gas purging, if specified, is used in accordance with applicable procedures.
- (18) Process control system has provisions for repairs.
- (19) Welders are qualified.
- (20) Inspection personnel are qualified.

## b. Welder Qualification (55177)

The inspector reviewed Bechtel's and GE's programs for qualification of welders. The applicable procedures are:

GE - QC 1.2.4.3, revision 0, "Procedure For Qualification of Welders and Welding Operators"

Bechtel - Specification M183.0, Appendix 3.1, WQ-1, revision 15, "Specification For Welder Performance"

The following specific areas were examined:

- (1) Procedures for qualification of welders
- (2) Procedures for maintaining continuity records
- (3) Qualification status records and initial qualification records for two GE welders and Bechtel welders P007, P158, P1623, P1648, and P1682.
- (4) In-process welder qualification activities were observed as follows:
  - (a) One GE welder in process of qualifying for automatic welding of safe-end welds
  - (b) Reviewed welder qualification film for welders P1623 and P334 for WPS P1-AT-Lh.

## c. Welding Material Control (55172)

The inspector reviewed Bechtel's program for control of welding materials including procurement, receiving inspection, storage, and issue. The applicable procedure is:

Specification M 183.0, Appendix 2.1, Procedure WFMC-1, revision 0, "Standard for Filler Material Control"

The following specific areas were examined:

- (1) Material identification
- (2) Issue activities in the pipe and structural rod rooms
- (3) Welding material procurement and receiving records for the following materials were reviewed for conformance with applicable procedures and code requirements:

E7018:            1/8" - Ht. 421N4971  
                  3/32" - Ht. 422P0441  
                  5/32" - Ht. 432H4732

ERNiCr-3:        .035" - Ht. 97217  
(GE)             3/32" - Ht. 746962  
                  1/8" - Ht. 762570

d. Special Welding Applications (55178)

The inspector reviewed the repair activities relative to weld 9C on ISO M-2347-A. The repair operation was compared with applicable code and procedure requirements in the areas of:

- Procedure qualification
- Repair technique
- Base and filler materials
- NDE
- Records

e. Visual Examination of Welds (55175)

The inspector observed completed weld 2 on ISO M-2328-J and compared the weld with applicable procedures in the areas of:

- Location, size, and shape
- Surface finish, observance of wall thinning, and appearance
- Weld transition to base material
- Removal of temporary attachments
- Surface defects

In addition, the weld records, including the "Field Weld Checklist" and RT film, were reviewed to determine whether:

- Records indicate that specified inspections were completed
- Records reflect adequate quality
- Weld history records are adequate

## f. Observation of Non-Welding Activities (49053)

The inspector observed the work activities listed below to determine whether requirements were being met in the following areas, as applicable:

- (1) Inspection and/or work procedures
- (2) Record keeping requirements
- (3) Construction/installation specification requirements
- (4) Issuance of specified materials
- (5) Utilization of qualified inspection and NDE personnel
- (6) Performance of prescribed NDE

Specific activities observed were:

- Repair of Pipe Spool Q2E51-G004-5-23 at weld 9 on ISO M-2347-A
- Handling, rigging, protection, and locating spool B21-G001-PCMK-792E950G011-D-2

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

## 7. Safety Related Piping

The inspector observed welding and non-welding work activities for safety related piping to determine whether applicable code and procedure requirements were being met. The applicable code for safety related piping is the ASME Boiler and Pressure Vessel Code, Section III, Subsections NC and ND, 1974 Edition including Addenda through the Summer of 1974.

## a. Observation of Welding Activities (55183)

The inspector observed the below listed welds at various stages of completion:

<u>ISO</u>	<u>Weld</u>	<u>Size</u>	<u>Status</u>
M-2328-H	4	10"	Welding root
M-2312-C	22	42"	Weld complete
M-2349-A	54	16"	Fitup in process

The welding was observed to determine whether:

- (1) Work is conducted in accordance with a document which coordinates and sequences operations, references procedure, establishes hold points, and provides for production and inspection approval.
- (2) Weld identification and location are as specified.
- (3) Procedures, drawings, and other instructions are at the work station and readily available.
- (4) WPS assignment is in accordance with applicable code requirements.
- (5) Welding technique and sequence are specified and adhered to.
- (6) Welding filler materials are the specified type and traceable to certifications.
- (7) Weld joint geometry is in accordance with applicable procedure and is inspected.
- (8) Alignment of parts is as specified.
- (9) Preheat and interpass temperatures are in accordance with procedures.
- (10) Electrodes are used in positions and with electrical characteristics specified.
- (11) Shielding gas is in accordance with the welding procedure.
- (12) Welding equipment is in good condition.
- (13) Interpass cleaning is in accordance with applicable procedures.
- (14) Temporary attachments are removed in accordance with applicable procedures.
- (15) Welding and inspection personnel are qualified.
- (16) Weld history records are adequate.
- (17) Gas purging, if specified, is used in accordance with applicable procedures.
- (18) Process control system has provisions for repairs.
- (19) Welders are qualified.
- (20) Inspection personnel are qualified.



## b. Welder Qualification (55187)

Inspection of welder qualification activities detailed in paragraph 6.b., except for GE welders, applies to safety related piping.

## c. Welding Material Control (55182)

Inspection of welding material control detailed in paragraph 6.c., except for GE material, applies to safety related piping.

## d. Observation of Non-Welding Activities (49063)

The inspector observed the work activities listed below to determine whether requirements were being met in the following areas, as applicable:

- (1) Inspection and/or work procedures
- (2) Record keeping requirements
- (3) Construction/installation specification requirements
- (4) Issuance of specified materials
- (5) Performance of prescribed inspections and NDE
- (6) Utilization of qualified inspection and NDE personnel.

Specific activities observed were:

- Spool Q2E22-G001-1J-20: Cutting weld prep
- Spool Q2B21-G025-5-23: Handling and protection
- Guard pipes Q2B21-G531-7-23, -2-23, -15-23, -11-23 and -3-23: storage, handling, and identification

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

## 8. Containment (Steel Structures and Supports)

The inspector observed welding and non-welding work activities and reviewed selected records for containment steel structures and supports. The following codes, specifications procedures and drawings are applicable to the work examined:

- Bechtel Specification 9645-C-124.0, "Technical Specification For Erection of Structural Steel For MP&L GG Nuclear Station Units 1 and 2"
- Bechtel Specification 9645-C-121.0, "Furnish, Detail, Fabricate and Deliver Structural Steel for Category I Structures"

- QCI 704T, revision 1, "Erection of Structural Steel"
- Dwg. C-2072B, revision 4, "Unit 2 Containment Shield Wall Brackets - Sections and Details"
- Dwg. C-2704A, revision 8, "Unit 2 Containment Structural Steel Framing Plan - Floor E1 114'-6"
- Dwg. C-2097E, revision 1, "Unit 2 Containment Structural Steel Sections and Details"
- Dwg. C-2075, revision A, "Unit 2 Containment Structural Steel Framing Plan - Floor E1 135'4" and E1 147'7"
- AWS Structural Welding Code D1.1, Rev. 1-74
- a. Observation of Welding Activities (55053)

The inspector examined the below described welding activities:

(1) The following in-process welding was observed:

- Shield wall brackets 64L and 64R at elevation 155'
- Welding reinforcing plates to beams 113-B2 and 113-B1 on drawing 2097E at elevation 135'
- Welding beam 126-B3 during installation at elevation 135'

The welding was compared with applicable requirements in the areas of:

- Weld identification/location
  - Joint preparation
  - Evidence of QC verification
  - Use of applicable weld procedure
  - Welder qualification
  - Use of Specified welding material
  - Repair procedures
  - NDE
  - Welding material control
- (2) The structural rod room was inspected relative to storage of materials, temperature control, and material issue.
- (3) The welding areas were inspected for the presence of uncontrolled filler material.

b. Observation of Non-Welding Work Activities (48053)

The inspector observed in-process installation and partially installed floor framing at elevations 135', 147' and 161' elevations inside the drywell. The floor framing at elevation 161' supports major equipment such as accumulator tanks, whip restraints, air receiver tanks, and HVAC coolers. The work was compared with the drawings, specifications, and procedures above in the areas of:

- Installation/erection
- Testing and NDE
- Inspection
- Use of qualified inspection personnel

During examination of the above work, the inspector noted that Specification C-124.0 requires that the Field Welding Engineer perform the AWS D1.1 required final visual inspection of structural welds. The Field Welding Engineer is not required to qualify/certify as a welding inspector or visual inspector and is not part of the QC organization. The licensee's contractor considers that qualification/certification of the inspector for AWS welds is not required since the edition of AWS D1.1 being used does not address qualification of inspection personnel. However, ANSI N45.2.6 would require qualification/certification of inspectors of AWS welds. The licensee is not committed to ANSI N45.2.6. When questioned relative to this matter, the licensee stated that the changes (from a QC inspection to a welding engineering inspection) were recent (9/27/82 - the day this inspection started) and they need to re-review this matter to determine the correct course of action. Pending resolution of this matter by the licensee and review of the resolution by the NRC, this item is considered unresolved and is identified as item number 417/82-14-01, Requirements for Qualification of AWS D1.1 Visual Inspectors.

c. Review of Quality Records (48055)

The inspector reviewed the quality records described below relative to containment structural steel supports:

- (1) Receiving inspection reports and vendor material certification records were reviewed for the following support steel at elevations 147' and 161'.

<u>Identification</u>	<u>MRR</u>	<u>Spec.</u>
Bracket 64-L	10478	C-131.0
Bracket 64-R	10605	C-121.0

<u>Identification</u> (Continued)	<u>MRR</u>	<u>Spec.</u>
Girder SGA-1 (Bristol MK 2-32G1R)	10544	C-121.0
Girder NGA-1 (Bristol MK 2-32G1L)	10544	C-121.0
Beam (Part of Frame 2-71F4) (Bristol MK 2-69G2)	10544	C-121.0

(2) In-process installation and inspection records consisting of Reports F, M, and G of WP&IR Q2M10-V-23303BOA, which cover portions of the drywell structural floor framing at elevations 135', 155' and 161', were reviewed in the areas of:

- Material test reports/certification records
- Vendor manufacturing and inspection reports/certifications
- Receiving inspection reports
- Tests on structural steel
- Installation/erection
- Inspection records

(3) Training and qualification records for one Level II civil QC inspector and one Level II welding QC inspector who inspect the above work were reviewed.

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

9. Licensee Identified Items (10 CFR 50.55e)

- a. (Closed) Item 417/78-18-01, CDR78-03, Weld Separation on Strut Type Hanger Material. On June 23, 1978, Mississippi Power and Light Company notified RII of Potential 50.55(e) item relative to the weld specification on strut type hanger material. The final Construction Deficiency Report, AECM-79/23, was submitted on March 22, 1979, and concluded that the matter was not reportable. Based on review of the final report and discussion with the licensee, there are no further questions on this item.
- b. (Closed) Item 417/80-08-09, CDR80-24, Consip Containment Gas Analysis System. On April 30, 1980, Mississippi Power and Light Company notified RII of a potential 50.55(e) item relative to potential damage

to pump and system integrity should the system be isolated while the pump was operating. The final Construction Deficiency Report, AECM-80/116, was submitted on May 30, 1980. The report has been reviewed and determined to be acceptable. The inspector held discussions with responsible licensee representatives and reviewed supporting documentation to verify that corrective actions identified in the reports have been completed.

- c. (Closed) CDR78-05, Auxiliary Building Structural Steel Design. On August 11, 1978, Mississippi Power and Light Company notified RII of a potential 50.55(e) item relative to design of the auxiliary building structural steel. The final Construction Deficiency Report, AECM-78/72 was submitted on September 11, 1978. The report has been reviewed and determined to be acceptable. The inspector held discussions with responsible licensee representatives and reviewed supporting documentation to verify that corrective actions identified in the report have been completed.
- d. (Closed) CDR81-08, Installation of Standby Service Water Pump. On February 12, 1981, Mississippi Power and Light Company notified RII of a potential 50.55(e) item relative to insufficient clearance for the standby service water pumps. An interim report, AECM-81/109, was issued on March 16, 1981. The final Construction Deficiency Report, AECM-81/318, was submitted on September 1, 1981. The report has been reviewed and determined to be acceptable. The inspector held discussions with responsible licensee personnel and reviewed supporting documentation including closed out MCAR GGNS-122 to verify that corrective actions identified in the report have been completed.
- e. (Closed) Item 417/80-14-10, CDR80-16, Torqueing of HPCS Pump. On April 10, 1980, Mississippi Power and Light Company notified RII of a potential 50.55(e) item concerning torqueing of the HPCS pump. The final Construction Deficiency Report was submitted on May 9, 1980, concluding that the item was not reportable. There are no further questions on this item.

10. IE Bulletins

(Closed) IE Bulletin 80-21, Valve Yokes Supplied By Malcolm Foundry Company, Inc. Based on a review of the licensee response dated June 16, 1981, this Bulletin is closed.