



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

Report Nos. 50-424/82-23 and 50-425/82-23

Licensee: Georgia Power Company  
 P. O. Box 4545  
 Atlanta, GA 30302

Facility Name: Vogtle

Docket Nos. 50-424 and 50-425

License Nos. CPPR-108 and CPPR-109

Inspection at Vogtle site near Waynesboro, Georgia

Inspectors:

*J. J. Blake*  
 for W. P. Kleinsorge

*10/15/82*  
 Date Signed

*W. C. Liu*  
 W. C. Liu

*10/15/82*  
 Date Signed

Approved by:

*J. J. Blake*  
 J. J. Blake, Section Chief  
 Engineering Inspection Branch  
 Division of Engineering and Technical Programs

*10/15/82*  
 Date Signed

SUMMARY

Inspection on September 28 - October 1, 1982

Areas Inspected

This routine, unannounced inspection involved 58 inspector-hours on site in the areas of licensee action on previous enforcement matters, construction progress, steel structures and supports (Units 1 and 2), safety-related pipe support and restraint systems (Units 1 and 2) and inspector followup items.

Results

No violations or deviations were identified.

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*M. H. Googe, Manager of Field Operations
- \*E. D. Groover, QA Site Supervisor
- \*D. F. Wilkerson, Sr., Welding Specialist
- \*C. R. Miles, Jr., QA Field Supervisor
- G. A. McCarley, Assistant Mechanical Section Supervisor
- G. R. Perry, Sr., Engineering Associate
- M. T. Durban, Sr., QA Representative
- B. F. Barrett, Sr., QA Representative

Other licensee employees contacted included construction craftsmen, technicians and office personnel.

#### Other Organizations

- \*J. P. Runyan, QA Manager, Pullman Power Products (PPP)
- \*C. L. Fields, Welding and QA Superintendent, Chicago Bridge and Iron (CB&I)
- \*B. McMillian, QA Technician, CB&I
- \*J. B. McLachlan, Resident Project Engineer, Bechtel Power Corporation (BPC)
- G. Kopay, Pipe Support Stress Group Supervisor, BPC

#### NRC Resident Inspector

- \*W. F. Sanders

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on October 1, 1982, with those persons indicated in paragraph 1 above. The inspectors described the areas inspected and discussed in detail the inspection findings listed below. No dissenting comments were received from the licensee.

- a. (Open) Unresolved Item 424,425/82-23-01: "Article 3 Basis" - Paragraph 6d(1)
- b. (Open) Unresolved Item 424,425/82-23-02: "Unavailable Radiographs" - Paragraph 6d(2)
- c. (Open) Inspector Followup Item 424/82-23-03: "Hanger Documentation" - Paragraph 7
- d. (Open) Inspector Followup Item 424,425/82-23-04: "Hanger Inspection Procedure Revision" - Paragraph 7

3. Licensee Action on Previous Enforcement Matters

- a. (Closed) Unresolved Item 424,425/82-10-04: "Purge Gas For Storage of Components." This item concerns the adequacy of controls for storage purge gas moisture. The licensee has provided the needed moisture controls in Revision 2 of MI-T-03, "Mechanical Equipment Purging." The inspectors have no further questions in this area.
- b. (Closed) Violation 424,425/81-14-02: "Welding Procedure Inadequacies." Georgia Power Company's letter of response dated February 12, 1982, has been reviewed and determined to be acceptable by Region II. The inspectors held discussions with the QA Site Supervisor and examined the corrective actions as stated in the letter of response. The inspectors concluded that Georgia Power Company had determined the full extent of the subject violation, performed the necessary survey and follow-up actions to correct the present conditions and developed the necessary corrective actions to preclude recurrence of similar circumstances. The corrective actions identified in the letter of response have been implemented.

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 6d(1) and 6d(2).

5. Independent Inspection Effort

Construction Progress

The inspectors conducted a general inspection of the Unit 1 and 2 auxiliary buildings and containments to observe construction progress and construction activities such as welding, material handling and control, housekeeping and storage.

Within the areas examined no violations or deviations were noted.

6. Steel Structures and Supports (Units 1 and 2)

The inspectors observed welding work activities for steel structures and supports as described below to determine whether applicable code and procedure requirements were being met. The applicable code for containment fabrication is the ASME B&PV Code Section III 1974 edition with addenda through summer 75, and Section VIII 1974 edition with addenda through summer 75.

The inspectors observed in-process welding activities of structural field welds as described below to determine whether applicable code and procedure requirements were being met.

## a. Welding

## Inside Containment (55153B)

The following in-process welds were examined to determine whether work was conducted in accordance with traveler; whether welding procedures were available; and whether welding technique and sequence, weld geometry, fit-up, electrical characteristics, and equipment condition were consistent with applicable Code and/or specification requirements.

<u>Structure</u>	<u>Unit</u>	<u>Identification</u>
Containment Dome	1	Ring 3 to Ring 4
Containment Dome	2	472A Seam 1

## b. Welder Qualification (55157B)

The inspectors reviewed the CB&I program for qualification of welders and welding operators for compliance with QA procedures and ASME Code requirements. The applicable Code for welder qualification is ASME B&PV Code Section IX.

The following welder qualification status records and "Records of Performance Qualification Test" were reviewed relative to the weld joints listed in paragraph 6a and 6c.

<u>WELDER SYMBOL</u>	<u>ORGANIZATION</u>	<u>APPLICATION</u>
RJH	CB&I	Steel Structures and Supports
JTL	"	"
DFP	"	"
RFB	"	"
JCB	"	"
DLH	"	"
MPH	"	"
DL	"	"
CP	"	"
DLC	"	"
EB	"	"
CRH	"	"
JKW	"	"
JEF	"	"
CEH	"	"
REB	"	"
NJR	"	"
GWP	"	"

## c. Visual Inspection of Welds (55155 and 55053)

The inspectors visually examined completed and accepted welds as described below to determine whether applicable code and procedure requirements were being met.

- (1) The below listed welds were examined relative to the following: location, length, size and shape; weld surface finish and appearance (including inside diameter of pipe welds when accessible); transitions between different wall thicknesses; weld reinforcement -- height and appearance; joint configuration of permanent attachments and structural supports; removal of temporary attachments; arc strikes and weld spatter; finish-grinding or machining of weld surface -- surface finish and absence of wall thinning; surface defects -- cracks, laps, and lack of penetration, lack of fusion, porosity, slag, oxide film and undercut exceeding prescribed limits.

<u>STRUCTURE</u>	<u>UNIT</u>	<u>IDENTIFICATION</u>
Containment Dome	1	454A Seam 1
" "	1	453A Seam 1
" "	1	453A Seam 2
" "	1	452A Seam 1*
" "	1	452A Seam 2
" "	1	451A Seam 1*
" "	1	451A Seam 2*
" "	1	Seam B Ring 1*
" "	1	Seam C Ring 1
" "	1	Seam D Ring 1

(The above seams were examined between stiffener 415-2 and 415-8)

Containment Insert	1	284A*
" "	1	283A-11*
" "	1	283A-20
" "	1	283A-21
" "	1	283A-26
Containment Liner	2	Ring 7 to Ring 8- Increments 1-9*

(The above welds were examined on the Containment ID Only)

Containment Insert	2	442-8
" "	2	442-42*
" "	2	442-40
" "	2	442-10
" "	2	442-44

Containment Insert	2	442-15*
" "	2	442-7
" "	2	442-2
" "	2	442-26
" "	2	442-29
Containment Liner	2	456A Seam 1*
" "	2	456A Seam 2*

- (2) Quality records for the above welds marked with an asterisk (\*) were examined relative to the following: records covering visual and dimensional inspections indicate that the specified inspections were completed; the records reflect adequate quality; history records are adequate.

In addition the inspectors examined the records for \* marked welds to determine whether specified NDE was performed and at the proper state of fabrication.

d. Radiography (55053)

- (1) The inspectors reviewed CB&I procedure RTIN Rev.4 "Radiographic Examination Procedure for Welds - Containment Liners and Class MC Components" to ascertain whether it had been reviewed and approved consistent with the licensee's established procedures. NDE procedure RTIN was reviewed for technical adequacy relative to ASME B&PV Code, Section V, 74S75 edition, and other licensee commitments/requirements, in the below listed areas.

- Material and weld surface condition requirements (irregularities, weld ripples, surface finish, etc.).
- Radiographic film processing requirements.
- Quality of radiographs - limits on mechanical, chemical or other blemishes, such as fogging, process marks, scratches, finger marks, loss of detail or false indications.
- Film density limits for single and composite viewing.
- Use of densitometers for assuring compliance with film density requirements.
- System of radiograph identification.
- Use of location markers.
- Records for showing film location with reference to the part being radiographed.

- Use of intensifying screens.
- Methods of reducing and testing backscatter.
- Description of or reference to the welding procedure.
- Material type and thickness restrictions for isotope radiography.
- Geometrical unsharpness limitations.
- Selection and use of penetrameters including:
  - Penetrameter design
  - Selection of essential hole
  - Penetrameter thickness including special requirements for single and double wall viewing
  - Penetrameter placement including special requirements for single and double wall viewing
  - Number of penetrameters
  - Shims under penetrameters.
- Radiographic technique requirements for double wall viewing.
- Qualification of radiographic procedure (radiographs taken to demonstrate procedure capability).
- Requirements for evaluation and disposition of radiographs.

With regard to the inspection above, the inspectors noted that CB&I procedure RTIN, Rev. 4 referenced ASME Section V Article 3. At the time of this inspection the basis for the Article 3 reference could not be determined.

Pending the determination of the basis for the Article 3 reference and review by NRC, this matter will be identified as unresolved item 424, 425/82-23 - 01: "Article 3 Basis".

- (2) The inspectors examined the below listed radiographs to determine whether radiographic examination was performed in accordance with the applicable procedure. This examination was made in the areas listed in paragraph 6d(1).



<u>Spot Radiograph No.</u>	<u>Unit</u>
33*	1
34*	1
51	1
51 T1	1
51 T2	1
59	1
106	1
16	2
17	2
18	2
19	2
104*	2
106*	2

With regard to the inspection above the spot radiographs marked with an asterisk (\*) were not available for review. The inspectors stated that pending acceptable NRC review of the indicated radiographs, the above matter would be identified as unresolved item 424, 425/82-23-02: "Unavailable Radiographs".

Within the areas examined no violations or deviations were noted.

7. Safety-Related Pipe Support and Restraint Systems (Units 1 & 2) (50090B)

The applicable code for safety-related support and restraint installation is the ASME Boiler and Pressure Vessel Code, Section III, Subsection NF, 1977 Edition plus addenda through summer 1978. The inspectors observed various activities associated with the installation of supports and restraint to determine if code and procedure requirements were being met. The inspectors reviewed the following work procedures pertaining to safety-related pipe support and restraint systems whether they were approved by authorized licensee personnel.

<u>WORK PROCEDURES</u>	<u>APPROVED BY</u>	<u>REVISION DATE</u>
Pipe Support Field Installation and Fabrication Procedure	Bechtel	3/9/82
Installation of Mechanical Shock Arrestors	Bechtel	7/31/81
Design Guide for Supporting Seismic Category I and Non-Seismic Category I Small Piping (2 inch and under)	Bechtel	5/24/82
Receipt, Receipt Inspection, Storage, and Handling	Licensee	1/21/82



To assure that the type and classification of pipe support and restraint systems comply with approved drawings and or specifications, the inspectors examined the following hangers:

<u>HANGER APPROVED DRAWING NO</u>	<u>COMPLIANCE WITH STRESS ISOMETRIC</u>	<u>COMPLIANCE WITH SPECIFICATION</u>
V1-1210-011-H008 Rev. 0	*	yes
V1-1208-003-H107 Rev. 3	yes	yes

\*The corresponding isometric No. 1K3-1210-160-01 Rev. 2 as of 10/1/82 was not revised to show Hanger No. V1-1210-011-H008.

Drawing Change Notice DCN 1 to BPC drawing 1K3-1210-160-01 Rev. 2 was initiated by BPC Los Angeles office on 9/21/82 for the above hanger. The inspectors informed the licensee that they wanted to follow the progress of the above hanger documentation pending the incorporation of DCN 1 in drawing 1K3-1210-160-01. This matter will be identified as inspector followup item 424/82-23-03: "Hanger Documentation".

The location and spacing of Hanger No. V1-1208-003-H017 Rev. 3 and the corresponding stress isometric No. 1K3-1208-003-01 Rev. 10 were examined and found acceptable within code requirements.

During this inspection the inspectors reviewed QC Hanger Inspection Checklist and found that the list did not specify the verification of bolt type and size. Pullman Power Products agreed that the inspection checklist will be revised to reflect the changes. Pending the checklist revisions, this matter will be identified as inspector followup item 424,425/82-23-04: "Hanger Inspection Procedure Revision".

In the area of dynamic pipe supports, the inspectors examined six (6) mechanical type snubbers, checked shaft travel for smoothness by simulating normal operation by pulling and pushing the snubber shaft; also simulated unit activation by sudden movement. Hangers observed in the warehouse were as follows:

<u>Snubber Model</u>	<u>Hanger No.</u>	<u>Observation Results</u>
PSA -3 (Design Load=6000#)	V1-1206-002-H002 V2-1205-003-H014	Acceptable Acceptable
PSA-1 (Design Load=1500#)	V1-1206-006-H020 V2-1205-009-H014	Acceptable Acceptable
PSA-1/2 (Design Load=650#)	V1-1208-240-H008 V1-1208-241-H005	Acceptable Acceptable

In addition, the inspectors selected three (3) spring hangers and observed minimum requirements for hanger rod size, examined spring hanger indicators which show the approximate "hot" and "cold" position of the piping system.

The following spring hangers were observed:

<u>Hanger Size</u>	<u>Hanger No.</u>	<u>Hot Load</u>	<u>Cold Load</u>	<u>Observation Results</u>
15	V2-1305-062-H002	4955#	5062#	Acceptable
12	V1-1205-010-H015	1750#	2158#	Acceptable
10	V1-1205-009-H004	964#	899#	Acceptable

Since no final QC hanger inspections were made, the installed hangers were not inspected at this stage.

Within the areas inspected no violations or deviations were noted.

8. Inspector Followup Items

(Closed) 424,425/82-05-06: "Control of Grinding Particles in Piping". This item concerned inadequate controls on piping cleanliness. The licensee has revised PPP Procedure XIII-4, "Cleaning Procedure (Field)" on April 15, 1982, to correct the inadequacies. The inspectors have no further questions in this area.