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

Report Nos.: 50-424/84-26 and 50-425/84-26

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

Docket Nos.: 50-424 and 50-425

License Nos.: CPPR-108 and CPPR-109

Facility Name: Vogtle

Approved by: (U -

Inspection Conducted: September 25 - 28, 1984 Inspector:

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J. J. Blake, Section Chief

Division of Reactor Safety

Engineering Branch

Date Signed

SUMMARY

Scope: This routine unannounced inspection involved 33 inspector-hours on site in the areas of licensee action on previous enforcement matters, construction progress, and steel structures and supports.

Results: Violation - "Failure to Address All Essential Variables in WPS" - paragraph 6b(1).

REPORT DETAILS

1. Licensee Employees Contacted

*H. H. Gregory, III, General Manager - Vogtle Plant
*M. H. Googe, Project Construction, Manager
*C. W. Hayes, Vogtle QA Manager
*E. D. Groover, QA Site Manager
*G. A. McCarley, Compliance Coordinator
*T. L. Weatherspoon, Assistant Manager, QC

*R. L. Davis, Senior QA Engineer

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

Other Organizations

*S. Pietrzyk - APE - PFE - Bechtel Power Company

NRC Resident Inspector

*W. F. Sanders

*Attended exi: interview

2. Exit Interview

The inspection scope and findings were summarized on September 28, 1984 with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings listed below. No dissenting comments were received from the licensee.

(Open) Violation 50-424, 425/84-26-01: "Failure to Address All Essential Variables in WPS" - paragraph 6b(1)

(Open) Unresolved Item 50-424, 425/84-26-02: "Unavailable PQR" -paragraph 6b(2)

(Open) Unresolved Item 50-424, 425/84-26-03: "Missing Caps and Covers" - paragraph 5

3. Licensee Action on Previous Enforcement Matters

(Closed) Violation 424, 425/84-17-01: "Failure to Adequately Control Welding."

Georgia Power Company's (GPC) letter of response dated August 13, 1984 has been reviewed and determined to be acceptable by Region II. The inspector held discussions with the cognizant engineer and examined the corrective actions as stated in the letter of response. The inspector concluded that GPC 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 paragraph Nos. 5 and 6b(2).

5. Independent Inspection Effort

Construction Progress (Units 1 and 2)

The inspector conducted a general inspection of Units 1 and 2 containment, auxiliary, and control buildings to observe construction progress and construction activities such as welding, material handling and control, housekeeping and storage.

With regard to the examination above the inspector noted the following:

- Approximately fifteen examples of missing or damaged covers or closures on safety-related spool pieces or valves in the auxiliary building. The above is contrary to ANSI N45.2.2, "Packaging Shipping, Receiving, Storage and Handling of Items for Nuclear Power Plants During the Construction Phase," 1972, paragraph 6.4.2 which requires spool pieces and valves in storage to have all caps covers and seals in place.
- One example of a stainless steel spool piece capped with silver colored tape. This is contrary to ANSI N45.2.2 paragraph A3.5.2(3) as modified by Regulatory Guide 1.38 Rev. 1, paragraph C2e which requires tape be colored to contrast with the materials on which they are used.

The inspector discussed the above with the licensee. The licensee stated that they would look into the matter and determine the extent of the deteriorated and missing covers. Pending NRC examination of the licensee's review of the above, this matter will be identified as unresolved item 424, 425/84-26-03: "Missing Caps and Covers."

Within the areas examined no violations or deviations were identified.

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

The inspector observed welding work activities and reviewed records 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 welded by CB&I is the ASME B and PV Code Section III, 1974 edition with addenda through summer 1975, and Section VIII, 1974 edition with addenda through summer 1975. The applicable code for electrical and civil structures described herein welded by Cleveland and Ingalls is AWS D1.1-75. The applicable code for HVAC supports described herein, welded by Pullman/Kenith - Fortsom Co. (P/K-F), is AWS D9.1-80 and AWS D1.1-77. The applicable code for pipe supports described herein, welded by PPP, is AWS D1.1-79.

a. Visual Inspection of Welds (55155B)

The inspector 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; finishgrinding 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.

Drawing	Identification	Discription
AX2D11N119,R2	TS-119-110	Cable Tray Support
AX2D11N119,R2	TS-119-111	Cable Tray Support
AX2D11N119,R2	TS-119-112	Cable Tray Support
AX2D11N119,R2	TS-119-125	Cable Tray Support
AX2D11F002,R8	Connection 150	Table Steel Brace
AX2D11F002,R8	Connection 151	Table Steel Brace
AX2D11F002,R8	Connection 152	Table Steel Brace
AX2D11F002,R8	Connection 153	Table Steel Brace
AX2D08F016,R8	Connection 1	Tube Steel Brace
AX2D08F016,R8	Connection 2	Tube Steel Brace
AX2D08F014,R9	Connection 1	Tube Steel Brace
AX2008F014,R9	Connection 2	Tube Steel Brace
V1-1901-028-H601		Pipe Support
V1-1901-031-H071		Pipe Support
V1-1901-026-H001		Pipe Support
V1-1901-026-H002	2	Pipe Support
DS-1082109-71		Duct Support
DS-1082109-70		Duct Support
DS-A112119-64		Duct Support

(2) Quality records for the above welds 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.

b. Welding Procedures Specifications and QA Procedures (55152B)

The following Welding Procedure Specifications (WPS) were selected for review and comparison with ASME, AWS D1.1 or AWSD 9.1 as applicable.

WPS	*Process	PQR
CB&I-E-309/74-2195/96 CB&I-E6010/E7018-2195/96	SMAW SMAW	3686 2522
CB&I-EM121C/585/74-2195/96 CB&I-EM12K/760/74-2195/96	SAW SAW	1915 2190
CB&I-Stud Welding/74-2195/6	Stud	3708, 3709, 3710
CB&I-Stud Welding/E7018/74-2195/96	Stud	5839
PPP-IT8-III/I-1-BR-2	SMAW	034A&B
PPP-1-112-111/1-1-0B-12	GTAW/SMAW	045, 034A & B, 055A&B, 058
PPP-1-1	SMAW	Prequalified
P/K-F-FWP-151-301 P/K-F-FWP-AS1-306	SMAW	135, 136, 144-159
P/K-F-FWP-969-304	GMAW	118-125
P/K-F-FWP-1F1-401	FCAW	140, 141, 160, 161
P/K-FWP-400	FCAW	5
P/K-F-FWP-9G8-307	GMAW	108-113, 117, 162

 * GTAW - Gas Tungsten Arc Welding Stud - Stud Welding
 SMAW - Shielded Metal Arc Welding
 SAW - Submerged Arc Welding
 FCAW - Flux Cored Arc Welding
 GMAW - Gas Metal Arc Welding

The above WPSs and their supporting Procedure Qualification Records (PQRs) were reviewed to ascertain whether essential, supplementary and/or nonessential variables including thermal treatment were consistent with code requirements; whether the WPSs were properly qualified and their supporting PQR's were accurate and retrievable; whether all required mechanical tests had been performed and the results met the minimum requirements; whether the PQR's had been reviewed and certified by appropriate personnel and; whether any revisions and/or changes to nonessential variables were noted.

- (1) With regard to the examination above the inspector noted that all PQRs reviewed supporting CB&I WPS-Stud-Welding/74-2195/6 reviewed by this inspector indicated that the studs used for PQR testing had aluminum deoxidizer flux tips. WPS - Stud-Welding/74-2195/6 does not address the aluminum deoxidizer flux tips. ASME B&PV Code Section IX Table QW-261 and raragraph QW-402.9 identify flux type as an essential variable for stud welding. ASME Section IX paragraph QW-201.1 requires essential variables to be described in the welding procedure specification. Therefore, CB&I-WPS-Stud Welding/74-2195/6 is not in accordance with ASME B&PV Code Section Failure to establish adequate measures to assure special IX. processes are accomplished in accordance with qualified procedures in compliance with applicable codes and standards is in violation of 10 CFR 50, Appendix B, Criteria IX. This violation shall be "Failure to Address All identified as 424, 425/84-26-01: Essential Variable in WPS."
- (2) With regard to the examination above the inspector noted that Pullman/Kenith-Fortson welding procedure specification P/K-F FWP-9G9-304 did not reference a procedure qualification report for the flair bevel joint design listed in that procedure. The P/K-F representative indicated that they might have one but, was unable to locate the same at the time of this inspection. The inspector indicated that pending NRC review of the above missing PQR or justification for the omission of the PQR this matter will be identified as unresolved item 424, 425/84-26-02, "Unavailable PQR."
- c. Welder Qualification (55157B)

The inspector reviewed the licensee's 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 as invoked by GPC Specification X2AGO6 Rev. 4 and X4AZO1, Section P.1, Revision 8.

The inspector reviewed radiographs of the below-listed qualification test assemblies. The inspector was unable to see the 4T penetrameter hole in two radiographs (this was concurred in, by a GPC Level II RT examiner). The test assemblies were reradiographed, in the areas in question, and were found to be acceptable from both a weld quality and a film quality standpoint.

Welder	Electrode	Joint Type
EDP	7018	Butt Insert
EDP	309	Butt Insert
JDT	7018	Butt Insert
JDT	309	Butt Insert

d. Welding (55153B)

The window of opportunity for observation of stud welding had passed for both Units 1 and 2, and for the examination of completed work on Unit 1. The inspector reviewed records of stud welding for both units and examined completed work on Unit 2 to determine whether: type, length, diameter, material and finish of stud was as specified; stud base qualification requirements were met; suitable stud welding equipment and power source were used; stud welding was accomplished in accordance with adequate and approved procedures; location, including lateral and longitudinal spacing, was as specified; testing and inspection of completed stud welds were satisfactorily completed and; tests to qualify procedure and stud welding operator had been successfully completed prior to use.

e. Welding Filler Material Control (55152B)

The inspector reviewed the licensee's program for control of welding materials to determine whether materials were being purchased, accepted, stored, and handled in accordance with QA procedures and applicable code requirements. The following specific areas were examined:

- Purchasing, receiving, storing, distribution and handling procedures, material identification.
- f. Weld Heat Treatment (55156B)
 - (1) Post Weld Heat Treatment (PWHT)
 - (a) The inspector reviewed the CB&I program to determine whether approved and adequate procedures are available for the conduct of postweld heat treatment and whether the licensee has a system capable of meeting the heating and cooling rates, metal temperature, temperature informity and control limits specified in the ASME B&PV Code, as applicable.
 - (b) By review of records the inspector reviewed the post weld activities to determine whether weld area is instrumented to provide time-temperature records for the duration of the entire heat treatment cycle; temperature monitoring instruments are properly calibrated; sufficient temperature measuring devices are used; PWHT temperature and holding time is specified, is adhered to; maximum initial temperature, heat-up and cool-down rates are specified, and are adhered to; temperature records being generated reflect adherence to regulatory requirements.

PWHT Activities Examined Units 1 and 2 Equipment Hatch PWHT

(2) Stress Relief

The inspector examined the cumulative stress-relief records for the equipment listed below to determine whether the total time at temperature does not exceed that permitted by applicable Code requirements based on the welding procedure qualification record:

Equipment Examined

Units 1 and 2 Equipment Hatch

Within the areas examined no violations or deviations were identified except as noted in paragraph 6b(1).