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

JUL 28 1980

Report Nos. 50-518/80-12, 50-519/80-12, 50-520/80-12 and 50-521/80-12

Licensee: Tennessee Valley Authority
500A Chestnut Street
Chattanooga, TN 37401

Facility Name: Hartsville Nuclear Plant

License Nos. CPPR-150, CPPR-151, CPPR-152 and CPPR-153

Inspection at Hartsville site near Hartsville Tenn.

Inspector: D. V. Van Doorn for W. P. Kleinsorge — 7/25/80 Date Signed

Approved by: B. R. Crowley for A. R. Herdt, Section Chief, RCES Branch — 7/25/80 Date Signed

SUMMARY

Inspection on June 30 to July 3, 1980

Areas Inspected

This routine, unannounced inspection involved 32 inspector-hour onsite in the areas of licensee action on previous inspection findings, reinforcing steel storage, steel structures and supports - observation of welding activities within the containment, reactor coolant loop piping, and safety related piping - welder qualification.

Results

Of the 5 areas inspected, no items of noncompliance or deviations were identified in 4 areas; 1 item of noncompliance was found in 1 area (Infraction - "Failure to follow reinforcing steel storage procedure" - paragraph 5b).

DETAILS

1. Persons Contacted

Licensee Employees

R. T. Hathcote, Site Project Manager
*W. T. Quinn, Construction Engineer,
*L. H. Jackson, Assistant Construction Engineer, STRIDE, P.E.
*H. S. Sheppard, Assistant Construction Engineer, STRIDE, QC
*A. G. Debbage, QA Audit Supervisor
S. P. Stagnolia, Supervisor, Welding QC, STRIDE
*K. L. Ransey, QA Auditor, Outstanding Items
*T. L. Carden, Welding QC
*J. R. Gelzer, Construction QA Training
*J. T. McGhee, Engineering Management Assistant
*D. E. Felts, QA Engineer
*R. B. Stamps, QA Engineer
*B. F. Painter, GCS
*K. H. Stewart, Construction ES
*J. W. Davenport, QC Civil
*G. A. Gonsal[illegible]onstruction QA
*J. J. Kitts (by Telecon), NEB-NLS OEDC
*U. K. Anders (by Telecon), OEDC-QA

Other Licensee employees contacted included several construction craftsmen, QC technicians and office personnel.

Other Organizations

*J. Day, QC, GE
*C. W. Hughes, CF Braun and Co.

NRC Resident Inspector

*W. B. Swan

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on July 3, 1980 with those persons indicated in Paragraph 1 above. The inspector identified the areas inspected, and discussed in detail the item of noncompliance and the unresolved item. No dissenting comments were received from the licensee.

3. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item 518, 519, 520, 521/80-07-02. "Unavailable Welding Filler Material Documentation". This item concerned the fact that certification and receiving inspection records for four heats/lots of filler material

were not located during a previous NRC inspection. Site personnel indicated that the records had been apparently misplaced and that all the receiving inspection records had now been located. Site personnel stated that certification for lot 9330 B1 also certifies for lot 9330A1. A vendor letter providing collateral certification has been recieved by the license. The inspector reviewed all the above documentation for compliance to code and procedural requirements. The inspector noted that prior to the reciept of the collaterial certification letter, the licensee had no documented traceability from the certified materials test report (CMTR) to lot 9330A1, which has been released for use. This is contrary to TVA Procedure RIS & PM M-904 Rev. 4, "Welding Filler Materials" Paragraph 1.b.(2)A which requires CMTR to be traceable to items recieved. As the documentation review indicated that the welding filler material in question met the code requirements this matter has no safety significance. This item is considered closed.

4. Unresolved Itmes

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 paragraph 6d (3).

5. Independent Inspection Effort

a. Construction Activities (Units A1 and A2)

The inspector conducted a general inspection of the Units A1 and A2 fuel, auxiliary and reactor buildings, and pipe fabrications shop to observe construction progress and construction activities such as welding, nondestructive examination, material handling and control, housekeeping and storage.

(Units B1 and B2)

The inspector made a general inspection of the "B" plant construction site to observe preservation activities.

b. Reinforcing Steel Storage (Units A1 and A2)

On July 1, 1980 the inspector accompanied by a representative of the licensee made a general inspection of temporary storage areas adajacent to the unit 1A and A2 power house construction area. The inspector noted in ten storage areas, in excess of two hundred examples of reinforcing steel off cribbing laying on or partialy covered by gravel or mud. TVA Procedure RIS & PN C-301 Rev 9, "Reinforcing Steel", paragraph IIA requires reinforcing steel to be maintained in Level D storage. TVA Procedure CEP 13.02 Rev. 3 "Storage and Preservation of Materials, Components and Systems", paragraph 2.D requires Level D stored items to be on cribbing or equivalent to allow air circulation and to avoid trapping water. Failure to follow established procedures

is in noncompliance with 10 CFR 50 Appendix B Criterion V. This is an infraction and is assigned item No. 518, 520/80-12-01: "Failure to Follow Reinforcing Steel Storage Procedure".

Within the areas inspected no items of noncompliance or deviations, except as described in paragraph 5b were noted.

6. Steel Structures and Supports - Observation of Welding Activities Within the Containment (Units A1 and A2)

The inspector observed in-process welding activities of containment structural field welds as described below to determine if applicable code and procedure requirements were being met. The applicable code for Containment Shell (CS) and Anchor Bolt Chair (ABC) welding is ASME B and PV Code Section III Subsection NE (74S74). The applicable code for Drywell Vent Structure (DVS) and Reactor Pedestel (PED) welding is AWS D1.1 (Rev. 2-74).

a. Welding

The following welds were examined in process to determine: work conducted in accordance with traveler; welding procedures available; welding technique and sequence; weld geometry, fit-up; electrical characteristics; equipment condition:

Joint No.	Unit	Structure
ABC 00671 R1	A1	ABC
DVS 00079 R4	A1	DVS
PED 00025	A2	PED
PED 00026	A2	PED
PED 00027	A2	PED
PED 00028	A2	PED
PED 00032	A2	PED
CS 00531	A1	CS
CS 00412 R1	A1	CS
CS 00528	A1	CS
CS 00229	A2	CS
CS 00110	A2	CS

b. Nonsestructive Examination

The inspector examined the following welds where nondestructive testing (NDE) was in progress to determine; surface suitability, specified NDE being perfromed with qualified personnel:

Joint No.	Unit	Structure
ABC-00592	A1	ABC
CS 00525A1	A1	CS

c. Weld Heat Treatment

The welds listed in Paragraph 6a above were examined in process relative to weld joint preheating to determine; procedures available; procedures specify acceptable preheating method; procedures provide monitoring and recording requirements and procedure compliance.

d. Welder Qualification

The inspector reviewed the TVA program for qualification of welders and welding operators for compliance with QA procedures and ASME Code requirements.

(1) The following welder qualification status records and "Records of Perfromance Qualification Test" were reviewed relative to the weld joints listed in Paragraph 6a above:

Welder Symbol	Unit	Note
BAKA	A1	Repair
BACR	A1	Repair
IAAL	A2	Welding out
IAFM	A2	Welding out
IAIW	A2	Welding out
IADZ	A2	Welding out
IAFA	A2	Welding out
BAEZ	A1	Welding out
BACU	A1	Repair
BAKT	A1	Welding out
BAKL	A1	Welding out
BAME	A2	Welding out
BAHG	A2	Welding out

(2) The inspector observed in process performance qualification testing for the below listed Welder:

Welder Symbol	Qualification Test
BACO	GT-701-L-A

(3) The inspector observed the removal, preparation and testing of side bend specimens from qualification test assemblies for the below listed welders.

Welder Symbol	Qualification Test
CADD	SM 4BH
CABY	SM 4BH

With regard to the inspection of paragraph 6d(3) and 8c the inspector noted that the side bend specimen thickness varied from

0.347" to 0.470". As referenced by TVA Procedure CEP 2.11 Revision 2, "Qualification of Welders and Welding Operaters", ASME Section IX, figure QW-462.2(a), and AWS D 1.1, figure 5.10.1.3 j specifies that side bend specimens shall be 3/8" thick with no tolerence given. At the time of the inspection it could not be determined whether a tolerence of -0.028" to +0.095" was an acceptable range for the applicable codes. The licensee stated that they had no procedural requirements for specimen thickness tolerance. The licensee's representative indicated that they would look further into the matter. The inspector stated that the above would be an unresolved item and identified as 518, 519, 520, 521/80-12-02: "Bend Specimen Thickness Tolerence".

e. Stud Welding (Unit A1 and A2)

The inspector observed stud welding activities on the below listed embed plates to determine the following:

- Type, length, diameter, material and finish of stud are as specified.
- Stud base qualification requirements are met.
- Suitable stud welding equipment and power source are used.
- Stud welding is accomplished in accordance with adequate and approved procedures.
- Location, including lateral and longitudinal spacing, is as specified.
- Testing and inspection of completed stud welds are satisfactorily completed.
- Test to qualify procedure and stud welding operator have been successfullt completed prior to use.

Item No.	Mark No.	Unit No.	Drawing No.
1	P-29	A1	DWG-S-042AR5
4	-	A2	DWG-300-088-23

Within the areas inspected no items of noncompliance or deviations were identified.

7. Reactor Coolant Loop Piping (Unit A1)

The inspector observed welding work activities for reactor coolant pressure boundary (RCPB) piping. The applicable code for installation of RCPB piping is the ASME B and PV code, 1974 edition plus addenda through summer 1974. The applicable code for modification of the reactor vessel recirculation inlet nozzles is ASME B&PV Code Section XI, 1974 edition plus addenda through summer 1975.

The below listed General Electric welds on the reactor vessel recirculation inlet nozzles were examined in process to determine work conducted in accordance with traveler; welder identification and location; welding procedure; WPS assignment; welder technique and sequence; material

identity; weld geometry; fit-up; temporary attachments; gas purging; preheat; electrical characteristics; shielding gas; welding equipment condition; interpass temperature; interpass cleaning; process control system; identify of welders; and weld history records.

Weld Type	Location	Unit	Size
Thermal Sleeve to Jet Pump Riser	AZ300°	A1	9"
Thermal Sleeve to Jet Pump Riser	AZ120°	A1	9"
Safe End to RV Nozzle	AZ330°	A1	10"
Safe End to RV Nozzle	AX150°	A1	10"

Within the areas examined, no items of noncompliance or deviations were identified.

8. Safety-Related Piping - Welder Qualification (Unit A1)

The inspector reviewed Qualification records and observed qualification activities for welding activities of safety-related piping field welds as described below to determine if applicable code and procedure requirements were being met. The applicable code for safety-related piping is the ASME B and PV Code Section III, 1974 Edition with addenda through Summer 1974.

a. The inspector reviewed the qualification status records for the welders of record for the below listed weld repairs to determine whether they met the applicable qualification requirements:

Weld No.	Welder Symbol
ACN0020003 R1	FABQ
FFC0212007B R2	FAKH
AAP0320044 R1	FAAW
ALP0021006 R1	FAED

b. The inspector observed in process performance qualification testing for the below listed welder.

Welder Symbol	Qualification Test
BACO	GT-701-L-A

c. The inspector observed the removal, preparation and testing of side bend specimens from a qualification test assemblies for the below listed welder.

Welder Symbol	Qualification Test
BACO	GT-701-L-A

With regard to the above inspection see discussion in paragraph 6d(3).

Within the areas examined, no items of noncompliance or deviations were identified.