



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

Report Nos. 50-553/80-09 and 50-554/80-08

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

Facility Name: Phipps Bend

Licensee Nos. CPPR-162 and CPPR-163

Inspection at Phipps Bend site near Kingsport, Tennessee

Inspectors: P. K. VanDoorn

7/9/80  
Date Signed

Approved by: A. R. Herdt  
A. R. Herdt, Section Chief, RCES Branch

7/9/80  
Date Signed

SUMMARY

Inspection on June 17-20, 1980

Areas Inspected

This routine unannounced inspection involved 24 inspector-hours onsite in the areas of steel structures and supports-special welding applications, welder qualification and control of weld preheating; safety related pipe welding; review of containment radiographs; and followup of inspector identified items and licensee identified items.

Results

Of the 5 areas inspected, no items of noncompliance or deviations were identified.

## DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*W. P. Kelleghan, Project Manager
- \*G. W. Wadewitz, Construction Engineer
- \*D. E. Hitchcock, Supervisor, Site QA Unit
- \*T. V. Abbatiello, Assistant Construction Engineer
- \*J. C. Cofiel, Assistant Construction Engineer - PE
- W. K. Burner, Manager, Welding Quality Control
- J. E. Rose, Supervisor Welding Engineering
- E. J. Barnette, Supervisor Mechanical Engineering
- \*W. C. Hatmaker, Welding QC
- \*R. A. Hagood, Welding Engineering
- \*H. B. McCracken, Mechanical Engineer

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

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on June 20, 1980 with those persons indicated in Paragraph 1 above.

### 3. Licensee Action on Previous Inspection Findings

- a. (Closed) Infraction 553/7: -17-01; Failure to follow welding procedure specification requirements. This item concerns the fact that weld weave width was exceeded during flux-cored arc welding of containment shell plates. TVA conducted destructive tests of weldments performed utilizing weave widths greater than allowed by procedure which resulted in the failure of one weld metal sample. Based on this failure TVA decided to remove all affected weld metal and reweld in accordance with procedure requirements. TVA determined which welds were affected by reviewing documentation and interviewing inspection and welding personnel. This resulted in the decision to repair all welds, except one, performed up to the time the noncompliance was identified which had been welded using the flux-cored arc welding process. In addition, inspectors and welding personnel were retrained regarding weld weave requirements. The inspector reviewed documentation of the actions performed by TVA, held discussions with responsible site personnel and observed weld joint preparations and welding in progress on two affected joints (see paragraph 7a). TVA actions concerning this item are considered satisfactory.

- b. (Closed) Unresolved Item 554/80-06-01, RVP baseplate preheat. This item concerned the fact that a field instruction requirement for preheat of the reactor vessel pedestal to 250-degrees F had been violated. The inspector determined that procedure and code requirements for the pedestal welding only require a preheat of 200-degrees F which was met. Site personnel indicated that 250-degrees F requirement was issued as an added precaution. Site inspection and welding personnel have been cautioned to follow field instruction even if procedure requirements are less stringent. Since code and procedure requirements have been met, this item is closed.
- c. (Closed) Unresolved Items 553/80-07-03 and 554/80-06-03, Marking in area of interest. This item concerned the fact that required stamping of welder and inspector identification was being performed within 1/2-inch of welds which is the area of interest for nondestructive examination. It was determined that code requirements have been met. Site personnel consider it to be better work practice to perform stamping outside the area of interest and have issued a memorandum instruction requiring stamping from 1/2-inch to 1-inch from the weld. Site personnel further indicated that a site procedure would be issued reiterating the new requirements. Site inspection and welding personnel have been trained regarding the new stamping requirements. The inspector held discussions with responsible licensee personnel and reviewed documentation associated with the above actions. TVA actions concerning this item are considered satisfactory.
- d. Unresolved Items 553/80-07-04 and 554/80-06-04, Fabrication traceability for piping assemblies. It was determined that site actions concerning this item are still under review and therefore, this item will remain open.

#### 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. One new unresolved item identified during this inspection is discussed in paragraph 7d.

#### 5. Independent Inspection Effort

- a. (Units 1 and 2) The inspector conducted a general inspection of the Units 1 and 2 fuel, auxiliary and reactor buildings, ironworkers shop, pipe storage areas and pipe fabrication shop to observe construction progress and construction activities such as control of welding materials, material handling, material protection, housekeeping and storage.
- b. (Unit 1) The inspector observed visual QC inspection of weld PIDWVS00017 for conformance to procedure requirements (QCI N-502, Rev. 1). The weld was properly rejected for undercut.

- c. (Units 1 and 2) The inspector observed intermediate welding of Class 3 pipe weld POKE00458 for conformance to procedure and Code requirements (ASME 74S74). The inspector also reviewed welder qualification records for the welder of this weld. The portion of the system containing this weld will be utilized for both reactor units.
- d. (Unit 1) (Closed) Inspector Followup Item 553/79-17-04, Failure to report "as welded" tensile on material certification. This item concerned the fact that an "as welded" tensile test required by Code, although performed, was not listed on the certification for Type 7018 weld electrode, Lot No. 7354F22143. The inspector verified that the properly completed certification is now available on site, and therefore, this item is closed.
- e. (Unit 1) The inspector reviewed radiographs of containment shell weld Nos. PIT2301626, PIT2301634 and PIT2301665 for conformance to procedure (QCI N-301, Rev. 2) and Code (ASME, Section III, Subsection NE, 74S74) requirements. Areas reviewed included density requirements, use of required panetrameters, sensitivity, coverage, documentation of technique and evaluation for defects.

No items of noncompliance or deviations were identified.

6. Licensee Identified Items (50.55(e)) (Units 1 and 2)

- a. (Closed) Item 553/80-06-02, Welding procedure weave requirements for containment shell plate welds not followed. This item is also item No. 553/79-17-01. See paragraph 3a. for followup actions performed concerning this item.
- b. (Open) Item 553/79-18-02, 554/79-17-02, Invalid heat treatment of reactor pressure vessel pedestal studs. It was determined that complete documentation was not available on site and, therefore, this item remains open until appropriate documentation review can be performed.

No items of noncompliance or deviations were identified.

7. Steel Structures and Supports - Special Welding Applications (Unit 1)

- a. The applicable Code for the containment shell plate welding is the ASME Boiler and Pressure Vessel Code, Section III, Subsection NE, 1974 edition plus addenda through summer 1974. The inspector observed repair welding of weld Nos. PIT2301593 and PIT2301594 for conformance to procedure and Code requirements.
- b. The inspector also observed automated welding of studs on piece MK 21-4-QA3 of drawing 4TE 1337-T7-04 for conformance to procedure (AW-SW-P1, Rev. 1) requirements.

- c. The applicable Code for the reactor pressure vessel pedestal is the ASME Boiler and Pressure Vessel Code, Section III, Division 2, 1975 edition. The inspector observed repair welding of weld No. PINY00381, R1 for conformance to procedure and Code requirements.

Areas reviewed in the above inspections included specification of appropriate requirements, procedure qualification, welder qualification, use of correct procedure and filler metal, and documentation of repairs.

- d. During observation of reactor vessel pedestal repair weld No. PINY00381, R1 on June 19, 1980 the inspector noted that welding had begun but the required QC inspections (visual and magnetic particle) of the excavations had not been signed for on the Operation Check List. Discussions with the inspector and review of the inspector's log book revealed that the inspections were performed and recorded in his log book. He indicated that additional excavations were to be performed on the opposite side for the same repair and he intended to make his official sign-off for the inspections at that time. The NRC inspector questioned site personnel as to whether not signing for partial inspections was a good practice since the inspector could be transferred prior to the final inspection and in addition, the repair welder does not have an official documented release for welding without the QC sign-offs. Licensee personnel agreed to review the need for procedure changes and the need for retraining of personnel and perform the necessary actions to assure that all inspections are properly signed for. This is unresolved item 553/80-09-01, Recording of partial inspections.

No items of noncompliance or deviations were identified.

8. Steel Structures and Supports - Welder Qualification (Unit 1)

Welder qualification is being conducted in accordance with the ASME Boiler and Pressure Vessel Code, Section IX, latest edition and addenda. The inspector reviewed the initial qualification records and qualification status records for the welders of record for the welds listed in paragraph 7 to verify conformance to Code requirements.

No items of noncompliance or deviations were identified.

9. Steel Structures and Supports - Weld Heat Treatment (Unit 1)

The applicable Codes for steel structures observed during this inspection are identified in paragraph 7. The inspector observed control of weld preheating for the welds listed in paragraph 7 for conformance to Code and site procedure (G29, 1.M.1.2(b), dated 12/8/78) requirements.

No items of noncompliance or deviations were identified.