



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
230 PEACHTREE STREET, N.W. SUITE 1217
ATLANTA, GEORGIA 30303

MAY 23 1977

In Reply Refer To:
IE:II:JJB
50-390/77-5
50-391/77-5

Tennessee Valley Authority
Attn: Mr. Godwin Williams, Jr.
Manager of Power
830 Power Building
Chattanooga, Tennessee 37401

Gentlemen:

This refers to the inspection conducted by Mr. J. J. Blake of this office on May 3-6, 1977, of activities authorized by NRC Construction Permit Nos. CPPR-91 and CPPR-92 for the Watts Bar Nuclear Plant, Unit 1 and 2 facilities, and to the discussion of our findings held with Mr. T. B. Northern, Jr. at the conclusion of the inspection.

Areas examined during the inspection and our findings are discussed in the enclosed inspection report. Within these areas, the inspection consisted of selective examination of procedures and representative records, interviews with personnel, and observations by the inspector.

Within the scope of this inspection, no items of noncompliance were disclosed.

We have examined actions you have taken with regard to previously identified inspection findings. These are identified in Appendix A to this letter.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you believe to be proprietary, it is necessary that you submit a written application to this office requesting that such information be withheld from public disclosure. If no proprietary information is identified, a written statement to that effect should be submitted. If an application is submitted, it must fully identify the bases for which information is claimed to be proprietary. The application should be prepared so that information sought to be withheld is incorporated in a separate paper and referenced in the application since the application will be placed in the Public Document Room. Your application, or written statement,

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should be submitted to us within 20 days. If we are not contacted as specified, the enclosed report and this letter may then be placed in the Public Document Room.

Should you have any questions concerning this letter, we will be glad to discuss them with you.

Very truly yours,



C. E. Murphy, Chief
Reactor Construction and Engineering
Support Branch

Enclosure: 1 as stated

cc: Mr. J. E. Gilleland
Assistant Manager of Power
831 Power Building
Chattanooga, Tennessee 37401

Mr. T. B. Northern, Jr.
Project Manager
Watts Bar Nuclear Plant
P. O. Box 2000
Spring City, Tennessee 37381

Mr. Stan Duhan
400 Commerce Street
E4D112
Knoxville, Tennessee 37902



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Appendix A

Report Nos. 50-390/77-5 and 50-391/77-5

Docket Nos. 50-390 and 50-391 Licensee Nos. CPPR-91 and CPPR-92

Categories: A2/A2

Licensee: Tennessee Valley Authority
830 Power Building
Chattanooga, Tennessee 37401

Facility Name: Watts Bar 1 and 2

Inspection at: Watts Bar Site, Watts Bar Dam, Tennessee

Inspection conducted: May 3-6, 1977

Inspector-in-Charge: J. J. Blake, Metallurgical Engineer
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

Other Accompanying Personnel: A. R. Herdt, Chief
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

Reviewed by: C. E. Murphy
C. E. Murphy, Chief
Reactor Construction and Engineering Support Branch

5/23/77
Date

Inspection Summary

Inspection on May 3-6, 1977 (Report Nos. 50-390/77-5 and 50-391/77-5)

Areas Inspected: Containment structural steel welding; piping; handling of reactor vessel head; licensee action on previously identified unresolved items. The inspection involved 25 inspector-hours on site by one NRC inspector.

Results: No items of noncompliance or deviations were disclosed.

DETAILS I

Prepared by:

J. J. Blake
J. J. Blake, Metallurgical Engineer
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

5/23/77
Date

Dates of Inspection: May 3-6, 1977

Reviewed by:

A. R. Herdt
A. R. Herdt, Chief
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

5/23/77
Date

1. Persons Contacted

a. Tennessee Valley Authority (TVA)

- *T. B. Northern, Jr. - Project Manager
- *H. C. Richardson - Construction Engineer
- *J. M. Lamb - Supervisor, Mechanical Engineer
- *L. C. Northard, Jr. - Supervisor, Welding & NDE
- *A. W. Rogers - QA Site Supervisor
- *J. S. Colley - Engineering Design, QEB
- L. J. Johnson - Mechanical Engineer
- J. D. Shanlever - Mechanical Engineer

b. Contractor Organization

Chicago Bridge and Iron Company (CB&I)

- C. L. Spears - QA Supervisor
- G. Rowe - QA Engineer

The inspector also talked with and interviewed several other licensee and contractor employees including welders, members of the engineering units, and QA personnel.

* Denotes those attending the exit interview.

2. Licensee Actions on Previous Inspection Findings

(Closed) Unresolved Item (390, 391/76-7/2); Status of CB&I Welding Supervisor Qualification

CB&I has forwarded copies of welding supervisor qualification certifications to the site as requested by the licensee.

(Open) Unresolved Item (390, 391/76-10/3); Weld Repair Requirements-Inconsistencies

CB&I site personnel are working to the contract requirements for reporting of weld repairs to the licensee. Licensee and CB&I management have not completed resolution of the inconsistencies. This item remains open pending resolution and further review by IE:II.

(Closed) Unresolved Item (390, 391/76-10/4); NSSS Supplied Stainless Steel Piping

The NSSS piping has been cleaned at the site using procedures approved by Westinghouse and TVA engineering. Site NCR No. 491R concerning this piping has been closed.

3. Unresolved Items

There were no unresolved items identified as a result of this inspection.

4. Independent Inspection Effort

The inspector observed work activities and reviewed procedures and documentation in the following areas during this part of the inspection:

a. Handling of Reactor Vessel Head (Unit 1)

The inspector observed the activities involved with moving the reactor vessel head from the building used for assembly of the head to a temporary storage location on top of the reactor inside containment. Operations observed were the installation of protective covering around CRDM's, transporting of the head to the containment area, and lifting of the head over the containment wall and down between the polar crane beams, using the 600-ton ringer crane. The controlling procedures for this handling operation were listed on MIQP/OPNSHT No. 1-68-F-1-21, which included a Master Checklist for Transportation of Class A Equipment and a Master Checklist for Class A Lifts. There

were no items of noncompliance noted within this area of inspection.

b. Safety Related Piping

The inspector observed welding of the containment spray rings. Welding operations were observed and documentation inspected for the following welds:

Weld Joint 1-072B-D071-08
Weld Joint 1-072B-D061-12

Final documentation including radiographs were reviewed for the following welds:

Weld Joint 1-072B-D069-07
Weld Joint 1-072B-D071-01

There were no items of noncompliance noted within this area of inspection.

c. Welding Procedure Revisions

During the review of the documentation for the welds listed in Paragraph 4b, above, the inspector noted that Rev. 4 of the detail welding procedure No. GT-88-0-1 was being referenced for welding done in March, 1977. A review of this showed that the Revision 4 dated July, 1976, had been forwarded to the site for special application in August, 1976 and then had been included for all applications in a general revision to welding specification G-29M which was forwarded to the site in February, 1977. The situation was further complicated by the fact that the special application distribution in August, 1976 did not include all of the copies of the G-29M specification at the site, but went only to the welding & NDE Engineering Unit. In that revisions to detail welding procedures cannot affect essential elements defined by ASME B&PV Code Section IX (Changes to Essential Elements require preparation of a new detail welding procedure under the system employed by TVA.) the use of an outdated revision does not effect the acceptability of welding. The only concern is the possible confusion resulting from partial distribution of revisions at the site. This concern was discussed at the exit interview. The licensee stated that future revisions would be issued on a site wide basis to avoid this possible confusion.

5. Containment Structural Steel Welding (Unit 2)

The inspector observed the welding of vertical seams on the sixth course of the Unit 2 containment. These seams were being welded using the shielded metal arc welding process. The inspector observed the welders technique in deposition of weld metal and inspected the welds for workmanship. The inspector also observed the control of welding materials during the welding operations.

The containment is being fabricated and erected in accordance with the ASME B&PV Code Section III, 1971 Edition, Subsection MC, including Winter 1971 Addenda.

There were no items or noncompliance noted within this area of inspection.

6. Reactor Coolant Pressure Boundary Piping, Observation of Work and Work Activities (Unit 1)

The inspector observed welding operations on the hot and cold leg welds being fabricated at the time of the inspection. Weld Joint No. 1-068D-W001-02, Steam Generator End of Hot Leg No. 1, was selected for observation of the welders technique during deposition of cover pass weld beads, and examination of weld bead appearance and workmanship. The inspection was to verify conformance to the requirements of General Welding Procedure G-29M and Detail Welding Procedure GTSM 88-0-2, Rev. 3. In addition, the inspector observed the protection and handling at piping spools for hot and cold legs and cross over leg.

There were no items of noncompliance within this area of inspection.

7. Management Interview

The inspector met with licensee representatives (Denoted in paragraph 1) at the conclusion of the inspection on May 6, 1977. The inspector summarized the scope and findings of the inspection. The licensee acknowledged the area of concern regarding the implementation of revisions to detail welding procedures and stated that in the future revisions would be implemented on a site wide basis to avoid confusion.