



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

*Central File*

*50-390  
391*

**DEC 2 1977**

In Reply Refer To:  
RII:BJC  
50-390/77-15  
50-391/77-14

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. V. L. Brownlee of this office on November 2-4, 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 examinations 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 discussed in the enclosed inspection report.

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 (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must include a full statement of the reasons on the basis of which it is claimed that the information is proprietary, and should be prepared so that proprietary information identified in the application is contained in a separate part of the document. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

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

Sincerely,

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

Enclosure:

RII Inspection Report Nos.  
50-390/77-15 and 50-391/77-14

cc: Mr. J. E. Gilleland  
Assistant Manager of Power  
830 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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230 PEACHTREE STREET, N.W. SUITE 1217  
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DEC 2 1977

Report Nos.: 50-390/77-15 and 50-391/77-14

Docket Nos.: 50-390 and 50-391

License Nos.: CPPR-91 and CPPR-92

Categories: A2, A2

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

Facility Name: Watts Bar Nuclear Plant, Units 1 and 2

Inspection at: Knoxville, Tennessee  
Watts Bar Dam, Tennessee

Inspection conducted: November 2-4, 1977

Inspectors: B. J. Cochran  
V. L. Brownlee

Reviewed by:

*A. R. Herdt*  
A. R. Herdt, Chief

Projects Section

Reactor Construction and Engineering Support Branch

*12/1/77*  
Date

Inspection Summary

Inspection on November 2-4, 1977 (Report Nos. 50-390/77-15 and 50-391/77-14)

Areas Inspected: Licensee action on previously identified inspection findings; turnover of responsibilities of principal inspector to B. J. Cochran; installation of Unit 2 reactor vessel and Unit 1 containment overpressure and leak rate tests. The inspection involved 40 inspector-hours at the licensee's offices in Knoxville, Tennessee and at the site by two NRC inspectors.

Results: No items of noncompliance or deviations were identified.

DETAILS I

Prepared by:

L. E. Foster

for

B. J. Cochran, Principal Inspector  
Projects Section  
Reactor Construction and Engineering  
Support Branch

11/30/77  
Date

L. E. Foster

for

V. L. Brownlee, Principal Inspector  
Projects Section  
Reactor Construction and Engineering  
Support Branch

11/30/77  
Date

Dates of Inspection: November 2-4, 1977

Reviewed by:

A. R. Herdt

A. R. Herdt, Chief  
Projects Section  
Reactor Construction and Engineering  
Support Branch

12/1/77  
Date

1. Persons Contacted

Tennessee Valley Authority (TVA)

- J. P. Knight, Quality Assurance Manager, OEDC
- \*T. B. Northern, Jr., Project Manager
- W. K. Anders, QA Engineer, OEDC
- W. D. Deford, Supervisor, QA Engineering Section, ENDES
- J. L. Parris, Chief, Quality Engineering Branch
- P. L. Duncan, Quality Assurance Group
- \*A. W. Rogers, Supervisor, QA Unit
- J. R. Inger, QA Unit
- \*R. L. Heatherly, Supervisor, QC&R Unit
- J. R. Fifrick, QA Unit
- J. vonWeisenstien, EN DES QEB
- \*J. S. Colley, EN DES QEB
- C. S. Teague, QA Engineer, OEDC
- \*J. H. Purdue, Supervisor, Electrical Engineering Unit
- J. P. Ballard, Mechanical Engineer
- R. W. Dibeler, Chief, QA Staff, Construction
- \*J. M. Lamb, Supervisor, Mechanical Engineering Unit
- \*L. S. Cox, Assistant Construction Engineer
- \*J. E. Treadway, Construction Superintendent
- \*S. Johnson, Assistant Construction Engineer
- S. Dunham, Supervisor, QC Section

- \*G. W. Killian, QA Evaluator, Office of Power QA and Audit
- \*J. G. Shields, Assistant Construction Engineer
- \*C. O. Christopher, Supervisor, Civil Engineering
- R. D. Anderson, Electrical Engineer
- L. D. Bates, Mechanical Engineer

The inspector also talked with other licensee employees including members of the engineering units.

\*Denotes those present at the exit interview.

2. Licensee Actions on Previous Inspection Findings

- a. (Closed) Infraction 390/77-6N1 and 391/77-6N1 - Failure to Follow Procedures - Field Procurement. RII has evaluated and accepted TVA's letter of response dated July 28, 1977. The inspector discussed the corrective actions identified in the letter of response with responsible QA unit personnel, reviewed QAU Audit WB-G-77-04, June 4 - July 11, 1977, and procedure changes which are being made to prevent recurrence. This item is closed.
- b. (Closed) Unresolved Item 76-10/3 - Weld Repair Requirements. TVA and CB&I have reached an agreement relative to the conflicts within the reporting and documentation requirements for repair welding. CB&I QA Manual, Supplement I, Supplemental QA Requirements, Revision 5, was satisfactorily revised to resolve the inconsistencies between TVA Specification 1440, paragraph 15.5.2 and CB&I Supplement to Division 3, Section 14.0 and Division 4, Section 14.0. This item is closed.

3. Unresolved Items

No new unresolved items were identified.

4. Independent Inspection Effort

The inspectors visited the licensee's Engineering and Design Offices in Knoxville, Tennessee and toured the site facilities for the purpose of introducing B. J. Cochran (newly assigned Principal Inspector) to TVA management and staff personnel. The inspectors reviewed the organizational/functional alignment and reviewed the QA/QC program manuals and procedures. No items of noncompliance or deviations were identified.

5. Containment Overpressure and Leak Rate Test (Unit 1)

Review of the CB&I procedures and observation of the instrumentation and air supply hookup was reported in RII Report Nos. 50-390/77-13 and 50-391/77-13. During this inspection the inspector held discussions with the responsible TVA mechanical engineers and reviewed copies of the overpressure and leak rate test records. The tests were performed in accordance with the approved CB&I test procedures and the data and results have been determined to be in accordance with the leak rate requirements of the containment vessel specification. No items of noncompliance or deviations were identified.

6. Unit 2 Reactor Vessel Installation

The initial setting of the Unit 2 reactor pressure vessel was made on October 20, 1977, in accordance with documented field instructions. The final setting was not completed at the time of this inspection pending final machining of the shim plates. Measurements have been made to confirm that the vessel levelness as measured across the diameter of the internal seating ledge will be within the specified limits of 0.0073 inch.

The inspector reviewed the following procedures and drawings used for preparation of final check points, testing of cranes and setting of the vessel.

a. Procedures

WBNP-QCP 4.7 - Mechanical Equipment Installation Standard for Inspection and Documentation

WBNP-QCP 1.18 - Lifting and Transporting of Major Components

WBFI-M-11 (Rev. 6) - Installation of Nuclear Steam Supply System Major Components

b. Drawings

TVA-DED

Reactor Supports 48N410

Reactor Vessel Installation Procedure 108K10312 Sheets 1-6

Westinghouse

Reactor Vessel Support Hardware 113E335

The inspector reviewed the crane test results, engineering reports for the vessel installation and discussed the final setting measurements with the QA inspectors and the responsible mechanical engineer. The records confirm that the procedures were followed and inspections were made at the designated hold points.

No items of noncompliance or deviations were identified.

7. Exit Interview

The inspectors met with the licensee representatives (denoted in paragraph 1) on November 4, 1977. The inspectors summarized the purpose, scope and findings of the inspection as follows: licensee action on previously identified inspection findings; turnover of IE principal inspector responsibilities, installation of the Unit 2 reactor vessel and Unit 1 containment overpressure and leak rate test results.