



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

Central file
50-390
391

In Reply Refer To:
RII:BRC
50-390/78-16
50-391/78-14

AUG 14 1978

Tennessee Valley Authority
Attn: Mr. N. B. Hughes
Manager of Power
830 Power Building
Chattanooga, Tennessee 37401

Gentlemen:

This refers to the inspection conducted by Mr. B. R. Crowley of this office on July 10-12, 1978, 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 discussion of our findings held with Mr. J. G. Shields 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 enforcement matters. These are discussed in the enclosed inspection report. Relative to noncompliance 78-13-01, your response dated July 5, 1978 stated that TVA's re-review of the two film in question using TVA's densitometer revealed acceptable film. We do not concur with this evaluation, because re-evaluation of the film by NRC and TVA during the current inspection, using TVA's densitometer revealed one film to be rejectable and the other film to be acceptable. Subsequently, TVA has re-radiographed the weld in question and has acceptable film on file.

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 docu-

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Tennessee Valley Authority

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ment. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

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:

Inspection Report Nos.
50-391/78-16 and 50-390/78-14

cc w/encl:

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. J. F. Cox
400 Commerce Street
W9D214
Knoxville, Tennessee 37902



UNITED STATES
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ATLANTA, GEORGIA 30303

Report Nos.: 50-390/78-16 and 50-391/78-14

Docket Nos.: 50-390 and 50-391

License Nos.: CPPR-91 and CPPR-92

Category: A3, A2

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

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

Inspection at: Watts Bar Dam, Tennessee

Inspection Conducted: July 10-12, 1978

Inspector: B. R. Crowley

Reviewed by:

T. E. Conlon
T. E. Conlon, Chief
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

8/11/78
Date

Inspection Summary

Inspection on July 10-12, 1978 (Report Nos. 50-390/78-16 and 50-391/78-14)

Areas Inspected: Reactor Coolant pressure boundary piping (Units 1 and 2), safety-related piping (Unit 1), Steam generator eddy current testing (Unit 2), 24 inspector-hours on site by one NRC inspector. There were no part 21 or 50.55(e) items included in this inspection.

Results: No items of noncompliance or deviations were identified.

DETAILS I

Prepared by:

B. R. Crowley
B. R. Crowley, Metallurgical
Engineer
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

8/11/78
Date

Dates of Inspection: July 10-12, 1978

Reviewed by:

T. E. Conlon
T. E. Conlon, Chief
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

8/11/78
Date

1. Persons Contacted

a. Tennessee Valley Authority (TVA)

T. B. Northern, Jr., Project Manager
H. C. Richardson, Construction Engineer
*J. G. Shields, Assistant Construction Engineer
*L. C. Northard, Jr., Supervisor, Welding and NDE Unit
*J. M. Lamb, Supervisor, Mechanical Engineering Unit
*J. A. Nicholls, Supervisor, Civil Engineering Unit
*R. L. Heatherly, Supervisor, QC & Records Unit
*A. W. Rogers, Site QA Supervisor
*W. K. Anders, QA Engineer, OEDC
L. J. Johnson, Mechanical Engineer
J. A. Kerr, Mechanical Engineer
J. D. White, Mechanical Engineer
E. Crane, Mechanical Engineer, Plant Maintenance

b. Contractor Organizations

(1) Lambert-MacGill-Thomas, Inc. (LMT)

R. D. Burlingame, Level II

(2) Pittsburgh DesMoines Steel Company (PDM)

R. Chandler, Site QA Manager

J. Howle, Construction Superintendent

In addition to the above personnel, the inspector interviewed other craft and inspection personnel.

*Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (78-13-01): Failure to Follow Pipe Weld RT Procedures: The licensee's corrective action was examined. For Weld 1-063B-D090-10, the licensee reported that a re-review of the two films reported as rejectable by NRC, revealed the film to be acceptable using TVA's densitometer. Further evaluation by NRC and TVA during this inspection revealed the film density for one film to be acceptable and the other to be rejectable. The joint was re-radiographed and acceptable results obtained. This item is closed.

(Open) Noncompliance (78-05-01): Failure to Document Weld Fitup: The inspector reviewed implementation of the licensee's corrective action. According to licensee's response, future action was to be completed by May 15, 1978. As of July 10, 1978, part of the corrective action (revision of QCP's) had not been accomplished. The licensee stated that the QCP's would be revised by 7/21/78. This item remains open.

3. Unresolved Items

No unresolved items were identified during this inspection.

4. Independent Inspection Effort

The following areas of interest were examined by the inspector:

a. Safety-Related Structures (Unit 2)

The Primary Makeup Water tank is being fabricated by Pittsburgh DesMoines Steel Company in accordance with the ASME Boiler and Pressure, Vessel Code, Section III, Subsection ND, 1974 Edition with addenda through the winter of 1975. The inspector observed in-process welding and weld records for roof assembly welds 3A-13 to 3A-28 and 3A-25 to 3A-28. Weld appearance, use of correct welding material, use of correct welding procedure, and welder qualifications were examined.

b. Steam Generator Tube Eddy Current Testing (Unit 2)

Lambert-MacGill-Thomas, Inc. are performing preservice inspection Eddy Current testing on steam generator tubing in accordance with ASME Boiler and Pressure Vessel Code, Section XI, Appendix IV, 1974 Edition including the summer of 1976 addenda.

The inspector observed testing on steam generator No. 1 - Row 14, tubes 40 through 50 and Row 34, tubes 45 through 49.

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

5. Reactor Coolant Pressure Boundary Piping - Review of Quality Records (Units 1 and 2)

Quality records for reactor coolant piping were reviewed to determine whether records reflected material/component characteristics consistent with applicable requirements. The piping is being installed in accordance with the ASME Boiler and Pressure Vessel Code, Section III, Subsection NB, 1971 Edition with addenda through the summer of 1973. The records described below were reviewed and compared with the applicable requirements of the following procedures and specifications.

Construction Specification N3M-868
"Field Fabrication Assembly, Examination, and Test for Piping Systems for Watts Bar Nuclear Plant"

NCM, Section 4.1
"Manufacturing and Installation Quality Plan"

QCP 4.5
"Handling, Storage, and Maintenance of Permanent Mechanical Equipment"

QCP 1.6
"Receipt, Inspection, Storage, Withdrawal and Transfer of Permanent Material"

NCM, Section 3.6
"Receiving Inspection, Storage, Preservation, and Issuing of Code Items"

a. Unit 1

- (1) Upper Head Injection pipe subassembly 87-UHI-25,
S/N 6938 -

For this pipe the inspector reviewed:

- (a) TVA 209 No. WBNP 77-0625
TVA QC Checklist & Shipping Release dtd. July 23,
1976
- (b) DRAVO Quality Control and Assurance Data
- (c) TVA Receiving Inspection Checklist dated August 6,
1976
- (d) Operation Sheets 1-87-F-6-1 and 1-87-F-6-2 (reviewed
only to verify installation and cleanliness)

- (2) Safety Injection pipe subassembly 63-SI-168, S/N 10383 -

For this pipe the inspector reviewed:

- (a) TVA 209 No. WBNP 78-1132
- (b) TVA QC Checklist and Shipping Release dated
November 10, 1977
- (c) DRAVO Quality Control and Assurance Data
- (d) TVA Receiving Inspection Checklist dated
12/2/77.

- (3) RC Loop 2-1 (Hot Leg), S/N 4467 -

For this pipe the inspector reviewed operation
sheets 1-68-F-2-2 and 1-68-F-2-3 to verify installation
and cleanliness.

- (4) The inspector reviewed storage records, Attachment
"A" to QCP 4.5, for the hot and cold legs dated 12/22/76
and for the crossover piping dated August 24, 1976.

b. Unit 2

- (1) Upper Head Injection pipe subassembly 87-UHI-27, S/N 11046 and
Safety Injection pipe subassembly 63-SI-188, S/N 12472 -

For these two pipes the inspector reviewed the following
as applicable to each weld:

- (a) TVA 209 Nos. WBNP 77-7253 and WBNP 77-7025
 - (b) TVA QC Checklist and Shipping releases dated May 13, 1977 and May 11, 1977
 - (c) DRAVO Quality Control and Assurance Data
 - (d) TVA Receiving Inspection Checklists dated June 4, 1977 and May 16, 1977
- (2) Loop 1-1 Hot Leg, S/N 4705; Loop 1-4 Crossover, S/N 14870; and Loop 1-5 Cold Leg, S/N 4844

For these three pipes the inspector reviewed the following records, as applicable to each pipe:

- (a) TVA 209 Nos. WBNP 78-3416, 76-1306, and 76-2072A
 - (b) TVA NSSF Shipping Releases
 - (c) Westinghouse Quality Release Nos. 35736, 21859, and 21853
 - (d) TVA Receiving Inspection Checklists dated 3/27/78, 3/25/76 and 11/10/75
 - (e) Nonconformance report Nos. 173, 253 and 252
 - (f) Operation sheets 2-68-F-2-1, 2, 9, 10, 25 and 26 (reviewed to determine that inspection requirements were met and to verify installation and cleanliness requirements)
- (3) Loop 2-1 Hot Leg, S/N 4706 and Loop 2-5 Cold Leg, S/N 4769

For these two pipes the inspector reviewed operation sheets 2-68-F-2-3, 4, 11 and 12 to determine that inspection requirements were met and to verify installation and cleanliness requirements.

- (4) The inspector reviewed storage records for RC Hot Legs, Cold Legs, and Crossovers, consisting of Attachment "A" to QCP 4.5 dtd. 5/3/78.
- (5) The inspector reviewed the following audit reports relative to reactor coolant pressure boundary piping:

WB-M-78-02 dtd. 2/12/78-4/6/78
WB-M-78-05 dtd. 7/10/78-7/12/78

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

6. Safety Related Piping - Observation of Work and Work Activities
(Unit 1)

The inspector observed the in-process activities, partially completed work, and quality records described below relative to safety-related piping to verify conformance with inspection and work performance procedures, conformance with record keeping requirements, conformance with construction specification requirements, and performance of prescribed inspections. The work was being accomplished in accordance with the same code and procedures as noted in paragraph 5. above, except the ASME Code subsection is NC.

- a. Pipe subassembly 72-CS-57 was observed while grinding weld prep for fitup to heat exchanger at weld 1-072A-D063-01. Handling during fitup and the weld operation sheet were examined.
- b. Pipe subassembly 72-CS-33 was observed in the process of welding at weld 1-072A-D060-01. Protection during installation was examined. In addition, the weld operation sheet was examined to verify that the required installation inspections had been made.
- c. Pipe subassemblies 62A-CVCS-14 and 62A-CVCS-96 were observed in storage. In addition, DRAVO "Rust Preventative" storage records for 6/12/78 were reviewed.

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

7. Reactor Coolant Pressure Boundary Piping - Observation of Work
and Work Activities (Unit 2)

The inspector observed the in-process activities and quality records described below relative to reactor coolant piping to verify conformance with inspection and work performance procedures, conformance with record keeping requirements, and conformance with construction specification requirements. See paragraph 5. above for the applicable code and procedures.

- a. Pipe subassembly 74-RHR-68 was observed during installation while in the process of grinding weld 2-074B-D031-09 for NDE. Handling and protection practices were examined. In addition, the weld operation sheet was examined to verify that the required installation inspections had been made and that the proper records were being maintained.

b. The pipe storage area was inspected.

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

8. Exit Interview

The inspector met with the licensee representative denoted in paragraph 1 at the conclusion of the inspection and summarized the scope and findings of the inspection. Relative to the previous noncompliance 78-05-01, the licensee stated that failure to revise QCP's was an oversight and that revisions had been initiated on July 10, 1978.