



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

Report Nos.: 50-390/78-28 and 50-391/78-24

Docket Nos.: 50-390 and 50-391

License Nos.: CPPR-91 and CPPR-92

Categories: 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: October 30 - November 2 and November 6-9, 1978

Inspector: E. H. Girard

Reviewed by: *T. E. Conlon* 11/30/78
Date
T. E. Conlon, Chief
Engineering Support Section No. 2
Reactor Construction and Engineering Support Branch

Inspection Summary

Inspection on October 30 - November 2, and November 6-9, 1978 (Report Nos. 50-340/78-28 and 50-391/78-24)

Areas Inspected: Inservice Inspection - Review of Procedures (Units 1 and 2) and Preservice Inspection - Observation of Work and Work Activities (Units 1 and 2). The inspection involved 44 inspector-hours on-site by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

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DETAILS I

Prepared by: *T. E. Conlon for* 11/30/78
Date
E. H. Girard, Reactor Inspector
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

Dates of Inspection: October 30 - November 2 and
November 6-9, 1978

Reviewed by: *T. E. Conlon* 11/30/78
Date
T. E. Conlon, Chief
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

1. Persons Contacted

a. Licensee

- *T. B. Northern, Jr., Project Manager
- *S. Johnson, Assistant Construction Engineer (Mechanical)
- *J. F. Graves, Power Plant Superintendent
- *R. Daniels, Mechanical Engineer, Division
of Power Production
- *E. Crane, Mechanical Engineer, Plant Maintenance
- L. C. Northard, Jr., Supervisor, Welding and
NDE Unit

b. Contractor Organizations

(1) Southwest Research Institute (SwRI)

F. Leonard, Project Leader

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

D. B. MacGill, Level III

(3) Hartford Steam Boiler

C. D. Thompson, Authorized Nuclear Inservice Inspector (ANII)

In addition to the above personnel, the inspector interviewed other
licensee and contractor personnel.

*Denotes those present at the Exit Interview.

2. Licensee Action on Previous Inspection Findings

Licensees action on previous inspection findings were not examined on this inspection.

3. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved items disclosed during the inspection are discussed in Paragraph 5 and 6.C.

4. Independent Inspection Effort (Unit 1 and 2)

Housekeeping was examined in the areas adjacent to the main loop piping for compliance with TVA Process Specification Number 4.M.1.1, Paragraph 3.1.1, "Material Fabrication and Handling Requirements for Austenitic Stainless Steel".

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

5. Inservice Inspection-Review of Procedures (Units 1 and 2)

The following procedures were reviewed for compliance with the applicable ASME Section XI (74S75) requirements.

- a. SwRI-NDT-700-5, Rev. 1, July 1978, Mechanized Ultrasonic Examinations of Vessel Components, Vessel Welds, and Piping Welds"
- b. SwRI-NDT-700-6, Rev. 1, July 1978, "Mechanical Ultrasonic Examination of Ferritic Steels 2½ Inches or Greater in Thickness.
- c. TVA Nondestructive Examination Procedure WB-UT-1, Rev. 1, "Ultrasonic Examination of Nuclear Coolant System Piping"
- d. SwRI-NDT-200-1, Rev. 42, July 1978, "Liquid Penetrant Examination, Color Contrast Method"
- e. SwRI-NDT-300-2, Rev. 21, July 1978, "Fluorescent Magnetic Particle Examination"

The magnetic particle examination procedure (NDT-300-2) was found to contain a yoke pole spacing requirement of 3 to 9 inches, whereas ASME Section V (74S75), T-734.2(a) specifies 3 to 6 inches. The NRC inspector was informed that the ASME inspector had already questioned this difference. The nondestructive examination contractor (SwRI) stated that the

3-9 inch spacing had been specially qualified. The NRC inspector requested detailed information on the qualification. The acceptability of the pole spacing is identified for record as Unresolved Item 390/78-28-01.

No deviations or items of noncompliance were identified in the procedures reviewed.

6. Preservice Inspection-Observation of Work and Work Activities
(Units 1 and 2 as noted below)

The inspector observed preservice inspection of ASME Section III C1. One items in accordance with ASME Section XI (74S75) and licensee approved procedures as described below.

- a. Pressure retaining dissimilar metal welds (Unit 1)
 - (1) Examination of welds N-18-SE, N-14-SE, N-12-SE and N-17-SE utilizing SwRI-NDT-700-5, Rev. 1.
 - (2) Examination of weld N-17-SE utilizing SwRI-NDT-200-1, Rev. 42.
- b. Pressure retaining bolting, 2 inches and larger in diameter (Unit 1 and Unit 2)
 - (1) Examination of reactor vessel studs 38 (Unit 1) and 40 (Unit 2) utilizing SwRI-NDT-300-2, Rev. 21.
 - (2) Examination of ligaments between reactor vessel stud holds 8 through 52 (counterclock wise) (Unit 1) utilizing SwRI-NDT-600-5, Rev. 25.
- c. Pressure retaining welds in piping (Unit 2)
 - (1) Examination of welds RCS-3-3 and RCF-G3-4 utilizing WB-UT-1 (Rev. 1) (performed by LMT).

Documentation for some of the calibration blocks being used in UT examination of the reactor vessel welds was not available at this inspection. The licensee stated the subject documentation had been requested from the vendor and could be expected shortly. The NRC inspector has asked to see this documentation. The acceptability of the calibration blocks is considered an unresolved item and is identified as 390/78-28-02.

No deviations or items of noncompliance were identified in the examinations observed.

7. Exit Interview

The scope and findings of the inspection were summarized and discussed.