



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

Report Nos. 50-327/79-23 and 50-328/79-12

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

Facility Name: Sequoyah Nuclear Plant Units 1 and 2

Docket Nos. 50-327 and 50-328

License Nos. CFP-72 and CPP-73

Inspection at Sequoyah Nuclear Plant near Chattanooga, Tennessee

Inspector: P. K. VanDoorn 4/24/79  
 P. K. VanDoorn Date Signed

Accompanying Personnel: L. Modenos (Training)

Approved by: T. E. Conlon 5/1/79  
 T. E. Conlon, Section Chief, RC&ES Branch Date Signed

SUMMARY

inspection on April 10-12, 1979

Areas Inspected

This routine unannounced inspection involved 44 inspector-hours onsite in the areas of safety related structures welding and welding records (Unit 2); safety related piping welding and welding records (Unit 2); followup inspection of previous inspection findings and a licensee identified item (50.55(e)) in the area of preservice inspection (Unit 1).

Results

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

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## DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*G. G. Stack, Project Manager, Construction
- \*J. M. Ballentine, Plant Superintendent
- \*J. E. Wilkins, Construction Engineer
- \*R. M. Pierce, Project Manager, Design
- \*J. M. Munns, Supervisor, Construction QA
- \*R. W. Farrell, Supervisor, QC Records Unit
- \*E. C. Pendergrass, QC Records Unit
- \*D. L. Cowant, QA Engineer, Power Production
- E. F. Harwell, Supervisor, Metallurgy and NDT Section, Office of Power
- G. L. Belew, Mechanical Engineer
- L. W. Jones, Supervisor, Welding Inspection Unit

Other licensee employees contacted included 10 construction craftsmen and 6 technicians.

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on April 12, 1979, with those persons indicated in Paragraph 1 above.

### 3. Licensee Action on Previous Inspection Findings

- a. (Closed) Unresolved Item 50-327/78-41-01: Documentation of Special UT Process Used for RC Piping Inspection. TVA has revised the UT procedure applicable to this piping to include the special technique being employed. This procedure has been issued as N-UT-1, Rev. 1, "Ultrasonic Inspection of Nuclear Coolant System Piping". This documentation is adequate.
- b. (Closed) Item of Noncompliance 50-327/78-41-03: Failure to Provide Controls for Linearity Calibrations for UT of Ferritic Vessels 2 1/2 - Inch and Greater in Thickness. The TVA report for this item was received by NRC on January 29, 1979. TVA has revised the applicable procedure (UT-2, Rev. 13) to include the calibration requirements. The inspector reviewed this procedure and it is adequate. Reviews by the inspector during previous inspection had indicated that the required calibrations had been performed for vessel inspections.

- c. (Closed) Item of Noncompliance 50-327/78-41-04: Failure to Follow Procedure for Calibration and Internal Alignment of UT Tester. The TVA report for this item was received by NRC on January 29, 1979. TVA actions have included removing the affected equipment from use, performing a recalibration which was satisfactory and re-instructing personnel. The inspector reviewed these actions and the calibration documentation and considers the actions taken to be adequate.
- d. (Closed) Unresolved Item 50-327/79-01-01: Documentation of Conditions Adverse to Quality. Significant conditions adverse to quality were not identified by TVA for the Sequoyah Unit 1 preservice inspection. However, TVA considers that formal documentation of these conditions, when identified, is necessary. TVA has prepared and approved (procedure not yet distributed at time of inspection) procedure N-AI-1, Rev. 1 - "Duties of the Authorized TVA Inspector - TVA Nuclear Plants". This procedure provides for documentation of significant conditions adverse to quality. The inspector reviewed the above procedure and considers it adequate.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection Effort

- a. (Unit 2) The inspector conducted a general inspection of the Unit 2 containment and auxiliary building areas to observe construction activities such as welding, material handling and control, house-keeping and storage.
- b. (Unit 1) The inspector conducted a followup inspection on Inspector Followup Item 50-327/78-33-01 - Verification of Adequate Weld Drawings for PSI/ISI Inspections. The inspector discussed the methods being employed to report and document discrepancies between weld isometrics and actual field conditions.

The inspector was informed that no field conditions had been found that had not been previously approved. The inspector reviewed newly prepared weld isometrics and determined that field conditions such as hanger interferences, location information and longitudinal and circumferential welds in pipe were identified. TVA actions are considered adequate and this item is closed.

- c. (Unit 1) The inspector conducted a followup inspection of Inspector Followup Item 50-327/79-06-01 - Disposition of UT Indication for Weld RHRS-119. TVA has removed a portion of a lug from one side of the weld and inspected the weld from this side which was not

previously possible. This inspection disclosed an indication similar in amplitude and metal travel to that previously found. The inspector reviewed this UT report. Since TVA has not yet decided on disposition of this indication, this item remains open.

- d. (Unit 2) The inspector observed field welding of safety-related piping outside the reactor coolant pressure boundary at various states of weld completion. The applicable Code for safety-related pipe welding is the ANSI Standard B31.7, 1969 edition and the 1970 addenda.

The inspector examined weld joints to determine; weld/welder identification, qualified welder/weld procedure, use of specified weld material, proper interpass temperature and, where applicable, pre-heat and post-weld heat treatment and physical appearance of weld (e.g. starts, stops, undercut and surface imperfections).

The following welds were observed:

Joint No. Stage of Completion Observed

OERO4080 Intermediate Welding  
2SE09264A Fitup  
2SE09264B Fitup  
2SE09264C Fitup  
2SE09264D Root Welding  
2CX00060-1 Intermediate Welding  
2CX01008 Fitup  
2CX01008B Fitup  
2CC01715 Intermediate Welding  
2CC01713 Intermediate Welding  
2CC01712 Intermediate Welding  
2CC01711 Intermediate Welding  
2CC01710 Intermediate Welding  
2CC01709 Intermediate Welding

- e. (Unit 2) The inspector observed post-weld stress relief heat treatment of weld no. 2MS00030 to determine if procedure requirements were being met.

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

6. Licensee Identified Items (50.55(e))(Unit 1)

(Open) Item 327/79-19-02: Reactor Vessel Closure Head Weld Indication. This item was initially reported by telephone to Region II on February 16, 1979, as a possible 50.55(e) item. This item concerned the fact that a

flaw was found in the closure head which exceeds the planer flaw size limits of ASME Section XI. Region II was subsequently informed that fracture mechanics analysis, an alternate method of evaluation allowed by ASME Section XI, had been performed and showed the flaw to be acceptable for a 40 year plant life. The inspector reviewed this analysis and verified that normal conditions, emergency conitions, faulted conditions and irradiation effects (determined to be negligible in this case) were considered. This item will remain open, however, until it is verified that this fracture mechanics analysis has been officially forwarded to NRC as required by paragraph IWB-3125 of ASME Section XI.

7. Safety Related Structures (Welding) - Observation of Work and Work Activities (Unit 2)

The inspector observ'd field welding activities associated with safety related structures and supports outside containment during various states of weld completion. The applicable code is AWS D1.1, Rev. 2-74. Observations were made in order to determine whether the requirements of applicable specifications, standards, work and/or inspection procedures are being met for the activities involved and in the following stages of weld completion:

- a. The inspector examined weld joint fitup, prior to welding, to determine whether weld identification/location, joint preparation and alignment and QC verification are in conformance with existing requirements.

<u>Weld Joint</u>	<u>Weld Map</u>	<u>Structure/Support</u>
15	WMO-B205	Main Steam Pipe Restraint
18	WMO-B205	Main Steam Pipe Restraint
20	WMO-B205	Main Steam Pipe Restraint

- b. Observation of weld material control included; identification, issue slips and control of unused material at issue stations and work areas.
- c. During observation of weld activities there appeared to be a sufficient number of qualified inspection personnel at the work site.

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

8. Safety Related Structures (Welding) - Review of Quality Records (Unit 2)

The inspector reviewed the quality records described below relative to welding of safety related structures/supports outside the containment to determine whether these records reflected work accomplishment consistent with NRC requirements and SAR commitments. The applicable code for this welding is delineated in paragraph 7. Areas specifically reviewed were welding surveillance records and visual inspection records (II-75 forms). The II-75's reviewed were 22A-HRVEPD104, 22A-HRVWB15-3-N103-1, 22A-HRVWB37-N103-1, 22A-HRVWPD123, 22A-HRVWPD87, 22A-HRVW PD89, and 22A-HHRVWPD90. Each II-75 represents multiple welds and serves as the weld history and inspection record.

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

9. Safety Related Piping - Observation of Work and Work Activities (Unit 2)

The inspector observed non-welding work activities for safety related (SR) piping. The applicable code for installation of SR piping is delineated in paragraph 5.d. The inspector observed handling of piping/appurtenances for conformance to inspection/work procedures and installation specifications/plans for the following welds: 2SE09264A, B, C and D; 2CX00060-1; 2CX01008; 2CX01008B and 2MS00029.

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