



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA ST., N.W., SUITE 3100
 ATLANTA, GEORGIA 30303

Report No. 50-328/81-27

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

Facility Name: Sequoyah

Docket No. 50-328

License No. DPPR-73

Inspection at Sequoyah, Site near Soddy Daisy, Tennessee

Inspectors:

N. Economos
 N. Economos

7-13-81
 Date Signed

John W. York
 J. W. York

7/15/81
 Date Signed

Approved by:

A. R. Herdt
 A. R. Herdt, Section Chief
 Engineering Inspection Branch
 Engineering and Technical Inspection Division

7/15/81
 Date Signed

SUMMARY

Inspection on June 2-4, 1981

Areas Inspected

This routine, unannounced inspection involved 44 inspector-hours on site in the areas of safety-related pipe supports and restraints; licensee identified items; inspector identified items.

Results

Of the areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *T. B. Northern, Construction Engineer
- *J. M. Munns, Jr., QA Supervisor
- *K. G. Galloway, M&WIU Supervisor
- *D. W. Kelley, QCRU Supervisor
- *E. Burke, EIIU Supervisor
- *S. B. Miller, Engineering Aide QCRU
- *D. P. Roberts, Nuclear Engineer Compliance
- *R. C. Miles, Assistant Construction Engineer
- J. W. Beason, Civil Engineer (EN-DES)

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on June 4, 1981 with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings listed below:

(Open) Inspector Followup Item 328/81-27-01: "Revise UT Procedure W-SQN-1 and provide transducer certification", paragraph 5.b.(1).

(Open) Inspector Followup Item 328/81-27-02: "Baseline Inspection Report of Nozzle 2RC-17 Repair", paragraph 5.b(2).

(Open) Inspector Followup Item 328/81-27-03: Commitment to Reinspect 2RC-17 and One Additional Unit-2 Nozzle", paragraph 5.b.(3).

3. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (328/81-14-04), Repair Damaged Fire Barrier for Pressurizer and Steam Generator Instrumentation Circuits (Unit-2). The inspectors, accompanied by the licensee's cognizant engineer, conducted a walk through inspection from the auxiliary building to the containment penetration at the 734' elevation and observed the Q line conduits wrapped with "Kaowool" insulation. The inspectors noted that the designated Q lines were insulated and that there was no evidence of damaged insulation on those lines.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Licensee Identified Items 50.55(e)

- a. (Closed) 328/81-02-18 Faulty Fillet Welds NCRs 2398 and 2630. The inspectors reviewed the licensee's final report dated April 3, 1981 and discussed the programmatic aspects of the corrective action with cognizant licensee personnel. Three welds which require disposition by ENDES are listed below:

<u>Weld</u>	<u>Size</u>	<u>Condition</u>
2SG-1333 2SG-1338	2" sch. 160	These welds are inaccessible for inspection because of penetration and location of split-anchor sleeve.
2SI-2088	2" sch. 160	This weld is undersize but inaccessible to weld.

A sample of inspected and accepted welds were selected at random for observation in order to ascertain whether fillet size was consistent with procedural/code requirements. The selected welds were as follows:

<u>Weld</u>	<u>System</u>	<u>Size</u>	<u>Drawing No.</u>
2UH 1441	Upper Head Injection	2" sch. 160	2UPI-007W R3
2UH 1448	Upper Head Injection	2" sch. 160	2UPI-007W R3
2UH 1117	Upper Head Injection	3/4" sch. 160	2UPI-005W R6
2UH 1126	Upper Head Injection	3/4" sch. 160	2UPI-005W R6
2UH 1161-2	Upper Head Injection	3/4" sch. 160	2UPI-005W R6
2SI 1721, 38	Safety Injection	3/4" sch. 160	2SI-76W R6
1CX 3731-5,	Chemical Volume Control	1" sch. 160	CVC-037 R3
1CX 3737	Chemical Volume Control	1" sch. 160	CVC-037 R3
1CX 3738	Chemical Volume Control	1" sch. 160	CVC-037 R3
1CX 3738A	Chemical Volume Control	1" sch. 160	CVC-037 R3
1CX 3742	Chemical Volume Control	1" sch. 160	CVC-037 R3
1CX 3742	Chemical Volume Control	1" sch. 160	CVC-037 R3
1CX 3744	Chemical Volume Control	1" sch. 160	CVC-037 R3
1CX 3749	Chemical Volume Control	1" sch. 160	CVC-037 R3
1CX-3738B	Chemical Volume Control	3/4" sch. 160	CVC-037 R3
2SI-2164-5	Safety Injection		2SI-5091W R/3
2SI-2164-21	Safety Injection	2" sch. 160	2SI-5091W R/3
2SI-2164-83	Safety Injection	2" sch. 160	2SI-5091W R/3
2SI-2164-85	Safety Injection	2" sch. 160	2SI-5091W R/3
2SI-2164-86	Safety Injection	2" sch. 160	2SI-5091W R/3
2SI-2164-7	Safety Injection	2" sch. 160	2SI-5091W R/3
2SI-2164-8	Safety Injection	2" sch. 160	2SI-5091W R/3
2SI-2164-8A	Safety Injection	2" sch. 160	2SI-5091W R/3
2SI-2164-89	Safety Injection	2" sch. 160	2SI-5091W R/3
2SI-2180	Safety Injection	3/4" sch. 160	2SI-5091W R/3

These welds were found to be acceptable as indicated on the licensee's records.

- b. (Closed) 328/81-20-06 Reactor Vessel Field Weld Indications SQRD - 50-328/81-15. The inspectors reviewed the licensee's final report to NRC RII dated May 28, 1981 and a metallurgical investigation/evaluation report entitled "Sequoyah Nuclear Plant Unit 2 Evaluation of Cracking in Reactor Vessel Nozzle Stainless Steel Buttering", May 29, 1981. Discussions and interviews with cognizant licensee personnel disclosed the work had been completed, that the nozzles had been covered and the reactor cavity sealed in preparation for a leak test which precluded observation of the repair at this time.

The inspectors reviewed welder and repair welding procedure qualification records, welding material certification records, preheat and postweld heat treat strip charts and fabrication records, UT procedures, test results, calibration standards, instruments and probe certifications, personnel qualifications. Within these areas the inspectors noted the following:

- (1) Procedure W-SQN-1, Rev. 0, "Ultrasonic Test Procedure for Examination of Half-Bead Repairs to Safe End Welds", which had been approved by Westinghouse (W) Level III UT examiner and TVA-ENDES cognizant engineer exhibited several discrepancies in that the sketch of the calibration block was not properly labeled - calibration holes were not identified on the sketch and, the thickness dimension did not agree with that of the block, e.g., 1-1/2" sketch versus 1-3/4" actual. Also the inspectors noted that the certifications of the 70° and 0° transducers used by W to perform the UT examination of the nozzle(s) were not included in the data package. The inspector requested and the licensee agreed to make the necessary corrections and provide the transducer certifications for RII review on a future inspection. This matter was identified as inspector followup item 328/81-27-01, "Revise UT procedure W-SQN-1 and provide transducer certifications".
- (2) As stated above the inspectors reviewed results of liquid penetrant examination and the ultrasonic examination performed from the outside diameter by W. In addition to the above, the repair area was ultrasonically examined from the inside diameter by TVA in order to establish baseline data. This data was not available for review at this time and the inspectors stated that this matter would be identified as inspector followup item 81-27-02, "Baseline inspection report of nozzle 2RC-17 repair".
- (3) In the final report to RII dated May 28, 1981, TVA stated that at the first regularly scheduled cold shutdown of sufficient duration, nozzle 2RC-17 and one additional Unit 2 reactor vessel

nozzle would be reinspected. This matter was discussed in detail with the licensee and the inspectors stated that this would be regarded as a commitment and would be identified as inspector followup item 81-27-03 "Commitment to reinspect 2RC-17 and one additional Unit 2 RV nozzle".

Within the areas inspected, no violations or deviations were identified.

- c. (Closed) 328/80-09-04 Walworth Valve Weight Incorrect NCR CEB 8005. The inspectors reviewed the licensee's final report dated April 11, 1980, which indicated that only one hanger needed to be modified because of a change in valve weights. The hanger number in this final report was H10-1338 for Unit-1. The inspectors verified thru the appropriate drawing examination that the correct hanger number for Unit-2 was 20HPAB464-3-153. An inspection of the hanger showed that the modifications had been made. This item is considered closed pending receipt of a revised final report with the correct hanger number.

6. Sequoyah Nuclear Plant Unit 2, Preservice Examination

On June 11, 1981, TVA informed RII by memorandum that the preservice examination of welds in the reactor coolant systems and components which consisted of Class 1 and Class 2 piping, steam generators and pressurizer had been performed in accordance with ASME Section XI (74S75) and Sequoyah Surveillance Instruction 114 (SI-114). Those indications identified by this examination were repaired and reexamined as per requirements of the applicable code. See paragraph 5. above for additional discussion in this area.

Within the areas inspected, no violations or deviations were identified.

7. IE Bulletin 79-13 "Cracking in Feedwater System Piping" Unit-2

Radiographs of feedwater steam generator nozzle welds, adjacent elbow and transition spool piece welds radiographed in response to IE Bulletin, 79-13 were selected for review in order to ascertain whether radiographic quality and interpretations were consistent with ASME Section III, NC 5000 requirements including the required 2T sensitivity. Radiographs of the following welds were reviewed:

Loop 1

<u>Weld No.</u>	<u>Type</u>	<u>Size</u>
2FDF-10	Elbow	16" sch. 80
2FDF-10/11	Trans. pce.	16" sch. 80
2FDF-11	S. G. Nozzle	16"sch. 80

Loop 4

<u>Weld No.</u>	<u>Type</u>	<u>Size</u>
2FDF-21	Elbow	16" sch. 80
2FDF-21/22	Trans. pce.	16" sch. 80
2FDF-22	S. G. Nozzle	16"sch. 80

Loop 3

<u>Weld No.</u>	<u>Type</u>	<u>Size</u>
2FDF-130	Elbow	16" sch. 80
2FDF-130/131	Trans. pce.	16" sch. 80
2FDF-131	S. G. Nozzle	16"sch. 80

Loop 2

<u>Weld No.</u>	<u>Type</u>	<u>Size</u>
2FDF-140	Elbow	16" sch. 80
2FDF-140/141	Trans. pce.	16" sch. 80
2FDF-141	S. G. Nozzle	16"sch. 80

In addition, the inspectors reviewed UT data records for the above welds. The UT examination was performed in accordance with Procedure N-UT-1, Revision 4 and ASME Section XI (74S75). Instrument calibration was performed on a block with 5% notches. The examination was conducted with a 45° probe from the ID and OD of the pipe.

Within the areas examined, no violations or deviations were identified.

8. (Closed) IE Bulletin 79-02: Pipe Support Base Plate Designs Using Concrete Expansion Anchors. A review of the various submittals and the results of a number of inspections that were performed regarding IEB 79-02, indicate that Sequoyah Unit 2 has complied with the requirements of this Bulletin. The Bulletin is considered closed.
9. (Open) IE Bulletin 79-14: Seismic Analysis for AS-Built Safety-Related Piping Systems. A rough draft of the final report to be submitted for satisfaction of IEB 79-14 was discussed with a representative of TVA ENDES CEB engineering staff. All the inspections have been completed and approximately 87 percent of the required modifications for Sequoyah 2 are completed. The following table summarizes the progress made on the modifications:

Reporting Date	5/27/81	6/3/81
Support Modifications (Total)	2168	2168
Completed Support Modifications	1933	1951

Piping Modifications (Total)	2458	2460
Completed Piping Modifications	1981	2068

Discussion with a licensee representative indicated that all of the modifications would not be completed before the fueling operation. A list is being compiled of those modifications that are expected to be incomplete by the time this operation is to be performed.

The following three completed hangers were inspected:

- a. Hanger No. 2070 HPABA464-3-145 in the Component Cooling System
- b. Hanger No. 2-CCH-456 in the Component Cooling System
- c. Hanger No. 2070 HPABA464-3-153 in the Component Cooling System.

A fourth hanger (No. 2070 HPR247A464-3-155) in the process of being installed in the Component Cooling System was also inspected.

Within the areas inspected, no violations or deviations were identified.

10. (Closed) IFI 328/81-06-01: Axial Load on Collar Snubber From One Direction. The inspectors reviewed ENDES correspondence in relation to this matter. There are a total of six of the supports in Unit 2. These supports were designed by EDS Nuclear Incorporated and they reaffirmed the correctness of this design. In addition, TVA reanalyzed three of the analyses and confirmed that this support configuration is acceptable. Therefore, this item is considered closed.