

DETAILS

1. Persons Contacted

Licensee Employees

- *T. B. Northern, Jr., Project Manager
- *J. M. Lamb, Mechanical Engineering Unit (MEU) Supervisor
 - J. A. Morgan, MEU Assistant Supervisor
 - L. J. Johnson, MEU Group Leader
 - J. D. White, Mechanical Engineer
 - J. P. Ballard, Mechanical Engineer

*Attended exit interview.

Other Organizations

W. Suvak, Mechanical Engineer, Westinghouse Electric Company

NRC Resident Inspector

B. J. Cochran

2. Exit Interview

The inspection scope and findings were summarized on March 23, 1979, with those persons indicated in paragraph 1 above. The licensee was informed that the open item number 390/79-01-01 was closed and that there were no new unresolved items or noncompliances identified during this inspection. The licensee acknowledged these findings.

3. Licensee Action on Previous Inspection Findings

The licensee's response to the noncompliance numbered 390/79-01-01 and the action taken on the site as a result, were reviewed and found acceptable. This item is closed.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection Effort - Units 1 and 2

This effort included the progress of installation of the steam generator upper lateral supports. The reactor coolant pumps and the containment air coolers.

No items of noncompliance were identified.

6. Safety-Related Pipe Support and Restraint Systems - Units 1 and 2

This is a follow-on of the inspection reported in IE Report No. 50-390/79-01.

The draft copy of revisions to QCP 4.8 titled "Inspection and Documentation Requirements for Mechanical Supports" was reviewed. This procedure will include the QC final acceptance checksheets for inspection, test, installation inspection and documentation of hangers, supports, restraints and suppressors.

The progress of installation of pipe support and restraint systems was inspected in the reactor and auxiliary buildings.

No items of noncompliance were identified.

7. Reactor Vessel Internals - Work Observation - Unit 2

The upper and lower reactor vessel internals were inspected in their stored position on the permanently installed supports in the refueling canal. The canal was observed to be covered with a heavy metal cover to exclude construction dirt from the storage area. The overhead polar crane is used for lifting the internals whenever required. Fitting into the vessel bottom is finished and build-up of the lower internals was observed. The fitting and fastening of the lower tie plate was observed.

The following five components were selected at random and inspected to ascertain if installation was in accordance with the work procedures and specifications and if QC activities were as prescribed:

- a. Energy absorber base plate weld to the energy absorber.
- b. Lower tie plate bolting.
- c. Details of instrument guide assemblies.
- d. Assembly of upper tie plate.
- e. Upper internals cruciform guide tube locking caps.

The following Westinghouse drawings were reviewed and used to verify orientation, location, and assembly details:

- a. 1096E68, "4 Loop Bottom MTD Instrumentation and Secondary Core Support Assembly". Sheets 1 of 3 and 3 of 3.

- b. 1140E34, "4 Loop Upper Intervals Assembly", Sheet 2 of 7.

The licensee's representative stated that Westinghouse is performing QC and QA on the internals assembly activities and since this work is considered an extension of the Pensacola shop work, that the final QCR by Westinghouse will be documented after completion of the hot functional test. Adequate protection of the intervals was observed.

No items of noncompliance were identified.

8. Reactor Vessel Internals - Quality Record Review - Units 1 and 2

In-storage inspections by the licensee were made in accordance with WBNP QCP 4.5 R3 which requires a monthly inspection interval. Inspection report records from May 1977 to March 1979 were reviewed for the Unit 1 upper and lower internals, and from April 1978 to March 1979 for the Unit 2 upper and lower internals. Reports indicated the inspections were made on the required frequency and that cleanliness and protection requirements were maintained.

Files RCRIRI WAT-42 and RCRITS WAT-42 for Units 1 and 2 were reviewed which contained receiving inspection reports for the Units 1 and 2 upper and lower internals and miscellaneous other parts of the internals. Also reviewed in those files were the Westinghouse certificates concerning materials certifications, heat treatment records; RT, PT, VT and MT records; visual and dimensional records; personnel qualifications for welding and NDT, cleanliness, packaging and also a listing of contract deviations. Documentation indicated that the licensee performed receipt inspections on November 8, 1975 for both the Unit 1 and 2 internals, and certified that the technical requirements of the contract were fulfilled by these items, on February 10, 1975 for Unit 1 and October 23, 1975 for Unit 2.

QC records of handling, installation, assembly and inspection were reviewed in the "WBT Internals Documentation File", Westinghouse A-Spec 616 A 407, Sub 7 titled, "Reactor Internals Assmely" and the "4 Loop Site A-Specification Status" check sheets. These records conformed to the work observed on Unit 1 and confirm for Unit 2 that the assembly and installation of the reactor vessel internals were in accordance with the specifications and procedures. These documents also regulated access to the work area and indicated that cleanliness requirements were maintained.

No items of noncompliance were identified.

9. Containment (Penetrations) Work Observation - Unit 2

Penetrations MKX-2A, Personnel Lock and MKX-142E, electrical penetration Conax 22-1 were selected for inspection. The following documents were reviewed and used to verify location, orientation, identification, fabrication and installation details:

- a. TVA drawing 48N 405 R4, "Containment Exterior Elevation".
- b. TVA drawing 48N 406 R14, "Containment Vessel Penetration Schedule."
- c. TVA drawing 48N 240 R0, "Personnel Access Lock ARRGT and Details".
- d. TVA drawing 48N 401 R8, "Containment Vessel Anchor Bolt Plan & Base DETS - SH1".
- e. TVA Construction Specification N3G-881, "Identification of Structures, Systems and Components Covered by the Watts Bar Nuclear Plant Quality Assurance Program".
- f. CBI drawing 100 R3, "General Arrangement 2'-6" X 6'-0" Personnel Lock".
- g. CBI drawing 162 R0, "Insert and Barrel Assembly 2'-6" X 6'-0" Personnel Lock".
- h. CBI drawing 166 R5, "Nameplates".
- i. CBI drawing 135 R4, "Lock Sub-Final Assembly 2'-6" X 6'-0" Personnel Lock".
- j. Conax File Serial Number U2 22-1.

An inspection was made of the two penetrations for design comparison, protection from damage and hostile environments, installation inspection activities and NDE.

No items of noncompliance were identified.

10. Containment (Penetration) Quality Record Review - Unit 2

A record review of the same two penetrations identified above was conducted. The licensee's representative stated that all the QC/QA records concerning the CBI personnel lock penetration are still being processed in the Houston, Texas CBI office.

These records will be sent to the TVA Knoxville offices when processing is completed. The Conax file for penetration MKX - 142E was examined and contained material physical and chemical certifications of structural and weld materials, weld and NDE procedures, electrical and leak test data, weld and NDE inspection reports, ASME Forms N-2, certification of conformance to procurement specifications and requirements and TVA receiving inspection reports.

The installation of the penetration internals was by TVA in accordance with QCP 4.10 and 4.13. Weld operation sheet 8674 was reviewed and contained weld qualification records and NDE results.

No items of noncompliance were identified.