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

Report Nos.: 50-438/84-15 and 50-439/84-15

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

Docket Nos.: 50-438 and 50-439

License Nos.: CPPR-122 and CPPR-123

Facility Name: Bellefonte 1 and 2

Inspection Dates: July 1-31, 1984

Inspection at Bellefonte site near Scottsboro, Alabama

Inspector: _____ 8/21/84
J. W. York Date Signed

Approved by: _____ 8/23/84
S.P. Weise, Section Chief Date Signed
Project Branch No. 1
Division of Reactor Projects

SUMMARY

Scope: This routine announced inspection involved 144 inspector-hours on site in the areas of licensee action on previous enforcement matters, independent inspection, welding of safety-related piping, licensee identified items, inspector followup items and in - office review.

Results: Of the six areas inspected, no violation or deviations were identified in five areas; one apparent violation was found in one area (Failure to follow procedure for inspecting for floor penetrations, paragraph 3.b).

REPORT DETAILS

1. Persons Contacted

   Licensee Employees

   *L. Cox, Project Manager
   *R. Young, Construction Engineer
   *H. Johnson, Assistant Quality Manager
   *J. Barnes, Section Supervisor OQA
   *M. Rudolphi, Project Engineer
   *P. Mann, Nuclear Licensing Supervisor

   Other licensee employees contacted included construction craftsmen, technicians and office personnel.

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on July 30, 1984, with those persons indicated in paragraph 1 above. The licensee was informed of the inspection finding listed below and acknowledged the finding with no dissenting comments.

   Violation 438/84-15-01, Failure to follow procedure for inspecting for floor penetrations, paragraph 3.b.

3. Licensee Action on Previous Enforcement Matters

   a. (Closed) Unresolved Item 438/82-33-06, Slip Ring for Diesel Generator. This item involved a request for TVA to evaluate the Quality Assurance program for Transamerica Delaval and its subcontractor Portec Incorporated, to determine if a Portec field representative could prepare and issue a repair procedure without further review and approval. The licensee responded in Memorandum No. OQA "830328 504 and stated the following:

      > The procedure prepared by the Portec field representative was written to provide detailed information required to facilitate performance of the QCIR disposition. In addition, an NCR (2029) was written to document this activity and to obtain EN DES concurrence. Portec was working in compliance with TVA requirements and within the guidelines of the TVA quality assurance program.

      This item is considered resolved and closed.

   b. (Closed) Unresolved Item 438/81-11-02, Floor Penetration. This item

involved the fact that pipe sleeves for Mk 1551 and 1552 (two of each) were not installed in the floor as specified on TVA Drawing No. 3AW-0594-PT-07, Rev. 9. The inspector found core drilled holes in lieu of the pipe sleeves. QCP-6.1, Embedded Piping, Revision 2 (the revision that was in effect at the time of the inspection) stated in Paragraph 6.1," the responsible MEU (Mechanical Engineering Unit) representative shall inspect the embedded sleeves and piping during and after the installation activity for general conformance with detailed design drawings...". Pour card No. 9385, which was the area where two of the sleeves were supposed to be located, was signed off under the appropriate mechanical section. Pour card No. 9281, which was the area where the other two sleeves were supposed to be located, was not signed off but had an NA (not applicable) in the appropriate mechanical section. This item is considered resolved and the failure to follow procedure QCP-6.1 was identified to the licensee as Violation 438/84-15-01, Failure to follow procedure for floor penetrations.

c. (Closed) Unresolved Item 438, 439/82-28-07, Rusty Electrical Boxes. This item involved the presence of rusty electrical control panels, test panels, junction boxes, pull boxes found during a walk down inspection of the intake pumping station. The licensee stated that a work release must be written on all safety related boxes before turning the system over to power. This work release references a "Standalone Quality Information" (Reference EEB 831117913 dated November 18, 1983) document which gives the instructions for repairing and repainting the electrical boxes. The inspector reviewed work release No. 49155. The following panels and boxes identified by unresolved item were visually inspected:

1VP-ELCP-76-B, Electrical Local Control Panel
1KE-EJB-76-A, Electrical Junction Box
2KE-EMB-001A-A, Electrical Motor Box
2KE-ELCP-77-A, Electrical Local Control Panel
2PB-K6-A, Electrical Pull Box

All of these panels and boxes had been repaired and repainted with the exception of 2PB-K6-A which was being replaced with a conduit pipe tee. This item is resolved and closed.

d. (Open) Unresolved Item 438, 439/82-24-03, Electrical and Instrument Cabinets. This item involved electrical cabinets in the Diesel Generator Buildings furnished by Portec Corp. (Transamerica Delaval-ITE Corp.) exhibiting potential welding deficiencies. A set of vendor drawings to define the weld requirements was not available at the time this item was opened. These vendor drawings were later received by the licensee. The length of the skip fillet welds exceeded the drawing requirements. Some overlap, undercut, slag, and porosity were present in the welds. The inspector visually inspected the welds on the cabinet that had been seismically qualified and also on cabinets 1RT-ELCP-1-A, 2RT-ELCP-1-A and 2RT-ELCP-2-B.

The welds were similar on all four cabinets. The inspector has asked for any QA audit report results on this vendor. Until this information is received this item remains unresolved.

e. (Open) Unresolved Item 438, 439/82-16-02, QC Personnel Physicals. This item involved the fact that Bellefonte only requires NDE personnel covered by ASNT "Recommended Practice No. SNT-TC-1A" to have a yearly eye test. ANSI N45.2.6-1978, Qualification of Inspection, Examination, and Testing Personnel for Nuclear Power Plants in paragraph 2.5, which covers the other QC personnel states the following:

> "The responsible organization shall identify any special physical characteristics needed in the performance of each activity. Personnel requiring these characteristics shall have them verified by examination at intervals not to exceed one year."

In TVA-Topical Report 75-1 Table 17.1A-4A, Quality Assurance Standards for Design and Construction (Regulatory Guidance), exceptions to ANSI 45.2.6-1978 are tabulated. The inspector requested that the licensee clarify these exceptions in regard to paragraph 2.5 concerning physical characteristics. This item will remain unresolved until a response is received.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection Effort (92706)

a. The inspector attended a construction meeting where the building of simulator facilities was discussed. All of TVA's simulators are currently in the Chattanooga area. However, the simulator for Bellefonte will be built on or adjacent to the site. The building of the simulator should begin by September 1984 and be completed and ready to use by September 1985.

b. The inspector observed the disassembly and examination of some of the Kerotest Y-globe valves. Pitting has been noted on the valve stems under the packing area for some of the valves. The vendor stated that the diaphrams had been left out during the hydrostatic test for some of these valves and this allowed water to get to the packing area and thus caused pitting. The packing is being replaced on the valves and the stems are being replaced on approximately 10% of the valves examined because of the pitting. The valves are installed in one and two inch diameter lines. The licensee stated that these valves are not necessary for the safe shut down of the plant.

6. Welding of Safety-Related Piping (55083)

The following in-process Unit 1 welds were examined by the inspector:

- Weld No. -1NK00218T1
  Class of Weld - ASME Section III Class 1
  Welder-FBAO
  Detailed Welding Procedure - GT43-0-1L
  Filler Metal Heat No. -C3371N382

- Weld No. -1CR00598A
  Class of Weld - ASME Section III Class 2
  Welder-FBMA
  Detailed Welding Procedure - GT1101A-R6
  Filler Metal Heat No. -658C253

- Weld No. -1NV02966
  Class of Weld - ASME Section III Class 2
  Welder-FAEJ
  Detailed Welding Procedure - GT8801-R6
  Filler Metal Heat No. -35838

- Weld No. -1NK00110 S1
  Class of Weld - ASME Section III Class 2
  Welder-FABW
  Detailed Welding Procedure - GT8801-R6
  Filler Metal Heat No. -C4436R

The inspector visually observed the welding and the welding QC inspection. In addition the inspector verified that the welder was qualified for the Detailed Welding Procedure and that the weld filler metal met the requirements of the ASME Code.

Within the areas inspected no violations or deviations were identified.

7. Licensee Identified Items (92700)

a. (Closed) LII, CDR 50-439/82-63, Linear Indications In NAVCO Spool Pieces. The licensee submitted a final report on December 23, 1983. The report stated the following:

> Several linear indications 1/32 to 1/4 inches in depth and 2-1/2 to 19 inches in length were found in the base material (outside surface) of six (6), 8-inch OD Schedule 120, ASME SA 106, grade B piping spools. These indications were noticed by TVA personnel during installation and inspection. The spools are part of six (6) ASME III Class 2 piping subassemblies fabricated by National Valve and Manufacturing Company (NAVCO), Pittsburgh, Pennsylvania, using piping manufactured by the United States Steel Company. All six spools were manufactured from the same material heat log (i.e., Heat Code No. L 63687). The depth of some portions of the linear indications exceed the depth allowed by ASME Section II, Part A, Material Specification, ASME SA 106, paragraph 20.1, and are considered defects. All other subassemblies which utilize pipe from the identified material heat number L63687, have been

identified, inspected, and repaired where necessary. Of the seventeen subassemblies inspected, one required no rework, four were ground only, and twelve were ground and repaired.

The inspector requested the licensee to check for other installed 8 inch diameter NAVCO spool pieces with U.S. Steel ASME SA 106 pipe. Only two other heats were found. Two spool pieces from each heat were magnetic particle inspected. Indications were found in one spool piece from each of the heats, and these indications were removed by grinding and the removal areas evaluated. Only one of the indications went below the minimum mill wall thickness tolerance. This occurred in an area that had a 0.120 inch counter bore. The wall thickness was 0.536 inch in the area, and the minimum design wall thickness is 0.518 inch. Therefore, all of the indications were acceptable and this item is closed.

b. The inspector reviewed the in-process status of the following LIIS:

438/84-38 439/84-35	BLNNEB8412	Deficient catalyst beds in Comsip. Inc. Hydrogen Analyzers
438/84-39 439/84-36	BLNCEB8403	Omission of water weight in valves in piping analysis by Teledyne
438/84-40	3180	Discontinuities on shear lug to piping welds
438/84-41 439/84-37	BLNCEB8409	Incomplete review of design change request
438/84-42 439/84-38	BLNBLP8407	Control room pressurization boundary loss through vents

8. Inspector Followup Items (92701)

(Closed) Inspector Followup Item 438/83-17-01, Inspection Documentation for Seismic Conduit Support. During a previous inspection of the electrical fabrication shop, the welding QC inspection did not appear on the QC documentation for electrical support FF 1114-29 Mk 92, Serial No. 1. A review of the records for this installed support revealed that none of the welds were performed in the shop but were made and inspected in the field. The licensee provided documentation for the QC inspection of the field welds and this item is closed.

9. In - Office Review

The following items were evaluated by the Reactor Safety, Radiation Safety and Safeguards, and Reactor Projects regional staff. Based on this review and the results of the latest Resident and Region based inspection activities in the affected functional areas, the following items were determined to require no additional specific followup and are closed.

a. Docket 50-438

1) Construction Deficiency Reports (CDR's)

80-124
81-005
81-043
81-053
81-062
81-066
82-050
82-052

2) IFIs, Bulletins and Circulars

78-CI-02	78-CI-04	78-CI-06
78-CI-09	78-CI-18	78-CI-19
79-CI-02	79-CI-05	79-CI-17
79-CI-20	79-CI-23	80-CI-01
80-CI-05	80-CI-11	80-CI-16
81-CI-08	81-CI-13	82-22-02
82-28-05	78-BU-LA	78-BU-14
78-CI-07	78-CI-13	78-CI-15
78-CI-16	79-BU-02	79-BU-14
79-CI-04	79-CI-10	79-CI-11
79-CI-12	79-CI-18	79-CI-19
79-CI-22	80-BU-12	80-CI-04
80-CI-10	80-CI-12	82-23-01
78-CI-17	80-07-05	

3) Unresolved Items

80-04-04
80-07-03
82-19-01

4) Violations

80-15-02

b. Docket 50-439

1) IFIs, Bulletins and Circulars

78-CI-02	78-CI-04	78-CI-06
78-CI-09	78-CI-18	78-CI-19
79-CI-02	79-CI-05	79-CI-17
79-CI-20	79-CI-23	80-CI-01
80-CI-05	80-CI-11	80-CI-16
81-CI-08	81-CI-13	82-22-02

78-BU-LA	78-BU-14	78-CI-07
78-CI-13	78-CI-15	78-CI-16
79-CI-04	79-CI-10	79-CI-11
79-CI-12	79-CI-18	79-CI-19
79-CI-22	80-BU-12	80-CI-04
80-CI-10	80-CI-12	80-07-04
80-07-05	81-10-01	82-23-01
78-CI-17	79-43-01	

2) Unresolved Item

82-24-03