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

Report Nos. 50-518/81-05, 50-519/81-05, 50-520/81-05 and 50-521/81-05

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

Facility Name: Hartsville Nuclear Plant

Docket Nos. 50-518, 50-519, 50-520 and 50-521

License Nos. CPPR-150, CPPR-151, CPPR-152 and CPPR-153

Inspection at Hartsville site near Hartsville, TN.

Inspector: P. A. Taylor for W. B. Swan, Senior Resident Inspector — 4-9-81 Date Signed

Approved by: F. S. Cantrell, Section Chief, Division of Resident and Reactor Project Inspection — 4/10/81 Date Signed

SUMMARY

Inspection on March 2-31, 1981

Areas Inspected

This routine inspection involved 106 resident inspector-hours on site in the areas of pipe supports; storage of safety-related items; concrete; open items; safety-related structures; balance of plant structures; and independent inspection effort.

Results

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

DETAILS

1. Persons Contacted

Licensee Employees

*R. T. Hathcote, Site Project Manager
*W. T. Quinn, Construction Engineer; Acting Project Manager
R. E. Young, Assistant Construction Engineer, Project Engineering
J. T. Dorman, Assistant Construction Engineer, Quality Control
H. S. Sheppard, Assistant Construction Engineer, Quality Control
P. F. Gillespie, Supervisor, Technical Services
B. F. Huffaker, Supervisor, Materials QC Unit
R. C. Nixon, Supervisor, Document Control Unit
F. E. Laurent, Unit Supervisor, STRIDE Mechanical Project Engineering
G. A. Gonzalves, QA Unit Supervisor
A. G. Debbage, QA Audit Supervisor
M. U. Rudolphi, Unit Supervisor, Project Engineering, Hangers and Supports

Other licensee employees contacted included document control personnel, QC technicians, and project engineers.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized with the Site Project Manager on March 6, 16, and 20, 1981, and with the Acting Project Manager on March 27 and 31, 1981.

3. Licensee Action on Previous Inspection Findings

(Closed) Violation (518/520/80-27-03) Failure to adhere to procedure and specification requirements for placing concrete. The licensee's response dated March 16, 1981, has been reviewed by the inspector and found to be acceptable.

The licensee had taken immediate corrective actions on the infractions during the placement and asserts that full compliance was achieved on February 24, 1981. Existing control documents appear adequate.

(Closed) Unresolved Item (519/81-03-01) Procedure change for Unit B-1 reactor pressure vessel (RPV) storage maintenance. The licensee has completed the substitution of dehumidification equipment inplace of heated air for moisture control of RPV intervals. RIS and PM Procedure M-650, revision 4, formalized the necessary procedure change. General Electric approved the procedural changes by FDDR No. LG3-032, dated 2/20/81.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection Effort

The inspector made surveillance tours during which the status of project work was noted, and construction activities were inspected on nuclear safety-related structures, systems and facilities. The inspection was concentrated on Plant A power block structures, but included outlying structures such as: the intake pumping station, NAOH hypochlorite plant footings, A-1 circulating cooling water (CCW) pump house, Plant A make up water treatment plant, and Plant A switchyard relay station. Most of the tanks, mechanical and chemical equipment, and electrical control equipment in the water treatment plant and electrical relay station was found to have been positioned in place and the electrical and pipe connections were started.

Open Items Control: Nonconformance reports (NCR's), significant quality control inspection reports (QCIR's) and QA unit audit findings were reviewed for pertinence to the inspection program.

Blasting: The inspector verified that the daily afternoon blasting for excavation of trenches and subsurface tanks for Plant A were controlled to avoid damage to nearby structures.

Document Review: The inspector reviewed the latest revisions to C. F. Braun specifications 400-03, Field Fabrication and Erection of ANSI B31.1 Piping, 400-15, Field Fabrication and Erection or ASME Section III, Piping, and FC 1585, Field Change Procedure.

The inspector discussed with the hanger project engineering unit supervisor, the omission of stipulations in SOP-44, QA Component Support Program, for the structural supports and simple pipe hangers. The surervisor stated that a separate SOP is being prepared, and installation packages assembled as required manpower becomes available. Present efforts are concentrated on structural supports and simple pipe hangers under SOP-44.

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

6. Licensee Identified 50.55(e) Items

a. Previously Identified Items

(Closed) (518/519/520/521/80-10-03) Failure to Include Requirements For Environmental Qualification of Mechanical Components in STRIDE Procurement Specifications (NCR CFB-8). The licensee's final report dated May 28, 1980, asserted that corrective actions were being implemented. The inspector reviewed General Electric Nuclear Power Systems Division

letter dated September 25, 1980, which indicated that deficient procurement specifications had been corrected by supplements, and NCR/CFB-8. TVA's QA Branch QA Audit Section has verified corrective actions taken by C. F. Braun as stated in the final report on NCR CFB-8. Three mechanical equipment specifications were examined to assure inclusion of environmental qualification testing and reporting requirements. Detailed results are as follows:

Spec	Rev	Equipment		
133-04	3	Hydrogen Mixing Blower	ECN 133-04-3-1	5/27/80
133-05	2	Seal Air Compressor	Rev. 2 to Spec.	2/06/81
164-03	6	Diesel Generator	Rev. 6 to Spec.	10/20/80

(Open) (518/520/80-27-02) Inadequate Wedge Bolt Expansion Anchors by Rawlplug (NCR HTM-CDB-8002). The licensee has determined that one-inch Rawlplug anchors are adequate for STRIDE supports already installed; but they are inadequate for certain STRIDE pipe systems and for TVA designed systems in balance of plant (BOP) structures. Therefore, one-inch Rawlplug anchors are to be removed from the Hartsville site before additional systems are installed. The removal is scheduled to be completed by April 10, 1981.

(Open) (518/519/520/521/81-03-03) Deficient Drawing and Document Control (HTRD-50-518,-519,-520,-521/81-05) (Reference Infraction 518/519/520/521/80-18-01) The licensee's final report dated March 16, 1981, outlined root causes of the control problems and stated that a revision to C.E.P.- 6.01 Drawing Control had been drafted.

This item will remain open pending approval of the procedure revision.

(Closed) (518/519/520/521/80-13-01) Steam Tunnel Embedment Stiffener Plate Weld (NCR's 10, HTM QEB-80-01, PBN QEB 80-01)--Atlas Machine and Iron Works QA Breakdown. The licensee's final report on this item, dated March 27, 1981, states that the deficient weld on the steam tunnel embedment stiffener plate was cleared. Discrepancies in other embedments being fabricated by Atlas on separate contracts were found by TVA during additional inspection and auditing. TVA terminated their contracts with Atlas and is seeking another vendor or vendors to complete these embedments.

b. Newly Identified Item

(Open) (518/81-05-01) Unacceptable Welds Documented as Acceptable (HTRD-50-518/81-07 and NCR HNPA-062) Initial findings were stated in TVA deficiency report dated March 20, 1981. Additional information is to be furnished by May 5, 1981.

7. Preventive Maintenance and Storage Conditions for Safety-Related Items

The inspector continued surveillance of equipment and materials in storage, in field transit storage and "stored in place". The inspector verified that openings in valves, pumps, piping and vessels were covered as required by QCI-M-210, SOP-27 and ANSI N45.2.2.

The inspector made a detailed inspection of storage and preventive maintenance of the eight large emergency diesel generator units for plants A and B. The diesel engines are stored in pairs in four locked Kelley prefabricated shelters. They are mounted on oak cribbing on gravel base with provisions for drainage. Instructions for storage by the manufacturer, Delaval, assumed that assembled units would be stored, covered with tied down tarps and with coils in the motors and stators protected from moisture by electric current heating. The stored engines do not have elements requiring heat for protection so they are stored at "C" level. The stators and rotors were found to be stored in four locked warehouses (AWC, AWE, BWN and TWP) at required level "B" and with their coils protected by electric heat.

As required by paragraph 6 of TVA's RIS & PM Procedure Mechanical M-539, Rev. 1, QCIR's 27713 and 27753 had been approved to formalize storage conditions different from but equivalent to the suppliers' stipulations. The inspector verified that each rotor and stator was covered and its windings were provided with heat; and verified that the required periodic meggering of the windings was being performed and recorded.

No violations of requirements was identified.

8. Concrete

Forming, installation of rebar, positioning of embedments, placements and post placement curing were inspected as work progressed in the Plant A fuel buildings, auxiliary buildings, control buildings, and essential service water pump houses. Completed concrete and new forming were inspected in the intake pumping station. Specific placements inspected included A1A-10F, -11F, -12F; A2A-12C&D, -35; A1F-20 G&J, -23C&D, -A2F-47; A2C-9B, -10A&B; AOW-44; 1PS-106; A1KESWPS-85, -86.

During inspection of activities for structural concrete in these areas, the conformance with the requirements of C. F. Braun Specification 300-01, Revision 8, "Concrete", TVA Construction Specification G-2, QCI C-201, Rev. 4, and C.E.P. 9.02, Rev. 5, was verified.

9. Status of IE Bulletins

(Open) IEB 80-09, Hydromotor Actuator Deficiencies. TVA's final report dated March 12, 1981, certified that none of the deficient ITT General Controls Models AH-90 and NH-90 series hydromotor actuators has been

received at the Hartsville facility. Followup action will be reviewed during a future inspection.

10. Status of IE Circulars

(Closed) IEC 81-03. Inoperable Seismic Monitoring Instrumentation. The inspector verified that the licensee has received and initiated the recommended actions for a construction site.