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TENNESSEE VALLEY AUTHORITY

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November 14, 1985

U.S. Nuclear Regulatory Commission
Region II
Attention: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - RESPONSE TO VIOLATIONS 390/85-52-01, 391/85-42-01 - FAILURE TO ESTABLISH ADEQUATE MEASURES TO CONTROL THE STORAGE OF VALVES AND 390/85-52-02, 391/85-42-02 - FAILURE TO FOLLOW HVAC FABRICATION, INSTALLATION AND INSPECTION PROCEDURES

This is in response to R. D. Walker's letter dated September 25, 1985, report numbers 59-390/85-52 and 50-391/85-42, citing activities at the Watts Bar Nuclear Plant which appeared to be in violation of NRC regulations. Enclosed is our response to the citations.

Delay in submittal of this response was discussed with Steve Weise on November 7, 1985.

If there are any questions, please get in touch with R. H. Shell at FTS 858-2688.

To the best of my knowledge, I declare the statements contained herein are complete and true.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer

J. A. Domer, Chief
Nuclear Licensing Branch

Enclosure
cc: Mr. James Taylor, Director (Enclosure)
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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
RESPONSE TO NRC LETTER FROM ROGER D. WALKER TO H. G. PARRIS
DATED SEPTEMBER 25, 1985

Reference: Report No. 390/85-52 and 391/85-42

This report responds to the notice of violation described in enclosure 1 of the OIE inspection report referenced above. This is our final report on this item of noncompliance for violation 390/85-52-01 and 391/85-42-01 and our first interim report for violation 390/85-52-02 and 391/85-42-02.

Violation 390/85-52-01 and 391/85-42-01

10 CFR 50 Appendix B, Criterion XIII, as implemented by section 17.1.13 of the Final Safety Analysis Report (FSAR), requires that measures by established to control the storage and preservation of materials and equipment to prevent damage or deterioration. American National Standards Institute's (ANSI) Standard B45.2.2-1972, "Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants During the Construction Phase," paragraphs 2.7.3.c and 6.1.2.(3), requires valves to be stored indoors in well ventilated buildings or equivalent enclosures, on pallets, or shoring to permit air circulation.

Contrary to the above, adequate measures had not been established to control the storage and preservation of materials and equipment to prevent damage or deterioration, in that approximately ten American Society of Mechanical Engineers Boiler and Pressure Vessel (ASME B&PV) Code "N" stamped safety-related valves were stored outdoors. Some of these valves had no cover over them, some had partial cover (a tarp), and some were completely covered with a tarp; however, no provisions were made to reduce the degrading effects of condensation.

This is a Severity Level IV violation (Supplement II). A similar violation was identified during an inspection conducted on October 23-26, 1984 and reported in NRC Inspection Report 390/84-79 and 391/84-53.

Admission or Denial of the Alleged Violation

TVA admits that the violation occurred and that the violation is similar to violations 390/84-79-01 and 391/84-53-01 in that both violations generally involve storage and preservation of piping and piping assemblies. The two violations differ in the following aspects: (1) the previous violation involved piping in contact with the ground, the latter involves valves on curbing or pallets and covered or partially covered with tarps, (2) the previous violation involved piping in a fabrication area, the current violation involves valves which had been removed from the powerhouse and thought to be surplus material, (3) the responsible individual involved in the previous violations was employed by TVA's Construction Superintendent's office, the individual having responsibility in the current violation is employed by TVA's Nuclear Services Branch (NSB). This individual was not included in the corrective measures applied in response to the previous violation.

Reason for the Violation

The inadequate storage of the valves cited resulted from a failure to follow procedure wherein the responsible individual contacted a lower level warehouse employee and was told that storage space was not immediately available and failed to communicate this to higher management. There was also a failure to obtain definitive information in that the responsible individual assumed that the valves in question were surplus (having been removed from the plant) and assumed that procedurally controlled storage was not required. This appears to be an isolated occurrence in view of this individual's past performance and in view of current measures in place which monitor and control storage and housekeeping.

Corrective Steps Taken and Results Achieved

The valves in question were transferred to warehouse storage pending confirmation of the fact that the valves were to be scrapped. This has been confirmed.

Corrective Steps to Avoid Further Violations

To emphasize individual responsibilities in the area of storage and housekeeping, the individual involved has personally been retrained on the requirements by the manager of NSB. He was also administered an oral warning. Additionally, all NSB personnel have been retrained in the latest revision to Watts Bar Nuclear Plant (WBN) Quality Control Procedure (QCP) 1.36. To ensure compliance by all construction personnel, the project manager has issued a memorandum to all first-line managers stressing the importance of proper storage and housekeeping and outlining the consequences of substandard performance in this area.

In view of the recurring nature of this deficiency, TVA has established a separate engineering group in charge of preventive maintenance and surveillance of in-place storage. This group conducts random surveillance of plant areas per QCP-1.36 including the fabrication and laydown area on the east side of the powerhouse. This is in addition to monthly housekeeping inspections presently conducted by quality control units. These responsibilities have been incorporated into the governing procedure QCP/QCI-1.36.

Date of Full Compliance

TVA is now in full compliance.

Violation 390/85-52-02 and 391/85-42-02

10 CFR 50 Appendix B, Criterion V, as implemented by section 17.1.5 of the FSAR, requires activities affecting quality be accomplished in accordance with documented procedures and drawings. TVA Specification N3M-914, revision 2, "Quality Assurance Requirements for Construction, Construction Testing, and Inspection of Safety-Related HVAC Systems," has been identified as the applicable document for the installation of the ventilating system for the 480V auxiliary board room in the additional diesel generator building. TVA Specification N3M-914, Appendix A, paragraph b.4, states in part: "All bolts shall show no evidence of being slack . . .." TVA Drawing 47A055-41A,

revision 0, Support Variance Sheet (SVS) No. H-055-41-1 and Process Specification O.C.1.1 (revision 0), page 20 of 21, have been identified as the applicable documents for the fabrication, installation, and inspection of heating, ventilating, and air-conditioning (HVAC) support 0030-DW-910-03H-2985. TVA drawing 47A055-41A, elevation, requires the center to center distance between the horizontal member and diagonal strut, where they intersect the wall, to be 30 inches. TVA drawing 47A055-41A, section C-C, requires fillet welds on both sides of the diagonal strut.

Contrary to the above, craftsmen failed to follow drawing and procedure requirements for the fabrication and installation of HVAC ductwork and supports. Inspectors failed to identify those nonconforming conditions, which resulted in acceptance of a nonconforming system. The above is evidenced by the following, which was noted on completed, inspected, and accepted work:

a. Five nuts and bolts on three duct flange connections between balancing damper 0-30-644 and fire damper 0-30-653 were loose.

b. On support 0030-DW-910-03H-2985, the fillet weld shown on SVS No. H-055-41-1, section C-C, connecting the south horizontal member to diagonal strut is undersize.

c. On support 003-DW-910-03H-2985, the center to center distance between the horizontal member and diagonal strut where they intersect the wall is 18 inches.

d. On support 0030-DW-910-03H-2985, the weld joint connecting the horizontal member and diagonal strut is a fillet weld, welded on one side only.

This is a severity level IV violation (supplement II).

Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated for items a, b, and c. We admit that during the NRC inspection, item d was in apparent violation to the original drawing 47A055-41A which required the weld joint to be welded on both sides. However, in the course of investigating this deficiency and reviewing documentation, it was found that SVS H-055-4-1 had been approved January 4, 1985, to make this weld fully acceptable and in compliance with OE design. Therefore, based on this information which was not reviewed during the NRC inspection, this weld is acceptable as installed.

Reason for the Violation

a. This deficiency occurred as a result of inattention to detail on the part of the individual craftsman and to the lack of a specific requirement in the applicable site procedure WBN-QCP-4.27, "Inspection and Documentation of Ductwork," to tighten bolts snug-tight and verify the tightness of each bolt.

b, c. These deficiencies are the result of inattention to detail on the part of the individual craftsman and a failure to follow procedure on the part of responsible individual inspectors.

Corrective Steps Taken and Results Achieved

a. TVA has initiated nonconformance report (NCR) 6307 to disposition this deficiency. The NCR requires that all duct bolting in the additional diesel generator building be reinspected and retightened as required. Since all other finalized ductwork has undergone pressure testing, this deficiency is limited to the additional diesel generator building.

b, c. NCR 6274 was initiated to resolve these deficiencies. The fillet weld on support 0030-DW910-03H-29 85 was evaluated by OE and dispositioned "use as is." The dimensional discrepancy pertaining to the WT6 structural members was evaluated by OE and the 18-inch dimension has been deemed acceptable. The dimension change from 30 inches to 18 inches was documented on SVS H-055-41-2. The past performance of the individual responsible for accepting the deficiencies noted on NCR 6274 is being evaluated to assess the potential generic implications of these deficiencies. An examination of a sample of eight hangers recently accepted by this individual has been conducted. The examination revealed no errors in acceptance of dimensional aspects or in welding on the hangers sampled. An additional sample of five hangers inspected concurrently with the hanger involved in the violation is being examined. The evaluation of the results of this review will be provided in a supplemental response.

Corrective Steps Taken to Avoid Further Violations

a. Due to the timeframe during which this work was done, TVA cannot identify the individual craftsmen involved. WBN-QCP-4.27 has been revised to include specific tightening and inspection acceptance criteria for bolts in duct segments. All craftsmen and inspectors working with ductwork will be trained to this procedure.

b. The responsible quality control inspector received additional training and was recertified in WBN-QCP-4.13-VTC, "Final Visual Weld Examination," on September 9, 1985.

c. The responsible quality control inspector has received additional training and was recertified in WBN-QCP-4.23-8, "Support Final Inspection," on June 3, 1985. This date was before the deficiency was cited but after the acceptance of the feature.

Date of Full Compliance

a. WBN-QCP-4.27, "Inspection and Documentation of Ductwork," was revised effective October 24, 1985. Reinspection and any required tightening of duct bolts will be complete by November 15, 1985.

b, c. TVA's actions to fully scope and resolve this violation are still being determined. These will be described in a supplemental response by December 1, 1985.