

ENCLOSURE 1

NOTICE OF VIOLATION

Tennessee Valley Authority
Watts Bar Unit 1

Docket No. 50-390
License No. CPPR-91

During an NRC inspection conducted April 25 through May 6, and May 16 through May 20, 1994, three violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violations are listed below:

- A. 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, requires that measures shall be established to assure that conditions adverse to quality such as deficiencies, deviations and nonconformances are promptly identified and corrected.

TVA Nuclear Quality Assurance Plan TVA-NQA-PLN89-A, Revision 3, paragraph 10.2.2, Corrective Action for Adverse Conditions, requires that adverse conditions be dispositioned by organizations with defined responsibility and authority and shall be corrected with documented plans. Further, the cause ... shall be determined and corrective action taken to preclude recurrence.

Contrary to the above, corrective actions were not adequate to preclude recurrence for adverse conditions. These adverse conditions, deficient slope and separation for safety-related or important to safety instrument sense lines, were identified in previous NRC violations. During NRC inspections which took place during the period of April 25 through May 6, and May 16 through May 20, 1994, 10 instrument sense line slope deficiencies and a separation deficiency for safety-related or important to safety instrument sense lines were identified.

This is a Severity Level IV violation (Supplement II).

- B. 10 CFR 50, Appendix B, Criterion III, Design Control, requires that measures be established to assure that applicable regulatory requirements and the design basis is correctly translated into drawings.

TVA Nuclear Quality Assurance Plan TVA-NQA-PLN89-A, Revision 3, paragraph 7.2.1.C, requires that measures shall be established and implemented to ensure that design output documents appropriately identify engineering requirements that apply to plant activities.

Calculation WBPE0038805017, Sense Line Interface Associated W/ 1-PDT-3-122 A(L), Revision 1, identified the engineering requirement for installation of a collection chamber for safety-related low pressure sensing line 1-SENL-03B-316A.

Electrical Control Diagram 1-47W610-77-4, Revision 12, identified safety-related instrument 0-LT-77-134A as assigned to electrical Train A.

Stress calculations 43064, Rev. 3, and 43036, Rev. 1, for thermally analyzed instrument line supports 1-043-AO-048 and 1-043-BE-105, respectively, specified these supports as 2-way supports.

Contrary to the above, during inspections conducted April 25 through May 6, and May 16 through May 20, 1994, the following examples were identified:

1. The engineering requirement for installation of a collection chamber for safety-related low pressure sensing line 1-SENL-03B-316A as required by calculation WBPE0038805017, Sense Line Interface Associated W/ 1-PDT-3-122 A(L), Revision 1, was not identified by Electrical Instruments and Control Drawing 47W600-62, Revision 22. As a result, no collection chamber was installed to collect air or gas in the instrument sense line to maintain the accuracy of the instrument during plant operation.
2. Drawing 47W600-144, Rev. H, did not correctly identify the engineering requirement that safety-related instrument 0-LT-77-134A was assigned to electrical train A. This drawing error resulted in the NRC finding that this instrument and its associated sense line were incorrectly identified as protection channel I.
3. Drawings 47W625-715E, Rev. 0. and 47W625-756D, Rev. 0, for thermally analyzed instrument line supports 1-043-AO-048 and 1-043-BE-105, respectively, did not correctly identify the engineering requirement that these supports were 2-way supports. This resulted in the incorrect installation of 3-way supports.

These items collectively constitute a Severity Level IV violation (Supplement II).

- C. 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, requires that activities affecting quality shall be prescribed by documented instructions or procedures and shall be accomplished in accordance with these instructions or procedures.

TVA NQA TVA-NQA-PLN89-A, Revision 3, paragraph 6.1.1 requires that quality related activities shall be prescribed by documented procedures and instructions appropriate to the circumstances. Activities shall be accomplished in accordance with these procedures and instructions.

Modifications and Addition Instruction MAI-4.2A, Piping/Tubing Supports, Revision 10, paragraph 6.1.11.G, required that locking devices shall be used on threaded fasteners as specified by manufacturer's instructions.

Engineering Specification N3E-934, Instrument and Instrument Line Installation and Inspection, Revision 4, paragraph 3.2.11, required that instrument sense lines with ends open to the atmosphere shall have the open end oriented such that it is pointing downward to prevent accumulation or introduction of contaminants.

Engineering Specification N3E-934, Revision 4, paragraph 3.25.3, required that instrument lines shall be identified by affixing tags of each applicable color to the instrument line every third support span.

Procedure MAI-4.5, Pipe and Tube Bending, Revision 4, paragraph 6.2.11 required that the hardness value shall be the arithmetic mean average of four measurements taken around the circumference at the center of the bend arc, for bend qualification samples.

Drawing 47W625-756, Rev. 0, required thermally analyzed support 1-043-BE-007 to be installed as a three-way support; design Change Authorization DCA M19666-03, Rev. 0, required interface support Number 1, 1-ISLS-997-2450, to be installed as a two-way support; Design Change Authorization M19666-04, Rev. 0, required the first support in line with root valve 1-ISV-62A-428A, to be installed as a two-way support.

Contrary to the above, during inspections conducted April 25 through May 6, and May 16 through May 20, 1994, the following examples were identified:

1. Locking devices used on threaded fasteners were not installed as specified by manufacturer's instructions as required by Procedure MAI-4.2A. Ten examples were identified where lockwire was not installed in accordance with manufacturer's instructions on bolts for 6-way friction clamps for safety-related instrument line interface support installations.
2. Low pressure connection (open to atmosphere) for instrument 1-FS-30-146 was found to be loose and the tubing was not installed pointing downward as required by Engineering Specification N3E-934.
3. Capillary tubing associated with Reactor Vessel Level Indication System instruments 1-LT-68-370, 371, and 372, and 1-PT-68-64, and capillary tubing associated with 1-LT-367, 368, 369, and 1-PT 68-63, were not correctly identified with their respective protection set identifications as required by Engineering Specification N3E-934. These two capillary tubing runs were incorrectly tagged as non-divisional at their respective containment penetrations.

Instrument sense line 1-SENL-001-282A associated with protection set IV instrument 1-PT-1-5, was not identified with intermediate train tags applied every third support span as required by Engineering Specification N3E-934.

4. Hardness measurements were not taken around the circumference at the center of the bend arc for bend qualification samples as required by Procedure MAI-4.5. Hardness tests of bend qualification samples, conducted by quality control personnel, were not being placed on the outside of the bend arc.
5. Thermally analyzed instrument line support 1-043-BE-007 was not installed as a three-way support as required by drawing 47W625-756. Interface support number 1, 1-ISLS-997-2450, was not installed as a two-way support as required by Design Change Authorization DCA M19666-03. The first interface support in line with root valve 1-ISV-62A-428A, was not installed as a two-way support as required by Design Change Authorization M19666-04.

These items collectively constitute a Severity Level IV violation (Supplement II).

Pursuant to the provisions of 10 CFR 2.201, Tennessee Valley Authority is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector, Watts Bar, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or demand for information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Dated at Atlanta, Georgia
this 1st day of July 1994