

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 July 18 through July 22 and August 1 through August 5, 1994, two 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 III, Design Control, requires in part that measures be established to assure that applicable regulatory requirements are correctly translated into drawings and procedures. The measures shall include provisions to assure that appropriate quality standards are specified and included in design documents. The design control measures shall also provide for verifying or checking the adequacy of design.

Tennessee Valley Authority Nuclear Quality Assurance Plan TVA-NQA-PLN89-A, Revision 4, Section 7.0, Design Control, requires that measures be established to ensure that applicable design requirements are correctly translated into procedures or instructions. It also requires that design assumptions and inputs be identified and provisions made to relate the final design to the source of the design input. It further requires that measures shall include criteria to ensure that adequate technical and quality requirements are incorporated prior to issuance.

Contrary to the above, on August 5, 1994, the established design control measures were deficient in that the following deficiencies were identified:

1. General Engineering Specification G-38, Installation, Modification, and Maintenance of Insulated Cables Rated Up to 15,000 Volts, Revision 13, Watts Bar Variance 11, provides the engineering basis for not having vertical support for cables routed in conduits 2PLC3727A and 2PLC2737B. The basis was that installed cables were signal and control cables and the presence of a 90 degree conduit bend at the top of the vertical conduit provided horizontal restraint for the cables. However, cables installed in these conduits were power cables, not signal and control cables, and there was no 90 degree conduit bend at the top of the vertical conduit runs. At the top of the conduit run, the cables were free-air routed into cable trays. Therefore, the engineering basis for not having vertical cable supports was inadequate.

9409290004 940920
PDR ADOCK 05000390
G PDR

2. The Computerized Cable Routing System multi-card set for cable 1PL4706 did not reflect the as-installed cable route through cable trays nodes 4B2620 and 4B2621. As a result, the Computerized Cable Routing System indicated 13 conductors routed through the tray nodes while the as-installed configuration consisted of 16 conductors.
3. The Computerized Cable Routing System reflects the as-designed cable route of cable PL3501B as through cable tray segments 3B2387, 3B2388, 3B2389, and continuing into conduit PLC3971B. However, the as-installed cable route did not match CCRS in that the cable was not routed through cable tray node 3B2389 prior to entering conduit PLC3971B.

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

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

Tennessee Valley Authority Nuclear Quality Assurance Plan TVA-NQA-PLN89-A, Revision 4, Section 6.1, Procedures and Instructions, requires that quality-related activities shall be prescribed by documented procedures and instructions appropriate to the circumstances. It further requires that activities shall be accomplished in accordance with these procedures and instructions.

Contrary to the above, Nuclear Quality Assurance Plan TVA-NQA-PLN89-A, Site Standard Practice SSP-7.53, Modification and Addition Instructions MAI-3.2, and MAI-3.3, Workplan D-11422-06 were not complied with in the following cases:

1. Site Standard Practice SSP-7.53, Modification Workplans, Revision 11, Appendix A, General Requirements for All Workplans, Criterion 3, requires that work instructions be written to include installation requirements from approved design outputs.

On July 29, 1994, Workplan D-11131-01 did not contain the requirements provided in Design Change Notice M-11131-A. The design change notice requirements were to lift the subject cables from support points prior to installing cable supports to ensure cables were not damaged from excessive sidewall bearing pressure. If cables could not be lifted from the support point, the cables were to be replaced. As a result of the omission, cable supports were added for cables in conduits 1VC4403B, 1PLC1072A, 1PLC1078A, 1PLC1082A, and 1PLC1087B without verifying that the cables could be lifted from the support point.

2. Modification and Addition Instruction MAI-3.2, Cable Pulling For Insulated Cables Rated Up To 15,000 Volts, Revision 12, Appendix

B, Supporting Conductors in Vertical Raceways, requires that cables in vertical raceways be supported if the maximum unsupported installation length exceeds the limits in Table B-1 in Appendix B.

On August 5, 1994, the cables installed in conduits MC906B and 1NM3256F did not have cable supports provided and the installed unsupported cable lengths exceed the limits of Procedure MAI-3.2, Appendix B, Table B-1.

3. Workplan D-11422-06 required the installation of cable supports for all cables installed at the following cable tray nodes, below the respective containment electrical penetrations:

<u>Tray Node</u>	<u>Penetration</u>
4A1922	1-PENT-293-6A
4A1921	1-PENT-293-8A
4A1911	1-PENT-293-21A
3A1910	1-PENT-293-27A

On August 1, 1994, the workplan instructions for the installations of cable supports were signed as completed by the craftsmen, field engineer, and quality control inspector without installing cable supports for all the installed cables.

4. Procedure SSP-3.01, Revision 9, Quality Assurance Program, requires in Section 2.4.A., that the responsible organization shall perform work in accordance with approved Work Instructions.

On August 5, 1994, a permanent cable tray segment in manhole 5A was removed without documented work instructions. As a result, the cable tray has not been re-installed and the cable and splice that should have been in the tray segment were being supported with ropes.

Modification and Addition Instruction MAI-3.2, Cable Pulling For Insulated Cables Rated Up To 15,000 Volts, Revision 12, Appendix G, Cable Deleting, Abandoning, and Sparing, contains the requirements for abandoning and sparing conductors. Step G1.0 requires that cables shall be deleted, abandoned, and spared in accordance with design output documents. Step G3.2 requires that the ends of abandoned and/or spared cables be insulated with three layers which are at least half-lapped Scotch 33+ tape or sealed with a Raychem end cap or sealing kit.

On August 5, 1994, the following conditions were identified:

5. Spared cable marked as 0-3SP-285-944B was properly spared (sealed and identified) and located at cable tray node 3B2384. However, the Computerized Cable Routing System reflected this cable to be spared at cable tray node 3B2383.

6. A three-conductor cable was cut with the conductor ends exposed at cable tray segments 4A2009-4A2010. Work Request Tag C094442, dated January 9, 1992, was attached to this cable to properly abandon the cable. However, this work request was canceled when the tagged cable could not be subsequently located in the field. As a result, the improperly abandoned cable remained at the subject tray segments.
7. Cable 1-3M-3-1452-A, located at tray node 3A2002, was improperly spared in that it had exposed conductor strands and no end caps.

This is 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 20th day of September 1994