

ENCLOSURE

NOTICE OF VIOLATION

Tennessee Valley Authority
Watts Bar Unit 1

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

During the Nuclear Regulatory Commission (NRC) inspection conducted on September 25 through October 6, and October 16 through 27, 1989, violations of NRC requirements were identified. The violations involved failure to adequately implement a Quality Control (QC) inspection program during control room modifications and failure to assure purchased material and equipment met established codes, standards or specifications. In accordance with the "General Policy and Procedures for NRC Enforcement Action," 10 CFR 2 Appendix C (1989), the violations are listed below:

- A. 10 CFR 50, Appendix B, Criterion X, requires, in part, that a program for inspection of activities affecting quality be executed by or for the organization performing the activity to verify conformance with the documented instruction, procedures, and drawings for accomplishing the activity.

Contrary to the above, the following deficiencies in TVA's quality control inspection program were identified:

1. Quality Control inspectors at the Watts Bar plant did not verify the ratings and post installation attributes of installed devices (hand switches, indicating meters, recorders) in the control room. The lack of QC inspector verifications was apparently a result of Nuclear Construction Department engineers eliminating inspection steps from QC records without the concurrence of the Quality Assurance Department.
2. Quality Control records used by electricians and inspectors for wiring installations referenced an uncontrolled specification. QC records for control board wiring referenced TVA drawing 45W1640, Revision 3, which referenced Westinghouse specification 953267. Both documents were required to complete the installation. The Westinghouse specification was not within TVA's program for controlled documents.
3. The work package data sheets that were used to document Quality Control inspections in the control room were inadequate for their various uses. Data Sheet 1 was used to document inspections of fabrication and installation of wire bundles, terminations of two separate wire ends, and installation of jumper wires. The inappropriate multiple uses of the data sheets required the addition of confusing footnotes and annotations and resulted in the inability to determine what previous activities had been performed and inspected.

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This is a Severity Level IV violation (Supplement II) and applies to Unit 1.

- B. 10 CFR 50, Appendix B, Criterion VII, requires, in part, that measures shall be established to assure that purchased material, equipment and services, conform to the procurement documents, and that documentary evidence shall be sufficient to identify the specific requirements, such as codes, standards, or specifications, met by the purchased material and equipment.

Contrary to the above, the following vendor equipment deficiencies that had not been detected by TVA's source inspection or QC inspection programs, and receipt inspection program deficiencies existed:

1. Undersized nozzle-to-shell welds on 8 to 12 tanks, heat exchangers, and filters.
2. Varying fastening arrangements existed among the eight fan-damper assemblies for the emergency diesel generator room exhausts. In researching procurement documents in response to these differences in bolting, TVA determined that the fan-damper assemblies had not been seismically qualified as an assembly, as required by TVA's procurement specifications.
3. Heat-shrinkable tubing did not meet vendor requirements for overlap on electrical penetration leads. The vendor requires a two-inch overlap and the heat-shrinkable tubing on all leads for penetration 27 for Train A control power had overlaps less than two inches, with several instances of 1/4- to 1/2-inch overlap.
4. Wiring with bend radius deficiencies in the diesel generator 6.9 kV control board DG-1A-A, motor control centers 1MCC-214-A1-A and 1MCC-214-B1-B, and hydrogen monitor 1-H2AN-43-200. The hydrogen monitor also contained 30 terminations which did not meet TVA's electrical specification G-38 requirements in that the wire protruded through the lug more than 1/16 inch and all strands of the wire were not terminated on the terminal screw.

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Pursuant to the provisions of 10 CFR 2.201, Tennessee Valley Authority is hereby required to submit a written statement or explanation to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 2055, with a copy to the Associate Director for Special Projects, Office of Nuclear Reactor Regulation, and a copy to the NRC Resident Inspector, within 30 days of the date of the letter transmitting this Notice. This reply should be clearly marked as a "Reply to a Notice of Violation" and should include [for each violation]: (1) admission or denial of the violation, (2) the reason for the violation if admitted, (3) the corrective steps which have been taken and the results achieved, (4) the corrective steps which will be taken to avoid further violations, and (5) the date when full compliance will be achieved.

Where good cause is shown, consideration will be given to extending the response time. If an adequate reply is not received within the time specified in this Notice, an order may be issued to show cause why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken.

FOR THE NUCLEAR REGULATORY COMMISSION



B. D. Liaw, Director
TVA Projects Division
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland
this 14th day of March 1990.

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