

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

USNRC REGION II
ATLANTA, GEORGIA

October 28, 1981

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Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

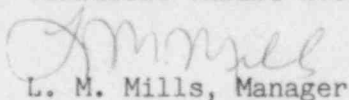
Dear Mr. O'Reilly:

This is in response to R. C. Lewis' September 28, 1981 letter to H. G. Parris, Report Nos. 50-259/81-26, -260/81-26, and -296/81-26, concerning activities at the Browns Ferry Nuclear Plant which appeared to violate NRC requirements. Enclosed is our response to Appendix A, Notice of Violation. If you have any questions, please call Jim Domer at FTS 857-2014.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY



L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

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ENCLOSURE
RESPONSE TO NRC INSPECTION REPORT NOS.
50-259/81-26, 50-260/81-26, AND 50-296/81-26
R. C. LEWIS' LETTER TO H. G. PARRIS
DATED SEPTEMBER 28, 1981

Item A - (260/81-26-01)

Technical Specification 3.9.A.4.e requires that prior to startup from a cold condition the undervoltage (UV) relays shall be operable on start buses 1A and 1B.

Contrary to the above, the requirement that the UV relays be operable prior to startup from a cold condition was not met in that on August 15, 1981, Unit 2 was started up and operated at power with one UV relay being inoperable. This condition was identified by the licensee on August 19, 1981.

This is a Severity Level IV Violation (Supplement I.D.2.) and is applicable to Unit 2.

1. Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated.

2. Reasons for the Violation if Admitted

The relays were removed as a result of Workplan No. 10141 (installation of new degraded voltage relays on the 4-kV shutdown boards and removal of undervoltage relays from the start bus).

Engineering Change Notice (ECN) P0275 covered the installation of degraded voltage relays on the shutdown boards, the removal of undervoltage relays from the start bus, and the installation of unit station service transformers. All of these changes were extensive. The installation of degraded relays on the shutdown boards did not require technical specification changes; however, the removal of undervoltage relays from the start bus did require technical specification changes. The technical specification problems associated with the removal of the relays from the start bus were not identified in the review and approval of the workplan.

3. Corrective Steps Which Have Been Taken and the Results Achieved

Upon discovery of the technical specification violation due to removal of the undervoltage relays from the start bus, the undervoltage relays were reconnected and the operational test was completed on all diesels.

4. Corrective Steps Which Will Be Taken To Avoid Further Violations

Separate workplans will be prepared for those items involving major technical specification changes. These workplans can be preidentified as to when they can be incorporated and technical specifications changes effected.

5. Date When Full Compliance Will Be Achieved

Full compliance was achieved when the undervoltage relays were reterminated to the start bus.

Item B - (260/81-26-02)

Technical Specification 3.1 requires that a minimum of instrument channels must be operable as given in Table 3.1.A. The table requires that 2 average power range monitor (APRM) channels per trip system be operable for high flux protection during reactor power operation.

Contrary to the above, from 9:30 p.m. on July 8, 1981 until 10:30 a.m. on July 9, 1981, the APRM channels were not operable as required in Table 3.1.A nor was the proper action taken within the time period stated in the table notes, in that the trip setpoints on the APRMs were set above the value given in the Table for a period of 13 hours.

This is a Severity Level IV Violation (Supplement I.D.2.). and is applicable to Unit 2.

1. Admission or Denial of the Alleged Violation

TVA admits the violation occurred as stated.

2. Reasons for the Violation if Admitted

Before the startup of unit 2, the R factor ($\frac{\text{FRP}}{\text{CMFLPD}}$; see technical specification 4.1) setpoint of 1.0 was not reduced by the shift technical advisor (STA) as is the routine practice. When the STA recognized that the R factor was not in the required limits, he took immediate corrective action to reduce the R factor. The time constraints associated with the violation were not realized and his corrective actions were complicated by a drifting local power range monitor.

3. Corrective Steps Which Have Been Taken and the Results Achieved

As noted in the violation, the R factor was returned within limits. A revision to the unit 1 technical specifications has been approved by NRC which makes the neutron flux scram limiting safety system setting a limiting condition for operation with a six-hour limit for returning to within limits. An identical item to units 2 and 3 technical specifications has been submitted.

4. Corrective Steps Which Will Be Taken To Avoid Further Violation

More detailed instructions have been given to the STA's on handling APRM scram setting violations, such as setting the R factor no closer than five percent to the calculated value. As stated above, revisions to unit 2 technical specifications have been submitted to NRC for approval. These technical specification changes in combination with the more detailed instructions given the STA's will serve to prevent recurrence of this type of event.

5. Date When Full Compliance Will Be Achieved

Full compliance was achieved when the R factor was returned to within limits and the STA's were given more detailed instructions. However, implementation of all identified corrective actions will not be achieved until the requested revisions to the unit 2 technical specifications are approved.

Item C - (296/81-26-01)

10 CFR 50, Appendix B Criterion III, as implemented by TVA Topical Report TVA 75-01 paragraph 17.2.3 requires that measures shall be established to assure that the design bases for those components to which this appendix applies are correctly translated into specifications drawings, procedures and instructions. The operation - maintenance instructions and parts catalog for the hydrogen - oxygen (H_2-O_2) sample and return solenoid valves requires the licensee to adequately seal the conduit connections to the solenoid to prevent entrance of moisture in order to maintain IEEE 323 qualifications.

Contrary to the above, the design bases for the H_2-O_2 system was not met in that on July 31, 1981, the licensee determined that the sample and return solenoid valves for the H_2-O_2 monitoring system in Unit 3 torus were not adequately sealed where the conduit connects to the solenoid which allowed moisture to enter the solenoid and caused the return solenoid to fail during normal operation. The H_2-O_2 monitoring system is required to be operable under a Post-loss of Coolant Accident (LOCA). The vendors requirement that the solenoid be adequately sealed where the conduit connects to the solenoid was not specified in any work plan, drawing or procedure.

This is a Severity Level IV Violation (Supplement II.D.1.) and is applicable to Unit 3.

1. Admission or Denial of Alleged Violation

TVA admits the violation occurred as stated.

2. Reasons for the Violation if Admitted

This violation occurred because the designers failed to recognize the vendor's interface requirements for sealing conduit at the solenoid.

3. Corrective Steps Which Have Been Taken and the Results Achieved

TVA revised design drawing 45N800-17 R13 on September 25, 1981, to provide more design details for adequately sealing the conduit connections to the solenoid valve.

The detailed design requires a sealable conduit fitting at the valve to provide an environmental seal to prevent moisture from entering the solenoid.

4. Corrective Steps Which Will Be Taken To Avoid Further Violations

The designers have been reinstructed in the necessity to incorporate all required design input, including the vendor's interface requirements, into their designs.

An interdivisional (between the Divisions of Nuclear Power (NUC PR) and Engineering Design (EN DES)) design philosophy improvement request (DPIR No. NE-65) has been developed to address the coupling between conduit and connectors in hostile environments. The DPIR requires EN DES to provide details on design documents for environmentally sealing conduit connections.

5. Date When Full Compliance Will Be Achieved

Field modification of design requirements to conduit connections of the H₂-O₂ solenoid valves will be made during the next unit 3 outage, with completion of modification by February 1, 1982.