TENNESSEE VALLEY AUTHORITY
ATLANTA, GEORGIA
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

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November 14, 1984

U.S. Nuclear Regulatory Commission
Region II
ATTN: James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Mr. O'Reilly:

Enclosed is our response to R. C. Lewis' October 12, 1984 letter to H. G. Parris transmitting IE Inspection Report Nos. 50-259/84-38, -260/84-38, -296/84-38 for our Browns Ferry Nuclear Plant which appeared to have been in violation of NRC regulations. We have enclosed our response to the Notice of Violation. On November 13, 1984, Ross Butcher of your staff and Mike Hellums of my staff discussed a one-day extension to November 14 for submitting this response. If you have any questions, please call me at FTS 858-2725.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

James A. Domer

James A. Domer
Nuclear Engineer

Enclosure

RESPONSE
NRC INSPECTION REPORT NOS.
50-259/84-38, 50-260/84-38, AND 50-296/84-38
R. C. LEWIS'S LETTER TO H. G. PARRIS DATED
OCTOBER 12, 1984

Enclosure 1

The following violations were identified during an inspection conducted on August 25 - September 25, 1984. The Severity Levels were assigned in accordance with the NRC Enforcement Policy (10 CFR Part 2, Appendix C).

Item 1 - (50-259/260/296/84-38-01)

10 CFR 50, Appendix B, Criterion VII requires that measures shall be established to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents.

Contrary to the above, this requirement was not met for the following three examples of procurement:

a. Procurement document RD 926183 specified that the nitrogen purchased should have an oxygen concentration of less than ten parts per million (ppm) but the vendor's test results showed 13 ppm oxygen. The material receipt inspection report dated January 12, 1983, approved the material as conforming to the purchase documents although this concentration exceeded the specified amount.

b. Procurement document RD 941184 dated September 8, 1984, specified that the nitrogen purchased should have less than 3 ppm moisture content but the supplier's test results for moisture content was left blank on the report form. The material was accepted with no deficiencies noted.

c. Procurement document RD 941015 dated June 1, 1984, specified that the hydrogen purchased should have a test report as to purity and moisture content, but the test report results for purity and moisture content was left blank on the test report form. No material receipt inspection form could be found for this item.

This is a Severity Level IV Violation (Supplement I).

1. Admission or Denial of the Alleged Violation

TVA admits the alleged violation as stated.

2. Reasons for the Violation

Usage of lesser experienced store personnel contributed to these receipt problems. This is due to a high turnover ratio and increased workload resulting from the reorganization within Nuclear Power.

3. Corrective Steps Which Have Been Taken and Results Achieved

RD 926183 - Vendor contacted to confirm the accuracy of the original analysis report. Vendor stated that the report furnished was in error. A corrected copy of the analysis report has been furnished to TVA.

RD 941184 - Vendor contacted and requested to furnish a complete analysis report. A complete analysis report has been furnished to TVA which shows moisture content acceptable.

RD 941015 - Vendor contacted and requested to furnish a complete analysis report. A complete analysis report has been furnished to TVA which shows purity and moisture contents acceptable. TVA form BF 48 prepared upon receipt of complete analysis report.

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

Retraining is being conducted on BFN Standard Practice 16.4 (Material Receipt and Handling) for stores personnel. Power Stores receiving personnel have been advised that purchase specification requirements are contained in each contract. Receiving personnel have been instructed to check the documentation furnished with each shipment to ensure that the required documentation is furnished, and that it meets the purchase requirements prior to admission into the plant security area for delivery. Any deliveries which do not strictly adhere to purchase requirements are being rejected until proper documentation is received.

5. Date When Full Compliance Will Be Achieved

September 25, 1984 - Instituted holding shipments outside plant security area for records check.

November 16, 1984 - All retraining will be finished.

Item 2 - (50-259/260/296/84-38-03)

10 CFR 50, Appendix B, Criterion V requires that measures shall be established to control the issuance of documents, such as instructions, procedures, and drawings, including changes thereto, which prescribe all activities affecting quality. These measures shall assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel and are distributed to and used at the location where the prescribed activity is performed.

Contrary to the above, this requirement was not met for two examples:

Example 2a

Changes to instrument maintenance instruction, IMI-162, for calibration and functional testing of the off-gas hydrogen analyzers were not controlled and the working copy used by instrument mechanics in the field contained pages 1, 7, and 8 dated June 20, 1978, but the pages should have been dated January 3, 1979,

December 27, 1979, and December 27, 1979, respectively. The instrument shop library copy contained two pages numbered eight dated January 3, 1979 and December 27, 1979. Also, posted on the Unit 2 off-gas hydrogen analyzer cabinet was page 10 dated June 20, 1978, but in the latest revision of the procedure, page 10 was dated April 11, 1984.

1. Admission or Denial of the Alleged Violation

   TVA admits the violation as stated.

2. Reasons for the Violation

   We did not have adequate control over auditing working copies of instrument instructions.

   The copy was posted to aid maintenance personnel on purging the system; it was inadvertently not removed.

3. Corrective Steps Which Have Been Taken and Results Achieved

   An audit which compared the working copies of instrument instructions to the file copies have been performed.

   The page was removed from the analyzer panel.

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

   Our planning organization will furnish working copies of instructions as a part of maintenance packages.

   Instrument mechanics will no longer hang drawings or instrument instruction sheets on equipment.

5. Date When Full Compliance Will Be Achieved

   Full compliance is currently in effect.

Example 2b

Changes to surveillance instruction, S.I. 4.2.B-45A, dated August 8, 1984, Low Pressure Coolant Injection System Logic, were not adequately reviewed to insure the proper relay designation in step 4.1.7. This resulted in the inadvertent start of residual heat removal pump 1B in Loop 1 during the performance of S.I. 4.2.B-45A for Loop II on September 21, 1984. Relay 10A-K25A was designated but relay 10A-K25B should have been designated. Unit 1 was operating at 99% power.

This is a Severity Level V Violation (Supplement I).

1. Admission or Denial of the Alleged Violation

   TVA admits the violation as stated.

2. Reasons for the Violation

S.I. 4.2.B-45 underwent a general revision to improve the quality of the instruction. The original document which was written to test either system loop was split into two separate documents (one for each loop). A typographical error was created in that process which was not discovered by review.

3. Corrective Steps Which Have Been Taken and Results Achieved

The instruction was immediately corrected.

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

This is a random oversight which has the potential to occur during a large revision. Several independent reviews already exist for such revisions. No additional recurrence control is necessary.

5. Date When Full Compliance Will Be Achieved

Full compliance has been achieved.

Item 3 - (50-259/260/296/84-38-04)

10 CFR 50, Appendix B, Criterion V requires activities affecting quality shall be prescribed by documented procedures and shall be accomplished in accordance with these procedures. Recirculation system Special Test Instruction (STEAR) 83-01 delineates certain requirements with respect to Unit 2 recirculation system vibration and leak detection.

Contrary to the above, the requirements of STEAR 83-01 were not met in that several procedural requirements were not satisfied. Examples of failure to adhere to STEAR 83-01 include:

a. STEAR 83-01 requires recirculation system vibration readings be taken twice a day (once every 12 hour shift) by the Shift Technical Advisor (STA).

   Contrary to this, over the reviewed period from July 4 to September 15, 1984, vibration readings for 17 days were logged as being taken only once a day and on 3 days no readings were taken at all (figure 25 of STEAR 83-01).

b. STEAR 83-01 requires recirculation system leak detection readings be taken twice a day by the the STA.

   Contrary to this, over the reviewed period from July 4 to September 15, 1984, 17 leak detection readings were not logged on the required data log (figure 25 of STEAR 83-01) as being taken. In addition, on 3 days, no leak detection readings were recorded as being taken.

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

1. Admission or Denial of the Alleged Violation

TVA admits the violation as stated.

2. Reasons For the Violation

Upon notification of the violation, a thorough investigation of STEAR 83-01 was initiated. Results of the investigation revealed:

1. STEAR 83-01 applies to leak detection readings only. Recirculation pump vibration readings are a part of STEAR 82-08, and as such, are separate and apart from STEAR 83-01. Additionally, unlike leak detection readings, recirculation pump vibration readings are not a part of the commitments defined in the TVA/NRC meeting of January 6, 1983.

2. On November 14, 1983, STEAR 83-01 was revised to require leak detection reading once per day as delineated in the TVA/NRC meeting of January 6, 1983, and the TVA letter dated January 25, 1983. Previous to the November 14, 1983 revision of STEAR 83-01, leak detection readings had been required at twice the required frequency of the commitment.

3. On August 21, 1984, there were extenuating circumstances surrounding the missed readings. On that date, unit 1 was in the process of proceeding to shutdown when rod worth minimizer problems were experienced which subsequently led to the unit 1 reactor being manually scrammed. Day shift STA effort was focused on closely monitoring unit shutdown and scram analysis concerning a problem with a core spray testable check valve failure (reference LER 50-259/84032). Leak detection readings required once per 24-hour period were taken at about 28.75 hour interval on August 9, 1984, and at about 29.2 hour interval on August 27, 1984.

4. Figure 25 of BF-STEAR 83-01 incorporates data from STEAR 83-01 and STEAR 82-08 only as a convenience to the STA in obtaining data readings and to avoid duplication of effort.

The violation occurrence, as stated above, was due to both inadequate management followup after implementing corrective steps which had been achieved on, or by, December 1, 1983, and personnel error on the part of individual STAs.

A review of the STA Program revealed:

1. Shift turnover for the STA was not nearly as formal as it should be.

2. No requirements were in effect which addressed STA logbook maintenance.

3. The STA coordinator position was not defined as a full time position to which the coordinator could devote his full attention.

4. At present, the STA program utilizes personnel loaned from other plant organizations. STAs not only have STA responsibilities, but retain responsibilities from their home organization.

3. Corrective Steps Which Have Been Taken and Results Achieved

As a result of the items identified above:

1. Shift turnover requirements for the STA have been strengthened (implemented October 8, 1984). These requirements both provide for continuity between STA shifts and provide for turnover discussion of significant logbook entries by the duty and relief STAs.

2. Steps were implemented, in the form of formal STA requirements, on October 8, 1984, which ensure both STA accountability and written acknowledgement that all required logbook entries are made.

3. The STA coordinator position has been redefined as a full-time position, allowing a single point of contact for STAs maintaining shift, and providing both a check on day-to-day activities and controls over the STA Program.

4. Personnel are being selected to serve as full-time STAs. These personnel will belong only to the STA group and all their work assignments will be made by the STA coordinator.

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

The STA coordinator position has now been assigned as a full-time position, as a result of the Browns Ferry reorganization, to enable full-time STA controls and structuring. Additionally, both STA shift turnover and STA shift logbook maintenance requirements, implemented on October 8, 1984, are ongoing controls specifically designed to ensure adequate STA information transfer and provide for a shift-to-shift check on all STA log entries.

5. Date When Full Compliance Will Be Achieved

Compliance with STA logbook and shift turnover requirements were implemented on October 8, 1984.

Four full-time STA personnel should be available in September 1985 following completion of an extensive training program.

Item 4 - (50-259/260/296/84-38-05)

10 CFR 50, Appendix B, Criterion XVI requires that measures shall be established to assure that conditions adverse to quality such as deficiencies and deviations are promptly identified. The measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, this requirement was not met in that the corrective steps taken in response to the previous violation of STEAR 83-01, (260/83-33-02) were not adequate to preclude repetition. A special stamp developed for the STA's log was to be used to prevent the required STEAR 83-01 log reading from being missed for the Unit 2 recirculation pipe leak detection equipment. A review of the STA log since January, 1984 revealed the special stamp had not been used and resulted in several log readings not being taken as required by STEAR 83-01.

This is a Severity Level IV Violation (SupplementI).

1. Admission or Denial of the Alleged Violation

   TVA admits the violation as stated.

2. Reasons for the Violation

   The violation occurred due to both inadequate administrative followup after implementation of the special stamp, and the STA coordinator's decision to discontinue stamp use in the belief the special stamp was no longer essential to ensuring STEAR 83-01 leak detection readings would be taken as required.

3. Corrective Steps Which Have Been Taken and Results Achieved

   As a result of the items identified above:

   1. Shift turnover requirements for the STA have been strengthened (implemented October 8, 1984). These requirements both provide for continuity between STA shifts and provide for turnover discussion of significant logbook entries by the duty and relief STAs.

   2. Steps were implemented, in the form of formal STA requirements, on October 8, 1984, which ensure both STA accountability and acknowledgement that all required logbook entries are made.

   3. The STA coordinator position has been redefined as a full-time position, allowing a single point of contact for STAs maintaining shift, and providing both a check on day-to-day activities and controls over the STA Program.

   4. Personnel are being selected to serve as full-time STAs. These personnel will belong only to the STA group and all their work assignments will be made by the STA coordinator.

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

   The STA coordinator position has now been assigned as a full-time position, as a result of the Browns Ferry reorganization, to enable full-time STA controls and structuring. Additionally, both STA shift turnover and STA shift logbook maintenance requirements, implemented on October 8, 1984, are ongoing controls specifically designed to ensure adequate STA information transfer and provide for a shift-to-shift check on all STA log entries.

5. Date When Full Compliance Will Be Achieved

Compliance with STA logbook and shift turnover requirements were implemented on October 8, 1984.

Four full-time STA personnel should be available in September 1985 following completion of an extensive training program.