TENNESSEE VALLEY AUTHORITY
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APR 28 1988

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of	)	Docket Nos. 50-259
Tennessee Valley Authority	)	50-260
	)	50-296

BROWNS FERRY NUCLEAR PLANT (BFN) UNITS 1, 2, AND 3 - NRC INSPECTION REPORT NOS. 50-259/88-02, 50-260/88-02, AND 50-296/88-02, - RESPONSE TO NOTICE OF VIOLATION

This letter provides TVA's response to your letter from K. P. Barr to S. A. White dated March 24, 1988, which transmitted the subject report. The report cited TVA with a violation in the area of modifications. Enclosure 1 provides TVA's response to the violation. A list of commitments is provided in enclosure 2.

The 12 concerns as discussed in paragraph 11a of your letter and summarized in paragraph 11e are still being evaluated and TVA's response will be sent to you by June 3, 1988.

On April 22, 1988, Al Ignatonis of your staff agreed to an extension of the due date for this response to May 6, 1988.

If you have any questions, please telephone James E. Wallace at (205) 729-2053.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. Gridley, Director
Nuclear Licensing and
Regulatory Affairs

Enclosures
cc: See page 2

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U.S. Nuclear Regulatory Commission

APR 28 1988

cc (Enclosure):
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ENCLOSURE 1

RESPONSE
NRC INSPECTION REPORT
NOS. 50-259/88-02, 50-260/88-02, 50-296/88-02
LETTER FROM K. P. BARR TO S. A. WHITE
DATED MARCH 24, 1988

Violation

During the Nuclear Regulatory Commission (NRC) inspection conducted on January 1-31, 1988, a violation of NRC requirements was identified. The violation involved failure to comply with plans and procedures in modification of hangers in the HPCI and RHR systems, and in the modification and installation of conduit and cabling in the automatic depressurization system (ADS) and high-pressure coolant injection (HPCI) system. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1985), the violation is listed below:

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

This is a Severity Level IV violation and is applicable to unit 2 only.

Example A

Browns Ferry Instruction BF MAI-23, Support & Installation of Piping Systems in Category I Structures, contains the following requirements: Paragraph 1.2.3 requires that piping and support installations shall be in compliance with the instruction and appropriate plant piping and support design output documents. Paragraph 2.6 requires that relocated supports be fabricated within the allowable tolerances of section 2.7, paragraph 2.7.3 requires that angles be maintained to a tolerance of 2 degrees. Paragraph 5.1 requires that a final hanger inspection shall be documented by using MAI-23, Attachment A, Hanger and Restraint Inspection Data Sheet.

Contrary to the above, activities affecting quality were not being accomplished in accordance with documented procedures and drawings in that an NRC field inspection of two Quality Control (QC) accepted pipe supports revealed one support with deviations from the documented requirements. As a result, the support may not be able to perform its intended function as required by the design. Examples include:

1. Unit 2, support H-94 (47B2455-202, Rev. 0) was installed with a strut/spring load can misalignment of about 10 degrees, causing the spring to bear against the load can wall. This support had been repositioned during the modification process with no supporting documentation for its movement.

2. Support H-94 required load adjustment and lateral movement on the supported pipe. However, the Hanger and Restraint Inspection Data Sheet, Steps 5.1.3, and 5.1.4, referring to tightness and configuration correctness, were checked "No" (meaning not required) in the "Inspection Required Checklist." No evidence was available to show that required inspections were performed.

TVA Response

1. Admission or Denial of the Alleged Violation

TVA admits the violation.

2. Reasons for the Violation if Admitted

Workplan 2152-87 for support H-94 was written only for the verification of the spring can support setting. It did not require a full inspection of Hanger support H-94. Therefore, many of the inspections on the Hanger and Restraint Inspection Data Sheet were not specifically applicable to the workplan. Applicable inspections for this workplan were signed by a second person for verification or the responsible engineer as appropriate.

The inspector additionally identified a violation of plant procedure MAI-23 when he determined that the responsible engineer did not conduct a full inspection of a hanger support. The engineer verified the new spring setting but did not need to verify the hanger's angularity since a general note in step I of the engineer's workplan depicted that another engineering procedure (PI 87-49) would provide a full inspection of the affected hanger. However, the note was not included in step II of the workplan for hanger H-94.

3. Corrective Steps Which Have Been Taken and Results Achieved

a. The engineering group performed a walkdown (PI 87-49) on all unit 2 hangers. The noted angularity discrepancy was verified to be six degrees, not 10 degrees, as noted by the NRC Inspector. Hanger discrepancies (including support H-94) noted in the PI 87-49 walkdown are being addressed by our engineering group as a separate project.

b. Responsible engineers were trained to more clearly depict in the workplan required inspections and associated walkdown projects. The required training was completed by April 8, 1988.

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

No additional corrective steps will be required to avoid further violations.

5. Date When Full Compliance Will Be Achieved

Full training compliance has been achieved.

Example B

Browns Ferry Instruction BF MAI-27, Installation of Electrical Conduit Systems and Junction Boxes, contains the following requirements: Paragraph 2.0 requires all electrical conduit systems for Browns Ferry be installed in accordance with the instruction. Paragraph 6.15 requires that all panel doors, junction box covers, and condulet covers opened and/or removed shall be reclosed or reinstalled and the work area left clean upon completion of conduit work. Paragraph 7.0 requires that inspection requirements of the procedure attachments be included with documentation that installs conduit systems. Paragraph I, Attachment 1, MAI-27 requires that the fittings required by installation drawings at the end points of a conduit are firmly tightened.

Browns Ferry Instruction BF MAI-44, Cable Pulling for Insulated Cables up to 15,000 Volts, contains the following requirements: Paragraph 5.1 requires that the Electrical Craft perform work according to requirements of the instruction and applicable drawings; Paragraph 5.2 requires the responsible engineer to ensure that procedural requirements are met; Paragraph 5.3 requires the QC inspector to perform inspections to the acceptance criteria of the instruction; Introductory paragraphs of Attachment 1, MAI-44, Cable Pulling Acceptance Criteria, requires the craft foreman or his designee to perform first-party verification for all cable pulls through Class 1E and critical structures, systems, and components conduit; and Paragraph 4.H, Attachment 1, includes the requirements to ensure that flexible conduit is reconnected in accordance with design documents, including any torquing requirements, and that conduit assemblies and junction box covers are reinstalled.

Contrary to the above, activities affecting quality were not being accomplished in accordance with procedures and drawings in that a field inspection of numerous QC accepted electrical conduits revealed numerous deviations from the documented requirements. As a result, the conduits may not be able to perform their intended function as required by the design. The deviations are identified below:

1. Auxiliary Instrument Room #2, Conduit 2ES 200-IS2 was found loose (penetration at 593 feet level in concrete pad, drawing 45B2895-165).

2. Auxiliary Instrument Room #2, junction of Conduits 2ES 200-IS2, 2ES 204-IS2, and 2ES 211-IS2 was found to have all fittings loose.

3. Auxiliary Instrument Room #2, flexible Conduit 2ES 211-IS2 (at overhead) was missing the cover on the condulet (LB) fitting, and the fittings were loose.

4. Cable Spreading Room, 606' elev., condulet body on Conduit 2ES 211-IS2 was missing its cover, and was loose at the conduit reducer and coupling (dwg. 45B2895-166).

5. Cable Spreading Room, 606' elev., the LB fitting at the junction of Conduits 2ES 201-IS2, and 2ES 1436-IS2 was missing its cover.

6. Cable Spreading Room, 606' elev., the condulet at the top of flexible Conduit 2ES 201-IS2 entering Panel 9-3 was missing its cover.

7. Control Room, Panel 9-3, 617' elev., the conduit fittings (2ES 201-IS2) in the bottom of the panel were loose and missing a cover; debris from the installation was left in the bottom of the panel.

TVA Response

1. Admission or Denial of the Alleged Violation

   TVA admits the violation.

2. Reasons for the Violation if Admitted

   The craft and QA personnel prematurely signed the MAI-27 data sheet (conduit terminations) and MAI-44 data sheet (all covers for entire raceway reinstalled, instrument and control doors closed, work area left clean). The workplan was still open and additional work (e.g., cable pulls) were still in progress at the time of the inspection. The responsible engineer has a final signature which indicates that the engineer has walked the system down and determined that all work was completed. This final review corrects items like missing conduit covers, door closure, and miscellaneous housekeeping.

3. Corrective Steps Which Have Been Taken and Results Achieved

   Workplan 2084-85 was revised to reinspect each conduit fitting to ensure tightness and that the covers are reinstalled.

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

   Training classes will be provided to the affected construction personnel to address order of signoffs for ensuring a better understanding of the affected procedures.

5. Date When Full Compliance Will Be Achieved

   June 1, 1988.

Enclosure 2
NRC INSPECTION REPORT NOS.
50-259/88-02, 50-260/88-02, 50-296/88-02
LETTER FROM K. P. BARR TO S. A. WHITE
DATED MARCH 24, 1988

List of Commitments

1. Responsible engineers will be trained to depict on the data sheet who must perform a step in the procedure, whenever that step requires another discipline to complete it. (Completed)

2. Training classes will be provided to affected Construction personnel to address order of signoffs for ensuring a better understanding of the affected procedures.

3. Transmit a TVA response to 12 NRC concerns identified in subject inspection report as summarized in paragraph 11e.