

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

50-259

DEC 20 1979

December 19, 1979

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

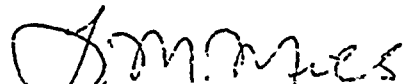
Dear Mr. O'Reilly:

Enclosed is our response to R. C. Lewis' November 27, 1979, letter, RII:MCA 50-259/79-30, 50-260/79-30, and 50-296/79-30, concerning activities at Browns Ferry Nuclear Plant which appeared to be in noncompliance with NRC requirements.

We have reviewed the above inspection report and find no proprietary information in it. If you have any questions, please call Jim Domer at FTS 854-2014.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



L. M. Mills, Manager  
Nuclear Regulation and Safety

Enclosure

790509  
CERTIFICATE



ENCLOSURE

RESPONSE TO R. C. LEWIS' LETTER DATED  
NOVEMBER 27, 1979, REFERENCE: RII:MCA  
50-259/79-30, 50-260/79-30, 50-296/79-30

NONCOMPLIANCE ITEMS - INFRACTION (50-259/79-30-27)

- A. As required by 10 CFR 50, Appendix B, Criterion X, an inspection of activities affecting quality shall be performed by individuals other than those who performed the activity. The accepted Quality Assurance Program, Section 17.2.10, requires inspections to be performed during maintenance, modifications, or repair activities affecting the quality of CSSC items at TVA plants to verify conformance with applicable requirements.

Contrary to the above, Unit 1 HPCI rupture disc was replaced as required by Trouble Report 135958, without the necessary inspection requirements being specified or completed.

This is an infraction. This item applies only to Unit 1.

Corrective Steps Taken and Results Achieved

Trouble reports involving maintenance of CSSC items are reviewed by both the responsible supervisor and the plant staff, including the quality assurance supervisor, in the Daily Coordination Meeting in accordance with plant Standard Practice BF 7.2. This review is documented in the Daily Coordination Meeting notes. Normally, this provides assurance that all necessary criteria are addressed in trouble reports (including independent verification of cleanliness in CSSC as required in BF 3.10). The referenced trouble report was reviewed, as required, in the coordination meeting; however, inadvertently, the necessary cleanliness inspection was overlooked. More rigorous attention to quality requirements in trouble reports is now in effect, both by supervisors and the plant staff. As a result, better control of trouble reports has been achieved.

Corrective Steps Which Will Be Taken To Avoid Further Noncompliance

Instructions (Section Instruction Letters) for preparation of trouble reports existed in all maintenance sections except the mechanical



maintenance section. By December 31, 1979, this section will have issued the necessary instructions for preparing trouble reports. This instruction will be reviewed before issue by the quality assurance staff to ensure necessary quality requirements are addressed.

Additionally, existing section instructions will be surveyed by the plant quality assurance staff by January 31, 1980. The results of these surveys will be documented and reported to the plant superintendent. Any deficiencies will be corrected by February 28, 1980. Continuing periodic quality assurance surveys will ensure continuing compliance.

Also, the quality assurance staff will continue review of CSSC trouble reports (as required by BF 7.1) after they are worked to ensure proper attention by craftsmen to quality requirements.

Date When Full Compliance Will be Achieved

Full compliance now exists. Further administrative controls previously committed to will be achieved by February 28, 1980.

NONCOMPLIANCE ITEM - INFRACTION (50-259/79-30-13, -260/79-30-13, -296/79-30-13)

- B. As required by 10 CFR 50, Appendix B, Criterion XI, a test program shall be established with written test procedures which incorporate the requirements contained in applicable design documents. The accepted Quality Assurance (QA) Program, Section 17.2.11, requires that modifications shall be tested in accordance with original design requirements. The Unreviewed Safety Question Determination for Engineering Change Notice (ECN) L1496, Disc replacement of Flow Control Valves (FCV), stated in the justification for no increased possibility of accident or malfunction that the chattering FCV's "will be operated over their entire operating range and observed by qualified personnel...".

Contrary to the above, RHR Service Water FCV's 3-23-52, 3-23-34, 2-126, and 3-23-40 were modified but they were not tested over the entire operating range and observed by qualified personnel, as required by the Unreviewed Safety Question Determination analysis.

This is an infraction.

Response

Our review of this item indicates that all documentation was not reviewed by the NRC inspector. The following information is provided for your review and consideration.

1. The reported valve, 2-126, appears to be in error. FCV 2-126 is a flow control valve in the Condensate System on the outlet of C3 heater. We believe the NRC inspector intended to state FCV 3-23-46 in accordance with work plan 9317.
2. The required Unreviewed Safety Question Determination testing on RHR service water valves 3-23-52, 3-23-34, 3-23-40, and 3-23-46, after modification in accordance with ECN L1496, was performed as specified and documented in Browns Ferry Mechanical Maintenance Instruction (MMI) 15.5.4-D on November 7, 1978. This MMI was not reviewed by the NRC inspector.
3. Work plans for these valves for units 1 and 2 repeated the detailed steps of MMI 15.5.4-D; however, the work plan (WP-9317) for unit 3 did not repeat the detailed steps of MMI 15.5.4-D. Rather, work steps 1 and 11 carried work activity documentation and testing directly to the MMI to avoid repetition of instruction. Appropriate testing and documentation is found for unit 3 in the MMI.



NONCOMPLIANCE ITEM - INFRACTION (259/79-30-25, -260/79-30-25, -296-30-25)

- C. As required by 10 CFR 50, Appendix B, Criterion XVIII, "A comprehensive system of planned and periodic audits shall be carried out to verify compliance with all aspects of the quality assurance program. . .". The accepted Quality Assurance Program, Section 17.2.18 states in part, "Audits shall be conducted in accordance with a formal audit schedule which shall be updated at least every six months. Each element of the Office of Power Quality Assurance, such as design and document control, and each area of plant operations, such as normal operation, inservice inspections, and radiological control, shall be audited at least once every two years."

Contrary to the above, the Outage Group had not been audited during the period from October 6, 1977 to October 12, 1979, and was not scheduled for future audits.

This is an infraction.

Response

Corrective Steps Which Have Been Taken, And The Results Achieved

A special audit of outage activities has been scheduled during the next outage of Browns Ferry unit 1, currently scheduled for January 1980.

Corrective Steps Which Will Be Taken To Avoid Further Noncompliance

Routine audits of outage activities have been added to the Office of Power Audit Schedule which will be issued January 1, 1980.

Date When Full Compliance Will Be Achieved

Full compliance will be achieved when the special audit in 1 above is completed.

NONCOMPLIANCE ITEM - INFRACTION (259/79-30-15, 260/79-30-15, -296/79-30-15)

- D. As required by 10 CFR 50, Appendix B, Criterion III design control measures shall provide for verifying or checking the adequacy of design, such as the performance of design reviews. The accepted Quality Assurance Program commits TVA to ANSI N45.2.11-1974. ANSI N45.2.11, Section 3.1 states applicable design inputs, such as design bases, regulatory requirements, codes and standards, shall be identified, documented and their selection reviewed and approved. Design analyses shall be legible and be in a form





suitable for reproduction, filing, and retrieving. Additionally, design documentation and records which provide evidence that the design and review process was performed in accordance with the requirements of this standard shall be collected, stored and maintained.

Contrary to the above, 16 of 16 safety-related design changes reviewed showed no documentary evidence of having completed and reviewed design inputs.

This is an infraction.

Response

Corrective Steps Taken And Results Achieved

The TVA system of record keeping for design input verification does not result in all of the documentation for a given design change being collected, stored, and maintained in one location for immediate retrieval. However, records for all design changes are maintained and are retrievable. Applicable design inputs such as design bases, regulatory requirements, codes and standards are kept by each design organization. Additional design input documentation is prepared in the review, evaluation, and approval process of each proposed design change request and/or each subsequent ECN. This documentation includes, but is not limited to, DCR's, ECN's, USQD's and plant system drawings. This documentation along with the review, evaluation, and approval process for each design change provides assurance that each design change receives the appropriate design input.



Corrective Steps Taken To Avoid Further Noncompliance

Records for all design changes are generally in good order. We are continuing to check our retrieval capability on selected typical design changes to provide assurance that our overall system is acceptable.

Date Full Compliance Achieved

Full compliance was achieved on December 1, 1979.

NONCOMPLIANCE ITEM - INFRACTION (50-259/79-30-16, -260/79-30-16, -296/79-30-16)

- E. As required by 10 CFR 50.59, and EN DES EP 4.02, an Unreviewed Safety Question Determination (USQD) will be made for all changes to the facility as described in the safety analysis report. The determination shall address three specific items which provide the bases for the determination that the change does not involve an Unreviewed Safety Question.

Contrary to the above, Engineering Change Notices P-0124, P-0081, L 2073 and L 1967 were implemented with USQD's which did not address all three items necessary to establish that the design change did not involve any unreviewed safety questions.

This is an infraction.

Response

Corrective Steps Taken And Results Achieved

TVA procedures require that the determination address all three specific items which provide the bases for the determination that change does or does not involve an unreviewed safety question. On the identified engineering change notices (P-0124, P-0081, L-2073, and L-1967), all three specific items were evaluated and our determination on each was documented. However, in lieu of specific justification for the second item, accidents different from those analyzed in the FSAR, we referred to information provided in the justification. This



approach has been used in only a limited number of cases. On October 19, 1979, all individuals responsible for preparing, reviewing, and approving unreviewed safety question determinations were instructed to provide specific justification for determinations on all three items in all cases.

TVA procedures require that the unreviewed safety question determination (USQD) be made just before EN DES authorization of a change by initiation of an engineering change notice (ECN). After initiation of the ECN, The change is implemented (detailed drawings, design calculations, procurement, and field work) in accordance with QA procedures and applicable design criteria. Therefore, sufficient information is available at the time of initiation of an ECN to adequately determine the impact of safety in accordance with 10 CFR 50.59. If during implementation of the ECN, significant modifications are proposed to the original change, or significant new information becomes available, the safety impact of the change is brought in question, a revision to the original USQD is prepared to address the issue. Implementation of changes is governed by established procedures and criteria. The changes receive independent review by the Nuclear Safety Review Board (NSRB). Therefore, TVA's current process meets both the intent and letter of 10 CFR 50.59.

Corrective Steps Taken to Avoid Further Noncompliance

As a result of TVA's own review of its procedures, we will review each USQD, including any revisions, to ensure that each USQD accurately addresses the change before notification to NUCLEAR POWER that EN DES



work is complete on the change. This will provide further assurance that the change is accurately evaluated in the USQD. This procedural change was implemented on December 3, 1979.

Date Full Compliance Achieved

Full compliance was achieved on December 3, 1979

NONCOMPLIANCE ITEM - DEFICIENCY (-259/79-30-14, -260/79-30-14, -296/79-30-14)

F. As required by 10 CFR 50, Appendix B, Criterion XVII, "Sufficient records shall be maintained to furnish evidence of activities affecting quality... the records shall also include closely related data such as qualifications of personnel...". The accepted Quality Assurance Program, Section 17.2.17 states in part, "The plant superintendent shall provide storage, preservation and safekeeping of the required quality assurance records in accordance with TVA-established requirements and regulatory requirements...".

The three items below constitute a deficiency.

1. The accepted Quality Assurance Program Table 17.2-7, Topic J, commits TVA to qualification of nuclear power plant inspection, examination, and testing personnel to internal TVA levels of capability. Appropriate quality assurance groups will provide certificates for documenting training and qualification for inspection, examination, testing, and other personnel.

Contrary to the above, certificates of training and qualification for individuals conducting receiving inspections were not being maintained by the Plant QA Staff.

Corrective Action Taken and Results Achieved

Retraining/recertification classes were held for all personnel performing receiving inspections. This was completed by October 31, 1979, and documented to the plant superintendent by the quality assurance supervisor. Only personnel for whom proper documentation of training exists are now allowed to perform receiving inspections.





Corrective Action Taken to Avoid Further Noncompliance

Plant Standard Practice BF 16.4 was revised and issued November 28, 1979.

This document:

- establishes precise training requirements for receiving inspectors, and
- establishes certification controls.

Date Full Compliance Achieved

Full compliance was achieved October 31, 1979.

2. Engineering Change Notice (ECN) L 1911 required the cognizant engineer to test the voltage on terminals 1 and 2 of the resistor box, to verify the voltage to be 48VDC  $\pm$  2.5VDC, to log the actual reading and sign that the acceptance valves were verified. The modification being tested herein was to install new resistors in the power supply to the HPCI turbine speed control.

The cognizant engineer did sign an October 20, 1978 that the test was conducted but, contrary to the above, the actual voltage readout was not properly annotated.

Corrective Steps Taken and Results Achieved

The voltage readings required by ECN L1911 on the HPCI power supply have been reverified and are now properly recorded.

Corrective Steps Taken to Avoid Further Noncompliance

The cognizant engineer and those responsible for reviewing modification documentation have been cautioned as to their responsibilities. This was documented by memorandum from the outage director to the assistant plant superintendent dated December 14, 1979.

Date Full Compliance Achieved

Full compliance was achieved December 14, 1979.



3. As required by Standard Practice BFA8, the maintenance supervisors are designed as responsible for filing of records relating to maintenance activities.

Contrary to the above, Maintenance Instruction MMI 14.4.1.3A (required by Trouble Report Number 106568 which was issued for the repair of a cracked sensing line to PT68-82) could not be located. Additionally, the inspection records for this activity could not be located.

The above three items constitute a deficiency.

Corrective Steps Taken and Results Achieved

An exhaustive search for the records has been unsuccessfully conducted. Both the present quality assurance staff supervisor and the mechanical maintenance supervisor recall the existence of these records. A Corrective Action Report (CAR) No. 79-11MM has been issued against mechanical maintenance to document the presence of a condition adverse to quality as well as corrective action.

At the next outage in which a drywell entry is made in the affected unit, quality assurance will conduct a visual inspection, documented to the plant superintendent, of the subject repair.

Corrective Steps Which Will be Taken to Avoid Further Noncompliance

Reorganization of the Browns Ferry staff will create a document control group to avoid further occurrences involving misplacement of quality assurance records. This group, to be functional by May 15, 1980, will centralize and maintain rigorous control of quality assurance records.

Date Full Compliance Achieved

Full compliance will be achieved at the next unit outage allowing drywell entry.



NONCOMPLIANCE ITEM - DEFICIENCY (-259/79-30-28, -260/79-30-28, -296/79-30-29)

- G. As required by Technical Specification 6.3.A.5, detailed written procedures shall be prepared, approved and adhered to, for preventive safety of the reactor.

Contrary to the above, procedures were not being followed for Trouble Reports 104531, 85353, 13512, 135958 and 134173 as indicated below.

- These were not being reviewed as required by the OQAM and Standard Practices BF 7.1
- These were not filed as required by Standard Practices BAF8
- These were not designated as Critical Structures, Systems and Components (CSSC) as required by OQAM Part III, Section 1, Paragraph 4.2.

This is a deficiency.

Corrective Action Taken and Results Achieved

The subject trouble reports were generated in the mechanical maintenance section. As discussed in item A above, deficiencies in the trouble report program in this section have been identified and appropriate corrective action assigned and taken. Please see item A for details.

Corrective Action To Be Taken To Avoid Further Noncompliance

Details provided for item A delineate planned corrective action to avoid further noncompliance.

Date Full Compliance Will Be Achieved

Corrective action taken under item A has resulted in full compliance at this time for this item.

