

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

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December 19, 1984

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

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - NRC-OIE REGION II INSPECTION REPORT
50-390/84-59, 50-391/84-45 - RESPONSE TO VIOLATIONS

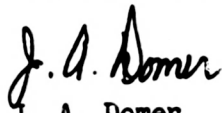
The subject inspection report cited TVA with four Severity Level IV Violations (390/84-59-01, 03, 04, and 05) and a Severity Level V Violation (390/84-59-02) in accordance with 10 CFR 2.201. Enclosed is our response to the stated violations.

If you have any questions, please get in touch with R. H. Shell at FTS 558-2688.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY



J. A. Domer
Nuclear Engineer

Enclosure

cc: Mr. Richard C. DeYoung, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Records Center (Enclosure)
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
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Admission or Denial of Violation

TVA agrees with the violation as stated.

Reasons for the Violation

- a. This error resulted from the failure of the procedure to require the craft personnel to use shields provided to protect the tube bundles and to help prevent foreign materials into the heat exchanger.
- b. Step 12 of Work Plan 4459 stated that "the CCS cleanliness will be accomplished during system startup, per Chemical Engineering Section". The work plan originator mistakenly assumed this would take care of cleanliness criteria for the CCS. The chemical engineer later stated that the statement was only for CCS "chemistry" requirements.

MR A-408902 did require TI-27, Part III "Cleanliness Criteria for Piping Systems" Class C to be performed but the MR originating engineer mistakenly attached the worksheet for Class C carbon steel and not the worksheets for carbon and stainless steel as required.

- c. On Work Plan 4459 the reviewing QA Engineer made the same mistake as the originator of the work plan, that the statement made by Chemical Engineering in Step 12 was adequate for CCS cleanliness. MR A-408902 listed cleanliness per TI-27, but as stated in b. above after the QA review only the data sheet for carbon steel was added to the MR by the originating engineer.

Corrective Steps Which Have Been Taken and the Results Achieved

The CCS was cleaned using a feed and bleed method until the systems Chemistry Specifications were met.

Corrective Steps Taken to Avoid Further Violations

The work plans to modify the two remaining heat exchangers will include specific steps to address cleanliness: Mechanical Maintenance Section has been given verbal instructions on the importance of detail and clarity on work instructions. The problems with the work plan were discussed with all PQA reviewers and a training class on MR and Work Plan review will be held. This training will emphasize the necessity for clear and unambiguous instructions.

Date When Full Compliance Will Be Achieved

All corrective actions will be completed by July 1, 1985.

Severity Level IV Violation - 390/84-59-04

2. 10 CFR 50, Appendix B, Criterion V as implemented by TVA's QA Topical Report TVA-1R-75-1A Revision 7, paragraph 17.2.5, requires that affecting quality be prescribed by documented instructions.

Contrary to the above activities affecting quality were not adequately prescribed by documented instructions in that MR A-408902 did not contain controls to prevent damage to the new stainless steel tubes replaced in the 'C' CCWHX. This resulted in grinding damage to several tubes of the heat exchanger.

Admission or Denial of Violation

TVA agrees with the violation as stated.

Reasons for the Violation

Administrative Instruction 8.5 states "The decision concerning the amount of detail to include must be based on the experience of the craft and engineers involved". We feel we were working within our plant instructions, in that the craft were experienced enough to know to use shielding plugs to protect the tubes and had in fact, fabricated them. It was not only the lack of detail in the instructions that resulted in the tube damage; but rather a combination of not having the desired actions written as a step and the failure to clearly outline the desired work results, i.e., no tube damage.

Corrective Steps Which Have Been Taken and the Results Achieved

The tubes which were damaged were plugged in order to expedite closing of the heat exchanger and its return to service. This, while not our most desirable path, was a management decision (including Maintenance Superintendent) due to the time needed to evaluate the damage to leave the tubes in service was not available and the fact that a low percentage of tubes was involved.

Corrective Steps Taken to Avoid Further Violations

On the two remaining heat exchangers to be retubed, the weld preps will be done prior to retubing. We are identifying problems as we go along for these heat exchangers due to the lessons learned from the first heat exchanger work, therefore, we have the ability to completely define the scope of the work and the detail of instructions. The Mechanical Maintenance Section Supervisor and Engineering Supervisor have discussed with section personnel these problems to emphasize the importance of detailed instructions.

Date When Full Compliance Will Be Achieved

All corrective actions will be completed by July 1, 1985.

Severity Level V Violation - 390/84-59-02

3. 10 CFR 50, Appendix B, Criterion XVII as implemented by TVA's QA Topical Report, TVA-TR75-1A, Revision 7, paragraph 17.2.17, requires that inspection and test records identify the type of observation, the results, and the acceptability of the inspection. TI-27, Part III provides cleanliness criteria checklists, for implementation of these requirements.

Contrary to the above, cleanliness inspection records were inadequate in that the cleanliness criteria inspection checklist completed for "C" CCWHX retubing activities associated with MR A-408902 did not document specific criteria accomplished and their results.

Admission or Denial of Violation

TVA agrees with the first part of the violation that the MR did not document the specific criteria accomplished. Per the response in Violation 390/84-59-03, Technical Instruction TI-27 will be revised to delineate the bases for determining system acceptability. Please refer to that violation for further corrective action detail.

TVA does not agree with the second part of the violation that specific results of the inspection need to be documented. TVA considers the QC Inspector signature of acceptability satisfies the documentation of results achieved on a pass - fail inspection. Specific result detail is normally not documented unless a result of a pass - fail rejection, or as a baseline or operational consideration.

Severity Level IV Violation - 390/84-59-03

4. 10 CFR 50, Appendix B, Criterion V as implemented by TVA's Topical Report TVA-TR75-1A, Revision 7, paragraph 17.2.5, requires that procedures include appropriate qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. TI-27, Part III requires an Engineering Evaluation after the identification of an unsatisfactory cleanliness condition.

Contrary to the above, procedures did not include qualitative acceptance criteria, in that TI-27 did not contain qualitative acceptance criteria for the engineering evaluation performed in Part III, which resulted in undocumented engineering evaluations associated with MRs A-226219, and A-189149 and Work Plan WP-3816.

Admission or Denial of Violation

TVA agrees with the violation as stated.

Reasons for the Violation

When TI-27 was written it was felt that just placing the criteria in the data sheet with a signoff for acceptance would be adequate.

Corrective Steps Which Have Been Taken and the Results Achieved

TI-27, Part III is presently being revised. The procedure will require the engineer making the evaluation to delineate his bases for determining systems acceptability by using the visual cleanliness criteria as listed in the body of the procedure. Also, the Engineering Section Supervisor will be required to make the final decision on acceptability based on the engineer's evaluation by signing the cleanliness acceptance criteria sheets.

Corrective Steps Taken to Avoid Further Violations

The changes to the procedure will be discussed with the engineering staff emphasizing the NRC Inspector concerns.

Date When Full Compliance Will Be Achieved

The procedure will be revised by December 31, 1984.

Severity Level IV Violation - 390/84-59-05

5. 10 CFR 50, Appendix B, Criterion V as implemented by TVA's QA Topical Report TVA-TR75-1A, Revision 7, paragraph 17.2.5, requires that activities affecting quality be prescribed by procedures appropriate to the circumstances and be accomplished in accordance with these procedures. Administrative Instruction (AI)-2.1, "Authorities and Responsibilities for Safe Operation and Shutdown," Revision 10 states that "System alignment status shall be maintained on CSSC systems as specified in Operations Section Letter (OSL)-A2." OSL-A2, "Maintaining Cognizance of Operational Status", Revision 6 provides the direction whereby system configuration control or status of critical safety systems is maintained.
 - a. Contrary to the above, activities affecting quality were not prescribed by procedures in that OSL-A2 did not describe the maintenance of system alignment with respect to the use of configuration control logs prior to fuel load and the use of independent verification requirements for the configuration log.
 - b. Contrary to the above, activities affecting quality were not accomplished in accordance with procedures in that:
 - (1) OSL-A2 requires systems to be aligned as required by appropriate valve and power checklists; however, on September 13, 1984, three valves in the auxiliary feedwater system which were configured to be locked in position had the locking devices disconnected and on September 19, 1984, four valves in the residual heat removal system either had ineffective locking devices or the locking devices were disconnected.
 - (2) OSL-A2 requires system status files to be set up and maintained in the control room for identified critical systems; however, three system checklists required to be in the status file were not in the status file on September 19, 1984.
 - (3) OSL-A2 requires system status files to be updated to current revisions; however, on September 19, 1984, the checklist for the RHR system in the status file was not current.

Admission or Denial of Violation

TVA agrees with the violation as stated.

Reasons for the Violation

The root cause of the violation can be broken into three categories:

1. Procedure instructions implementing system configuration and independent verification were not clearly written for performing the job. The procedure lacked detailed instructions which caused inconsistencies in personal interpretations.
2. Inadequate procedural training occurred because detailed instructions were not provided.
3. Personnel errors were also a contributing factor. Errors can be attributed to the fact this was a requirement initiated for HFT. All operations personnel were familiar with the system but had not gained sufficient training experience working with the new requirements.

Corrective Steps Which Have Been Taken and the Results Achieved

OSL-A2 was changed to correct the problems identified. Corrective actions taken and reasons for the problems were verbally passed on to each shift.

Corrective Steps Taken to Avoid Further Violations

We have currently asked other utilities to provide us with the methods in use at their plant in implementing these requirements. We are conducting an indepth review of our procedure to improve clarity and instructions. We are continuing on-the-job type training and will conduct formal training on procedural changes when implemented.

Date When Full Compliance Will Be Achieved

OSL-A2 will be changed and issued by January 15, 1985.

- d. Foreman shall ensure that a swipe check of the first tube and then random chemical swipes of external tubes are performed (approximately one swipe per box of tubes). If swipes indicate unacceptable chemical contamination, tubes shall be rinsed with demineralized water and swiped again before installation.

Foreman

Date

Date When Full Compliance Will Be Achieved

All corrective actions have been completed as of January 1, 1985.