

DMB

TENNESSEE VALLEY AUTHORITY

5N 157B Lookout Place

April 21, 1986

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U.S. Nuclear Regulatory Commission
Region II
Attention: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - RESPONSE TO VIOLATIONS
390,391/86-02-01 - FAILURE TO FOLLOW PROCEDURE AND 390,391/86-02-03 - FAILURE
TO ESTABLISH MEASURES TO ENSURE THAT APPLICABLE REQUIREMENTS AND BASES ARE
CORRECTLY TRANSLATED INTO DRAWINGS, PROCEDURES, AND INSTRUCTIONS

This is in response to J. A. Olshinski's letter dated March 20, 1986, report
Nos. 50-390/96-02 and 50-391/86-02, citing activities at the Watts Bar Nuclear
Plant which appeared to be in violation of NRC regulations. Enclosed is our
response to the citations.

If there are any questions, please get in touch with R. H. Shell at
FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. L. Gridley
R. L. Gridley
Manager of Licensing

Enclosure

cc: Mr. James Taylor, 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
Atlanta, Georgia 30339

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
RESPONSE TO NRC-REGION II LETTER FROM
J. A. OLSHINSKI TO S. A. WHITE DATED MARCH 20, 1986

Reference: Report Numbers 50-390/86-02 and 50-391/86-02

This report responds to the Notice of Violation described in Enclosure 1 of the NRC-Region II inspection report referenced above. This is our final report on this item of noncompliance.

1. Violation 390/86-02-01 and 391/86-02-01

10 CFR 50, Appendix B, Criterion V, as implemented by TVA's QA Topical Report TVA-TR-75-1A, Rev. 8, paragraphs 17.1.5 and 17.2.5, requires that activities affecting quality shall be prescribed by procedures of a type appropriate to the circumstances and shall be accomplished in accordance with these procedures.

- a. Quality Control Instruction (QCI) 1.28, revision 0, "Preparation and Documentation of Seismic Support Variance," and QCI-1.13, revision 2, "Preparation and Documentation of Field Change Requests," require that the construction craft notify the site cognizant engineer if there is inadequate information available to perform work so that he may prepare a variance or a field change request to notify the Office of Engineering (OE) personnel that drawings need to be revised or prepared.

Contrary to the above, Office of Construction (OC) personnel failed to accomplish work activities in accordance with QCI-1.28 or QCI-1.13 in that no variance or field change request was prepared for the addition of all-thread rod used to mount series 8316 solenoid valves to their supports.

- b. Administrative Instruction (AI)-8.5, Rev. 12, "Control of Modification Work on Transferred Systems Before Unit Licensing," requires that work on transferred systems be performed as specified on an approved work plan. In addition, Section 5.1.1.c(10) of AI-8.5 specifically requires that any precautions to be taken in performing work, including unusual conditions and results of improper actions, shall be identified in the work plan:

Contrary to the above, activities affecting quality were not prescribed by procedures of a type appropriate to the circumstances in that work on series 8316-54 ASCO solenoids was performed without an adequate work plan to establish the controls necessary for removal of valve brackets and for proper torquing of valve bonnet screws. In addition, the WP did not contain any precautions against disassembly or reconfiguration of these valves due to environmental qualification considerations as required per Administrative Instruction (AI) 8.5.

- c. Work plan (WP)-4890 was prepared to install environmentally qualified ASCO solenoids as required by engineering change notice (ECN)-5122. Step 4 in the work plan required that "the mounting brackets shall be modified as needed to insure proper installation of the valves per direction of the cognizant engineer. Cognizant engineer shall obtain field change requests as needed for mounting bracket changes."

Contrary to the above, Office of Nuclear Power modifications personnel failed to accomplish work activities in accordance with WP-4890 in that the cognizant engineer was not notified that valve brackets were removed to facilitate valve installation. As a result, the seismic and environmental qualifications of these valves were negated.

- d. Engineering Procedure (EP) 3.02, revision 2, superseded Civil Engineering Branch Interface Instruction (CEB-DI) 121.03, revision 0, "Seismic Design, Review, and Control," states that OE's Civil Engineering Branch (CEB) is responsible for performing vendor seismic documentation reviews unless guidelines for assigning the responsibility to other branches are established. These procedures outline the method CEB is to use in conducting its review, but do not address how other branches should conduct their reviews.

Contrary to the above, activities affecting quality were not prescribed by procedures of a type appropriate to the circumstances in that the Electrical Engineering Branch (EEB) personnel assumed responsibility for performing vendor seismic documentation reviews for the additional 480V shutdown switchgear with no guidelines for assigning review responsibilities and requirements and no established method for performing this documentation review. As a result, EEB failed to document their review and approval of the vendor seismic qualification documentation for the additional 480V shutdown switchgear.

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

Response to Part a

Admission or Denial of Violation

TVA admits the violation occurred as stated.

Reason for the Violation

This deficiency occurred because, for reasons unknown, the vendor mounting bracket was not initially supplied with the original non-environmentally qualified valves, and in the absence of any definitive mounting instructions being supplied in the work package, TVA Division of Nuclear Construction (DNC, formerly OC) personnel improvised a means to mount the valves. This apparently was thought to be within the scope of drawing note number 2 on TVA drawing 47A051-47 which states, "The location and orientation of the flow solenoid valve and pressure regulator shown is to be used as a guide only. Modifications may be made to suit particular conditions."

Corrective Steps Taken and Results Achieved

ASCO 8316 series valves which are locally mounted using typical support drawings shall be remounted using the vendor-supplied mounting brackets or the existing configuration will be analyzed to justify use-as-is. This includes solenoid valves used in both Class 1E and non-1E applications. This work is being completed under nonconformance reports (NCRs) 6298 and 6566.

Corrective Steps Taken to Avoid Further Violation

Watts Bar Nuclear Plant (WBN) QCI-1.60, "Work Control," was issued March 28, 1986. This instruction provides enhanced controls over the specification of work activities and requires exact specification of acceptance criteria. It also emphasizes the requirements for DNC craftsmen and engineers to obtain additional information or criteria by means of Field Change Requests (FCRs) when needed.

Appropriate personnel have been retrained in WBN-QCI-1.13, "Preparation and Documentation of Field Change Requests."

Date of Full Compliance

The existing hardware will be modified as required to achieve compliance with vendor-approved mounting instructions for the solenoid valves or evaluated to justify use-as-is for existing installations. This work will be complete prior to fuel load of the respective unit.

Response to Part b

Admission or Denial of Violation

TVA admits the violation occurred as stated.

Reason for the Violation

TVA was installing new environmentally qualified solenoid valves as a replacement for the original unqualified solenoid valves. The new solenoid could be installed without changing any of the original solenoid support if the new bracket was removed from the new solenoid valve. Therefore, the installation would appear to be identical to the original installation. The responsible engineer was not aware of the fact that the new solenoid valves were supplied as a package unit with the bracket included. Therefore, he did not provide workplan instructions for disassembly and reassembly. The craftsman was unaware of the fact that he was changing an environmentally qualified unit. Therefore, he did not recognize that special controls were needed.

Corrective Steps Taken and Results Achieved

The solenoid mounting problems are being corrected under Nonconforming Condition Report 6298, Rev. 2. All Class 1E ASCO 8316-54 solenoid valves will be changed to the vendor bracket mounting. All other ASCO 8316-54 solenoid valves will have the mounting approved by the Division of Nuclear Engineering (DNE, formerly OE).

Corrective Steps Taken to Avoid Further Violation

All modifications personnel (engineering and craft) have been instructed to not alter any vendor supplied packages without the DNE-approved instructions. AI-8.5 and 8.8 will be revised to add this special precaution for the altering of vendor-supplied packages.

Date of Full Compliance

- The correction of the solenoid mounting under NCR-6298, Rev. 2, will be complete prior to fuel loading of unit 1.
- All modifications personnel were instructed by April 14, 1986.
- The procedure revisions to AI-8.5 and 8.8 will be complete by June 20, 1986.

Response to Part c

Admission or Denial of Violation

TVA admits the violation occurred. However, it occurred somewhat differently than stated.

Reason for the Violation

The seismic and environmental qualification was negated as a result of the actions identified in part b of this violation. Workplan 4890 required the craftsman to notify the cognizant engineer if any changes were needed in the support bracket. The "support bracket" referred to was the original solenoid support. No change was made to the original support; therefore, the responsible craftsman did follow the instructions in the workplan.

Correct Steps Taken and Results Achieved

Same as Part b.

Corrective Steps Taken to Avoid Further Violation

Same as Part b.

Date of Full Compliance

Same as Part b.

Response to Part d

Admission or Denial of the Alleged Violation

TVA admits the violation occurred. However, it occurred somewhat differently than stated.

Reason for the Violation

The violation resulted from an inadequate EEB policy which stated that seismic requirements and tests were the responsibility of the procurement engineer. This policy was inconsistent with EP-3.02, revision 2, and resulted in the performance of reviews without the required formal organizational interface procedure. However, TVA believes the reviews which were conducted by EEB to be adequate for the following reasons:

- The 480V switchgear (including the additional panels) was reviewed by an engineer in EEB under the same TVA seismic review program applied to the 6900-volt switchgear, 480-volt motor control centers, and all other electrical equipment listed in Table 3.10-1 of the WBN FSAR.
- The EEB engineer was knowledgeable in this area of responsibility due to experience gained as a member of the IEEE work group on seismic capability of switchgear.
- Consultations, often undocumented, were held with CEB engineers by EEB engineers.
- A review of the seismic qualification program for WBN safety-related electrical and mechanical equipment has been performed by CEB and was found to be acceptable. This review included a number of electrical equipment assemblies which had been previously reviewed and approved by EEB. The EEB review had been performed in accordance with the EEB policy which was in effect.
- Documentation as to the approval of seismic qualification for all safety-related electrical and mechanical equipment including the reviews performed by EEB is contained in the equipment contract files and is retrievable through the RIMS system.

Corrective Steps Taken and Results Achieved

Based on the reasons given above, TVA believes the results of the reviews and corresponding documentation to have been adequate and no corrective action is necessary.

Corrective Steps Taken to Avoid Further Violation

The CEB-DI policy agreement will be revised to require CEB review/approval of all vendor-supplied seismic documents, and eliminate the requisitioning branch's option of determining which seismic documents received from the vendor are reviewed by CEB.

Date of Full Compliance

TVA will be in full compliance by May 30, 1986.

Violation 390/86-02-03 and 391/86-02-03

10 CFR 50, Appendix B, Criterion III, as implemented by TVA's QA Topical Report TVA-TR-75-1A, revision 8, paragraph 17.1.3 requires that measures shall be established to assure that applicable regulatory requirements and the design bases specified in the licensee application are correctly translated into drawings, procedures, and instructions.

Contrary to the above, the licensee failed to establish such measures in that a safety-related portion of the control air system was deleted from Appendix B requirements when OE issued an engineering change notice (ECN) improperly downgrading a portion of this system from safety-related to nonsafety-related classification.

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

Admission or Denial of Violation

TVA admits that the violation occurred as stated.

Reason for the Violation

ECN 3189 inappropriately reclassified the auxiliary air compressor package from TVA class C to TVA class G. The reclassification of the package included both vendor-supplied components and TVA-supplied interconnecting piping. Because of the change to class G, quality assurance (QA) documents pertaining to the welds were deleted from the QA program. TVA has determined that this deficiency was the result of design personnel considering the affected piping as a portion of the auxiliary air compressor package in the reclassification. This was considered to be a design oversight.

Corrective Steps Taken and Results Achieved

TVA will reclassify the TVA-supplied interconnecting piping to TVA class C. An ECN will be issued to remove the existing TVA class G piping and install TVA class C piping with appropriate QA documentation or where possible reinstate the deleted applicable QA documentation. A significant condition report (SCR) SCR WBN EEB 8626 has been initiated to document resolution of this concern.

Corrective Steps Taken to Avoid Further Violation

DNE procedures that have been issued since the date of the violation require a greater level of detail in the preparation, review, and implementation of ECNs. DNE personnel were trained in the requirements of these procedures in June 1985.

Additionally, a review of all TVA class G systems identified in the WBN FSAR requiring QA documentation that may have been similarly impacted will be conducted. Any corrective actions required as a result of the review will be completed by fuel loading of unit 1. Deficiencies will be documented via the NCR process by September 1, 1986.

Date of Full Compliance

TVA will be in full compliance by fuel loading of unit 1.