

Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

JUL 3 1 1991

WBRD-50-390/89-07

10 CFR 50.55(e)

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

Gentlemen:

In the Matter of the Application of Tennessee Valley Authority

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Docket No. 50-390

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - SEISMIC RETENTION CLAMP BARS FOR SAFETY-RELATED INSTRUMENT RACKS - WRBD-50-390/89-07 - FINAL REPORT

The subject deficiency was initially reported to NRC Region II on June 28, 1989, in accordance with 10 CFR 50.55(e) as Condition Adverse to Quality Report (CAQR) WBP 880636. This CAQR has been converted to Significant Corrective Action Report WBP 880636 SCA. Interim reports were submitted on July 28, 1989, September 15, 1989, and April 24, 1990. Enclosure 1 provides TVA's final report on this subject.

Enclosure 2 lists the commitment made in this report.

If there are any questions, please telephone P. L. Pace at (615) 365-1824.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

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E. G. Wallace, Manager Nuclear Licensing and **Regulatory Affairs**

Enclosures cc: See page 2

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cc (Enclosures):

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ENCLOSURE 1

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 SEISMIC RETENTION CLAMP BARS FOR SAFETY-RELATED INSTRUMENT RACKS SIGNIFICANT CORRECTIVE ACTION REPORT (SCAR) WBP 880636 SCA WBRD-50-390/89-07

FINAL REPORT

DESCRIPTION OF DEFICIENCY

While performing the vertical slice review of WBN Unit 1, a deficiency was identified with the installation of safety-related instruments. Discrepancy Reports (DRs) 95 and 430 identified two components, 1-LS-70-63A/B-A and 1-LS-70-63D-A, that lacked clamp bars used to secure the instruments inside their mounting racks and required for seismic retention. These components are safety-related and are representative of components located in the auxiliary instrument room racks 1-R-127, -128, -130, and -131; and auxiliary control room (ACR) racks 1-L-11A, and -11B. No clamp bars were installed in the auxiliary instrument room racks and were incorrectly installed in the ACR racks. It was determined that the installation of the clamp bars was a vendor design change to the racks that had not been properly implemented.

This deficiency was reviewed and determined not to be applicable to Unit 2. Procedural requirements to initiate a change control document for vendor-initiated changes on approved vendor drawings were put into effect prior to discovery of the Unit 1 clamp bar deficiency. Since the Unit 2 instrument panels were still in the construction phase, adequate procedural controls existed to ensure clamp bars would be installed prior to transfer of the instrument panels to Operations.

SAFETY IMPLICATIONS

Since seismic qualification of the instruments in these panels requires the clamp bars to be installed, their function during and after a seismic event cannot be assured. TVA has determined that failure of the instruments could jeopardize the safe operation of the plant. Therefore, this deficiency could have adversely affected the safety of plant operations if left uncorrected.

ROOT CAUSE

The root cause of this deficiency was inadequate design output (procedures and drawings) to bring about the installation of the required seismic retention clamp bars. At the time the deficiency occurred, there was not a procedural requirement to initiate a change control document for vendor-initiated changes on approved vendor drawings, even though the changes required physical construction modifications.

CORRECTIVE ACTION

- 1. Controls are now in place to prevent recurrence of this deficiency.
 - For vendor-initiated changes to vendor drawings, Watts Bar Engineering Procedure (WBEP)-5.14, "Revising Vendor Drawings," Revision 0, Section 4.5.2, required that "the CE [Contract Engineer-WBN] shall initiate a change document and attach the proposed vendor drawing revision." On April 28, 1989, WBEP-5.14 was replaced by WBEP-3.17, "Approving Vendor Information." WBEP-3.17, Revision 0, Section 4.1.1, states that the Lead Discipline Lead Engineer receives vendor information and/or initiates a change to a vendor-supplied document.
 - WBEP-5.25, "Processing of As-Constructed Drawings," Revision 0, Section 2.1, required that "changes are not incorporated into the as-constructed drawing until field work is completed and verified." On March 26, 1991, the requirements of WBEP-5.25 were included in WBEP-5.12, "Incorporation of Change Documents into Drawings," Revision 5. Step 2.1 defines an as-constructed drawing as one which depicts the field status of a component, system, or structure and includes all design changes which are field complete and accepted.
- 2. Design Change Notice No. CO3053-A has been issued to provide design output that will assure proper installation of the subject clamp bars. The subject clamp bars will be installed before Unit 1 fuel load.
- 3. This specific deficiency will be tracked and resolved within the Equipment Seismic Qualification (ESQ) Corrective Action Program (CAP) plan and SCAR WBP 880636 SCA. Similar deficiencies that may have resulted because of the inadequacy of the design change procedure will be identified and resolved through the execution of the Vendor Information CAP plan. Both CAPs are scheduled to be completed before Unit 1 fuel load.

LIST OF COMMITMENTS

- 1. The subject clamp bars will be installed before fuel load of Unit 1.
- 2. This specific deficiency will be tracked and resolved within the Equipment Seismic Qualification (ESQ) Corrective Action Program (CAP) plan and SCAR WBP 880636 SCA. Similar deficiencies that may have resulted because of the inadequacy of the design change procedure will be identified and resolved through the execution of the Vendor Information CAP plan. Both CAPs are scheduled to be completed before Unit 1 fuel load.