

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

MAR 07 1989

WBRD-50-390/87-16
WBRD-50-391/87-17

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) Docket Nos. 50-390
50-391

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2 - FAILURE TO ADEQUATELY CONTROL
AND DOCUMENT INSTRUMENT ACCURACY REQUIREMENTS - WBRD-50-390/87-16 AND
WBRD-50-391/87-17 - THIRD INTERIM REPORT

The subject deficiency was initially reported to NRC Region II Inspector
Gordon Hunegs on June 26, 1987, in accordance with 10 CFR 50.55(e) as
Significant Condition Report (SCR) WBN EQP 8621. Interim reports were
submitted on July 27, 1987 and March 30, 1988. Enclosure 1 contains our third
interim report. Enclosure 2 contains a list of the commitments made in this
report. We expect to submit our next report on or about August 23, 1989.

If there are any questions, please telephone G. R. Ashley at (615) 365-8527.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. Gridley
R. Gridley, Manager
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Regulatory Affairs

Enclosures
cc: See page 2

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U.S. Nuclear Regulatory Commission

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cc (Enclosures):

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ENCLOSURE 1
WATTS BAR NUCLEAR PLANTS UNITS 1 AND 2
FAILURE TO PROPERLY CONTROL AND DOCUMENT INSTRUMENT
ACCURACY REQUIREMENTS
WBRD-50-390/87-16 AND WBRD-50-391/87-17
SIGNIFICANT CONDITION REPORT (SCR) WBN EQP 8621 REVISION 1
10 CFR 50.55(e)

THIRD INTERIM REPORT

Description of Deficiency

During the performance of environmental qualification evaluation, TVA determined that the "Westinghouse Setpoint Methodology For Protection Systems Watts Bar 1 and 2," revision 2, and Westinghouse's "Functional Requirements, Post Accident Monitoring System (PAM)," revision 1, may not accurately document TVA's design basis and licensing commitments. Since instrument accuracy requirements obtained from these documents were used to establish environmental qualification of certain safety-related electrical equipment, the qualification of that equipment is in question. The documents were provided to TVA by Westinghouse Electric Corporation, Pittsburgh, Pennsylvania, under the Nuclear Steam Supply System (NSSS) contract. The documents were reviewed and accepted by TVA, and this deficiency was not caused by any known failure by Westinghouse. At the time of issue of the setpoint methodology document, it was accurate with respect to Watts Bar's design and licensing basis. Subsequent plant changes (e.g., replacement of containment pressure transmitters) were incorporated into the setpoint methodology document, and future revision is planned as a result of the intended elimination of the resistance temperature detector bypass system. However, TVA has not assured that all plant changes were evaluated for impact on the setpoint methodology document. The functional requirements document (FRD) is believed to be accurate with respect to the design requirements and licensing commitments, which were applicable to the original Watts Bar PAM system design. However, TVA has made subsequent design and commitment changes which were not evaluated for impact on the FRD. For example, TVA's PAM system design requires certain instruments to function during some events for which the Westinghouse functional requirements do not require that instrumentation.

This condition was caused by inadequate change control procedures which did not require vendor documents to be revised unless the vendor documents were needed for construction or were referenced by TVA documents.

Safety Implications

The scope of this deficiency potentially includes all NSSS instrumentation used in the reactor protection system (RPS), engineered safety features actuation system (ESFAS), and PAM system. Any identified discrepancies in either the setpoint methodology document or Watts Bar Design Criteria WB-DC-30-7 (Note: This criteria will supersede the Westinghouse FRD for PAM) will be evaluated for safety implications.

Interim Progress

Westinghouse has issued a draft setpoint methodology document for TVA's review. TVA and Westinghouse are currently resolving comments to verify that the instrument input data in the setpoint methodology document reflects the actual plant configuration. Upon final approval by TVA, all appropriate design documents will be revised as necessary to reflect the revised setpoint methodology document.

During TVA's review of the FRD for the PAM system, it was determined that it is not viable to maintain both a TVA and Westinghouse document for PAM functional requirements. Therefore, the Westinghouse PAM functional requirements document will be maintained as a historical record to indicate that it represents the original Watts Bar PAM system design basis. Watts Bar Design Criteria WB-DC-30-7, revision 1 (Post Accident Monitoring and Support Instrumentation) was the valid functional requirements document in effect at the time the environmental qualification effort was being performed. However, required accuracies were not specified in this document. WB-DC-30-7 has since been revised to include required accuracies and ranges. These attributes are being evaluated to verify that the hardware is acceptable to perform its required PAM functions.

The Watts Bar Engineering Project procedures for engineering change notices, engineering change notice modification packages, and design change notices have been revised. These procedures now ensure that vendor-supplied information for safety-related components that are uniquely identified by engineering and affected by a TVA design change is identified and reviewed for engineering requirements. Affected vendor documents (or portions thereof) which contain engineering requirements must be revised and approved by TVA, or the engineering requirements must be incorporated into approved TVA design input and design output documents. Implementation of these actions will prevent recurrence of this deficiency.

Any identified discrepancies in the Westinghouse document or the TVA design criteria will be evaluated for safety implications, and appropriate corrective actions will be taken. A report describing the results of the evaluation, along with a schedule for completion of corrective actions, will be provided to the Nuclear Regulatory Commission by August 23, 1989.

ENCLOSURE 2

LIST OF COMMITMENTS

1. Any identified discrepancies in the Westinghouse document or the TVA design criteria will be evaluated for safety implications, and appropriate corrective actions will be taken. A report describing the results of the evaluation along with a schedule for completion of corrective actions will be provided to the Nuclear Regulatory Commission by August 23, 1989.
2. Westinghouse has issued a draft setpoint methodology document for TVA's review. TVA and Westinghouse are currently resolving comments to verify that the instrument input data in the setpoint methodology document reflects the actual plant configuration. Upon final approval by TVA, all appropriate design documents will be revised, as necessary, to reflect the setpoint methodology document.
3. Watts Bar Design Criteria WB-DC-30-7 has since been revised to include required accuracies and ranges. These attributes are being evaluated to verify that the hardware is acceptable to perform its required Post Accident Monitoring System (PAM) functions.