

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

NOV 02 1990

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

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; March 30, 1988; March 7, 1989; and
August 22, 1989. However, further evaluation of this deficiency has
determined that, if the conditions found were to have remained uncorrected,
the deficiency would not have adversely affected the safe operation of Watts
Bar Nuclear Plant at any time throughout the expected lifetime of the plant.
For this reason, TVA withdraws reportability for SCR WBN EQP 8621 under
10 CFR 50.55(e).

The enclosure contains a description of the deficiency and a discussion of our
evaluation results.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY



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

Enclosure
cc: See page 2

9011090191 901102
PDR ADCK 05000390
S PDC

JE27
1/1

U.S. Nuclear Regulatory Commission

NOV 02 1990

cc (Enclosure):

Ms. S. C. Black, Deputy Director
Project Directorate II-4
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

INPO Record Center
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

NRC Resident Inspector
Watts Bar Nuclear Plant
P.O. Box 700
Spring City, Tennessee 37381

Mr. P. S. Tam, Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Mr. B. A. Wilson, Chief, Project Chief
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

ENCLOSURE

FAILURE TO ADEQUATELY CONTROL AND DOCUMENT INSTRUMENT ACCURACY REQUIREMENTS

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 (PAM) System," 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 was in question. The documents were provided to TVA by Westinghouse Electric Corporation, Pittsburgh, Pennsylvania, under the Watts Bar 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. However, TVA did not assure 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 made subsequent design and commitment changes which were not evaluated for impact on the FRD.

DISCUSSION

The Westinghouse setpoint methodology document has been baselined by Westinghouse, and both TVA and Westinghouse have determined that the instrument input data in the setpoint methodology document reflects the actual plant configuration. All appropriate TVA design documents have been revised as necessary to reflect Revision 3 of the setpoint methodology document.

Watts Bar design criteria WB-DC-30-7, Revision 1 (Post Accident Monitoring and Support Instrumentation), was the valid FRD in effect at the time the environmental qualification effort was being performed. However, required accuracies contained in the Westinghouse FRD were not specified in the TVA document. WB-DC-30-7 has been revised to include the required accuracies and ranges. These attributes have been evaluated, and it has been verified that the hardware was acceptable to perform its required PAM functions. WB-DC-30-7 now includes the necessary environmental qualification criteria and supersedes the Westinghouse FRD for PAM. It has been determined that it is not necessary to maintain both a TVA and Westinghouse document for PAM functional requirements. Therefore, the Westinghouse PAM FRD is being maintained as a historical record that represents the original Watts Bar PAM system design basis. The calculations required to support the revised WB-DC-30-7 have been completed, and these calculations verify the acceptability of existing PAM hardware.

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 affected by a TVA design change are reviewed for engineering requirements. These procedures also require that 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.

TVA has evaluated this deficiency for safety implications and has determined that if the conditions found were to have remained uncorrected, the deficiency would not have adversely affected the safe operation of Watts Bar Nuclear Plant at any time throughout the expected lifetime of the plant. TVA withdraws reportability for SCR WBN EQP 8621 under 10 CFR 50.55(e).