

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

April 30, 1985

WBRD-50-390/81-66

WBRD-50-391/81-62

U.S. Nuclear Regulatory Commission
Region II
Attn: 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 - ENVIRONMENTAL QUALIFICATION OF
ELECTRICAL EQUIPMENT (NUREG-0588) - WBRD-50-390/81-66, WBRD-50-391/81-62 -
FINAL REPORT

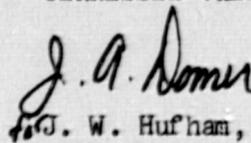
The subject deficiency was initially reported to NRC-OIE Inspector
John McDonald on July 29, 1981 in accordance with 10 CFR 50.55(e) as NCR WBN MEB
8107. Interim reports were submitted on August 31 and December 2, 1981;
February 26 and August 3, 1982; and March 8, 1983. Supplemental information was
submitted on April 7, 1983, followed by our final report dated December 15,
1983.

Upon further consideration, TVA had decided to re-open this NCR and an eighth
interim report was submitted on February 6, 1985. Enclosed is our final report.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY



J. W. Hufham, Manager
Licensing and Regulations

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
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Atlanta, Georgia 30339

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT (NUREG-0588)
10 CFR 50.55(e)
WBRD-50-390/81-66 AND WBRD-50-391/81-62
NCR WBN MEB 8107 (AND OTHERS)
FINAL REPORT

Description of Deficiency

During TVA's environmental qualification program initiated per NUREG-0588 guidelines, components which lacked sufficient documentation to verify their environmental qualification were identified through nonconformance reports (NCRs) as potentially deficient. As identified in NCR GEN QAB 8204, this lack of adequate documentation was caused by TVA's failure to develop a controlled system to ensure that adequate environmental qualification of safety-related electrical equipment would be accomplished.

Safety Implications

Without the required environmental qualification documentation for safety-related electrical equipment, TVA must assume that such equipment could have been put into service without being qualified to withstand the harsh environment caused by a design basis accident (DBA), and in some cases the equipment could fail. Depending on the particular component, such a failure could adversely affect safe plant operation by impeding the plant operators' ability to mitigate the consequences of the particular DBA which caused the equipment failure.

Corrective Action

As identified in the description of this deficiency, the cause of TVA's qualification problem was due to its failure to develop a controlled system to assure that environmental qualification of safety-related electrical equipment was adequately addressed. TVA has taken a number of steps to assure that existing equipment is qualified, correction of the identified problem, and prevention of any similar problems in the future procurement of safety-related electrical equipment. These steps include (1) creation of a design section within the Office of Engineering (OE) to oversee and coordinate all OE aspects of TVA's environmental qualification program, (2) the evaluation and documentation on issued drawings of the environmental parameters for all plant areas and conditions at Watts Bar Nuclear Plant (WBN), and (3) the establishment of guidelines which require the inclusion of applicable environmental conditions into future equipment specifications issued to prospective vendors.

Because a NCR was issued for all components that were potentially deficient in that qualification documentation was not available, previous 10 CFR 50.55(e) reports had included detailed information on the status of the resolution of each NCR. However, the qualification status of safety-related electrical components at WBN as well as a more complete program description

is contained in TVA's "Electrical Equipment Environmental Qualification Report" (EEEQR) which has been previously provided to the NRC-NRR by letters dated August 19, 1983, July 24 and December 20, 1984, and February 19, 1985. As TVA's qualification program is a continuing process which responds to the requirements of 10 CFR 50.49, changes in the qualification status of safety-related electrical components are reflected in the EEEQR and sent to the NRC-NRR. During plant operation, TVA's qualification maintenance data sheet (QMDS) manual will identify special qualification maintenance and interface requirements for equipment subject to 10 CFR 50.49.

Since TVA has an environmental qualification program in place and because specific information on the status of individual components is provided to NRC through TVA's EEEQR, TVA will no longer provide duplicate reporting on the details of each NCR. This is TVA's final report on this item under 10 CFR 50.55(e) based on the programmatic corrections made which assure identification and resolution of any deficiencies in environmental qualification of safety-related components.