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

APR 10 1991

WBRD-50-390/91-07
WBRD-50-391/91-07

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)

Docket Nos. 50-390
50-391

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2 - HARDWARE DEFECTS ON CLASS 1E CIRCUIT BREAKERS POLE SHAFTS - PROBLEM EVALUATION REPORT (PER) WBP 880549 PER - WBRD-50-390/91-07, WBRD-50-391/91-07 - FINAL REPORT

The subject deficiency was initially reported to NRC Region II on March 5, 1991, in accordance with 10 CFR 50.55(e) as PER WBP 880549. Enclosure 1 is TVA's final report. Enclosure 2 provides a list of commitments made in this letter.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. H. Shell

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

Enclosures
cc: See page 2

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U.S. Nuclear Regulatory Commission

APR 10 1991

cc (Enclosures):

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

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

ENCLOSURE 1
WATTS BAR NUCLEAR PLANT (WBN)
HARDWARE DEFECTS ON CLASS 1E CIRCUIT BREAKERS
(IE BULLETIN 88-01) WBRD-50-390, 391/91-07
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

While performing preliminary inspections, TVA observed that WBN DS circuit breakers exhibited the deficient hardware conditions described in NRC Bulletin 88-01 regarding inadequate welds joining levers to pole shafts.

NRC Bulletin 88-01, "Defects in Westinghouse Circuit Breakers," was issued on February 5, 1988. The purpose was to provide information on Westinghouse series type DS circuit breakers and safety concerns associated with their use. Some Westinghouse type DS circuit breakers may not have been fabricated in compliance with General Design Criteria 1 and Appendix B, 10 CFR 50, and have inadequate welds joining levers to pole shafts. Both commercial grade and Class 1E circuit breakers of the DS type series use similar pole shafts or possess features associated with the observed binding and electrical phasing problems. No Westinghouse documentation confirms that in-process inspections were performed when the pole levers were welded to the pole shafts or that inspections were performed during the manufacturer's dedication of the commercial grade breakers to Class 1E circuit breakers. Each addressee using these breakers in Class 1E service was requested to perform and document inspection of the welds on the pole shafts and inspection of the alignment in the breaker closing mechanism.

TVA's response to NRC, dated April 13, 1988, confirmed that each applicable Class 1E circuit breaker at WBN would be identified based on the recommendations outlined in bulletin 88-01. Furthermore, WBN committed to complete inspections of all Class 1E circuit breakers at least six months before fuel load of each unit. On October 10, 1990, NRC's letter signified that WBN's response to NRC Bulletin 88-01 was satisfactory.

Safety Implications

These breakers are used in the safety-related and nonsafety-related 480V switchgear and in the reactor trip switchgear. Failure could cause a binding which will prevent the breakers from tripping or closing. Consequently, this would result in loss of safety-related circuits. Therefore, this condition could have adversely affected safe operation of the plant had it remained uncorrected.

Corrective Action

After conferring with Westinghouse, WBN determined it to be more cost effective to purchase 200 qualified Class 1E pole shafts and repair all associated Class 1E Westinghouse type DS breakers rather than perform inspections. Subsequently, WBN issued Special Maintenance Instruction (SMI)-212-D to perform pole shaft removal/installation and breaker alignment applicable to Westinghouse DS breakers. Maintenance is currently implementing SMI-212-D on all Class 1E Westinghouse type DS breakers including those located in the warehouse. These corrective actions are scheduled to be complete by August 1, 1991. All Class 1E DS breakers stocked in Power Stores will be inspected and pole shafts replaced prior to use in the plant.

ENCLOSURE 2

LIST OF COMMITMENTS

Maintenance is currently implementing SMI-212-D on all Class 1E Westinghouse type DS breakers including those located in the warehouse. These corrective actions are scheduled to be complete by August 1, 1991. All Class 1E DS breakers stocked in Power Stores will be inspected and pole shafts replaced prior to use in the plant.