



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

AUG 06 1994

CDR-50-390, 391/94-10

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 - GENERAL ELECTRIC (GE)
MAGNE-BLAST CIRCUIT BREAKERS - CONSTRUCTION DEFICIENCY REPORT (CDR)
50-390, 391/94-10

The subject deficiency was initially reported to NRC Operations Center on July 12, 1994, in accordance with 10 CFR 50.55(e) as Problem Evaluation Report (PER) WBPER940262. Enclosed is TVA's initial report. A supplemental report is expected to be submitted upon receipt of the manufacturer's analysis of the failure. This supplemental report will be submitted by October 31, 1994.

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

Sincerely,

Dwight E. Nunn
Vice President
New Plant Completion
Watts Bar Nuclear Plant

Enclosure

cc: See page 2

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cc (Enclosure):

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
GENERAL ELECTRIC MAGNE-BLAST CIRCUIT BREAKERS
PROBLEM EVALUATION REPORT WBPER940262
10 CFR 50.55(e) REPORT

DESCRIPTION OF DEFICIENCY:

On May 9, 1994, smoke was observed coming from a 6.9 KV breaker compartment. Further investigation revealed a General Electric Magne-Blast circuit breaker, Serial Number 256A4604-027, inoperable. The pin connecting the trip coil link to the crank had separated from the adjoining weld and had fallen out. Without the pin, the breaker failed to open after receiving a trip signal. As a result, the trip coil remained energized and eventually overheated and also failed. Preliminary inspection of the surface area along the pin weld may indicate that the weld surface was shaved too thinly during the finishing process. The depth of the weld material remaining on the pin surface was estimated to be only 1/32 of an inch deep along the side of the pin. The weld was separated along the pin surface and not along the adjoining surface of the special weld cavity. The cause of the pin failure appears to be the result of insufficient weldment between the pin and the crank.

On June 26, 1994, while performing an unrelated inspection, a similar pin was found under the Normal Feeder Breaker of a 6.9 KV Unit Board, Serial Number 256A4608-023.

In November of 1985, a similar deficiency was documented in nonconformance report NCR W-312-P. At that time, the manufacturer considered the failure to be isolated to one batch of welded pins associated with serial number 256A4603.

Additional Information:

GE Magne-Blast 6.9 KV circuit breakers are used in 206 applications involving the Unit Boards, Common Boards, Shutdown Boards, Start Boards, and Reactor Coolant Pump Boards.

SAFETY IMPLICATIONS:

The subject breakers are used in various safety-related applications such as the feed for the 480 Volt Shutdown Board Transformers and on the 6.9 KV Shutdown Board as the feed for the Emergency Raw Cooling Water pump motors. Thus, failures as described above could compromise the plant's capability to mitigate the consequences of postulated accidents.

CORRECTIVE ACTIONS:

The breakers with pin weld failures found on May 9 and June 26, 1994, have been taken out of service.

An appropriate corrective action plan will be developed after the cause and extent of condition is known. Parts from one of the failures

(S/N 256A4604-027) have been returned to General Electric for evaluation. General Electric has been requested to evaluate the cause of the failures, and provide the extent of condition, and recommended corrective actions to TVA.

Based on the above, TVA expects to provide a supplemental report on this subject by October 31, 1994.