

TENNESSEE VALLEY AUTHORITY

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APR 06 1987

WBRD-50-390/87-07
WBRD-50-391/87-07

10 CFR 50.55(e)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

WATTS BAR NUCLEAR PLANT (WBN) - UNITS 1 AND 2 - UNQUALIFIED COATING ON REACTOR
COOLANT PUMP MOTORS - WBRD-50-390/87-07, WBRD-50-391/87-07 - INTERIM REPORT

The subject deficiency was initially reported to NRC-Region II Inspector Steve Elrod on March 3, 1987, as potentially reportable in accordance with 10 CFR 50.55(e) as NCRs WBN NEB 8633 and WBN NEB 8634 for units 1 and 2, respectively. If further engineering evaluation indicates that a substantial safety hazard exists, 10 CFR 21 will be applicable to this deficiency. Enclosed is our interim report. We expect to submit our final report on or about September 30, 1987.

If there are any questions, please call R. D. Schulz at (615) 365-8527.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



R. Gridley, Director
Nuclear Safety and Licensing

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission

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cc (Enclosure):

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ENCLOSURE
WATTS BAR NUCLEAR PLANT
UNITS 1 AND 2
QUALIFICATION OF REACTOR COOLANT
PUMP MOTOR PROTECTIVE COATING
WBRD-50-390/87-07, WBRD-50-391/87-07
SCRs WBN NEB 8633 AND WBN NEB 8634
10 CFR 50.55(e)
INTERIM REPORT

DESCRIPTION OF DEFICIENCY

The protective coating systems used on the Watts Bar Nuclear Plant (WBN) reactor coolant pump (RCP) motors supplied to TVA by Westinghouse, under contract number 54114-1, have been determined to be potentially unqualified per ANSI N5.9 and N101.2. This condition was determined by a TVA review of tests performed by Westinghouse on the protective coatings. The review found that the Westinghouse tests performed in 1968 were inconclusive and that tests performed in 1984 indicated that the protective coating system may fail by delamination under design basis accident (DBA) conditions.

The RCP motor protective coating system utilized by Westinghouse consists of Ameron Dimetcoat 2 steel primer (D2) with a top finish of Ameron Amercoat 66 epoxy. These coatings were applied in accordance with Westinghouse specifications 597755-1, 53535JP, and 53533FM.

SAFETY IMPLICATIONS

A TVA calculation defines the fraction of unqualified coating which is acceptable within containment to be negligible. Considering the RCP motor coating to be unqualified, this allowable negligible fraction may be exceeded. Assuming delamination of the unqualified coatings during a DBA, these unqualified coatings could cause blockage of the emergency core cooling system (ECCS) sump screen area and, therefore, could degrade the performance of the ECCS and containment spray system (CSS) in recirculation mode. Thus, conservatively, it is considered that safe operation of the plant could be affected. At this time the probability of the unqualified coating causing blockage is indeterminate. Further engineering evaluation is required to determine if there are any actual safety implications.

INTERIM PROGRESS

TVA will review this condition to determine the most appropriate corrective action. Possible actions consist of the following:

1. Remove the existing coating and replace with a qualified coating system.
2. Construct barriers to trap the delaminated coatings before they reach the emergency sump screens.
3. Justify that the amount of qualified coatings inside containment will not degrade ECCS or CSS performance.
4. Perform further evaluation to determine if the coatings may be qualified.

TVA will provide additional information to NRC on this deficiency on or about September 30, 1987.