

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

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SEP 29 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 COATINGS ON
REACTOR COOLANT PUMP (RCP) MOTORS - WBRD-50-390/87-07 AND WBRD-50-391/87-07
FINAL REPORT

The subject deficiency was initially reported to NRC Region II Inspector Steve Elrod on March 3, 1987, in accordance with 10 CFR 50.55(e) as SCRs WBN NEB 8633 and WBN NEB 8634. Our interim report was submitted to NRC on April 6, 1987. Enclosed is our final report. We consider 10 CFR 21 applicable to this deficiency.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY


R. Gridley, Director
Nuclear Licensing and
Regulatory Affairs

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission

SEP 29 1987

cc (Enclosure):

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ENCLOSURE

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2
UNQUALIFIED COATINGS ON REACTOR COOLANT PUMP (RCP) MOTORS
WBRD-50-390/87-07 AND WBRD-50-391/87-08
SCRs WBN NEB 8633 AND WBN NEB 8634
10 CFR 50.55(e)

FINAL REPORT

DESCRIPTION OF DEFICIENCY

The protective coating systems used on the WBN reactor coolant pump RCP motors supplied to TVA by Westinghouse (Pittsburgh, Pennsylvania) under contract No. 54114-1 have been determined to be 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 vendor did not submit qualification test documentation to TVA for review but considered the coating system qualified, based upon tests performed in 1968.

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 NEB 840120219 defines the fraction of unqualified coating that is acceptable within the containment to be negligible. This fraction could potentially be exceeded due to delamination of the coating system for the RCP motors during a DBA. Excessive delamination may degrade the performance of the emergency core cooling system (ECCS) or the containment spray system (CSS) in recirculation mode due to blockage of the emergency sump screen area. Degraded performance of these systems would adversely affect the safe shutdown of the plant.

CORRECTIVE ACTION

Unqualified coatings on the RCP motors will be removed in accordance with Engineering Requirements Specification ER-WBN-NEB-001, Removing Existing Coatings and Recoating The Reactor Coolant Pump Motors. This process will involve the use of low volume, ultra-high pressure water jet paint stripping equipment. This method of paint stripping will afford the least possible chance of damage to the RCP motors. Qualified coatings will be reapplied to the RCP motors in accordance with ER-WBN-NEB-001, and General Construction Specification G-55, Technical Requirements for Protective Coating Program for TVA Nuclear Plants. These coatings consist of Nutec No. 6 primer and Imperial No. 1201 topcoat (both supplied by Imperial Professional Coatings). These actions will be completed by TVA before fuel loading of the applicable units.