

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

NOV 17 1989

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:

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 -UNQUALIFIED COATINGS ON REACTOR
COOLANT PUMP (RCP) MOTORS - WBRD-50-390/87-07, WBRD-50-391/87-07 - REVISED
FINAL REPORT

The subject deficiency was initially reported to NRC Inspector Steve Elrod on March 3, 1987, in accordance with 10 CFR 50.55(e) as Significant Condition Reports (SCRs) WBN NEB 8633 and WBN NEB 8634 for Units 1 and 2 respectively. SCR WBN NEB 8633 was subsequently superseded by Condition Adverse to Quality Report (CAQR) WBP 890361. Our final report for this deficiency was submitted September 29, 1987. Enclosed is our revised final report. We consider 10 CFR Part 21 applicable to this deficiency and the September 29, 1987 submittal satisfied the reporting requirements.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

W. F. Ray, Jr.
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Enclosures
cc: See page 2

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NOV 17 1989

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ENCLOSURE 1

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
SCRs WBN NEB 8633 AND WBN NEB 8634
10 CFR 50.55(e)

REVISED FINAL REPORT

DESCRIPTION OF DEFICIENCY

The protective coating systems used on the WBN RCP motors supplied to TVA by Westinghouse (Pittsburgh, Pennsylvania) under contract 54114-1 have been determined to be unqualified by American National Standards Institute (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

TVA calculation NEB 840120219 defines the fraction of unqualified coating that is acceptable within the containment. 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

Unit 1

To prevent coating debris from being transported to the emergency sump, the access platforms on RCP motors 3 and 4 (the two motors closest to the emergency sump) will be modified in accordance with TVA Design Change Notice (DCN) P-05647 to install a wire mesh system on and around the number 3 and 4 RCP platforms. A calculation will be performed to verify that the proposed wire mesh system will prevent the unqualified coatings from RCPs 3 and 4 from reaching the containment sump. This corrective action will assure that these unqualified coatings will be contained and will not cause blockage of the containment sump intake.

No modification is required on RCP motors 1 and 2 because they are not in the immediate vicinity of the emergency sump. Transport of coatings debris to the emergency sump, which could result in screen blockage and affect the availability of the Residual Heat Removal (RHR) and containment spray pumps, will not occur for RCP motors 1 and 2. TVA will perform a transport analysis to verify the preliminary calculation that showed RCPs 1 and 2 are located far enough away from the trash racks so pump motor coating could not be transported to the emergency sump trash protection racks. These actions will be completed by TVA before Unit 1 fuel loading.

Unit 2

Unit 2 corrective actions have been placed on hold and are not affected by the change in corrective action for Unit 1. If a change is made to the Unit 2 corrective action plan, a revised final report for Unit 2 will be submitted when the Unit 2 work is removed from hold status.

ENCLOSURE 2

LIST OF COMMITMENTS

1. To prevent coating debris from being transported to the emergency sump, the access platforms on Unit 1 RCP motors 3 and 4 (the two motors closest to the emergency sump) will be modified in accordance with TVA Design Change Notice (DCN) P-05647 to install a wire mesh system on and around the number 3 and 4 RCP platforms.
2. A calculation will be performed to verify that the proposed wire mesh system will prevent the unqualified coatings from RCPs 3 and 4 from reaching the containment sump.
3. TVA will perform a transport analysis to verify the preliminary calculation that showed Unit 1 RCPs 1 and 2 are located far enough away from the trash racks so pump motor coating could not be transported to the emergency sump trash protection racks.
4. If a change is made to the Unit 2 corrective action plan, a revised final report for Unit 2 will be submitted when the Unit 2 work is removed from hold status.