

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

December 22, 1982

WBRD-50-390/82-14

WBRD-50-391/82-14

U.S. Nuclear Regulatory Commission

Region II

Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - FAILURE TO IMPLEMENT G-32
REVISION 6 CONCERNING CONCRETE ANCHORS - WBRD-50-390/82-14,
WBRD-50-391/82-14 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on December 29, 1981 in accordance with 10 CFR 50.55(e) as NCR 3842R. Interim reports were submitted on February 17, April 13, and June 8, 1982. Enclosed is our final report.

If you have any questions, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Licensing

Enclosure

cc: Mr. Richard C. DeYoung, Director (Enclosure) ✓
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
FAILURE TO IMPLEMENT G-32, REVISION 6 CONCERNING CONCRETE ANCHORS
NCR 3842R
WBRD-50-390/82-14, WBRD-50-391/82-14
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

This deficiency involves the failure to promptly update WBNP-QCP-1.14, "Production Lot Acceptance Test of Expansion Type Anchors," to conform to the requirements of Revision 6 to General Construction Specification G-32, "Bolt Anchors Set in Hardened Concrete."

Revision 6 of G-32 was initiated by TVA to enhance the expansion type anchor qualification, inspection, and testing program.

During this time period, each engineering unit was responsible for formulating and updating their individual procedures for anchor acceptance. The root cause of this deficiency was failure to review General Construction Specification revisions and failure to promptly incorporate them into site procedures.

Safety Implications

Since TVA has dispositioned all affected hardware "use-as-is," there is no deficiency adverse to the safety of operations of the plant.

Corrective Action

WBN-QCP-1.14, "Inspection and Testing of Bolt Anchors Set in Hardened Concrete and Control of Attachments to Embedded Features," has been revised to incorporate G-32 revision 6 provisions. Also, WBN-QCP-1.42-2, "Bolt and Gap Inspection for Bolt Anchor Assemblies," has been written to incorporate G-32 requirements for inspection and documentation of the adequacy of bolts and other hardware used with anchors.

Training in these procedures was completed January 25, 1982. All work done during the interim period between the issue date of G-32 revision 6 and implementation of QCP-1.14 was nonconformed and referred to TVA's Division of Engineering Design (EN DES) for disposition. Eight categories of non-compliance were listed. Items 1-6 were previously dispositioned "use-as-is." Items 7 and 8 required additional evaluation and analysis of sampling program data by TVA.

TVA completed an evaluation of the sample of 60 occurrences identified with item 7 of the subject NCRs. The result of the evaluation is that for all 60 occurrences, the actual design load was less than the design allowables. Therefore, the occurrences identified in the sample may be used as is. No additional inspection or evaluation is required to verify the acceptability of other existing interferences.

An inspection of conduit runs and an evaluation of the interferences was made in the more heavily congested areas of unit 1 reactor building and the auxiliary building. After spending approximately 8 man-hours of searching without finding a single occurrence which would require evaluation, the search was discontinued.

The conclusion drawn from this investigation was that although it is theoretically possible for this type of interference to occur, the actual number of occurrences is very small. Based on the rarity of interferences and on the fact that the conduits are very lightly loaded, no additional inspection or evaluations are required for spacing violations involving nondivisional conduits.

As action to prevent recurrence, the Procedures and Training Unit now reviews and promptly implements all revisions to upper-tier requirements into site procedures.