TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
5N 157B Lookout Place

March 3, 1986

WBRD-50-391/86-25

U.S. Nuclear Regulatory Commission
Region II
Attention: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNIT 2 - CONSTRUCTION PROCEDURE DOES NOT IMPLEMENT G-32 REQUIREMENTS - WBRD-50-391/86-25 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector Bob Carroll on January 31, 1986 in accordance with 10 CFR 50.55(e) as NCR WBN 6556. Enclosed is our final report.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. L. Gridley
Manager of Licensing

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

Records Center (Enclosure)
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 2
CONSTRUCTION PROCEDURE DOES NOT IMPLEMENT G-32 REQUIREMENTS
WBRD-50-391/86-25
NCR WBN 6556
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

A deficiency was identified for Watts Bar Nuclear Plant (WBN) in which some of the requirements of TVA General Construction Specification G-32 (G-32) were not implemented in WBN Quality Control Procedure (QCP) 1.14, "Inspection and Testing of Bolt Anchors Set in Hardened Concrete and Control of Attachments to Embedded Plates." Specifically, G-32 provides requirements for spacing between concrete anchors and adjacent embedded strip inserts. If a wedge bolt anchor or grouted anchor is installed less than 1-inch from a strip insert, section 3.10.2 of G-32 requires special installation procedures, usually grouting. This requirement was not implemented in WBN QCP-1.14. Additionally, WBN QCP-1.14 did not address G-32 requirements for attachments to strip inserts.

TVA has determined that this deficiency resulted from an inadequate review of the upper-tier document (G-32) requirements addressing strip inserts. This was apparently due to the assumption, by involved personnel developing QCP-1.14, that strip inserts were not being used at WBN.

Safety Implications

A failure to comply with G-32, section 3.10.2, requirements when installing concrete anchors within 1-inch of an embedded strip insert could result in a reduced shear capacity for anchor loading in the direction of the strip insert. Additionally, an affected anchor could exhibit an increased shear deformation. Reduced factors of safety and possible failure of an affected support could result. Since various safety-related supports could be affected, it is considered that the subject deficiency could have adversely affected the safety of operations of the plant.

Corrective Action

TVA will perform a field walkdown of all embedded strip inserts at WBN unit 2. Since embedded strip inserts were used in only a few areas of the plant, the number of anchors or supports which could possibly be affected is considered to be limited. Any support anchors which are installed less than 1-inch from a strip insert and which do not meet the requirements of G-32 will be reworked, or a support variance sheet will be submitted for engineering evaluation of the installation. This item is being reviewed for applicability to WBN unit 1 and areas of WBN unit 2 which have been transferred to the plant operating organization. Similar deficiencies in those areas will be documented separately.

To prevent recurrence, TVA will revise WBN QCP 1.14 to implement all G-32 requirements of sections 3.7.3.2, 3.7.3.3, 3.10.2.1, and 3.10.2.2. Additionally, WBN Quality Control Instruction (QCI) 1.10, "Preparation and Control of Quality Control Instructions, Procedures, and Tests," was revised on September 20, 1985, to require responsible TVA Office of Construction (OC) engineering units to conduct a review of applicable procedures to ensure that all upper-tier requirements are incorporated.

The revision to WBN QCP-1.14 will be completed by June 1, 1986, prior to conducting the field walkdown of installed strip inserts. All other corrective actions for this item will be completed prior to initial fuel loading for WBN unit 2.