TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

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October 9, 1985

WBRD-50-391/81-67

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

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNIT 2 - QUALIFICATION OF EPOXY GROUT FOR SAFETY RELATED APPLICATIONS - WBRD-50-391/81-67 - TWELFTH INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on August 27, 1981 in accordance with 10 CFR 50.55(e) as NCR 3567R. Interim reports for unit 2 were submitted on September 18 and December 16, 1981; February 11, April 17, June 3, and September 23, 1982; May 26, September 13, and November 23, 1983; February 1 and June 7, 1984. Our final report for unit 1 was submitted on September 13, 1983. Enclosed is our twelfth interim report. We expect to submit our next report on or about February 14, 1986.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer

J. W. Hufham, Manager
Licensing and Risk Protection

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
QUALIFICATION OF EPOXY GROUT FOR SAFETY-RELATED APPLICATIONS
WBRD-50-391/81-67
NCR WBN 3567R
10 CFR 50.55(e)
TWELFTH INTERIM REPORT

Description of Deficiency

Epoxy grout was specified on design drawings at specific anchor bolt locations inside containment where temperatures may exceed 120°F. Epoxy grout may have its load-carrying capabilities reduced at temperatures above 120°F. Also, the epoxy grout has not been qualified to the radiation environment inside containment.

The apparent cause of this deficiency is that the General Construction Specification No. G-32, "Bolt Anchors Set in Hardened Concrete" did not include limitations on use of epoxy grout for grouting anchors in areas exposed to radiation or elevated temperatures.

The final report on this nonconformance for Watts Bar Nuclear Plant (WBN) unit 1 was submitted to NRC-OIE Region II on September 13, 1983.

Interim Progress - Unit 2

We reported in previous interim reports that unit 2 drawing changes were being performed under ECN 3487. However, when the scheduled date for unit 1 fuel load drew near, this ECN was reduced to encompass only unit 1 changes and then closed.

We are presently conducting a system-by-system evaluation of all drawings for unit 2 supports. Supports are being reviewed for use of epoxy grouted anchors and design modifications are being performed where required under ECN 4793.

As previously reported to NRC in our final report for unit 1, all usage of epoxy grout on safety-related systems was halted when this deficiency was identified. Specification G-32 was revised on August 25, 1982, to preclude the use of epoxy-grouted anchors in safety-related applications. Additionally, Civil Design Specification DSC-1.7.1, formerly DS-C6.1, was revised on May 31, 1983, to also preclude the use of epoxy-grouted anchors in safety-related applications. These actions will prevent recurrence of this deficiency.

We will provide a final report on this item to the NRC on or about February 14, 1986.