TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

1630 Chestnut Street Tower II

July 11, 1985

BLRD-50-438/85-02
BLRD-50-439/85-02

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:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - SUPPORTS MAY BE DEGRADED BY USE OF INSTALLATION TOLERANCES - BLRD-50-438/85-02, BLRD-50-439/85-02 - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector S. Weise on December 6, 1984 in accordance with 10 CFR 50.55(e) as NCR BLN CEB 8421. This was followed by our first interim report dated January 7, 1985. Enclosed is our second interim report. We expect to submit our next report on or about September 6, 1985.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer

for 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

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
SUPPORTS MAY BE DEGRADED BY USE OF INSTALLATION TOLERANCES
BLRD-50-438/85-02, BLRD-50-439/85-02
BLN CEB 8421
10 CFR 50.55(e)
SECOND INTERIM REPORT

Description of Deficiency

TVA's drawing 36A0059-00-12, revision 4, Note III.1, provides TVA's Office of Construction (OC) with several tolerances for fabrication and modification of baseplates and installation of anchor bolts (excluding TVA typical supports which are not modified by field variance). These tolerances were primarily given to allow OC to resolve problems with interference of expansion anchor bolts with reinforcing steel. The cumulative effects of the use of these tolerances may result in significant increases in baseplate stresses and anchor bolt loads. The potential increases due to cumulative effects were not considered in the design of the various supports.

Interim Progress

In accordance with the approach outlined in our first report, a study has been completed which assessed the detrimental effects of the cumulative application of baseplate tolerances. As a result of this study, current design practices are being revised to account for the use of these tolerances on future pipe support designs.

For supports already installed, a statistical sampling of existing field installation was made to determine actual field use of baseplate tolerances and existing factors of safety. Ninety-eight expansion anchored pipe supports were randomly selected and inspected. Supports which utilized installation tolerances were reanalyzed. Factors of safety for all 98 supports are consistent with design requirements (self-drilling expansion anchor factor of safety greater than 5; wedge bolt factor of safety greater than 4). This sample provides a 95-percent confidence level that less than 3-percent of the supports have factors of safety less than design requirements. Based on the sample results, modification of existing supports is not required.

TVA will provide further information in our next report expected to be submitted on or about September 6, 1985.