TENNESSEE VALLEY AUTHORITY

CHATTANOOGA TENNESSEE 37401

NRC REGION
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400 Chestnut Street Tower II

April 28, 1982 82 MAY 2 AM 8:03

WBRD-50-390/82-16, WBRD-50-391/82-15
BLRD-50-438/82-11, BLRD-50-439/82-11
HTRD-50-518/82-06, HTRD-50-519/82-05
HTRD-50-520/82-06, HTRD-50-521/82-05
PBRD-50-553/82-05, PBRD-50-554/82-05
YCRD-50-566/82-05, YCRD-50-567/82-05

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 UNITS 1 AND 2, BELLEFONTE UNITS 1 AND 2, HARTSVILLE A AND B UNITS 1 AND 2, PHIPPS BEND UNITS 1 AND 2, AND YELLOW CREEK UNITS 1 AND 2 NUCLEAR PLANTS - RESOLUTION OF UNANTICIPATED VIBRATORY LOADING CONCERNS - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on December 28, 1981 in accordance with 10 CFR 50.55(e) as NCR W-30-P for Watts Bar Nuclear Plant only. Subsequent investigation resulted in the initiation of a generic NCR documenting this deficiency for all TVA nuclear plants. This was reported to Inspector D. Quick on January 20, 1982 as NCR GEN CEB 8201. Because NCR W-30-P is a subset of NCR GEN CEB 8201, TVA is handling both NCRs as a single item. This was discussed with Inspector R. V. Crlenjak on February 9, 1982 and followed by our first interim report dated February 19, 1982. Enclosed is our second interim report. We expect to submit our next report by September 24, 1982.

If you have any questions, please get in touch with R. H. Shell at FTS 858-2688 for PWRs and J. Domer at FTS 858-2725 for BWRs.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

James A. Domer

for 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, DC 20555

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ENCLOSURE

WATTS BAR UNITS 1 AND 2, BELLEFONTE UNITS 1 AND 2,
HARTSVILLE A AND B UNITS 1 AND 2, PHIPPS BEND UNITS 1 AND 2,
AND YELLOW CREEK UNITS 1 AND 2 NUCLEAR PLANTS
NCR GEN CEB 8201
WBRD-50-390/82-16, WBRD-50-391/82-15; BLRD-50-438/82-11, BLRD-50-439/82-11;
HTRD-50-518/82-06, HTRD-50-519/82-05, HTRD-50-520/82-06, HTRD-50-521/82-05;
PBRD-50-553/82-05, PBRD-50-554/82-05; YCRD-50-566/82-05, YCRD-50-567/82-05
RESOLUTION OF UNANTICIPATED VIBRATORY LOADING CONCERNS
10 CFR 50.55(e)
SECOND INTERIM REPORT

Description of Condition

Nonconformance report (NCR) W-30-P stated that anchors as designed and installed at WBN may not provide sufficient safety factors to withstand long-term vibratory loads. The NCR was based on information from the Phipps "Red Head" Engineering Bulletin 101 which recommends using a factor of safety of 8 to 15 for expansion anchors subject to vibratory loadings. TVA utilizes TVA Design Standard DS-C6.1 which is based on qualification tests of anchor types to establish design factors of safety. If systems perform as designed, and no loadings are induced on anchorages greater than design loadings, TVA's anchorage design is adequate for vibratory loadings. However, TVA has identified a programmatic deficiency in the detection and documentation of the resolution of certain anchorage and support problems in fluid systems, resulting from unanticipated vibratory loading occurring over an extended period of time. This type of loading could cause degradation or eventual failure of the anchorage. This condition has been extended to other TVA plants under NCR GEN CEB 8201.

The deficiency may occur only in systems or portions of systems which experience continuous or extended periods of vibration greater than those considered in the system design. At present, emphasis in the vibration program is placed on qualifying piping and equipment to an established qualification level in defined modes of operation. It does not identify potential problems except where unacceptable piping and/or equipment vibration levels are recorded.

Interim Progress

TVA is continuing with the development of a program to ensure that piping systems operate within their design parameters so as to avoid unexpected vibration and fluid transients and to ensure that proper acceptance criteria, corrective action, and documentation methods are adequately defined for identifying and correcting deficiencies which can result when systems do not operate within these design parameters.