TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

September 21, 1983

WBRD-50-390/83-28
WBRD-50-391/83-28

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - SEISMIC ANALYSIS OF THE NORTH STEAM VALVE ROOMS - WBRD-50-390/83-28, WBRD-50-391/83-28 - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector L. Watson on May 2, 1983 in accordance with 10 CFR 50.55(e) as NCR WBN CEB 8301. Our first interim report was submitted on May 24, 1983. Enclosed is our second interim report. We expect to submit our next report on or about December 2, 1983.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

D S Kammer

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, 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 UNITS 1 AND 2
SEISMIC ANALYSIS OF THE NORTH STEAM VALVE ROOMS
NCR WBN CEB 8301
WBRD-50-390/83-28, WBRD-50-391/83-28
10 CFR 50.55(e)
SECOND INTERIM REPORT

Description of Deficiency

In reviewing the report "Dynamic Earthquake Analysis of the North Steam Valve Room" in accordance with the Division of Engineering Design (EN DES) Special Engineering Procedure (SEP), SEP-82-14, it was found that the original analysis did not conform to Watts Bar Design Criteria WB-DC-20-24. This criteria requires that natural frequencies be used in the generation of acceleration response spectra. Natural frequencies were not used and this resulted in clipping of the peaks of the response spectra. There were also changes in the structural configuration and weights of attached masses that caused changes in the structural responses of approximately 40 percent. The original analysis also assumed that the torsional effects of the structure were insignificant, but since the valve rooms are an open structure, torsion has a major effect on the response of the structure and should be included.

Interim Progress

A reanalysis of the North Steam Valve Rooms has been performed, incorporating all identified deficiencies, and a report containing structural loads and acceleration response spectra has been transmitted by memorandum to all affected organizations. Additionally, a design review meeting has been held with representatives of these organizations to discuss the report's contents.

Evaluation of small diameter piping, equipment, and supports is currently being performed to assess the impact of the revised spectra. The evaluation of the main steam and feedwater lines indicate the calculated stresses are within previously established allowables. TVA is also investigating the effect of the revised loads on the various structural elements.