TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401 5N 157B Lookout Place

8EP 29 1987

U.S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington, D.C. 20555

Gentlemen:

In the Matter of Tennessee Valley Authority)

Docket Nos. 50-327 50-328

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SEQUOYAH NUCLEAR PLANT (SQN) - USE OF AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) CODE CASE N-411

References: 1. Letter from Harol? R. Deaton to H. G. Parris dated December 2, 1985, "Use of ASME Code Cases N-397 and N-411 for the Sequoyah Nuclear Plant Units 1 and 2"

> 2. TVA Letter to Director of Nuclear Reactor Regulation dated February 12, 1986

In reference 1, NRC conditionally approved the use of ASME Code Case N-411 for SQN subject to TVA's commitment to impose the following two conditions:

- "Commit to use the case for piping systems analyzed by response spectrum methods and not those using time-history analysis methods."
- "When the alternate damping criteria of this code case are used, they will be used in their entirety in a given analysis and shall not be a mixture of Regulatory Guide 1.61 criteria and the alternated criteria of this code case."

TVA's commitment to meet these conditions was transmitted to NRC by reference 2. TVA also documented this in Amendment No. 3 of the Final Safety Analysis Report (FSAR) in table 3.7.1-3.

Code Case N-411 is being applied to the analysis of piping in two structures:

- Seismic analysis of piping in the additional diesel generator building (ADGB).
- Design Basis Accident (DBA) analysis of piping attached to the steel containment vessel (SCV).

The response spectrum method was used in all analyses. For the seismic analysis of the piping, all the conditions stipulated in the NRC letter were met.

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The piping attached to the SCV was analyzed for the DBA vibratory motion applying response spectra only to the SCV attachment points using the independent support motion method. The remainder of the pipe supports (i.e., supports not attached to the SCV) have a zero DBA spectra applied to them for this analysis. The analysis was performed this way because only the supports connected to the SCV experience vibratory motion for the DEA loading condition.

Also, Code Case N-411 damping has been used for the following cases where the requisite conditions of reference 1 apply:

Code Case N-411 damping has been used to justify not reanalyzing piping in the essential raw cooling water (ERCW) pipe tunnel. When spectra at 1/2-percent and 1-percent damping was generated for the ERCW pipe tunnel, this spectra was larger than the spectra used for analysis. To justify not reanalyzing the piping, an evaluation was made to show that Code Case N-411 damped spectra would be low enough to ensure that the spectra used for the analysis was acceptable.

Code Case N-411 damping has been used to recalculate pipe movements at support points on ERCW piping in the annulus area. The increased damping was used to reduce the pipe movements to a level where the gaps in the support would accommodate the pipe movements.

Code Case N-411 damping has been used to analyze portions of the seismic Category 1(L) fire protection system piping.

In summary, SQN has utilized the damping provisions of Code Case N-411 only for the cases described above. Future use of Code Case N-411 dumping will only be approved if all the conditions outlined by MRC are met.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

In & Ray

M. J. Way, Deputy Director Nuclear Licensing and Regulatory Affairs

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U.S. Nuclear Regulatory Commission

cc: Mr. G. G. Zech, Assistant Director for Inspection Programs Office of Special Projects U.S. Nuclear Regulatory Commission 101 Marietta Street, NW, Suite 2900 Atlanta, Georgia 30323

> Mr. J. A. Zwolinski, Assistant Director for Projects Division of TVA Projects Office of Special Projects U.S. Nuclear Regulatory Commission 4350 East-West Highway EWW 322 Bethesda, Maryland 20814

Sequoyah Resident Inspector Sequoyah Nuclear Plant 2600 Igou Ferry Road Soddy Daisy, Tennessee 37379