



CONNECTICUT YANKEE ATOMIC POWER COMPANY

TELEPHONE
203-665-5000

BERLIN, CONNECTICUT
P.O. BOX 270 HARTFORD, CONNECTICUT 06141-0270

June 27, 1985

Docket No. 50-213
B11587

Director of Nuclear Reactor Regulation
Attn: Mr. John A. Zwolinski, Chief
Operating Reactors Branch #5
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

References: (1) W. G. Counsil letter to D. M. Crutchfield, dated
January 19, 1984.

Gentlemen:

Haddam Neck Plant
SEP Topic III-6, Seismic Design Considerations

In Reference (1), Connecticut Yankee Atomic Power Company (CYAPCO) submitted the criteria which were being utilized for the safety-related piping qualification program being undertaken to satisfy SEP Topic III-6. The purpose of this letter is to inform the Staff of changes that have been incorporated into the criteria document. These changes are described in more detail below. A copy of Revision 3 to the criteria document is included as Attachment 1.

o Damping Values

The Haddam Neck seismic reevaluation program is committed to the use of damping values per Regulatory Guide 1.61. Revision 3 of the criteria document proposes adoption of the Pressure Vessels Research Committee (PVRC) damping curve as described in the Welding Research Council (WRC) Bulletin-300. This curve has previously been accepted by the NRC for use on Millstone Unit No. 3, Bellefonte, San Onofre Unit 1, and on BWR recirculation loop piping replacements. Additionally, the ASME Boiler and Pressure Vessel Code has incorporated the PVRC damping curve into Section III, Appendix N (Code Case N-411).

In developing new building acceleration response spectra (ARS), the peak broadening and smoothing techniques provided in Regulatory Guide 1.122 will be utilized.

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o Peak Shifting

The floor response spectra generated for the SEP seismic reevaluation have been peak broadened by $\pm 15\%$ to account for uncertainty in the calculation of structural frequency. This significantly increases the total seismic energy input to the piping system. The peak shifting methodology recognizes the fact that, for a piping system having multiple modes within the broadened range, only one mode can respond with the magnitude associated with the peak spectral value.

The revised criteria document adopts the PVRC technical position on response spectra broadening as published in WRC Bulletin-300, requiring the enveloping of the results of shifted spectra. The detailed procedures for implementation of peak shifting have been incorporated into the ASME Boiler and Pressure Code, Section III, Appendix N (Code Case N-397), and have been approved by the NRC for use at San Onofre Unit 1.

o Independent Support Motion

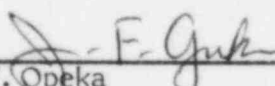
Where piping is located in more than one building or supported at more than one building elevation, the existing criteria specify the use of an envelope of applicable floor spectra. The proposed alternate approach is to utilize Independent Support Motion (ISM), wherein each pipe support is driven by its applicable floor spectra rather than by the envelope spectra. The ISM response spectra technique has been in the ASME Code, Appendix N since 1978 and has been used extensively on BWR plants. Additionally, NUREG-1061 (Volume 4, Section 2.4) recommends that the ISM response spectrum method be allowed as an option in calculating the response of multiple-support piping with independent inputs.

In summary, the PVRC recommendations and ASME code approved methodologies described above are proposed to be utilized by CYAPCO in the area of piping system backfits, new piping systems, or support optimization.

No response to this letter is requested, unless the Staff disagrees with the changes indicated herein. If you have any questions on this, please contact us.

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY



J. F. Opeka
Senior Vice President

Docket No. 50-213

Attachment 1

Haddam Neck Plant

SEP Topic III-6, Seismic Design Considerations

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