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 50-250 Turkey Point Plant, Unit 3, Florida Power and Light Co 05000250
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light Co 05000251
 50-335 St. Lucie Plant, Unit 1, Florida Power & Light Co. 05000335
 50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co. 05000389

AUTH. NAME AUTHORITY AFFILIATION
 WOODY, C. O. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 DENTON, H. R. Office of Nuclear Reactor Regulation, Director (post 851125)

SUBJECT: Requests permission to apply Code Case N-411 re spectral
 damping values used in piping stress analysis instead of
 Section III, Div I, Table N-1230-1 values. Fee paid.

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JUN 1 9 1988

L-86-249

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Denton:

RE: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Request for ASME Code Case N-411 Approval

Reference Documents:

1. NUREG-1061, Volume 2, "Report of the U. S. Nuclear Regulatory Commission Piping Review Committee, Evaluation of Seismic Designs-- A Review of Seismic Design Requirements for Nuclear Power Piping."
2. Letter from Thomas M. Novak (NRC) to D. W. Mazur (Washington Public Power Supply System), Docket No. 50-460, WNP-I, "Approval of ASME Code Case N-411."

In accordance with Article NCA-1140 of the ASME Section III Code, Florida Power & Light Company (FPL) requests Commission approval to apply Code Case N-411 as described below.

Code Case N-411 (copy attached) provides spectral damping values which may be used in lieu of Section III, Division I, Table N-1230-1 values. The original Section III values for spectral damping are identical to those considered acceptable to the Commission in Regulatory Guide 1.61. The N-411 damping values are endorsed by Reference I, which recommends that Regulatory Guide 1.61 be revised to incorporate the new criteria. FPL would utilize the new criteria on the St. Lucie and Turkey Point projects as follows:

1. Upon receipt of Commission approval to utilize the subject Code Case, FPL would authorize the development of new response spectra curves which would reflect the application of the Pressure Vessel Research Committee (PVRC) criteria. Existing response spectra would be retained as Quality Assurance records however, since all existing piping stress analysis calculations of record make reference to them.

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2. FPL is presently engaged in a study to assess the cost feasibility of implementing a comprehensive support optimization (i.e., snubber reduction) program for the St. Lucie project. Should the study yield positive results regarding the cost effectiveness of such an undertaking, FPL may, at our option, utilize the PVRC damping values as the principal tool toward optimizing supports through reanalysis.

Depending on the outcome of the St. Lucie effort, a similar snubber reduction effort may be undertaken for Turkey Point Units 3 and 4.

3. Until support optimization efforts commence at any of the nuclear units, FPL may use the new PVRC damped response spectra on an interim basis to qualify anomalous piping conditions (such as may be discovered during inservice inspections) to avoid costly corrective actions such as physical modifications to piping or supports.
4. Code Case N-411 may, at FPL's option, be applied to new systems analyzed by response spectrum methods. Code Case N-411 may also be utilized to qualify proposed modifications to existing systems.

Based on the use of Code Case N-411, all piping qualification analyses would continue to include, but not be limited to, verification that:

- All affected piping supports are properly designed and capable of withstanding revised design loads.
- Excessive pipe deflections are not introduced when supports are optimized (i.e., displacements would be checked to verify that proper clearances exist with respect to adjacent structures, components and equipment). Pipe mounted equipment would also be checked to assure that the equipment could withstand the increased pipe motion.
- Postulated pipe break locations have been properly considered.
- Affected equipment nozzle loads are not adversely affected.

Each new analysis or reanalysis performed utilizing the PVRC damping values will include specific reference to Code Case N-411 in the Quality Assurance Records associated with the calculation. For each anchor group (analysis package) where the code case is applied, the code case would be applied to the entire analysis (i.e., PVRC damping would not be mixed in a given analysis with Regulatory Guide 1.61 criteria).

Code Case N-411 will be applied to systems analyzed by response spectrum methods, but not to those using time-history analysis methods.

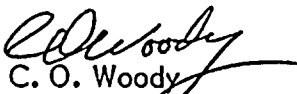
Mr. Harold R. Denton, Director
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The mechanism for implementing the new criteria will be to document Commission approval to utilize Code Case N-411 in a future amendment to the affected Final Safety Analysis Reports. Additionally, FPL would instruct its contractors performing piping stress analysis calculations to revise affected Quality Assurance Program procedures.

Please note that permission to utilize Code Case N-411 damping values has already been granted to another nuclear project (see Reference 2). To support existing schedules for initiating support optimization efforts, FPL would appreciate receiving Commission approval to apply Code Case N-411 criteria to St. Lucie Units 1 and 2 and Turkey Point Units 3 and 4 by August 15, 1986.

FPL Check No. 1366 is attached in accordance with the fee schedule specified in 10 CFR 170.21.

Very truly yours,


C. O. Woody
Group Vice President
Nuclear Energy

COW/MAS/gp

Attachments

cc: Ashok C. Thadani, Director, PWR Project Directorate #8
Lester S. Rubenstein, Director, PWR Project Directorate #2
Dr. J. Nelson Grace, USNRC, Region II
Harold F. Reis, Esquire, Newman & Holtzinger

CASES OF ASME BOILER AND PRESSURE VESSEL CODE

Approval Date: February 20, 1986

*See Numerical Index for expiration
and any reaffirmation dates.*

Case N-411-1

**Alternative Damping Values for Response Spectra
Analysis of Class 1, 2, and 3 Piping
Section III, Division 1**

Inquiry: What alternatives to the damping values given in Section III, Division 1, Table N-1230-1 are acceptable for use in response spectra analysis of Class 1, 2, and 3 piping?

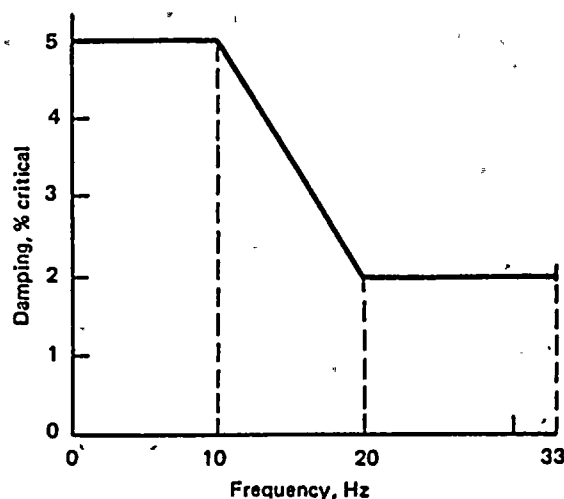
Reply: It is the opinion of the Committee that for Section III, Division 1, Class 1, 2, and 3 construction, the damping value for response spectra analysis of piping shown in Fig. 1 may be used as an alternative to those given in Table N-1230-1.

The damping value in Fig. 1 is applicable to both Operating Basis Earthquakes and Safe Shutdown Earthquakes and is independent of pipe diameter.

The damping value in Fig. 1 is also applicable to other response spectra-type dynamic loads for which the response spectra is generated after being filtered through the building structure.

Damping values to be used with spectra with responses above 33 Hz shall be evaluated and designated by the designer.

This Case number shall be shown in the documentation for this analysis and on the Code Data Report.



**FIG. 1 DAMPING VALUES FOR RESPONSE
SPECTRA ANALYSIS OF PIPING**

