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April 11, 1989

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Units 2 and 3
LaSalle County Station Units 1 and 2
Quad Cities Station Units 1 and 2
Alternate Damping Values for Piping
Seismic Analysis
NRC Docket Nos. 50-237/249, 50-373/374,
and 50-254/265

Reference: Letter from D.R. Muller to H.E. Bliss
dated March 1, 1989.

Dear Dr. Murley:

The referenced letter requested Commonwealth Edison (CECo) to provide a schedule for re-evaluating the application of ASME Code Case N-411 damping values to previous seismic analysis of Class 1, 2, or 3 piping where such analyses are being used for long term operation at the six CECo BWRs.

CECo has reviewed the 1985-1986 correspondence referenced in your March 1, 1989, letter and the four conditions subsequently specified in Regulatory Guide 1.84 (Revision 24) for acceptable applications of Code Case N-411 damping and has concluded that no re-evaluations are needed.

The bases for this conclusion are discussed in Attachment A for Dresden and Quad Cities and in Attachment B for LaSalle.

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Please contact this office should further information be required.

Very truly yours,

J. A. Silady
Nuclear Licensing Administrator

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Attachments

cc: A.B. Davis - Regional Administrator, RIII
S.G. DuPont - Senior Resident Inspector, Dresden
T.M. Ross - Project Manager, NRR
B.L. Siegel - Project Manager, NRR
P.C. Shemanski - Project Manger, NRR
R.D. Lanksbury - Senior Resident Inspector, LaSalle
R.M. Higgins - Senior Resident Inspector, Quad Cities

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ATTACHMENT A

DRESDEN STATION UNITS 2 AND 3
QUAD CITIES STATION UNITS 1 AND 2

ALTERNATE DAMPING VALUES FOR PIPING
SEISMIC ANALYSES

Recirculation Pump Support System Applications

As a result of an April 3, 1986, telephone conversation with NRR, CECo initiated design for Dresden 3 Recirculation pump support using N-411 damping and FSAR techniques. Subsequently, a May 13 meeting with NRR indicated that the staff would no longer support their previous authorization on this application. Accordingly, CECo decided to stop work on the N-411/FSAR modification and the supports were redesigned using FSAR spectra and methods. The construction of the subject support was completed to full FSAR compliance as of October, 1986.

For Dresden Unit 2, Regulatory Guide 1.61/FSAR loads were used for an interim operability justification. During the subsequent refueling outage (February, 1987) the subject supports were upgraded to full FSAR compliance with work completed as of June 1987.

In conclusion, Dresden and Quad Cities Stations did not use PVRC damping (Code Case N-411) for long-term operations on the subject system. Therefore, no re-evaluation is required.

Other Applications

CECo does not believe there are any applications of N-411 damping values on other systems at Dresden and Quad Cities Stations. This will be further reviewed and confirmed by May 31, 1989.

ATTACHMENT B

LASALLE COUNTY STATION UNITS 1 AND 2

ALTERNATIVE DAMPING VALUES FOR PIPING SEISMIC ANALYSES

References (1): Letter from E.G. Adensam (NRC) to D.L. Farrar (CECo) dated April 1, 1986; Subject: Authorization to Use ASME Code Case N-411 - LaSalle County Station, Units 1 and 2.

(2): Letter from C.M. Allen (CECo) to H.R. Denton (NRC) dated April 18, 1986; Subject: LaSalle County Station Units 1 and 3, Snubber Reduction Topical Report, NRC Docket Nos. 50-373 and 50-374.

(3): U.S. NRC Regulatory Guide 1.84, Revision 24, dated June 1986, "Design and Fabrication Code Case Applicability ASME Section III, Division 1."

(4): Letter from E.G. Adensam (NRC) to D.L. Farrar (CECo) dated July 18, 1986; Subject: LaSalle County Station Units 1 and 2 Snubber Reduction Program.

(5): Letter from J.J. Harrison (NRC, Region III) to Cordell Reed (CECo) dated August 31, 1988.

(6): Sargent & Lundy Calculation SESD-185CC, Revision 00.

No re-evaluation of piping systems at LaSalle County Station is required because the requirements for the use of ASME Code Case N-411 as outlined in the (Reference 3) Regulatory Guide have been met. The use of Code Case N-411 and conformance to the Regulatory Guide were documented in the 1987 update to the LaSalle County Station UFSAR. A more detailed engineering justification for each of the four Regulatory Guide 1.84 conditions is provided below.

Item 1 - The response mode frequencies of the piping system are limited to 33 hz and below

Applicability of this requirement in a strict sense is not possible at LaSalle because for piping systems affected by BWR hydrodynamic loads, significant piping system response can occur at frequencies above 33 hz. This item is discussed briefly in References 2 and 4. Specifically, Reference 4 requires that inclusion of additional modes will not result in more than a 10 percent increase in response. Detailed procedures addressing high frequency piping system response were reviewed by NRC Region III personnel and were accepted (see Reference 5). This issue, therefore, requires no further action.

Item 2 - Current seismic spectra are used.

CECo has verified that Sargent & Lundy Engineers used the current seismic spectra when generating the spectra utilizing ASME Code Case N-411 damping values. Documentation of the seismic spectra generation is contained in Reference 6.

Item 3 - Supports designed to dissipate energy are not used.

Reference 1 (which is Reference (c) of the NRC request letter) represents NRC authorization for CECo to use the damping values specified in ASME Code N-411 on LaSalle County Station piping systems. One of the restrictions identified in that letter specifically states that energy absorbing supports are not to be used when analyzing a piping system using Code Case N-411 damping values. Since all piping analyses utilizing this Code Case were performed subsequent to the issue of Reference 1, no further action is required.

Item 4 - Piping with incipient stress corrosion cracking is not considered.

An expanded statement regarding this issue as taken directly from Regulatory Guide 1.84 reads, "This Code Case is not applicable to piping in which stress corrosion cracking has occurred unless a case-specific evaluation is made by the NRC Staff." No stress corrosion cracking has occurred to date on LaSalle County Station piping systems. The long-term effects have been addressed separately, however, through a CECo request to the NRC (Reference 2) to eliminate arbitrary intermediate break (AIB) postulation on LaSalle County Station piping systems. The NRC agreed (Reference 4) that sufficient technical bases exist to justify eliminating the requirements for mechanical pipe rupture protection against AIB's. Therefore, no further action is required on this item.