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NUCLEAR REGULATORY COMMISSION

OFFICE OF SECRETARY
COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	Docket Nos. 50-445 and 50-446
TEXAS UTILITIES ELECTRIC)	
COMPANY, ET AL.)	
)	(Application for
(Comanche Peak Steam Electric)	Operating Licenses)
Station, Units 1 and 2))	

APPLICANTS' MOTION FOR SUMMARY DISPOSITION
REGARDING ALLEGED ERRORS MADE IN DETERMINING
DAMPING FACTORS FOR OBE AND SSE LOADING CONDITIONS

Pursuant to 10 C.F.R. §2.749, Texas Utilities Electric Company ("Applicants") hereby move the Atomic Safety and Licensing Board for summary disposition of the Citizens Association for Sound Energy's ("CASE") allegations regarding Applicants' use of damping factors for piping seismic analyses of OBE and SSE conditions. As demonstrated in the accompanying affidavit and statement of material facts, there is no genuine issue of fact to be heard regarding these issues. Applicants urge the Board to so find, to conclude that Applicants are entitled to a favorable decision as a matter of law, and to dismiss this issue from the proceeding.

I. BACKGROUND

In August 1982, CASE witness Mr. Jack Doyle was deposed regarding his concerns as to the adequacy of Applicants' pipe support design process. Among the matters addressed by Mr. Doyle was a question of how the emergency condition loads could have been less than those calculated for the normal and upset operating conditions for a particular support (CASE Exhibit 669 at 130; Tr. 3761).

The NRC Special Inspection Team addressed this allegation in its Report.¹ Therein, the Staff noted that the variation in support loads noted by Mr. Doyle resulted from the use of different damping factors for OBE and SSE conditions (referring to 2 and 4 percent damping factors for OBE and SSE conditions, respectively) in piping seismic analyses, and would not be unexpected. The SIT found that Applicants correctly used the OBE and SSE response spectra and damping values in their seismic analyses. (NRC Exhibit 207 at 48.)

In its Proposed Findings CASE argued that the 2 and 4 percent damping factors referenced by the SIT were not appropriate for several reasons. CASE apparently assumed that these damping factors were used in all piping seismic analyses and that Applicants had justified use of these values by a Westinghouse Topical Report. (CASE Proposed Findings, Section XXII.)

¹ NRC Inspection Report 50-445/82-26, 50-446/82-14, February 15, 1984 ("SIT Report") (NRC Staff Exhibit 207).

Applicants addressed the allegation regarding loading variations in their Proposed Findings of Fact (August 5, 1983) at 67-68, and in their Reply to CASE's Proposed Findings (September 6, 1983) at 50-51.

In its December 28, 1983, Memorandum and Order (Quality Assurance for Design), the Board requested that Applicants provide additional information regarding its pipe support design process. In response to this request, Applicants submitted their Plan to Respond to Memorandum and Order (Quality Assurance for Design), on February 3, 1984. Although the Board has not addressed this particular allegation in its Memorandum and Order, Applicants identified this as a matter on which further evidence would be provided. Applicants' Plan at 7, Item 16.

II. APPLICANTS' MOTION FOR SUMMARY DISPOSITION

A. General

Applicants have previously discussed the legal requirements applicable to motions for summary disposition in their "Motion for Summary Disposition of Certain CASE Allegations Regarding AWS and ASME Code Provisions Related to Welding," filed April 15, 1984 (at 5-8). Accordingly, we incorporate that discussion herein, by reference.

B. CASE's Allegations Regarding Applicants'
Use of Damping Factors for OBE and SSE
Loading Conditions Should be Summarily Dismissed

CASE has alleged that Applicants employed erroneous seismic damping factors in their pipe stress analyses for OBE and SSE conditions. The substance of CASE's allegation is set forth in Section XXII of its August 22, 1983, Proposed Findings of Fact and Conclusions of Law. Specifically, referring to a discussion in the SIT Report² concerning the seismic analysis of a particular support addressed by Mr. Doyle, CASE alleged, as follows:

This is a Class 1 (active) pipe system of 3" diameter; therefore, the damping factor which must be used is 1 percent for both OBE and SSE, not 2 percent OBE and 4 percent SSE (see Reg. Guide 1.61). Even if this were a non-active system, the allowable damping is only 1 percent for OBE and 2 percent for SSE. The Applicants and SIT are wrong regardless, according to the NRC's own Regulatory Guide. [CASE Proposed Findings at XXII-3.]

CASE has premised its argument on three erroneous assertions, viz., (1) class 1 piping systems are active, (2) incorrect seismic damping values were used to evaluate the piping system response to OBE and SSE conditions, and (3) the Applicants' and SIT's positions are not consistent with applicable Regulatory Guides. As demonstrated in the attached affidavit of Dr. Robert C. Iotti, CASE's assertions are not valid.

² NRC Staff Exhibit 207, at 48-49.

With respect to CASE's first assertion, Regulatory Guide 1.48 defines active systems as those "which must perform a mechanical motion during the course of accomplishing a system safety function." Piping systems, which perform no mechanical motions in accomplishing their safety functions, are not, therefore, active systems. Thus, the provision in Regulatory Guide 1.61 (footnote 2) which refers to OBE damping values, and which provides that "in the dynamic analysis of active components as defined in Regulatory Guide 1.48, these values should also be used for SSE," does not apply to the seismic analysis associated with piping. Accordingly, not only is CASE's first assertion that piping systems are active systems incorrect, but its related claim that damping values for piping analyses should be the same for both OBE and SSE conditions is also incorrect. (Iotti Affidavit at 2-3).

With respect to CASE's other assertions Applicants use 1 and 2 percent critical damping response spectra for the OBE and SSE evaluations, respectively, for small diameter (12" and under) piping systems. Indeed, the piping seismic analysis for the stress problem which includes the support on which CASE based its allegation used those values. Apparently, CASE was led to believe that 2 and 4 percent damping factors were used in all Applicants' piping seismic analysis by a statement made in the SIT report (at p. 48). However, although the SIT was not clear on the point, the use of 2 and 4 percent damping factors in the analysis of OBE and SSE conditions to which it refers was only

with respect to that aspect of the analysis in which closely spaced modal responses are combined using a coupling factor, which is a function of damping. This is a conservative assumption for this calculation because the higher the damping the larger the coupling factor, and therefore, the larger the total response. However, the seismic analysis performed for the stress problem applicable to the support discussed by the SIT used the correct seismic damping factors, consistent with the guidance in NRC Regulatory Guide 1.61. Thus, CASE incorrectly asserted that Applicants' seismic response analysis for small diameter piping used 2 and 4 percent damping. (Iotti Affidavit at 3-5.)

In addition, CASE's assertion that Applicants used different response spectra, dependent on damping factors, is invalid. Applicants use the OBE spectra for the OBE event and the SSE spectra for the SSE event. The use of these spectra has nothing whatever to do with damping factors. When performing piping seismic analyses the choice of the damping factor employed will depend on whether the analysis being performed is for OBE or SSE conditions. This approach is entirely consistent with the guidance set forth in Regulatory Guide 1.61. (Iotti Affidavit at 5.)

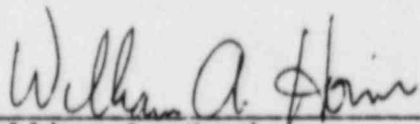
Finally, CASE suggests that Applicants employed a document (a Westinghouse Topical Report) which is applicable to larger piping systems and friction as a basis for employing damping factors different than those specified in Regulatory Guide 1.61.

However, this document was used only with respect to the damping for the Westinghouse reactor loop configuration, for which a different damping factor was justified by testing and analysis, as described in the FSAR. FSAR § 1A(N)-34. Thus, CASE's assertions that Applicants used this document for selecting damping factors for other piping analyses is incorrect. (Iotti Affidavit at 5-6.)

III. CONCLUSION

For the reasons set forth above, Applicants request that the Board grant Applicants' motion for summary disposition.

Respectfully submitted,



William A. Horin

BISHOP, LIBERMAN, COOK,
PURCELL & REYNOLDS
1200 Seventeenth Street, N.W.
Washington, D.C. 20036
(202) 857-9817

Counsel for Applicants

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