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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

|                               |   |                        |
|-------------------------------|---|------------------------|
| In the Matter of              | ) |                        |
|                               | ) |                        |
| TEXAS UTILITIES ELECTRIC      | ) | Docket Nos. 50-445 and |
| COMPANY, <u>et al.</u>        | ) | 50-446                 |
|                               | ) |                        |
| (Comanche Peak Steam Electric | ) | (Application for       |
| Station, Units 1 and 2)       | ) | Operating Licenses)    |

APPLICANTS' MOTION FOR SUMMARY DISPOSITION  
OF CASE ALLEGATIONS REGARDING DIFFERENTIAL  
DISPLACEMENT OF LARGE-FRAMED, WALL-TO-WALL  
AND FLOOR-TO-CEILING PIPE SUPPORTS

Pursuant to 10 C.F.R. §2.749, Texas Utilities Generating Company, et al. ("Applicants") hereby move the Atomic Safety and Licensing Board ("Board") for summary disposition of the Citizens Association for Sound Energy's ("CASE") allegations regarding differential displacement of large-framed, wall-to-wall and floor-to-ceiling pipe supports.

As demonstrated in the accompanying affidavit (Attachment 1) and statement of material facts (Attachment 2), 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 these issues in this proceeding.

I. BACKGROUND

The relevant general background of this issue is set forth in detail in the Board's Memorandum and Order of December 28, 1983 at pp. 7-14. This issue has been the subject of substantial testimony by all parties, (see e.g., CASE Exhibit 659, 668, and 669; Applicants Exhibit 142; NRC Staff Exhibits 207 and 208; and Tr. 5239, 5253-6, and 7053-5).

Following litigation of the pipe support design allegations, each of the parties submitted proposed findings addressing, inter alia, these issues (see Applicants' Proposed Findings of Fact Concerning Pipe Support Design Questions (August 5, 1983) at pp. 40-44; NRC Staff Proposed Findings of Fact (August 30, 1983) at pp. 28-34; CASE Proposed Findings of Fact and Conclusions of Law (August 22, 1983) at Section VI; and Applicants Reply to CASE's Proposed Findings (September 6, 1983) at pp. 23-24).

Subsequently, on December 28, 1983 the Board issued a Memorandum and Order addressing, inter alia, this issue (at pp. 57-8). In response to Applicants' January 17, 1984 Motion for Reconsideration (at pp. 38-39), the Board issued a February 8, 1984 Memorandum and Order which, inter alia, modified its previous ruling on this issue (at p. 30). In response to the Licensing Board's December 28, 1983 Memorandum and Order, Applicants filed a Plan to Respond to Memorandum and Order (February 3, 1984) which also addresses, inter alia, differential displacement of large-framed supports (at p. 7).

II. APPLICANTS' MOTION FOR SUMMARY DISPOSTION

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), incorporated herein, by reference.

B. CASE's Allegations Regarding Differential Displacement of Large-Framed, Wall-to-Wall and Floor-to-Ceiling Pipe Supports Should Be Summarily Dismissed

CASE alleges that Applicants' design of large-framed pipe supports which span from wall-to-wall or floor-to-ceiling and which do not include slip-joints are inadequate. Board Memorandum and Order of December 28, 1983 at p. 57. CASE's allegation is based on a concern that such supports are not adequately designed to withstand loads from seismic displacement, thermal expansion and creep. CASE's Proposed Findings of Fact and Conclusion of Law (Walsh/Doyle Allegations) at p. VI-14 (August 22, 1983). Further, CASE notes that PSE design guidelines reflect that these supports should have slip-joints. Board Memorandum and Order of December 28, 1983 at p. 58.

In its allegation, CASE identified two supports on the service water system which are large-framed and span from floor-to-ceiling, yet did not have slip joints. Id. at pp. 57-8. While these two supports had been modified to bring them into compliance with PSE guidelines, the Licensing Board requested

additional evidence regarding "how it came about that PSE violated its own design guidelines, how this event came to be reflected in the design quality assurance system, and whether this problem was resolved promptly, as required by 10 C.F.R. Appendix B, Criterion XVI." Board Memorandum and Order of February 8, 1984 at p. 30. In addition, Applicants committed to report to the Board on all floor-to-ceiling and wall-to-wall supports in the plant, and where slip-joints are not used, to perform an analysis demonstrating that the design is adequate. Applicants' Plan to Respond to Memorandum and Order (Quality Assurance for Design) at p. 7 (February 3, 1984). Further, CASE recommended that Applicants should be required to reanalyze all wall-to-slab (floor or ceiling) supports as it had done for wall-to-wall and floor-to-ceiling pipe supports. CASE's Proposed Findings at p. VI-14.

The instant motion addresses the Board's outstanding questions, provides additional information on other similar supports, and responds to CASE's recommendation that a reanalysis of all wall-to-slab supports is necessary. In this Motion, Applicants rely on testimony in the record which reflects that creep and thermal expansion need not be considered. See e.g., Applicants' Proposed Findings at pp. 40-44 (August 5, 1983). Indeed, by Board Memorandum and Order (Thermal Stress in Pipe Supports) of July 6, 1983, the Board ruled that there was no requirement to consider thermal stresses in pipe supports. The position that the relevant concern is not creep or thermal expansion, but

seismic loading, is further supported by the Licensing Board's characterization of the issue in its December 28, 1983 and February 8, 1984 Memoranda and Orders as "Differential Seismic Displacement."

As set forth more fully below, responses to the outstanding questions raised by the Licensing Board and the analyses of the remaining large-framed, floor-to-ceiling and wall-to-wall supports, coupled with testimony previously presented do not reflect that there has been a breakdown in the QA program or that these supports present a safety concern. Accordingly, no genuine issue of material fact exists with respect to these issues, and the Board should find that the Applicants are entitled to judgment as a matter of law.

1. General

As indicated in Applicants' Exhibit 142 at p. 25, prior to this issue being raised by the NRC or CASE, in late 1981 Applicants identified four large-frame, floor-to-ceiling supports designed by PSE without slip joints as being inconsistent with PSE guidelines. Affidavit at p. 3. (The PSE guidelines state that such large-frame supports should have slip-joints; the purpose being to negate the need to analyze differential displacement of supports between floor and ceiling or between walls. Id.) However, the supports were very conservatively designed, and it was generally felt that they were adequate. Id.

In the process of awaiting completion of construction of structures associated with the four supports, and obtaining as-built loads by which to fully assess the adequacy of the designs, the NRC Special Investigation Team ("SIT") inquired about the adequacy of these supports. Id. at pp. 3-4. While Applicants believed that a detailed analysis of the supports would demonstrate their adequacy, calculations reflected that the floor-to-ceiling columns could simply be cut off and the supports would still be adequate. Id. at p. 4. This was by far the easier course of action. Id. Accordingly, Applicants cut the columns in half to eliminate any suspected problems of a support extending from floor-to-ceiling. Id.

After this issue was raised in this case, to demonstrate the adequacy of the initial designs, Applicants determined the seismic differential displacement between the floor and ceiling where the supports were located and, using the computer code STRUDL, analyzed one of the four identical supports for the combined design load and differential seismic displacement load. Id. at pp. 4-5. Significantly, the seismic differential displacement was calculated to be .006 inches, less than the thickness of two sheets of paper. Id. While as a practical reality, limited displacement on the order of .006 inches would never be a matter of concern for any support, the computer run was made and the resulting stresses in the support were below allowable stresses. Id. at pp. 4-5.



Subsequently, Applicants have reviewed all Unit 1 and common safety related piping supports and determined that there are 26 supports spanning from wall-to-wall or floor-to-ceiling. Id. at pp. 5-6. Of these 26 supports, seven have slip-joints, 4 have small spans, negligible seismic movements and are not considered large-framed supports, and the remaining 15 have been evaluated and were found to be acceptable considering the potential for differential seismic displacement. Id. Significantly, none of these remaining 13 supports were designed by PSE, and all were designed prior to the time that the PSE guideline was made applicable to the other design organizations. Id. Accordingly, these supports were not originally designed in conflict with the PSE guideline, i.e., the guideline was not applicable to those organizations. Id. at p. 6.

2. Response to the Board's First Question, "how it came about that PSE violated its own design guidelines."

It must be remembered that the PSE guideline regarding floor-to-ceiling and wall-to-wall supports was not a code or procedural requirement, but rather guidance for the designer. Id. at pp. 6-7. Indeed, this guideline was not initially applicable to the other two design groups (ITT and NPSI), although their supports were adequate for piping loads and differential displacements. Id. While we cannot be certain why the designer and reviewer did not follow the guideline for these four supports (these individuals are no longer employed at CPSES), as previous-

ly stated, the designs were appropriately conservative and, even if unchanged would have been acceptable. Id.

3. Response to the Board's Second Question, "how did this event [come] to be reflected in the design quality assurance system?"

The failure to follow the PSE guideline for these four supports did not require the generation of any QC non-conformance documentation. Id. at p. 7. If the supports had not been adequately designed in the first instance, corrective action would have been required. Id. at p. 7. Of course, because there was a design change of the supports, appropriate design change documentation was issued. Id. at p. 7.

4. Response to the Board's Third Question, "whether this problem received prompt attention."

Applicants maintain that the problem received prompt attention. In 1981 the four supports in question were identified. As previously stated, it was believed that the designs, although not in strict compliance with the PSE guideline, were adequate. Id. at pp. 7-8. Accordingly, Applicants chose to wait until construction associated with all four of the supports and all piping had been completed to determine the precise as-built loads to assure the adequacy of the designs. Id. In the interim, the SIT raised the issue and the decision was made to modify the support as opposed to going through a detailed and, because of timing, a premature design analysis. Id. That prompt attention to this problem was taken is evidenced by the fact that only these four supports were in violation of the guideline. Id.



Subsequently, the SIT recommended that the guideline regarding this issue be made applicable to ITT and NPSI. Id. While Applicants did not believe it was necessary, Applicants promptly complied with the request. Id. As previously noted, analysis of similar supports designed by ITT and NPSI reflect that such supports were adequate considering piping loads and differential displacement. Id.

In sum, Applicants did promptly respond to the problem when it was identified.

#### 5. Analysis of Wall-to-Slab Supports

CASE has recommended that Applicants analyze all wall-to-slab (floor or ceiling) supports in the plant which do not contain slip-joints. CASE's Proposed Findings at p. VI-14. For the following reasons, Applicants maintain that such additional reanalysis is not necessary.

The seismic deflection that could occur on wall-to-slab supports consists of vertical deflection of the slab and horizontal deflection of the wall. Affidavit at pp. 8-9. In that such supports are near the juncture of the slab and wall, the actual deflection realized at the support would be minimal and less than the maximum deflection realized toward the middle of the wall or slab. Id.

To determine if differential seismic deflection appeared to be a problem with such supports, Applicants analyzed three representative supports to determine the resultant stresses. Id.

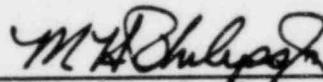
From the analysis, the seismic deflection for the supports ranged from .00035 to .0045 inches, less than the seismic differential deflection noted above regarding floor-to-ceiling supports. Id. While as a practical reality limited deflections on this order would never be a matter of concern for any support, a conservative analysis of the three supports using the STRUDL computer code reflects that resultant stresses are within allowables. Id.

Accordingly, Applicants maintain that CASE's concerns regarding wall-to-slab supports are without merit.

### III. CONCLUSION

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

Respectfully submitted,



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Nicholas S. Reynolds  
William A. Horin  
Malcolm H. Philips, Jr.

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

Counsel for Applicants

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