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September 28, 1984

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

APPLICANTS' REPLY TO CASE'S ANSWER TO  
APPLICANTS' MOTION FOR SUMMARY DISPOSITION  
REGARDING LOCAL DISPLACEMENTS AND STRESSES

I. INTRODUCTION

Texas Utilities Electric Company, et al. ("Applicants")  
hereby submit their reply to "CASE's Answer to Applicants'  
Statement of Material Facts as to Which There is no Genuine Issue  
Regarding Consideration of Local Displacements and Stresses"  
("Answer"), filed August 29, 1984.<sup>1</sup> The Board authorized  
Applicants to submit replies to CASE's answers to Applicants'  
motions for summary disposition during the August 22, 1984,  
conference call (Tr. 13,995). As demonstrated below, CASE has

<sup>1</sup> CASE's answer addresses the statement of material facts  
accompanying "Applicants' Motion for Summary Disposition  
Regarding Consideration of Local Displacements and  
Stresses," filed June 18, 1984.

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failed to demonstrate the existence of a genuine issue regarding the material facts set forth in Applicants' motion. Accordingly, the Board should render the decision sought by Applicants.

## II. APPLICANTS' REPLY TO CASE'S MOTION

### A. General

CASE's answer to Applicants' motion fails to demonstrate the existence of a genuine issue regarding any of the material facts set forth in Applicants' motion. Thus, under the usual standard for granting summary disposition Applicants would be entitled to judgment as a matter of law (see 10 C.F.R. §2.749(d)).<sup>2</sup>

The Board has, however, established a more lenient standard in this phase of the proceeding for granting summary disposition. As the Board noted in its June 29, 1984, Memorandum and Order<sup>3</sup>, the Board intends to ask questions, request briefs or otherwise seek to clarify matters so as to determine whether sufficient information is available to make a "reasoned decision". Accordingly, we address below each of CASE's assertions with respect to Applicants' statement of material facts which we perceive to

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<sup>2</sup> We note that CASE has failed to file a statement of material facts as to which it contends there is a genuine issue to be heard, as required by 10 C.F.R. § 2.749(a). We do not stand on this technicality, however, but note that this failure makes it all the more difficult to discern precisely what CASE's assertions are.

<sup>3</sup> Memorandum and Order (Written-Filing Decisions # 1; Some AWS-ASME Issues) (June 29, 1984) at 2-3 ("Memorandum and Order").

require clarification and/or rebuttal to assist the Board in reaching a sound decision. We believe there clearly is sufficient information before the Board for it to reach a reasoned decision on this issue.

As with its other answers, CASE has not focussed its Answer on the issues in dispute. For the most part CASE fails to demonstrate why its objections are relevant to the issues, contrary to the Board's admonition in its Memorandum and Order.<sup>4</sup> Further, CASE wholly fails to demonstrate the existence of important issues that affect the public safety.<sup>5</sup> CASE argues in its Answer that Applicants' evaluation is flawed, but fails to identify the consequences of those alleged flaws. In short, CASE's answer makes it extremely difficult to discern what information Applicants need address to assist the Board in reaching its decision. As we previously noted, the Board should admonish CASE for this failure.

We cannot let pass without comment CASE's decision to respond to Applicants' motion not by reasoned argument on the technical issues presented but by aiming invectives and insults at the Applicants, Cygna and the Staff.<sup>6</sup> CASE's arguments on the issue at hand are limited to a few assertions concerning only Applicants' first statement of material fact. Even those

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<sup>4</sup> Memorandum and Order at 6.

<sup>5</sup> Id. at 7.

<sup>6</sup> CASE's Answer consists of an Affidavit of Jack Doyle, hereinafter referred to as "Affidavit".

arguments do not address that statement directly. The bulk of CASE's filing is dedicated to attacking Applicants, Cygna and the Staff and the adjudicatory process itself.<sup>7</sup> The Board has previously cautioned that such ad hominem attacks have no place in this proceeding. Only because we are at the last stages of the hearing process, and do not wish to delay the disposition of these issues, do Applicants not move to strike CASE's entire pleading. Nonetheless, we urge the Board to severely admonish CASE for its demeaning and unprofessional tactics. The Board should in the future summarily strike pleadings by CASE which do not comport with the standards of professionalism which must be maintained in any adjudicatory proceeding.

B. Applicants' Reply to CASE's Arguments

Applicants focus below only on those arguments of CASE which are at least superficially relevant to the issues at hand. However, CASE does not demonstrate why even those arguments should be considered to raise important safety questions. Thus, it is difficult to predict whether the Board might consider any of

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<sup>7</sup> Applicants do not dwell in their answer below on CASE's insulting remarks. We note here just a few of those addressed toward Applicants to which we most strenuously object: "shot down or blow off their own foot" (Affidavit at 2); "deceit and/or stupidity" (Affidavit at 3); "attempt to reverse the laws of thermal transport," "fatal error" (Affidavit at 4); "attempt to supplant logic", "deviations from engineering fundamentals become frightening" (Affidavit at 5); "manicuring of standard procedures" (Affidavit at 6).

those particular arguments to raise important issues. Accordingly, we address below each even potentially relevant issue regardless of its apparent lack of safety significance.

1. Cygna evaluation of box frames

CASE's first substantive argument is that an analysis of the box frame supports performed by Cygna indicated that there were "serious problems" with this configuration resulting in "excessive forces". CASE cites various portions of the transcript in support of its assertion. (Affidavit at 3.) Contrary to CASE's assertion, Cygna did not find either that there were "serious problems" with this configuration or that "excessive forces" would result. In fact, Cygna ultimately concluded that this support configuration was adequate, although they may have selected a different approach.<sup>8</sup> CASE's characterization of Cygna's testimony is, therefore, simply inaccurate.

2. Objections to Applicants' Statement of Material Facts

CASE presents five arguments against Applicants' first statement of material fact (concerning applicable allowables). None of those arguments are at all relevant to that statement. Instead, CASE contests the validity of a particular calculation Applicants performed regarding a box frame support. Nonetheless, Applicants address these arguments to assure a complete record.

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8 Tr. 12,712, 12,717.



Because CASE does not challenge any other statement of material fact, our reply is limited to those assertions concerning the first statement.

a. air film insulation

CASE disputes Applicants' statement in the calculation concerning the box frame that neglecting the effect of air film insulation in the calculation of the temperature of the tube steel is conservative (Affidavit at 3-4). CASE apparently misunderstands both Applicants' statement and the principles of air film insulation. CASE mistakenly believes that the "air film" which Applicants mentioned is located at the interface, or point of contact, between the tube steel and the pipe. This phenomenon actually occurs over the remainder of the surface area of the box frame and, as Applicants stated, neglecting this effect is conservative. Further, for the situation CASE apparently envisions to exist regarding air film, a gap between the frame and the pipe would have to be present, which would actually reduce (contrary to the implication CASE makes) the ultimate stress between the pipe and the frame. (Finneran Affidavit at

2-3.)<sup>9</sup> In short, Applicants have not "attempt[ed] to reverse the laws of thermal transport." Each of CASE's assertions regarding air film thickness are simply invalid.<sup>10</sup>

b. temperature gradients

CASE contends that the temperature gradient in the tube steel will vary along the length of the tube (Affidavit at 4). CASE does not point to any particular effect it believes this varying temperature gradient would have. Applicants do not dispute that the gradients will vary to some degree. However, as demonstrated by the finite difference analysis performed for the Staff, although the gradients do vary Applicants' assumption of linearity for taking an average temperature of the tube was reasonable and, in fact, conservative given that the lowest temperature in the frame (206°F) is actually higher than the average temperature (203°F) originally assumed. Thus, the expansion of the frame will actually be greater than initially estimated. (Finneran Affidavit at 4.)

In sum, CASE's assertion that Applicants' assumption regarding the thermal gradient was a "fatal error" is incorrect.

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<sup>9</sup> The Affidavit of John C. Finneran, Jr. in support of this reply is attached hereto. That affidavit will hereinafter be referred to as Finneran Affidavit.

<sup>10</sup> Further evidence that Applicants' initial assumption for the temperature distribution in the box frame was very conservative is provided by a finite difference analysis of the temperature distribution within the box frame of this support which Applicants performed at the request of the NRC Staff (Finneran Affidavit at 3).

c. differential thermal expansion

CASE asserts that the expansion of the frame calculated by Applicants will actually be "far less" because of the thermal gradients and those gradients will also give rise to differential expansion of the frame, creating internal thermal stresses (Affidavit at 4-5). As already noted, Applicants' original assessment of the temperature distribution within the frame was appropriate and very conservative, actually underestimating the expansion of the frame. Further, the Board has already ruled that the internal thermal stresses CASE addresses here need not be considered under the ASME Code (Memorandum and Order (Thermal Stress in Pipe Supports), July 6, 1983). (Finneran Affidavit at 4-5.) Accordingly, CASE's claims are again invalid.

d. thermal constraint

CASE next asserts that the thermal gradients within the box frame are not linear (relying on CASE Exhibits 669B, Items 13E-13J) and, thus, stresses will be higher due to "direct bending . . . as a result of thermal constraint" (Affidavit at 5). In the first instance, it is not possible to draw any meaningful conclusion by comparing the exhibits CASE references with the support at issue here. None of the configurations in CASE's exhibits are similar to the support involved here. (Finneran Affidavit at 5.) Further, to the extent CASE again argues that stresses resulting from "thermal constraint" need be considered,



as already noted the Board previously ruled that such stresses need not be considered. Thus, CASE's assertions concerning the effects of thermal constraint is unfounded.

e. coefficient of thermal expansion

CASE's final assertion is that Applicants' employed an incorrect value for Young's Modulus in calculating the expansion of the frame (Affidavit at 5). CASE erroneously assumed Applicants employed an AISC formula for calculating the coefficient of thermal expansion. Because this support is an ASME support, Applicants correctly utilized the value for the coefficient of thermal expansion set forth in Appendix I to Section III of the ASME Code. Further, although CASE apparently contends Applicants should have used the coefficient CASE derived, CASE does not acknowledge that to do so would not be conservative in that the expansion of the frame would be greater and, thus, lower stresses would be calculated for both the frame and the pipe. (Finneran Affidavit at 5-6.)

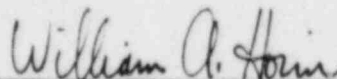
In short, it is not Applicants who have "attempt[ed] to supplant logic" in the derivation of the coefficient of thermal expansion. CASE's assertions to the contrary are simply false.

### III. CONCLUSION

For the foregoing reasons, Applicants submit that there is sufficient evidence before the Board for it to reach a reasoned decision on CASE's allegations regarding local displacements and

stresses. The Board should find that CASE has presented no valid basis for disputing that evidence and, therefore, it should conclude that Applicants' practice is appropriate and based on sound engineering principles.

Respectfully submitted,

  
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