

CASE

(CITIZENS ASSN. FOR SOUND ENERGY)

March 13, 1984 MAR 16 AIO:32

1426 S. Polk
Dallas, Texas 75224
DOCKET
USNRC
214/946-9446

Administrative Judge Peter B. Bloch
U. S. Nuclear Regulatory Commission
4350 East/West Highway, 4th Floor
Bethesda, Maryland 20014

Dr. Walter H. Jordan
881 W. Outer Drive
Oak Ridge, Tennessee 37830

Dr. Kenneth A. McCollom, Dean
Division of Engineering, Architecture
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Oklahoma State University
Stillwater, Oklahoma 74074

Gentlemen:

SUBJECT: In the Matter of
Application of Texas Utilities
Generating Company, et al. for
An Operating License for
Comanche Peak Steam Electric Station
Units #1 and #2 (CPSES)
Docket Nos. 50-445 and 50-446

CASE Exhibit 926
Inspection Report 83-52

We want to call the Board's attention to subject Exhibit, which is attached to CASE's March 13, 1984, letter to Cygna (included with this same mailing).

Although we will be using this document most immediately for cross-examination of Cygna (as explained in our letter to them), we also anticipate that we will be using this document for cross-examination during the hearings on intimidation, harassment, etc. In this regard, we call the Board's attention particularly to page 6 of the Appendix to the Report, items b and c, regarding Individual A's (the alleged) allegations "Undue Pressure and Restriction" and "Threatened With Firing," wherein it is stated:

"Undue Pressure and Restriction

"... The activities associated with this specific allegation thus cannot be considered within the jurisdiction of the NRC. This appears to be a problem of supervision and management within the constructor organization."

"Threatened With Firing

"... Again, this appears to be a matter of management for B&R, and beyond the jurisdiction of the NRC, since Individual A is a craft worker and not a QC inspector."

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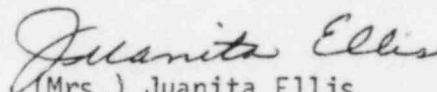
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We have never before seen the NRC's position articulated in this manner. The questions it raises are, we believe, rather obvious, and we will be pursuing them at a more appropriate time.

We also note that this report was apparently not investigated by the Office of Investigations but by the Reactor Inspector at Comanche Peak, Mr. Oberg. This was rather surprising to us, since during our dealings with OI, the investigators have made quite a point that the investigators investigate "people" matters such as intimidation, falsification of documents, etc., and the inspectors investigate allegations regarding the actual hardware. We ask that the Board ask OI to specifically include this matter in their investigations regarding intimidation and harassment, the results of which will eventually be presented to the Board.

Respectfully submitted,

CASE (Citizens Association for Sound Energy)


(Mrs.) Juanita Ellis
President

cc: Service List

CASE

(CITIZENS ASSN. FOR SOUND ENERGY)

March 13, 1984

1426 S. Polk
Dallas, Texas 75224

USNRC

214/946-9446

MAR 16 10:33

EXPRESS MAIL

Ms. Nancy H. Williams
Project Manager
Cygn Energy Services
101 California Street, Suite 1000
San Francisco, California 94111-5834

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

Dear Ms. Williams:

Subject: In the Matter of
Texas Utilities Generating Company, et al.
(Comanche Peak Steam Electric Station
Units 1 and 2)
Docket Nos. 50-445 and 50-446

We are attaching some further comments from Messrs. Walsh and Doyle regarding your recent responses.

There is one item which we would like clarification on right away. Regarding your March 9 response to Doyle Question #18, there are some tables attached (pages 2 and 3), to which reference is made on page 1 of your response. Where did you get these tables? Please provide a copy of the document (or at least pertinent portions and a cover sheet) from which the tables came.

To confirm our conversation yesterday between Bill Horin and you and I, it is our understanding that you identified 30 questions (Doyle Questions 1-18 and Walsh Questions 1-12), that you have submitted answers to 4 (3/2/84), 4 (3/7/84), and 6 (3/9/84), and will submit (or place in the mail by overnight delivery) 4 (3/13/84), 6 (3/14/84), and 6 (3/15/84). You also stated that some of them would have some calculations and computer output (which would need some clarification and discussion to be meaningful). As we discussed yesterday, we will have to see what the other responses are before we can assess them. And since it appears that there will be quite a bit of time needed for the welding witnesses next week, we probably will not complete Cygna's cross-examination, rebuttal testimony, etc. next week and will have to come back later anyhow, so we should have sufficient time before the next hearings to review and respond to Cygna's filings if we don't before the upcoming hearings next week.

As I mentioned yesterday, if you need clarification on anything, please don't hesitate to let us know.

Sincerely,

CASE (Citizens Association for Sound Energy)

Juanita Ellis
(Mrs.) Juanita Ellis, President

Attachments

cc: Service List (see attached)

Walsh Question #4 - CTS-00-03, item 3).

See CASE Exhibit 926, Inspection Report from NRC Region IV, 50-445/83-52, page 4 of the Appendix, item 4. Discussion, second paragraph, which states:

"On July 19, 1983, a 10 CFR Part 50.55(e) construction deficiency report was sent to Region IV identifying a generic problem with cable tray clamps. It was reported that mild steel bolts (ASTM-A-307) had been used in place of the designed high strength bolts (ASTM-A-325). It was determined that the mild steel bolts were acceptable for regular cable tray support clamps. Other applications where A-325 bolts are required will be verified by site QC. Rework will be done as required. The corrective action on this construction deficiency includes verifying the correctness of bolting practices."

Regarding your assumption that the cable tray was infinitely rigid and its attachment was infinitely rigid and has no slippage: Were you aware of this 50.55(e) report? Did you consider it (since it does not appear to be shown in any of your calculations)? A307 bolts cannot be depended on the prevent slippage.

Cygna's 3/7/84 Response - Doyle/Walsh Response:

Doyle Question #17

The answer by Cygna is not responsive. My question was not related to the procedures used to determine embedment length, but was in reference to the statement itself, "No 2-inch topping," which, if incorrect, would lead to an incorrect procedure.

A large number of the platforms at CPSES have topping. I am again asking the question: How did Cygna verify the statement "No 2-inch topping"? It appears that the use of interpretation was to evade answering the question. The points made were either clearly made or could easily have been made clear if Cygna were interested (just as they requested clarification on a few other questions).

Further clarification regarding cross-examination questions

We have already indicated that I will be cross-examining regarding CASE Exhibits 892, 893, 899, 896, 900, and 895, and you have copies of them. This is an area which I will be covering during the questioning in the upcoming hearings and involves the following drawings:

SI-1-038-013-S22A, CASE Exhibit 892
SI-1-079-001-S32S, CASE Exhibit 893
RH-1-024-011-S22A, CASE Exhibit 899
RH-1-010-004-S22A, CASE Exhibit 896
SI-1-030-003-S32K, CASE Exhibit 900
And to a lesser extent, SI-1-075-001-S22R, CASE Exhibit 895

All of the preceding are made up of members which have a span-to-depth ratio of less than 3, and yet they are analyzed as standard flexural members. For example, the standard formula for beam bending $PLQ/3EI = \text{deflection}$ is used in CASE Exhibit 892, which has an L/D about equal to 1, and CASE Exhibit 893 has an L/D about .75, but the actual formula should be $PL/AE(2.6 \times \alpha) = \text{deflection (shear)}$. For these beams, flexural analysis is not applicable (see CASE Exhibit 927 attached, Formulas for Stress and Strain, Fifth Edition, by Raymond J. Roark and Warren C. Young, pages 186-188, with particular attention to the second full paragraph, page 186), nor is such procedure necessarily conservative.

Cygna did not comment on the fact that erroneous formulae were incorporated in the calcs. We are asking why Cygna did not note this deviation from fundamentals?

A second aspect is what material was actually used for base plates -- SA515 Type 65 or SA36 (since both are listed in the bills of material on the drawings)? This is an important factor since it determines several features, among which are the weldability and welding procedures for hardenable steels as opposed to the more readily weldable SA36.

Walsh Question #6 - CTS-00-006

Were the following included: weight of the fire protection application, weight of the cover plates which are applied over the fire protection application, hardware (bolts, etc.), weight of doublers (plates which are put on where the butt connections are made between cable tray segments before the bolts are put in)?

If so, what values were used for each? If not, supply actual sizes of the items used.

Cygna's 3/9/84 Response (received by CASE 3/12/84) - Doyle/Walsh Response:

Doyle Question #5

I believe the shortcomings of this type of column are well covered in my transmittal attached to CASE's 3/10/84 letter to you. You trade a high KL/R for an unstable column, which maintains stability by being supported by the run pipe which it supposedly is designed to support.

Doyle Question #6

Because NB-3645, NC-3645, and ND-3645 do not quantify flattening does not alleviate the requirements of its intent. Judgement cannot qualify such

problems without back-up. If you believe that such problems may be solved by engineering judgement, may I suggest that you check the Bearst Program at Stone and Webster (used to solve just such problems) which I believe is based on the Bjilaard formulae. See also Wichman, Hooper and Mershon, Local Stress in Spherical and Cylindrical Shells Due to External Loading.

The conclusion that clamps induce similar problems is incorrect, since with a U-bolt the load on the pipe is induced at a point and a line at opposite sides. For a box frame, the load is induced along four lines 90° apart. And for a reaction, the load is induced along a single line, whereas with the clamp the load is radially distributed for approximately its full 360°. Therefore, the induced loads due to a clamp whether due to thermal constraints or the reaction at the node point are far, far less than those discussed above.

Doyle Question #9

You state that Grinnell design procedure SA3912 allows you to take credit up to 135° and that it was confirmed that this was all the credit that was used in the calcs.

First, it is not a credit. It is a reduction in effective throat. And the reason it stops at 135° is that after Beta equals 2/3, the throat dimensions of the weld are for all practical purposes useless and therefore no reduction is allowed. The PSE Design Manual at Comanche Peak recognized this in May 1982 and ordered the design group to consider all fillet weld portions outside of the limits Beta = 2/3 to be neglected in considering weld properties, which is in line with the intent of the Beta groupings. See CASE Exhibit 716, attached, especially page 17.

Doyle Question #14

First of all, the determination of dynamic loads at the node point at which supports are located is achieved by the pipe stress group using the weight, etc., of the run pipe. The supports are described to the computer as a generic stiffness; that is, a spring without mass or dimension. Therefore, in the load output there is no support weight included. If it is not considered by the support designer, it is not considered at all. Therefore, you are in error in stating that it will be considered twice if the designer includes it in his analysis.

Second, standard practice considers anchor bolt/base plate as rigid if they are friction (stiff) joints, but when bolt holes are oversized in a bearing joint, then the joints are flexible.

Third, if all joints are equal in flexibility, then there is only a minor change in loads due to varying stiffnesses. However, when joints are unpredictable and random, then the output is incorrect. For example, if one joint is (wall mounted) in shear and only two bolts are active and the up- and downstream

supports are ceiling mounted with two base plates each, there are eight bolts in tension; therefore, the stiffness of the center supports is about one quarter of magnitude less than its neighbors. When coupled with the hardware stiffnesses, etc., the stiffness of any given support can corrupt the meaning of the output.

Doyle Question #18

I believe I covered this one quite extensively in my transmittal attached to CASE's 3/10/84 letter, but to elaborate:

1. Unless the weld developed 100% of the capacity of the gussets, then the reliability of the welds is at best only a guess.

2. The base plate with stiffeners added has not developed an even rigidity plate-wise, but only in selected areas. Since the loads will follow the stiffest load path, it will direct much more of the load to the fasteners adjacent to this new stiff path. Assuming that because the moment arm will improve slightly does not answer the question of what the new distribution of the total loads will now be as directed to the bolts in line with this highly stiffened load path.

The only way to determine what effect the opposing elements (a) longer moment arm vs. (b) stiffer load path will have on the system is by performing a STARDYNE Baseplate II or equivalent analysis considering all elements involved, and certainly not by engineering judgement.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

TEXAS UTILITIES GENERATING
COMPANY, et al.

(Comanche Peak Steam Electric Station
Station, Units 1 and 2)

Docket Nos. 50-445 and
50-446

CERTIFICATE OF SERVICE

By my signature below, I hereby certify that true and correct copies of
CASE's 3/13/84 letter to Cygna and CASE's 3/13/84 letter to

Licensing Board re: l&E Report 83-52

have been sent to the names listed below this 13th day of March, 1984,
by: Express Mail where indicated by * and First Class Mail elsewhere.

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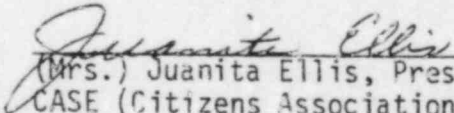
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