

ORIGINAL

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of:

TEXAS UTILITIES ELECTRIC
COMPANY, et al

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

Docket No. 50-445
50-446

Deposition of: Gary Krishnan

Location: Glen Rose, Texas

Pages: 42000-42016

Date: Tuesday, July 10, 1984

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY & LICENSING BOARD

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 In the matter of: :
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 TEXAS UTILITIES ELECTRIC :
 COMPANY, et al. : Docket Nos. 50-445
 : 50-446
 (Comanche Peak Steam Electric :
 Station, Units 1 and 2) :
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Glen Rose Motor Inn
Glen Rose, Texas

July 10, 1984

Deposition of: Gary Krishnan
called by examination by counsel for Applicant
taken before Ann Riley, Court Reporter,
beginning at 9:20 a.m., pursuant to agreement.

1 APPEARANCES:

2

3 FOR THE APPLICANT AND THE WITNESS:

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6

7 FOR THE NRC STAFF:

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9

10 FOR THE INTERVENOR:

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14 Austin, Texas 78701-1887

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P R O C E E D I N G S

1
2 Whereupon,

3 GARY KRISHNAN

4 was called as a witness and, having been first duly sworn,
5 was examined and testified as follows.

6 MR. HORIN: My name is William Horin. I am a member
7 of the law firm of Bishop, Liberman, Cook, Purcell and
8 Reynolds and for Texas Utilities Electric Company, Applicant
9 in this proceeding.

10 I appear here today in that capacity.

11 Before proceeding further, I wish to point out that
12 Mr. Krishnan is appearing voluntarily and that he is not under
13 subpoena.

14 Mr. Krishnan's testimony has been requested from
15 the Applicant by CASE, an Intervenor in this proceeding.

16 The Applicant has already noted its objections to
17 the deposition procedures and schedule ordered by the Board
18 and it intends no waiver of those objections by Mr. Krishnan's
19 appearance today.

20 In addition, under the order issued by the Board on
21 March 15, as modified by a series of subsequent telephone
22 conference rulings, the scope of this deposition is limited
23 to the taking of evidence in the making of discovery on
24 harassment, intimidation or threatening of QA-QC personnel
25 with one exception.

1 A Yes, I do.

2 Q Is that statement of your qualifications previously
3 admitted into the record of this proceeding?

4 A Yes, it is.

5 Q Mr. Krishnan, what is your position at Comanche Peak?

6 A I am a Site Stress Analysis Group Supervisor.

7 Q And is the Site Stress Analysis Group a part of the
8 Comanche Peak project engineering organization?

9 A Yes, it is.

10 Q Were Messrs. Walsh and Doyle employed in the Site
11 Stress Analysis Group?

12 A Yes, they were.

13 Q And specifically were they employed in a group known
14 as the STRUDL group?

15 A Yes.

16 Q They were not members of the quality assurance -
17 quality control organization?

18 A No, they were not.

19 Q In your position, do you have contact with any QA-QC
20 inspectors?

21 A No, I do not.

22 Q Do QA-QC inspectors judge the design ability judged
23 by the SAG or STUDL groups?

24 A No.

25 Q Do you have personal knowledge of any incident in

1 which any QA-QC inspector has been harassed, intimidated or
2 threatened?

3 A Not to my knowledge.

4 MR. HORIN: In view of these facts, I will object
5 to the continuance of the deposition of Mr. Krishnan in that
6 it concerns matters beyond the scope of the issue set forth
7 by the Board for this portion of the proceeding.

8 There is no allegation nor is there any situation
9 in which Mr. Krishnan could be aware of the incidence or of
10 the intimidation of QA-QC inspectors.

11 MR. JACKS: All right.

12 What I propose, Bill, is that I begin by going
13 through the preliminaries with him about his background and so
14 forth and then ask him some questions directed at the functions
15 of his group and the STRUDL group in particular and then let's
16 take a break and I think I can do that in less than 15 minutes.

17 MR. HORIN: What I would like -- I assume that you
18 are seeking information to respond to my objection.

19 MR. JACKS: Yes, just to make a record so that your
20 objection can be ruled on. I am probably going to have to take
21 it to the Board.

22 MR. HORIN: What I intend to do is go ahead and go
23 to the Board if you don't concur with the objection.

24 MR. JACKS: I think that is fair enough.

25 MR. HORIN: So I think it is fair that you be able

1 to examine him with respect to his role to determine your
2 agreement or disagreement with the objection.

3 MR. JACKS: Fair enough.

xxx

4 EXAMINATION

5 BY MR. JACKS:

6 Q Mr. Krishnan, I am going to ask you a few questions.
7 If I ask any question you do not understand, would you tell
8 me that you don't understand it and I will repeat it or rephrase
9 it?

10 A Okay.

11 Q Tell me again what your title is.

12 A Site Stree Analysis Group supervisor.

13 Q How long have you held that position?

14 A Over three years.

15 Q Going back to 1981 or so?

16 A April, 1981.

17 Q Do you have a resume that sets forth what your
18 background is or does this exhibit --

19 MR. HORIN: This exhibit is his resume.

20 MR. JACKS: Fine.

21 (Counsel reading document.)

22 BY MR. JACKS:

23 Q By whom are you employed?

24 A I am employed by Gibbs and Hill, Incorporated.

25 Q Has that been true throughout the period of time

1 from April, '81 until the present time?

2 A Yes.

3 Q Would you explain to me the organization of the
4 Site Stress Analysis Group which you supervise?

5 A At this time? The organization at this time?

6 Q Let's begin there.

7 A At this particular time, the Site Stress Analysis
8 Group is part of the technical services organization and
9 technical services is part of project pipe support engineering
10 organization, which is part of Comanche Peak engineering
11 organization.

12 Q For about how long has that structure existed in
13 that form?

14 A About four years.

15 Q Throughout the time that you had been involved in
16 the Site Stress Analysis Group?

17 A Throughout that time, yes, the three years I have
18 been at the site.

19 Q That explains to me where your group fits within
20 the engineering organization.

21 Let me ask you to explain the internal organization
22 of your group, if you will, please, sir?

23 A Okay. At this time the group has only piping
24 analysis, but at the time that Walsh and Jack Doyle were
25 working, we used to have the STRUDL group and the pipe

1 analysis group and since then, since about a year, a year and
2 a half back, we assumed a lot more piping analysis resposi-
3 bility so I have been solely doing that.

4 Q Were both Mr. Walsh and Mr. Doyle in the STRUDL
5 group?

6 A Yes, they both were.

7 Q STRUDL is an acronym which stands for a structural
8 design language.

9 MR. WOLF: What?

10 THE WITNESS: Structural design language; it is a
11 computer program. I should really refer to their group as the
12 frame analysis group. It is a differentiation from piping.

13 BY MR. JACKS:

14 Q Did the structural design language group deal only
15 with frame analysis or did it deal both with frame analysis
16 and pipe?

End 1.

17 A Only the frame analysis.
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1 Q What was the function of the frame analysis
2 group?

3 A The function of the frame analysis group was
4 to obtain analysis input information from other design
5 groups like pipe support engineering or ITT or NTSI support
6 groups, model the information into the computer program,
7 the STRUDL program, obtain the results and return them to the
8 organization that requested the computer runs.

9 MR. HORIN: I would like to point out that while
10 I won't object to this line of questioning because it's
11 intended to elicit information for your purposes to respond
12 to my objection that all this information has been previously
13 educed on the record and has been the subject of Board
14 decisions and many pleadings by all the parties.

15 MR. JACKS: I don't intend to belabor it. I'm
16 just trying to pull some information together in one record
17 for the purposes of permitting me to make the decision I
18 need to make, and then for the Board perhaps to make a
19 decision after that.

20 BY MR. JACKS:

21 Q You mentioned several groups that would supply
22 input?

23 A Yes.

24 Q For use by the frame analysis group in running
25 that information on the computer model?

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1 A That's correct.

2 Q Would you take those one at a time and tell me
3 again what each was and what each of those groups had
4 responsibility for?

5 A Did you ask me for the function of the STRUDL
6 group?

7 Q Yes.

8 A Basically, their function is to obtain information
9 regarding computer analysis of frames and perform the analysis
10 from groups that really require the analysis.

11 Q What I would like you to explain a little more
12 fully to me is the identity and function of each of the
13 groups that would provide that input to the frame analysis
14 groups, so that they could do the work you have described.

15 A The PSE is one group, Pipe Support Engineering.
16 The other group is -- it used to be called TSDRE,
17 Technical Services Design Review Engineering, which had two
18 subgroups, ITT and NTSI.

19 Q ITT?

20 A ITT Analysis, that's what it is. ITT is an
21 organization in Providence, Rhode Island. However, they had
22 a group of people working in the TSDRE organization and their
23 analysis was sent to us for maybe making reruns or whatever.
24 And there was, in FSG, Field Structural Group. That's the
25 other group.

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1 But now, with the restructuring, things have
2 changed.

3 Q Was the computer modeling done by the frame
4 analysis group done on the structures that still were on the
5 drawing board? That is, in the design stage? Or was the
6 frame analysis done on structures that already had been
7 fabricated and either had been or were about to be installed?

8 MR. HORIN: I think that, because of your lack of
9 familiarity with the system, that may be a difficult question
10 for Gary to answer. Perhaps he can just answer the question
11 of what analyses were performed by the group, as you had about
12 four different steps in the design process in your question
13 which don't necessarily follow one right after another.

14 BY MR. JACKS:

15 Q Can you answer the question?

16 A The function of the group is to perform analysis.
17 It could be a design type analysis which could have been
18 either on an ongoing frame or it could have been on a frame
19 that has been built, that the designer wants to make some
20 modifications. Basically, they would provide the computer
21 analysis of the frame, the stress analysis of the frame.

22 Q In the case of structures that already had been
23 built, where the designer might like to do some redesign
24 or reworking of that structural member of one of the
25 purposes of the frame analysis group, to do the computer

1 modeling necessary to provide guidance to that designer if
2 he oversaw the redesigning or reworking of that member?

3 A The information requested is by the designer.
4 And it is up to the designer to evaluate the results of the
5 analysis that's provided by the frame analysis group. So
6 it might very well have been a type of information that the
7 designer would have been looking for, maybe to design a new
8 frame or to make a modification to a frame.

9 So since the STRUDL group was the only group that
10 was providing the services of analysis, the results could have
11 been used any which way the designer chose to.

12 MR. JACKS: Let's take a short break.

13 (Recess.)

14 MR. JACKS: Let me make a statement for the record.

15 During the break that we just took, I conferred
16 with Mr. Reisman, another of the attorneys for CASE in this
17 proceeding, and with opposing counsel. With respect to the
18 objection that has been lodged by counsel, at the beginning
19 of this deposition of Mr. Krishnan, after having questioned
20 Mr. Krishnan briefly and after having talked with Mr. Reisman
21 and with Juanita Ellis and with opposing counsel and bearing
22 in mind the obligation I have to the Atomic Safety and
23 Licensing Board to exercise my good faith in determining whether
24 or not Mr. Krishnan's testimony would be relevant to the
25 issues that have been outlined for this proceeding, I believe

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1 that his testimony would not be and therefore I have no
2 further questions of him.

3 And this deposition, at least as far as this
4 lawyer is concerned, is terminated. Others may have things
5 they want to say or ask Mr. Krishnan. I will only say that
6 we anticipate, based on these conversations with counsel
7 for the Applicant, that similar objections are held by the
8 Applicant with respect to the depositions of Mr. Sanders
9 and Mr. Simmons.

10 Having discussed their testimony with Mr. Roisman
11 and with Juanita Ellis, and with opposing counsel, I have
12 been authorized, on behalf of CASE, to say that again in
13 good faith, after hearing the objections of counsel for the
14 Applicant, I believe that for the purposes of this -- we
15 believe that for purposes of this deposition that their
16 testimony, again, would not be relevant under the issues
17 that are to be determined in this proceeding.

18 And therefore, we will dispense with the taking
19 of their depositions. And that concludes my statement.

20 MR. HORIN: I have nothing to add.

21 MR. WOLF: I have no questions of Mr. Krishnan,
22 but I should identify myself for the record as being here.
23 I am James Wolf, and I am representing the NRC Staff and I
24 have no questions.

25 MR. JACKS: Thank you, Mr. Krishnan.

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(Whereupon, at 10:05 a.m., the taking of the
deposition was concluded.)

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Gary Krishnan

end2

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CERTIFICATE OF PROCEEDINGS

1
2
3 This is to certify that the attached proceedings before the
4 NRC COMMISSION

5 In the matter of:


6 Date of Proceeding:

7 Place of Proceeding:

8 were held as herein appears, and that this is the original
9 transcript for the file of the Commission.

10
11 Ann Riley

12 Official Reporter - Typed

13 

14 Official Reporter - Signature