

ORIGINAL

# UNITED STATES NUCLEAR REGULATORY COMMISSION

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IN THE MATTER OF:

DOCKET NO: STN 50-498-OL  
STN 50-499-OL

HOUSTON LIGHTING AND POWER COMPANY,  
et al.

(SOUTH TEXAS PROJECT, Units 1 and 2)

EVIDENTIARY HEARING

LOCATION: HOUSTON, TEXAS

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DATE: TUESDAY, JULY 30, 1985

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1  
2 UNITED STATES OF AMERICA  
3 NUCLEAR REGULATORY COMMISSION  
4 BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

5 -----X

6 In the Matter of: DOCKET NO.  
7 HOUSTON LIGHTING AND POWER : STN-50-498-OL  
8 COMPANY, ET AL., : STN-50-499-OL  
9 (South Texas Project Units 1 & 2 :  
10 -----X

11 University of Houston  
12 Teaching Unit II, #215  
13 Houston, Texas

14  
15  
16 Tuesday, 30 July 1985

17  
18 The hearing in the above-entitled matter was  
19 convened, pursuant to adjournment, at 9:05 a.m.,

20 BEFORE:

21 JUDGE CHARLES BECHHOEFER, Chairman,  
22 Atomic Safety and Licensing Board.  
23 JUDGE JAMES C. LAMB, Member,  
24 Atomic Safety and Licensing Board.  
25



1 JUDGE FREDERICK J. SHON, Member,  
2 Atomic Safety and Licensing Board.  
3

4 APPEARANCES:

5 On behalf of the Applicants:

6 MAURICE AXELRAD, Esq.,  
7 JACK R. NEWMAN, Esq.,  
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10 STEVEN P. FRANTZ, Esq.,  
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12 Washington, D.C.  
13

14 On behalf of the Nuclear Regulatory Commission Staff:

15 EDWIN J. REIS, Esq.,  
16 ORESTE RUSS PIRFO, Esq.,  
17 Office of the Executive Legal Director  
18

19 On behalf of the Intervenor:

20 LANNY ALAN SINKIN,  
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22 Washington, D.C. 20008  
23 Representative for Citizens Concerned About  
24 Nuclear Power.  
25

## C O N T E N T S

WITNESSES:	DIRECT	CROSS	BOARD	REDIRECT	RECROSS
LOREN STANLEY	-	13229	13346	13355	13358
		13339	-	-	-
SIDNEY BERNSEN and					
FRANK LOPES, JR.	13370	-	-	-	-

EXHIBITS:	FOR ID	IN EVD.
CCANP Exhibit 104	-	13309

## 1 PROCEEDINGS

2 JUDGE BECHHOEFER: Good morning, ladies and  
3 gentlemen.

4 Are there any preliminary matters? We thought  
5 we would wait till Mr. Stanley concludes before we talk  
6 about the Waterford case. Other than that, are there  
7 any preliminary matters?

8 Mr. Sinkin, you may resume.

9  
10 LOREN STANLEY,  
11 having been previously duly sworn, testified further  
12 upon his oath as follows:

13  
14 CROSS-EXAMINATION (Cont'd)

15 BY MR. SINKIN:

16 Q Mr. Stanley, turning to CCANP 104, your  
17 comments on the Bechtel task force report.

18 A Okay. I have it.

19 Q In comment 6 you contrast Bechtel's treatment  
20 of line item 53 with their treatment of line item 59.  
21 And in your comment you state that there seems to be a  
22 contradiction between the assessment in 59 and the  
23 assessment in 53. I want to be sure I understand what  
24 you're calling a contradiction.

25 MR. GUTTERMAN: Mr. Chairman, I wonder if we

1 could get this question somehow connected to one of the  
2 Quadrex findings in issue. I'm having trouble making  
3 that connection myself.

4 MR. SINKIN: All right. I'll start there.

5 Q (By Mr. Sinkin) Is this finding -- these  
6 findings 53 and 57 -- oh, let's stick with 53. Is that  
7 the basis in part for Quadrex generic finding 3.1(b)  
8 which states at page 3-4 that Brown & Root does not  
9 provide adequate guidance to vendors?

10 A Mr. Sinkin, would you possibly have any  
11 reference for the last sentence in item 3 on page 3-3  
12 back to the E questions? Do you have any idea as --

13 Q Let me -- you're directing me to page 3-3 of  
14 the Quadrex report?

15 A I thought that's where you had suggested the  
16 statement was made.

17 Q No, no, I said 3-4, at the top.

18 A Oh, at the top of the page?

19 Q Right. Is item 53 the type of problem you're  
20 discussing?

21 A Well, in the report the direct references for  
22 that are HVAC question 10 and mechanical question 46  
23 were really the direct references.

24 Q I understand. But yesterday you did testify  
25 that you didn't necessarily list every discipline

1 finding or question that supported a generic when you  
2 were writing the generics.

3 A That's true. I did make that statement.

4 The report doesn't show, for example, the  
5 question E-6 as a reference. However, in the Quadrex  
6 assessment for question E-6, the issue is the same  
7 issue, that specifications referred to prepared by Brown  
8 & Root contain no requirements for barriers, but only  
9 references in IEEE Standard 384 which is not adequate  
10 because this provides no basis, no definition of  
11 materials, hazards, et cetera.

12 Q Speak up just a little, please.

13 A Yes, it provides no definitions of materials,  
14 hazards, et cetera.

15 Q And that's from E-6 that you're reading?

16 A That's from question E-6.

17 Q Which is referenced in item 53?

18 A Item 53 in the Bechtel task force report.

19 The other reference is E-2? It does not  
20 appear to me that E-2 is a good cross-reference for that  
21 item. It doesn't appear that it really directly  
22 addresses that point that you're raising.

23 Q Okay. Well, let me understand, Mr. Stanley.  
24 The item referenced at page 3-4 as a generic would cover  
25 the problem in E-6 because it relates to vendors and

1 what's provided to vendors, but not the problem in E-2?

2 A The Quadrex assessment in E-2 says that the  
3 specifications do not provide input to other  
4 disciplines.

5 Q Okay.

6 A It really isn't addressing vendors.

7 Q I see. So, when you look at item 53 where it  
8 talks about documentation for internal designers and for  
9 vendors, internal designers would be E-2 and the vendors  
10 would be E-6, the actual Quadrex item in item 53? By  
11 internal designers, I'm assuming the phrase means other  
12 disciplines.

13 A I believe that's a fair characterization,  
14 yes.

15 Q Okay. Let me return to comment 6 in CCANP  
16 104. In this comment you seem to be addressing the  
17 vendor question.

18 A Yes.

19 Q So, that would relate to the generic problem  
20 that we looked at or --

21 MR. REIS: Mr. Chairman, I object to this line  
22 of questions. There's no connection to that this is a  
23 safety matter rather than an economic matter. And we're  
24 going through these things and unless we parse them out,  
25 we can go through these things forever as to whether

1 they are safety or economic.

2 If the matters would be caught in any way in  
3 the normal course of business, then the NRC has no  
4 concern. And there is no showing at this point that  
5 these matters that are being inquired into are safety  
6 rather than economic.

7 MR. SINKIN: Mr. Chairman --

8 MR. REIS: I think we're just talking about  
9 the efficiency of design.

10 MR. SINKIN: What we're talking about, Mr.  
11 Chairman, finding 4.3.2.1(e) is defining for vendors the  
12 separation requirements that include barriers and it is  
13 a most serious finding -- it is one of the most serious  
14 findings in the electrical discipline.

15 MR. GUTTERMAN: Mr. Chairman, I don't think  
16 that the --

17 MR. SINKIN: And if --

18 MR. GUTTERMAN: I'm sorry.

19 MR. SINKIN: Excuse me. If it only had  
20 economic significance and not safety significance of any  
21 kind, I think by definition of the categories it would  
22 not have been -- no, it could have been a most serious.  
23 I take that back. It could have been a most serious.

24 MR. REIS: Mr. Chairman, further, when we go  
25 to page 12 of the prehearing conference order of May



1 17th and we look at what is listed as the findings to be  
2 inquired into, now, I agree you do talk about generic  
3 findings, but 4.3.2.1(e) is not listed on page 12 as to  
4 what this hearing will involve.

5 MR. SINKIN: Well, as Mr. Reis said, it does  
6 list the generic findings and one of the generic  
7 findings it lists is 3.1(b) and that's what I just spent  
8 ten minutes tying it to.

9 MR. REIS: I haven't seen the tying and I  
10 haven't seen the tying to a safety matter rather than an  
11 economic and efficiency of designing a plant. And we're  
12 not here involving the efficiency in designing the  
13 plant. We're here involved in whether they will meet  
14 and whether they were meeting NRC regulations, quality  
15 assurance or proper construction of the plant. But we  
16 weren't dealing with whether they were doing it in an  
17 uneconomic or an inefficient manner.

18 MR. SINKIN: Well, maybe I can ask a  
19 foundation question to satisfy Mr. Reis.

20 I hope we have satisfied the Applicants that  
21 it's tied to a generic finding.

22 MR. GUTTERMAN: Well, I don't think that's the  
23 issue we're arguing right now. What we're arguing is  
24 whether it's got something to do with the matter related  
25 to safety.



1 MR. SINKIN: With what Mr. Reis raised, and  
2 let me respond to that. Maybe I can do that with a  
3 foundation question to Mr. Stanley.

4 Q (By Mr. Sinkin) Mr. Stanley, if a vendor used  
5 an inappropriate separation barrier requirement for a  
6 panel, could that have a safety significance?

7 MR. REIS: I object in that the general  
8 question has no relevance to the issues before this  
9 Board. Of course the answer to that question is yes,  
10 but it doesn't go to the -- I mean, anyone knows that.  
11 It is not probative of the issues in this case. It  
12 doesn't go to whether eventually or whether the design  
13 process would lead in the long run to violation of NRC  
14 regulations or whether the design process was in  
15 violation of NRC regulations. Just because they might  
16 have chosen to do it in an inefficient or uneconomic way  
17 doesn't show that there is a violation of NRC  
18 regulations and that's what we're going through here.  
19 We're spending a lot of time on this.

20 MR. SINKIN: I don't see anything in this  
21 finding that indicates that the concern is the  
22 efficiency or economy of the plant design. I think it's  
23 pointing to a safety problem which Mr. Reis seems to  
24 recognize is a safety problem, the barriers and panels,  
25 and it's saying no documentation exists for defining

1 those separation of barrier requirements to a vendor.

2 MR. REIS: That isn't what the bottom of task  
3 force assessment -- well, that's Bechtel's task force  
4 assessment. While it may be more efficient doesn't mean  
5 it doesn't comply with design criteria.

6 MR. SINKIN: Well, yes, it is the Bechtel task  
7 force assessment you're reading. I'm looking at what  
8 Quadrex has to say and I'm looking at comment 6 by Mr.  
9 Stanley that the reasonableness is not necessarily  
10 acceptable to him.

11 MR. REIS: Mr. Chairman, let me respond to  
12 that. I don't want to get into a protracted argument  
13 here. But the testimony so far is that the study done  
14 by Quadrex was not particularly looking at QA matters,  
15 but more particularly it was to benchmark and see where  
16 they were in engineering.

17 When he talks here about contradictory in the  
18 context of it, I would presume in reading this that the  
19 whole thing is talking about efficiency of design and  
20 whether Brown & Root is doing their job from an economic  
21 point of view rather than a safety point of view. And  
22 it doesn't appear to me from the reading of comment 6 --  
23 I can't tell what it is and whether it's probative of it  
24 at all.

25 MR. SINKIN: Mr. Chairman, I would direct the

1 Board's attention to line item 59 in Bechtel's  
2 assessment there and I think it's the heart of the  
3 disagreement Mr. Stanley has with them, or at least the  
4 contradiction he's pointing out where he says it is the  
5 responsibility in our opinion of the design engineers,  
6 in other words, Brown & Root, to amplify and interpret  
7 reference standards and NRC regulations.

8 Now, that is not -- that's a safety matter,  
9 that is not an economic matter. They're saying that  
10 Brown & Root has a certain responsibility here and in  
11 line item 53 they seem to say Brown & Root doesn't have  
12 that responsibility. I think that's the contradiction  
13 we would have gotten to to discuss, but I don't  
14 understand Mr. Reis' objection at all.

15 This is obviously relevant to a generic  
16 finding. It's relevant to a safety matter. It deals  
17 with whether Brown & Root was adequately performing the  
18 design. And I really hate to see the purpose of this  
19 study, the Quadrex study misrepresented. The purpose of  
20 this study was to assess the technical adequacy or  
21 inadequacy of the Brown & Root design and that's what it  
22 says in the front of the study.

23 JUDGE SHON: Mr. Stanley, as the Board  
24 understands this thing, there were a whole bunch of  
25 items here, many of which touch on the fact that it was

1     apparently Brown & Root practice to tell a vendor build  
2     it to ANSI standard such and such and then drop the  
3     matter, not give them any further details. You thought  
4     that was a bad idea, is that right, or you thought it  
5     wasn't very good practice?

6             THE WITNESS: I'd like to correct the whole  
7     impression. The Quadrex answer to question E-6 --

8             JUDGE SHON: Yes.

9             THE WITNESS: -- clearly states that Brown &  
10    Root was applying IEEE 384 1974 and Reg Guide 1.75.  
11    Those two documents provide the total industry guidance  
12    on separation and are satisfactory to satisfy the NRC  
13    regulations. So, there was never any question of a  
14    safety issue or a lack of addressing regulations in this  
15    whole thing.

16            From experience, people that have used those  
17    standards in the industry, we have learned that these  
18    are fairly difficult for a vendor to interpret and it's  
19    helpful to the vendor if you give him additional  
20    guidance so that he can more efficiently complete his  
21    design, complete his fabrication.

22            We were basically making a recommendation for  
23    an improved practice that would help efficiency and cost  
24    effectiveness, never a safety implication in this one.

25            JUDGE SHON: Okay. I'm glad you cleared that

1 up. Nevertheless, you found not only here but in a  
2 number of places that they were giving the vendor  
3 insufficient information when they simply cited the  
4 standard, is that right, or you felt that they should  
5 give --

6 THE WITNESS: Based upon the industry  
7 experience of our review team, yes.

8 JUDGE SHON: And as I understand the dispute  
9 and the word contradictory as it occurs here, you're  
10 simply saying, well, Bechtel, you yourself said that  
11 same thing in one of your other instances; is that  
12 correct?

13 THE WITNESS: That's correct.

14 JUDGE SHON: And that's what the contradiction  
15 is, that you felt Bechtel at least in part agreed with  
16 your engineering opinion?

17 THE WITNESS: Within the draft version of the  
18 task force report that I was reviewing, I saw a  
19 contradiction within the Bechtel material.

20 JUDGE SHON: Now, would you as an engineer  
21 consider that the failure to elaborate on industrial  
22 standards and NRC reg guides, this failure to elaborate  
23 is in any sense a quality assurance breakdown?

24 THE WITNESS: No, it is not. It has no  
25 quality assurance breakdown connotations at all.



1 JUDGE BECHHOEFER: Is this true even if it  
2 happened on numerous occasions?

3 THE WITNESS: That's true. It wouldn't matter  
4 how many times it happened.

5 They have completely covered the NRC  
6 regulations by specifying the one IEEE standard and the  
7 one NRC regulatory guide. There is no other guidance in  
8 the industry. But people have learned through  
9 experience that it's more efficient, it's more effective  
10 to elaborate upon when the standard says this, we want  
11 it built in this manner, and then the vendor is not left  
12 to figure out what's required. You're helping him.  
13 So --

14 JUDGE LAMB: So, this has to do with  
15 efficiency design and specification of equipment?

16 THE WITNESS: Correct.

17 JUDGE LAMB: As contrasted with the right and  
18 wrong of how it should be constructed?

19 THE WITNESS: No, it wasn't a case of right or  
20 wrong, it's a case of doing it to the requirements or  
21 doing it even better.

22 JUDGE BECHHOEFER: This question, we will  
23 sustain the objection on this one.

24 Q (By Mr. Sinkin) Mr. Stanley, in terms of what  
25 you just said about meeting NRC requirements, let me

1 reference you to page 3-6 of the Quadrex report, the  
2 last paragraph, the underlined sentence.

3 A Right.

4 Q Is that not one of the central concerns of the  
5 Quadrex study, that it was frequently stated during the  
6 design review that only NRC requirements must be met,  
7 whether or not those requirements are accurate,  
8 reasonable or even meet the intent of the regulation?

9 MR. GUTTERMAN: The question was was that one  
10 of the central concerns of the Quadrex report?

11 MR. SINKIN: Well, it's one of the few that's  
12 underlined.

13 Q (By Mr. Sinkin) Does that have any  
14 significance that it's underlined as opposed to all the  
15 ones that aren't?

16 A This particular sentence doesn't have any  
17 direct bearing with regard to E-6 or the previous  
18 subject. The reason that that sentence was put in the  
19 report and was underlined was that many members of the  
20 Brown & Root engineering staff made this comment to us,  
21 that all we have to do is meet minimum NRC  
22 requirements. We thought that was such a pervasive  
23 attitude that we needed to point that out to HL&P that  
24 that may not be in their long-term best interest. It  
25 would be a licensable plant. It would meet all the

1 safety requirements, but it may not be an optimum  
2 design.

3 Q Well, that sounds very much like E-6.

4 A No, E-6 is a different matter. If you look at  
5 IEEE 384, it specifies within panels six-inch distances  
6 between redundant cables, one-inch distances between  
7 redundant cables and any metal to the outside wall. So,  
8 the numeric values are in the IEEE standard.

9 What we were suggesting is that Brown & Root  
10 should, in an engineering sense, go beyond those numbers  
11 so that the vendor doesn't have to ask himself certain  
12 questions and then answer them himself.

13 This comment on the bottom of page 3-6 was  
14 really addressing a different issue and that was we were  
15 getting a consistent statement that only NRC  
16 requirements had to be met. I don't believe that HL&P's  
17 operating plant needs would be satisfied by that, even  
18 though that would meet all the regulations, would meet  
19 all the safety requirements.

20 Q Okay. Thank you.

21 By the way, just to clarify something you  
22 said, too. You said there was a -- the contradiction  
23 that was discussed in terms of this item was in the  
24 draft?

25 A Apparently. From the text of the words that



1 are in my comment 6 --

2 Q Right.

3 A -- this seems to be contradictory with the  
4 opinion stated in line item 59. I gather from that  
5 context that there must have been a contradiction.

6 Q Okay.

7 JUDGE LAMB: Mr. Stanley, are you saying in  
8 effect then that by following this attitude on page 3 --  
9 as stated on page 3-6, that they could wind up with --  
10 if they followed that approach, they might wind up with  
11 designs that were uneconomic, deficient?

12 THE WITNESS: That's certainly a possibility.  
13 I think we can state that they would end up with designs  
14 that were licensable and that there really was no safety  
15 significance of any issue left. But they may not meet  
16 HL&P's operating, maintenance, test requirements.

17 Q (By Mr. Sinkin) But in looking at your  
18 description of those NRC requirements, Mr. Stanley, you  
19 say whether or not those requirements are accurate,  
20 reasonable or even meet the intent of the regulations.  
21 That suggests you could do only what the NRC requirement  
22 says and not meet the intent of the regulation.

23 MR. REIS: Mr. Chairman, I think we're going  
24 beyond the regulation in that question and so I object  
25 to it, beyond NRC's requirement.

1           If there is a question that a regulation is  
2 improper, there's a petition for rule making and that's  
3 the way that that is corrected. But at the time the  
4 plant is being designed and built, I don't care how  
5 unreasonable the standard may be, the standard is the  
6 standard and that's the context we're working in. There  
7 are ways to correct that. But that doesn't mean that  
8 the utility has any freedom until he gets the standard  
9 changed to do something different because he thinks it's  
10 different.

11           It could be that they have to petition for  
12 rule making, they have to do other things to get things  
13 changed and we encourage them to and it should be done.  
14 But they have to follow it at that time. And to ask the  
15 question that way and to say what it is is saying please  
16 violate the NRC regulations.

17           MR. SINKIN: No, Mr. Chairman --

18           JUDGE BECHHOEFER: Let me ask Mr. Stanley a  
19 question.

20           By using the word requirements, did you  
21 necessarily mean regulations or were you including  
22 matters such as reg guides and various standards which  
23 an Applicant can elect to come up with an alternative  
24 for? When you used requirements, is that broader than  
25 regulation?

1 THE WITNESS: I think it's fairly clear that  
2 we were including in the term requirements regulatory  
3 guides, industry codes and standards. And I recognize  
4 that that term is not the correct term to use with  
5 regard to regulatory guides which are guidance type  
6 documents, but that was what we meant. Industry  
7 standards, regulatory guides and regulations.

8 JUDGE SHON: Sure. In fact, you've even said  
9 whether or not those requirements even meet the intent  
10 of the regulation, so you clearly meant to distinguish  
11 them from regulations. It seems you did, at any rate.

12 THE WITNESS: I think we in the industry have  
13 not been consistent, and I am part of this, in  
14 identifying that regulatory guides are guidance, not  
15 necessarily requirements. We fail to make that  
16 distinction clearly all the time.

17 JUDGE LAMB: Are you saying in effect then,  
18 Mr. Stanley, that regulatory requirements should not  
19 necessarily be considered as the best basis for design?

20 THE WITNESS: At times I believe that's  
21 perhaps true, that there are optional alternative ways  
22 of achieving the same safety objective and that the  
23 utility Applicant should have the opportunity to present  
24 better alternatives.

25 Q (By Mr. Sinkin) Mr. Stanley, in comment 8 in

1 your response to the Bechtel task force report you state  
2 that the FSAR is not a design document. I'd like to  
3 show you the prefiled testimony of Mr. Taylor of the  
4 NRC. Or if the Applicants could provide you with the  
5 prefiled testimony of Mr. Taylor?

6 No? Okay.

7 I'd ask you to read questions 62 and 63  
8 beginning on page 22, questions and answers.

9 A Okay.

10 Q Was it your position at the time you made  
11 these comments on the Bechtel task force report that the  
12 FSAR could not be used as a design document in early  
13 1981 because it was too early in the project at STNP?

14 A No, that's not the correct interpretation. We  
15 made the statement that the FSAR should not, not that it  
16 could not, but rather should not be the design input  
17 document for environmental and plant operating  
18 conditions.

19 Q And why was it your position that the FSAR  
20 should not?

21 A Primarily for the reasons that Mr. Taylor has  
22 presented in his response to question 63. The submittal  
23 of the SAR often preceeds the issuance of the operating  
24 license. To keep it up to date would require perhaps  
25 thousands of amendments to the SAR. The licensing will

1 accumulate changes for a period from three to four  
2 months. For those factors and similar type factors, we  
3 felt that it was too slow a moving document to serve as  
4 a design input.

5 Q Okay. So, the only real difference you would  
6 have with Mr. Taylor is when he says I have found that  
7 Quadrex has stated a number of times through these  
8 generic findings that the FSAR cannot be used as a  
9 design document, you didn't mean to say cannot, you  
10 meant to say should not?

11 A Should not.

12 Q From your comments in comment number 8, you  
13 seem to relate line item 58 to line item 187 and line  
14 item 242. Is it correct that you find those linked to  
15 each other?

16 A Mr. Sinkin, you're going to have to help me.  
17 I don't see any reference to those other line numbers on  
18 comment 8. Comment 8 refers only to line item 58. And  
19 it talks about line item 81.

20 Q Just one second, Mr. Stanley, I'll try and  
21 clarify this.

22 Well, let me move on, Mr. Stanley. I must  
23 have written this in error.

24 Let's move to comment 10, Mr. Stanley. In  
25 line item 187, which is the first reference, Quadrex

1 refers to numerous errors found in Brown & Root  
2 calculations. My question is whether these errors form  
3 part of the basis for Quadrex generic finding 3.1(b) at  
4 page 3-3?

5 A Yes, N-1, nuclear analysis number 1 and  
6 nuclear analysis number 17 which are referenced in item  
7 2 on page 3-3 are part of the basis for that statement.

8 (No hiatus.)  
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1 Q Does this also go to 3.1(j) at 3-11?  
2 Specifically, I'm sorry, it's the (i), originally a (j).  
3 The sentence about the middle of the paragraph, "In  
4 addition, an abnormally high error rate was observed in  
5 these calculations.

6 A Correct; yes, that's the same reference.

7 Q The comment, comment No. 10, says that the  
8 nuclear analysis group did not identify high energy lines  
9 in the MAV or the need for their analysis despite  
10 considerable Quadrex questioning. Is that failure to  
11 identify the lines or the need for their analysis what  
12 Quadrex means in 3.1(d), Page 3-6 item No. 1,  
13 specifically the lack of awareness phrase?

14 A Of high energy piping in the mechanical  
15 auxiliary building building, yes.

16 Q And the comment seems to say in the last  
17 sentence that as of March 16th, 1981, Quadrex found a  
18 number of other areas where the nuclear analysis group  
19 had no knowledge that they were supposed to be conducting  
20 a particular activity.

21 A I guess I would phrase your thing differently.

22 Q Okay.

23 A The statement says that there were a number of  
24 other areas and it gives some examples, such as door  
25 positions, makeup water, MSIV lodging, and control of

1 analysis output, that there seemed to be a lack of  
2 awareness or complete awareness of.

3 Q From talking with your reviewers who prepared  
4 the report, made this kind of observations, was it your  
5 impression that they were dealing with young engineers  
6 who had not done this before and therefore didn't know  
7 they were supposed to do it. That's the situation we're  
8 in?

9 MR. GUTTERMAN: I have a problem with that  
10 question in that there are so many "theys" in there that  
11 I don't know which groups we are talking about.

12 JUDGE BECHHOEFER: Yeah, I was with to  
13 interrupt and ask first what report are you talking  
14 about, is this the subsequent report or the Quadrex  
15 report? Second, how many -- there aren't that many  
16 reviewers in the subsequent report.

17 MR. B&R: Okay.

18 Q (By Mr. Sinkin) I'm talking about March 16,  
19 1981, which is the date in the comment ten, apparently a  
20 review was done in this area. And you may have  
21 participated in that review, yourself.

22 A I was there.

23 Q You were there?

24 A Yes.

25 Q Then I'll ask you directly. The people you



1 were dealing with in Brown & Root, what did you elicit  
2 that gave you -- let me try again. Did you gain any  
3 understanding of why they were not knowledgeable in these  
4 areas when you talked to them; what were the root causes,  
5 how's that, of why they were not knowledgeable?

6 A There were a couple of elements that we deduced  
7 from the discussions we had. My recollection is that the  
8 man in charge of the nuclear analysis group had just  
9 recently come to Brown & Root and was within days or  
10 weeks in that assignment. So he was relatively new to  
11 the project.

12 We also determined that they had not performed  
13 the work of doing these analyses, where the choices of  
14 open or closed door positions, the choices of the sources  
15 of makeup water, where those choices had to be faced and  
16 addressed.

17 So I think it was a combination of the  
18 discipline leader being new to the project and the fact  
19 that they hadn't done the work, so they hadn't  
20 encountered the types of questions we had been posing.

21 Q It seems to me from your comment that you  
22 found two things: You found an absence of awareness  
23 of things that needed to be done and you found things  
24 they might be aware of but hadn't done anyway. Is that  
25 correct?

1           A     I think that's correct; that's a correct  
2     characterization.

3           Q     In line item 187, at page B-99, I would direct  
4     your attention to the first paragraph of the Quadrex  
5     findings starting "the failure to perform." Are you with  
6     me?

7           A     I'm on page B-98 or --

8           Q     -- B-99.

9           A     - B-99?

10          Q     The top Quadrex finding, "the failure to  
11     perform."

12          A     Oh, "the failure to perform." All right.  
13     Okay.

14          Q     You state, or you stated there in the Quadrex  
15     finding that "the failure to perform any valid  
16     environmental analyses outside of containment is untimely  
17     and could result in incorrectly designed equipment in the  
18     IVC." Why would the equipment be incorrectly designed in --

19          A     Brown & Root and Houston Lighting & Power had  
20     already identified, before we began our review, that the  
21     aux feedwater pump motor had been specified for a  
22     temperature value that was below what it would eventually  
23     have to operate within. And part of that we believed was  
24     because the environmental analyses for line breaks, line  
25     cracks in the IVC had not been performed or were not

1 accurate.

2 Q If the environmental analysis outside of  
3 containment had been performed first before the  
4 installation of the equipment, you would not expect to  
5 find this problem?

6 A That's a reasonable expectation.

7 Q In comment eleven, you are referring to finding  
8 4.6.2.1.(n).

9 A 4.6.2 -- I'm sorry, Mr. Sinkin, can you repeat  
10 the number, please.

11 Q Okay. Let me just be sure of my reference.  
12 It's line item 200. 4.6.2.1.(n).

13 A On page 4-61 of the Quadrex report.

14 Q I think -- well, that's fine. You've got it  
15 there. It is also in the line item, itself.

16 A Okay.

17 Q In referring to 4.6.2.1.(n), that refers to  
18 question N-17.

19 A Okay.

20 Q Now, if you will look for a moment at the  
21 Bechtel task force assessment of line item 200, it states  
22 that B&R told Bechtel that the calculation reviewed by  
23 Quadrex included assumptions which provided maximum heat  
24 loads to the essential cooling pond. Is it correct that  
25 at the time of this study, Quadrex considered the

1 simultaneous shutdown of both units as producing the  
2 maximum heat load to that pond?

3 A I don't recall the specific, as to whether that  
4 was limiting or whether the LOCA plus safe shutdown of  
5 the second unit, one was the limiting condition. One of  
6 those two was the limiting condition. But I don't  
7 remember specifically which one.

8 Q Well, in question N-17, in the -- I guess it's  
9 the second page, that includes the Quadrex assessment, up  
10 in the Brown & Root response, at the end of the first  
11 paragraph, it says B&R calculations show a higher heat  
12 load into the ECP for normal shutdown than for a LOCA.

13 A But I can't tell if that is a two unit normal  
14 shutdown or not, just says normal shutdown. I don't  
15 know. My recollection of this particular issue is that  
16 we were aware that one calculation had been performed,  
17 but the indications from Brown & Root were that the  
18 second case had not be analyzed. The Bechtel task force  
19 assessment would imply that both had been done, and that  
20 we perhaps didn't see it.

21 Q And this is perhaps one of those instances  
22 where the Bechtel task force had more information than  
23 you had at the time you did your study?

24 A It's entirely possibly.

25 Q Quadrex did apparently perform the calculation

1 in question N-17?

2 A Our reviewer made a five- or ten-minute, back-  
3 of-the-envelope rough calculation.

4 Q And that calculation showed that the heat load  
5 that would be applied would exceed the design limits for  
6 the ECP. Is that correct?

7 A That was the statement that our reviewer put  
8 into the response, Brown & Root response, to question  
9 N-17. A rough hand calculation by Quadrex indicates that  
10 the ECP temperature will rise above it's allowed limit  
11 for normal operation if one unit is shut down while the  
12 other runs normally.

13 Q And this --

14 A That's what he did.

15 Q Okay. And this formed part of the basis for  
16 generic finding 3.1 B, item two on page 3-3 of the  
17 Quadrex report?

18 MR. GUTTERMAN: I'm sorry, when the question is  
19 phrased "and this," does this refer to --

20 MR. SINKIN: This refers to the --

21 MR. GUTTERMAN: -- the calculation of one  
22 shutting down and the other unit operating normally?

23 MR. SINKIN: It refers to the calculation by  
24 the Quadrex reviewer that seemed to indicate an excessive  
25 heat load in the ECP under those conditions.

1 THE WITNESS: I lost the connection back to  
2 Page 3-3.

3 Q (By Mr. Sinkin) Okay. Actually, before we go  
4 back to 3-3 let's stick with N-17 for just a second. I  
5 see in the Quadrex assessment, we have another  
6 calculation, or at least an examination of the B&R  
7 calculations, that says simultaneous orderly shutdown of  
8 both plants would violate tech spec limits. The Quadrex  
9 assessment in question N-17.

10 A Oh, yes, that statement is in the Quadrex  
11 assessment.

12 Q Right. Does either that statement or the  
13 calculational error above that we just talked about form  
14 part of the basis for Quadrex's generic finding 3.1(b),  
15 item two, on page 3-3?

16 MR. GUTTERMAN: I object to the question in  
17 that it mischaracterizes the Quadrex finding; there's no  
18 statement here about a calculational error that I can  
19 see.

20 MR. SINKIN: Well, I think if a Quadrex  
21 reviewer performs a calculation that demonstrates that if  
22 the conditions calculated occurred, the design limits  
23 would be exceeded on the ECP, then the calculations of  
24 the design limits for the ECP were in error.

25 MR. GUTTERMAN: Mr. Chairman, I guess that's



1 CCANP's view of the matter. I don't see why that is  
2 useful to include in a long question that presumably is  
3 going to be cited eventually as a witness agreeing with  
4 that characterization.

5 MR. SINKIN: Okay, let's go backwards, Mr.  
6 Stanley.

7 Q (By Mr. Sinkin) Turning to Quadrex Page 3-3  
8 generic finding 3.1(b), item two, one of the references  
9 is to question N-17.

10 A That's correct.

11 Q Where is the calculations containing errors in  
12 question N-17 that supports this generic finding?

13 A I believe that the first sentence of the  
14 Quadrex assessment in N-17 is what you're looking for,  
15 where our reviewer made a statement "there appears to be  
16 either an error in the calculation of the essential  
17 cooling pond initial temperature or an inconstistency  
18 with heavy civil calculations." And he was unable in the  
19 time allotted to determine which of those cases was the  
20 real case. We treated that statement as an indicator of  
21 an error of some sort, without actually determining what  
22 the error was.

23 Q So then perhaps this finding, the Quadrex  
24 assessment in N-17 would support either 3.1(b) two, if it  
25 was an error, or 3-1(a) on interdisciplinary integration

1 if it's a matter of two different disciplines having  
2 conflicting values?

3 A That's entirely possible, yes.

4 Q Okay. Going back to your comments to Bechtel,  
5 is comment twelve essentially the same problem as comment  
6 five addressed which we have already discussed?

7 JUDGE SHON: Before we go on --

8 MR. SINKIN: I'm sorry, don't leave that.

9 JUDGE BECHHOEFER: Mr. Stanley, are the  
10 calculational errors that you just described, would those  
11 represent any sort of quality assurance problems or  
12 deficiencies?

13 THE WITNESS: I don't know that I can  
14 completely answer your question. Certainly at the time  
15 we were performing this review, we did not feel that it  
16 was a quality assurance breakdown. They had done very  
17 few calculations; they were very early in the game; the  
18 heavy civil number was five degrees Fahrenheit off, did  
19 not seem to be a large magnitude; we were dealing  
20 primarily with one discipline, nuclear analysis; I -- at  
21 the time I didn't characterize it as one and even today I  
22 would not characterize this as a quality assurance  
23 breakdown per se. Now, if it persisted, if it weren't --  
24 if the calculations were not verified, corrected, so  
25 forth, that would be a possibility.



1 JUDGE BECHHOEFER: Was there adequate  
2 opportunity to correct the errors?

3 THE WITNESS: I believe in the design cycle,  
4 there was a great deal of time left. Seven years had  
5 gone by but they hadn't done very much in the way of  
6 analysis. So there was a lot of analysis yet to be  
7 completed. And I feel -- I felt comfortable that a  
8 qualified outfit could perform those calculations  
9 correctly. Our reviewer felt the same way. And he  
10 commented at one point on some very good calculations  
11 that NUS had performed.

12 JUDGE BECHHOEFER: You can continue.

13 Q (By Mr. Sinkin) Now, Mr. Stanley, comment  
14 twelve, is that basically the same problem that you were  
15 addressing in comment five?

16 JUDGE BECHHOEFER: Comment which now.

17 A Yes, it --

18 Q (By Mr. Sinkin) Comment twelve is the same  
19 basically as comment five?

20 A It appears to be the same subject area, failure  
21 mode and affects analysis, and single failure  
22 considerations.

23 Q Well, in fact we have the situation of the four  
24 disciplines again, that's the same four disciplines  
25 situation?

1 A Yes.

2 Q In comment 14, if you would review that for a  
3 moment.

4 I should alert you, Mr. Stanley, that sometimes  
5 the page references and your comments won't quite match  
6 up because you were referencing the draft and in the  
7 final, there's some slight variation.

8 A Can you help me then as to --

9 Q It is page 2-6 of the final Bechtel task force  
10 report.

11 A And is it the paragraph starting 2.2.3?

12 Q I think it's the paragraph right above that,  
13 prior to 2.2.3.

14 MR. REIS: Excuse me, what page did you say?

15 MR. SINKIN: 2-6, Bechtel task force.

16 Q (By Mr. Sinkin) And then you see 2.2.3, and  
17 the dot paragraph right above it is the one I think your  
18 comment refers to.

19 A Yeah, the statement in the task force report  
20 was there was no review meeting at which the Brown & Root  
21 overall design philosophy was presented to Quadrex.

22 Q Right. And I think that's what you address in  
23 comment 14.

24 A Correct.

25 Q Okay. You state in comment 14 that the overall

1 Brown & Root design philosophy became quite evident from  
2 their answers to specific questions.

3 MR. GUTTERMAN: Mr. Chairman, can I again  
4 request that somehow this be connected to a finding  
5 that's in issue?

6 MR. SINKIN: Well, we're now dealing with the  
7 broad view of Quadrex on how Brown & Root was performing,  
8 a view that was put forward by the Quadrex report as a  
9 whole. I really saw this as going to the issue of  
10 whether the report as a whole should have been turned  
11 over to the Commission.

12 MR. GUTTERMAN: Mr. Chairman, I just can't see  
13 how this particular comment has any bearing on a safety  
14 related issue or the reportability of the document as a  
15 whole.

16 MR. SINKIN: We consider the overall design  
17 philosophy of Brown & Root as the fundamental observation  
18 or one of the fundamental observations that underlay the  
19 whole Quadrex report, and obviously, the design  
20 philosophy can have a quality component to it.

21 MR. REIS: Mr. Chairman --

22 JUDGE BECHHOEFER: I wanted to find out how we  
23 would tie that into any of the criteria for reporting.

24 MR. SINKIN: Well, sort of depends on his  
25 answers.

1 MR. REIS: Mr. Chairman, discovery is long  
2 over.

3 MR. GUTTERMAN: I would like to underline that,  
4 Mr. Chairman. The whole tenor of the examination  
5 throughout the first ten days of this hearing has been to  
6 conduct cross-examination as if it was discovery, ask a  
7 question and see what the answer is. There's no point to  
8 any of this. A lot of times, 90 percent of the  
9 examination has been making points we might have included  
10 in our direct but didn't think to. He isn't helping  
11 CCANP at all; it's just consuming a lot of time. There  
12 ought to be some directive, some objective to  
13 cross-examination." I haven't sensed it at all/.

14 MR. SINKIN: To some extent, Mr. Chairman, I'm  
15 pleased that my strategy is not obvious.

16 MR. GUTTERMAN: Mr. Chairma, I'd like to  
17 comment on that because I've heard that several times and  
18 it really upsets me. The implication of that is we're  
19 playing a game of surprise. And I think that's totally  
20 unfair, and improper. There were interrogatories  
21 directed to CCANP two years ago asking them what their  
22 positions were in this litigation. We never got  
23 satisfactory answers to them. And now CCANP is  
24 maintaining that they have some element of surprise  
25 they're going to spring on us later. I think if there's

1 any relevance and materiality to the questions that are  
2 being asked, if it's not obvious to everybody, it ought  
3 to be explained.

4 MR. SINKIN: Mr. Chairman -- go ahead, Mr.  
5 Reis.

6 MR. REIS: Mr. Chairman, let me say that in  
7 preparing for this hearing and in trying to amass and  
8 consider this mass of documents before us, because of the  
9 failure to -- and the wishing to have surprise, it gives  
10 a great handicap to the staff to be able to recollect and  
11 recall each of these matters.

12 For instance, in the last matter, I was trying  
13 to recall, and I walked back in the the room several  
14 times, to recall how the reporting of the HVAC factor and  
15 the failure to perform calculations or consider a pipe  
16 break outside of containment came together, and as I  
17 remember, there was a nexus between them although I  
18 couldn't remember what it was at the moment. And because  
19 these things are being sprung on us, because it's playing  
20 as a surprise without some great direction here, because  
21 discovery wasn't conducted before, the parties are being  
22 prejudiced, especially when we have a difficult technical  
23 proceeding here.

24 I have before me a half dozen books open right  
25 now, trying to follow this. And trying to see what's

1 involved. And I know the Board is having the same  
2 problem. And it is very hard, and we have to separate  
3 out safety, economic, it's not at all clear, we're not  
4 going -- the premise, for instance, it might be well to  
5 say, to ask each of these comments, to start out, "Is  
6 this a safety comment or an economic comment? What is  
7 the safety significance of this comment? Is there any  
8 safety significance. Then we can start out and see  
9 whether we're spinning our wheels.

10 MR. SINKIN: Well, Mr. Chairman, I have a  
11 number of responses. I don't think I'm talking about  
12 surprise. I think the issues in this hearing are quite  
13 clear and in our opening statement we made quite clear  
14 what we thought they were and how we intended to address  
15 them. If there was a question that lacked materiality or  
16 relevance, there were objections and they were sustained.  
17 All the other questions have been basically material and  
18 relevant. And I think the information that has come  
19 forward has been good information that there's a good  
20 record being developed. We'll see when the findings are  
21 done whether our time has been well spent. I think it's  
22 been very well spent.

23 This question about this particular Bechtel  
24 task force report, finding, CCANP did not propose to  
25 introduce the Bechtel task force report into evidence;



1 and we did not write a three volume report for Quadrex,  
2 so all of these documents are on our tables because  
3 someone else produced them. We're we're trying to work  
4 through them to tie them together and have them make some  
5 sense and that is not an easy task, I agree with that.

6 But that's what we have to work with. We could  
7 just put all these documents aside and say, "Mr. Stanley,  
8 is there anything in Brown & Root's design engineering  
9 process?"

10 He could say, "Maybe," and we will go home.  
11 But that doesn't give a very good record either. I think  
12 so this particular question about what was the design  
13 philosophy of Brown & Root is even directly related to  
14 the generic finding that there was no well thought out  
15 basis for design. If we want a more specific reference  
16 for it. And what I'm trying to get at is Mr. Stanley  
17 says that the overall design philosophy became quite  
18 evident but doesn't say what it was.

19 I want him to tell me what was that overall  
20 design philosophy that became quite evident that could be  
21 quite material and relevant to how you view the Quadrex  
22 report, how you view the findings, how you view the  
23 entire operation of what was going on there.

24 JUDGE BECHHOEFER: The Board will sustain this  
25 objection. We think it's a little remote from any of the

1 specified issues.

2 Q (By Mr. Sinkin) Mr. Stanley, in comment  
3 fifteen, the last sentence, you are responding to section  
4 3-3 of the Bechtel task force report.

5 A That's on page 3-2 of the Bechtel task force  
6 report.

7 Q Yes, but I -- yes. And it apparently was two  
8 paragraphs and is now one paragraphs that starts  
9 "because." I mean, the middle of the paragraph starts  
10 "because." Now, as I read what the Bechtel task force is  
11 saying, they're saying that many of the questions asked  
12 by Quadrex were framed around a series of previously  
13 identified design problems or events that occurred  
14 earlier in the project; whereas in your comment, you are  
15 saying by mutual agreement, previously identified problem  
16 areas that were being formerly addressed by Brown & Root  
17 were for the most part excluded from the Quadrex design  
18 review effort.

19 MR. REIS: Mr. Chairman, I object to this  
20 question unless it's identified as to whether the  
21 comments -- first comment fifteen identifies problems  
22 with efficiency and economics or problems with a failure  
23 to meet NRC regulations or safety matters. We must  
24 establish that first before this large round of  
25 questioning on each comment. And if the questions were

1 asked directly, we would get to that and we could get  
2 separate the wheat from the chaff.

3 MR. SINKIN: We can try it that way, Mr.  
4 Chairman.

5 JUDGE BECHHOEFER: I was going to ask Mr.  
6 Stanley to elaborate on that very point.

7 Q (By Mr. Sinkin) Let me try to put that into a  
8 question for you, Mr. Stanley. Looking at your comment  
9 fifteen, the previously identified STP problem areas that  
10 were formerly being addressed by Brown & Root that were  
11 for the most part excluded from the Quadrex design review  
12 effort, were those problems referred to in that sentence  
13 safety related problems?

14 MR. REIS: Mr. Chairman, I don't understand the  
15 question, because if they were problems excluded from the  
16 Quadrex report, what do they have anything to do with  
17 this at all?

18 JUDGE SHON: That's true.

19 MR. REIS: I don't understand the question.

20 MR. SINKIN: Well, see the question, the basic  
21 question raised is that Bechtel says Quadrex framed their  
22 questions around problems previously identified or events  
23 that occurred earlier in the project; Mr. Standley's  
24 answer says no we didn't. What I'm trying to get at is  
25 what was formerly excluded that had been previously

1 addressed; they weren't going to look look at that would  
2 indicate that Bechtel was right or wrong.

3 MR. GUTTERMAN: Mr. Chairman, it is becoming  
4 crystallly clear that we are just wasting our time with  
5 all this examination. I think we're getting to the point  
6 where Applcants are just going to suggest there ought to  
7 be some time limit on this examination of Mr. Stanley.  
8 Is not productive and it's just consuming everybody's  
9 time listening to things that aren't productive.

10 MR. SINKIN: Mr. Chairman, Applicants obviously  
11 intend to introduce Applicants' 63 into the record. It's  
12 then available for them to cite as the Bechtel task force  
13 says Quadrex looked at problems that were previously  
14 identified on the project and Brown & Root was already  
15 working on them so the Quadrex report didn't identify any  
16 problems. I don't think that should be allowed to stand  
17 in the record in this exhibit without getting Mr.  
18 Standley's view of whether that's indeed what they did or  
19 not.

20 MR. GUTTERMAN: The Board suggested that there  
21 ought to be an inquiry to Mr. Stanley about whether the  
22 problems that the Quadrex report was talking about were  
23 safety related or not. And instead the question that was  
24 given to him was asking the exact opposite, asked about  
25 the problems that Quadrex didn't look at. My point is

1 that this kind of examination is total waste of  
2 everybody's time and there has to be a limit put on the  
3 waste of our time.

4 MR. SINKIN: Let me try and ask a direct  
5 question and see if it's objectionable.

6 JUDGE SHON: Could we start with just asking  
7 Mr. Stanley whether there is anything safety related  
8 covered in comment fifteen?

9 THE WITNESS: And in specifically the last  
10 sentence of comment fifteen?

11 JUDGE SHON: Not necessarily. For example --

12 THE WITNESS: The whole thing then.

13 JUDGE SHON: The whole thing. As I understand  
14 the dispute as it currently stands, Bechtel said Quadrex  
15 only looked at things that they knew were wrong and you  
16 said, "No, we didn't. Most of the things we looked at  
17 were things we knew in our previous experience give  
18 people trouble in nuclear power plants. We excluded,  
19 specifically excluded, the previously examined things."  
20 Is this not the exchange as I see it.

21 THE WITNESS: The latter characterization is  
22 the correct one. On page 1-2 of the Quadrex report, we  
23 specifically said Brown & Root design work in response to  
24 TMI 2 issues was to be left out. We made every attempt  
25 to not duplicate the effort of Brown & Root, HL&P and



1 other parties, if they had already identified an issue,  
2 we tried not to duplicate their efforts.

3 JUDGE SHON: Will, then let me ask you of all  
4 these issues that you did look at, the ones that you drew  
5 on your experience at previous plants, to generate, were  
6 they primarily safety issues?

7 THE WITNESS: The questions were primarily  
8 aimed at design activities, design out puts affecting  
9 safety related systems, components, structures; that was  
10 the thrust of our investigation.

11 JUDGE SHON: So that the --

12 THE WITNESS: The nuclear unique, the  
13 activities and the design outputs that were unique to the  
14 design of a nuclear power plant.

15 JUDGE SHON: Then the sentence in the middle of  
16 your comment referring to a significant number of Quadrex  
17 prepared questions referred to a significant number of  
18 safety questions. Is that right?

19 THE WITNESS: That is correct.

20 JUDGE SHON: Then I suppose he could ask  
21 questions about that then.

22 Mr. Sinkin, it seems that there's a sentence in  
23 the middle of that comment that talks about safety  
24 issues. Were your questions requesting to be directed at  
25 that? The first thing you did was ask about another



1 sentence that talks about what isn't in the Quadrex  
2 report. Can you direct your questions towards safety  
3 issues in the Quadrex report?

4 MR. SINKIN: Judge Shon, you asked and got  
5 answers to exactly the questions I was trying to ask and  
6 get answers to as to whether the Bechtel characterization  
7 of the Quadrex report was accurate. That's what I was  
8 trying to get at with the last sentence. And you asked  
9 and got answer to those questions and those were my  
10 questions.

11 JUDGE SHON: Can we go on to something else  
12 then.

13 MR. SINKIN: Sure, I'd be happy to.

14 MR. GUTTERMAN: Mr. Chairman, as long as we're  
15 going on to something else, would this be an appropriate  
16 time for a break.

17 MR. SINKIN: Sure.

18 JUDGE BECHHOEFER: Fifteen minutes, I guess.

19 (No hiatus.)  
20  
21  
22  
23  
24  
25

1 JUDGE BECHHOEFER: Back on the record.

2 Q (By Mr. Sinkin) Mr. Stanley, comment 17, your  
3 comment to the Bechtel task force report draft. We've  
4 talked before about the design assurance group and  
5 Quadrex' interactions with them and that -- well, this  
6 particular passage relates to the generic finding 3.1(a)  
7 about systems level integration; is that correct? The  
8 comment relates to the generic finding 3.1(a)?

9 A Yes.

10 Q Okay.

11 A On page 3-2 there is a statement in the  
12 Quadrex report that assigned responsibility for systems  
13 engineering is only a recent development, yes.

14 Q At the end of that paragraph it states that  
15 HL&P has indicated that their organization structure is  
16 closely in line with that of B&R and that no systems  
17 engineering function exists within the utility.

18 My question is how is the absence of such a  
19 function indicated to Quadrex?

20 MR. GUTTERMAN: Objection, Mr. Chairman. I  
21 don't see how a comment about HL&P's organization is at  
22 issue in this proceeding at all.

23 MR. SINKIN: Well, if the lack of systems  
24 integration is a quality problem and it also existed at  
25 HL&P, that only heightens the sense that there's a

1 serious quality problem.

2 JUDGE BECHHOEFER: We'll sustain the  
3 objection. I can't even see how it relates to 3.5, much  
4 less some of the issues.

5 Q (By Mr. Sinkin) Turning to comment 21, do the  
6 three line items identified in comment 21 form part of  
7 the basis for the Quadrex generic finding 3.1(d) at page  
8 3-6?

9 JUDGE BECHHOEFER: Pardon me. D or B? I  
10 didn't hear that.

11 MR. SINKIN: D. At page 3-6.

12 Q (By Mr. Sinkin) The last paragraph.

13 A I've read all of the line items. Could you  
14 refer me also to the --

15 Q Page 3-6 of the Quadrex report, last  
16 paragraph, second half of that paragraph.

17 A Starting with the sentence "there has been no  
18 planned effort?"

19 Q Right.

20 A The references to the question at the bottom  
21 of that are civil, HVAC, piping and radiological  
22 control. The civil ones match line item 6. The next  
23 one, which is line item 61, appears to be electrical,  
24 that's what it referenced; however, the subject is the  
25 same subject.

1           Q     And I return to your earlier testimony that  
2     you didn't necessarily reference every discipline  
3     finding in a generic finding when you were writing it,  
4     correct?

5           MR. GUTTERMAN:   Asked and answered, Mr.  
6     Chairman.

7           JUDGE BECHHOEFER:   Mr. Sinkin, was it or --

8           MR. SINKIN:   That's fine.

9           JUDGE BECHHOEFER:   Do you agree?

10          MR. SINKIN:   Yes, I agree.

11          JUDGE BECHHOEFER:   Okay.   Sustained in that  
12     case.

13          MR. SINKIN:   I consent.

14          A     I thought we were complete.

15          Q     (By Mr. Sinkin)   I didn't know that you had  
16     addressed 181.

17          A     Okay.   That's mechanical.   It falls under the  
18     same bailiwick as electrical in that it was not  
19     referenced as part of page 3-6 in the Quadrex report,  
20     but does address the same issue of technical licensing  
21     requirements, i.e. bulletins, regulatory guides.

22          Q     In comment 22 --

23          A     Okay.

24          Q     -- do the two line items referenced, number 7  
25     and number 112, form part of the basis for finding

1 3.1(b) at page 3-3?

2 A Could you again give me the reference to the  
3 Quadrex report?

4 Q 3-3 is the page, finding 3.1(b). And I guess  
5 part of my question, Mr. Stanley, in B-1, the second  
6 paragraph, proper control and use of input data from  
7 HL&P is also a concern, did Quadrex mean to say HL&P at  
8 that point?

9 A Yes.

10 Q They did. Okay.

11 A Yes.

12 MR. GUTTERMAN: I'm lost. Is there a question  
13 pending?

14 MR. SINKIN: The question was whether line  
15 item 7 and line item 112 form part of the basis for  
16 3.1(b).

17 A I guess I'm unable to make the connection  
18 because none of the question and answer references in  
19 the Bechtel task force report seem to match any of the  
20 references we have. It's talking about the same 130  
21 kips load issue in all of these.

22 Q (By Mr. Sinkin) Would that be perhaps the  
23 last paragraph on 3-3, Brown & Root continues? Do you  
24 have a problem with that?

25 A It's possible that there's a connection there,

1 yes.

2 Q Okay.

3 A It's not absolutely clear that it's a direct  
4 link, but --

5 Q I had a question mark by this one myself. Is  
6 there another generic finding that captures this input  
7 data from EDS, the kips load?

8 A I'd have to search through the generic  
9 findings to see. Do you want me to do that?

10 Q If you would for a moment.

11 A I don't see any indication of any obvious  
12 link.

13 Q Okay.

14 Referring to comment 24, does this finding  
15 form part of the basis for Quadrex generic finding  
16 3.1(c) at page 3-4?

17 MR. GUTTERMAN: Mr. Chairman, I'm just looking  
18 at these various documents trying to put them together.  
19 I'm having trouble finding any indication of a  
20 safety-related problem involved in them. So, on that  
21 ground, I'd object to the question.

22 MR. SINKIN: Well, there --

23 Q (By Mr. Sinkin) Mr. Stanley, turning for a  
24 moment to page 3-4 of the Quadrex report, generic  
25 finding 3.1(c), the second paragraph states that no



1 written design bases are provided to guide the designer  
2 in what combinations of events and plant modes must be  
3 considered. Consideration of degraded equipment  
4 performance was also not evident. Are those  
5 safety-related matters?

6 A In certain cases they could be safety-related  
7 matters, in other cases they might not be. But in any  
8 event, it does not seem to be linked at all to our  
9 original contention regarding top level TRD's.

10 I'm really struggling to get the connection.  
11 We identified those TRD's as safety-related  
12 classification, ISI and environmental qualification.

13 Q Okay.

14 A The only one it seems to link is environmental  
15 qualification. The others don't seem to link.

16 Q Let's turn to page 3-8, 3-9 of the Quadrex  
17 report, 3.1(g) generic finding. I think that more  
18 closely captures what we're looking at.

19 A Yes. The paragraph on page 3-9, a number of  
20 key front end criteria documents are missing, that's the  
21 connection.

22 Q Okay. And that paragraph that starts "a  
23 number of key front end criteria" in the second sentence  
24 states that prior to mid 1980, it does not appear that  
25 B&R recognized the fact that those front end criteria

1       were missing.

2               You saw evidence that up until mid 1980 Brown  
3       & Root was not aware that the criteria themselves were  
4       missing?

5               MR. GUTTERMAN:  Objection, Mr. Chairman.  The  
6       conditions of the design as they were in mid 1980, a  
7       year prior to the receipt of the Quadrex report,  
8       couldn't possibly relate to a matter that would be  
9       reportable in 1981.  The whole issue in this proceeding  
10      is about what was reportable when the Quadrex report was  
11      received, not whether there was some problem with design  
12      a year earlier.

13              JUDGE BECHHOEFER:  The Board will sustain the  
14      objection but on a different basis.  We don't see that  
15      the absence of these particular documents would have  
16      been a reportable item even back when they were  
17      discovered.  We're not certain that if it wasn't  
18      reportable back in 1980, it wouldn't have remained  
19      reportable in '81 come the Quadrex report.

20              Q       (By Mr. Sinkin)  Mr. Stanley, you testified  
21      earlier that the absence of these documents could or  
22      could not be a safety problem, did you not?

23              A       Words to that effect, yes.

24              Q       Under what circumstances would the absence of  
25      these documents create a safety problem in your mind?

1           A     If you failed to have the strong technical  
2 leadership in each of the disciplines that could provide  
3 the classifications and could address the issues of in  
4 service inspection and issues of environmental  
5 qualification and you produced documents that lacked  
6 certain of those aspects on safety-related systems and  
7 components, that could become, if left uncorrected,  
8 could become a safety problem.

9           Q     Are you saying that as of May 1981, Brown &  
10 Root had not produced documents that lacked certain of  
11 these aspects?

12           MR. GUTTERMAN: I think that question is so  
13 vague, I can't understand it.

14           MR. SINKIN: I'm using the witness' term.

15           MR. GUTTERMAN: The problem that I'm having is  
16 what these documents refers to, whether it refers to  
17 design outputs or whether it refers to these top level  
18 documents we've been talking about.

19           Q     (By Mr. Sinkin) When you talked about  
20 producing documents that lacked ISI, the other things,  
21 what kind of documents were you referring to?

22           A     I was referring to design output documents  
23 such as procurement specifications, schematic diagrams,  
24 piping and instrument diagrams, things of that nature.  
25 I was not referring to technical reference documents.

1           Q     And you're saying that as of May 1981, Brown &  
2 Root had not produced the line drawings, the -- I lost  
3 your list, but the second list of things, not technical  
4 reference documents, that you made. Are you saying that  
5 from that group of documents none had been produced  
6 which lacked these aspects?

7           A     We examined a number of design output  
8 documents in the review. In terms of safety-related  
9 classification, the electrical diagrams had a  
10 classification system, scheme that was on the drawings.  
11 I found it difficult to comprehend their system. It was  
12 not an easily understood system. We did not see in all  
13 the disciplines that they had made that safety-related  
14 classification designation.

15                 For example, in HVAC, they had not identified  
16 all the HVAC systems that were safety-related. So, the  
17 suggestion that we were trying to make, and this was --  
18 suggestion was both an economic suggestion as to a  
19 possibly better way to do the project and also it could  
20 have safety implications if it were on safety-related  
21 drawings, safety-related systems, we were trying to make  
22 the observation that there should be a projectwide  
23 standardized -- it would be better to have a projectwide  
24 standardized classification system that was simpler than  
25 the one that was being used.

1           In the case of in service inspection and  
2 environmental qualification, there was a fair amount of  
3 evidence that those subjects hadn't been addressed, the  
4 work hadn't been done. And our suggestion in that area  
5 was to prepare those documents so that the work would be  
6 done more consistently the first time around. Again, an  
7 economic consideration for in service inspection.

8           In the case of environmental qualification,  
9 that was economic and also could have some safety  
10 implications if the equipment were not qualified for its  
11 intended service. So, it's a mix.

12           But we looked at design output documents to  
13 determine how they were addressing these issues and we  
14 found some areas where they were and some areas where  
15 they were not.

16           Q     I wanted to ask you, Mr. Stanley, in your  
17 generic findings you have one that uses the word  
18 reliability. It's H, 3-11.

19           A     I have it.

20           Q     Okay. My question is whether the term  
21 reliability is being used as strictly in an economic  
22 operation sense or if it has a safety component to it?

23           A     My use of the term reliability on page 3-11 in  
24 item H is in terms of safety.

25           Q     That's safety, okay.



1           A     I wanted the ESF sequencer to have a stated  
2 acceptance criteria for how reliable it would be on  
3 demand. It's a portion of the safety-related electrical  
4 power system.

5           Q     Regarding comment 27, is the air flow  
6 direction from clean to dirty areas a safety concern,  
7 whether that flow is in the right direction, is that a  
8 safety concern?

9           A     I'm not an expert in the HVAC discipline, but  
10 I will attempt my best guess at what I think was meant.

11                   Primarily it deals with exposure to personnel,  
12 that you want the radiation to be directed from clean to  
13 dirty areas and to concentrate and remove the potential  
14 for personnel exposure. It's a little hard to say that  
15 there may be some safety implications, but it probably  
16 is hard to rule out that there may not be in terms of  
17 access to equipment after an accident, things of that  
18 nature.

19           Q     Did the finding identified in line item 89,  
20 we're looking at comment 27, line item 89, did that form  
21 a part of the basis for Quadrex generic finding 3.1(c)  
22 on page 3-5, second paragraph?

23           A     The H-3 reference is consistent. I should --  
24 let me check H-10.

25                   The connection to H-3 is fairly firm. The



1 connection to H-10 is more oblique in that H-10 was  
2 normal operating plant conditions for HVAC rather than  
3 anything to do with accident.

4 Q Okay. Okay.

5 Comment 28. If the plant was not adequately  
6 designed to insure in service inspection access, could  
7 that be a safety problem?

8 A It may or it may not. My guess would be that  
9 it would be unlikely. There are requirements in the NRC  
10 regulations for in service inspection and I think the  
11 situation would be whether the access to the welds and  
12 piping to be inspected was easy or was difficult. I  
13 think that would be the more common characteristic. Not  
14 that I could never get to it, but that it might be  
15 difficult to get to it.

16 Q If access was actually blocked, then you would  
17 definitely --

18 A Then you wouldn't be complying with the ISI  
19 inspection requirements and I don't think that would be  
20 tolerated.

21 Q Turning to comment 29, Mr. Stanley, if you  
22 would look at line item 142, it refers -- line item 142  
23 also refers to line item 128.

24 MR. REIS: Excuse me, Mr. Sinkin, did you say  
25 line item 142 refers to line item 128?

1 THE WITNESS: In the Bechtel response.

2 MR. SINKIN: In the Bechtel assessment.

3 MR. REIS: In the Bechtel --

4 MR. SINKIN: Assessment.

5 Q (By Mr. Sinkin) Is there a problem, Mr.  
6 Stanley?

7 A Yeah, this one book here has sections that are  
8 out of order.

9 Q Oh, is this the Bechtel task force report?

10 A No.

11 MR. GUTTERMAN: It's the Quadrex report.

12 Q (By Mr. Sinkin) The Quadrex report?

13 A Well, this particular copy.

14 Q The original I'm sure was in perfect order.

15 A I don't have the M-2 response for Brown & Root  
16 yet.

17 Anyway, ask the question.

18 Q Did you need the M-2 B&R response? I have  
19 that if you need to look at that?

20 A Yeah, I think that's what I need.

21 MR. GUTTERMAN: Of course, we don't know what  
22 the question is yet. We've spent a lot of time reading  
23 the document, but we don't have a question.

24 MR. SINKIN: Well, I realize I haven't  
25 actually directed him to it, but if he feels more

1 comfortable reviewing it before he answers any question,  
2 I'll be happy to have him do so.

3 Q (By Mr. Sinkin) Does that document seem to be  
4 complete, Mr. Stanley, or is there something missing  
5 there, too?

6 A No.

7 Q That's it?

8 A There seems to be one page missing here.

9 Q From the other copy?

10 A Yes.

11 Q First of all, I want to try and get straight  
12 what it is we're looking at here. In their assessment,  
13 Bechtel records that Brown & Root stated they did enter  
14 into a contract with Teledyne to perform pipe break  
15 analysis in the IVC. Is that what Brown & Root told  
16 Quadrex?

17 A Yes. Our reviewer in parenthetical things  
18 said that Teledyne is performing dynamic analysis of  
19 main steam and feedwater using Teledyne criteria.  
20 That's in the Quadrex report under the Brown & Root  
21 response.

22 Q To M-2?

23 A To M-2.

24 Q But Brown & Root had not contracted with  
25 Teledyne to perform other pipe break analysis outside

1       containment other than the IVC?

2               MR. GUTTERMAN:   Mr. Chairman, CCANP's Exhibit  
3       104 says that the contract with Teledyne was only for  
4       the IVC.   The Bechtel task force says the same thing.   I  
5       just wonder why we're spending so much time on these  
6       kinds of questions?

7               MR. SINKIN:   Well, if we're all in agreement  
8       that that's exactly what it means, I can move to the  
9       next question.

10              Q       (By Mr. Sinkin)   There were, in fact, other  
11       analyses that needed to be performed other than the IVC;  
12       is that correct?

13              A       Yes, pipe break outside containment.

14              Q       Right.

15              MR. GUTTERMAN:   Mr. Chairman, I reiterate my  
16       comment.   We had lengthy testimony from Mr. Goldberg, we  
17       had testimony from Dr. Sumpter about the fact that the  
18       Quadrex report identified the failure to have  
19       accomplished analyses of pipe breaks outside of  
20       containment.   These two documents confirm the same  
21       statement.

22              It seems like an incredible waste of time to  
23       be asking questions about that of this witness.   It's  
24       not within the scope of his testimony.   There just  
25       doesn't seem to be any -- we're just spinning our wheels

1 here.

2 MR. SINKIN: There's no question pending.  
3 Perhaps the next question will clarify it.

4 Q (By Mr. Sinkin) In line item 142, Mr.  
5 Stanley, the reference to the FSAR, did the FSAR as of  
6 May 1981 say that all the analyses of pipe rupture had  
7 been performed?

8 A I didn't personally review that, our reviewer  
9 did. I don't know the specific wording. But typically  
10 FSAR statements are commitments rather than statements  
11 of accomplishments. They're commitments to do the  
12 analysis.

13 JUDGE BECHHOEFER: Mr. Stanley, in that answer  
14 you are treating the FSAR as a design document; is that  
15 correct?

16 THE WITNESS: No, I wasn't suggesting that at  
17 all, Mr. Chairman. I was suggesting that the FSAR  
18 contains client utility commitments to the NRC as to  
19 what will be done, how things will be designed. But I  
20 wasn't inferring that it was a design document. It's a  
21 licensing commitment document. Now, the design has to  
22 fulfill the commitments, that's part of the regulatory  
23 process.

24 JUDGE SHON: Am I wrong, Mr. Stanley, in  
25 assuming that the nub of this whole thing is in the

1 Quadrex assessment of the answer by B&R to question M-2  
2 in which you say -- that's in this third volume of the  
3 Quadrex report that I have here, "No analysis has been  
4 performed, thus no evidence was offered to support  
5 implementation of the FSAR requirements," and then wind  
6 up saying this situation is very untimely, they didn't  
7 do it?

8 THE WITNESS: That's all we meant to say.

9 Q (By Mr. Sinkin) You did not consider the  
10 possibility that the statement in the FSAR was a  
11 material false statement?

12 A Absolutely not.

13 MR. REIS: Mr. Chairman, I object to that. It  
14 has no probative value in this case. We don't deal with  
15 it.

16 He has just testified that they are  
17 commitments for what they are going to do in the future  
18 and they are not statements of what has been done in the  
19 past and Mr. Sinkin knows better than that. He knows  
20 what the FSAR contains and that they are commitments and  
21 not necessarily matters that were done in the past.

22 JUDGE BECHHOEFER: I think Mr. Reis is correct  
23 in that comment, but let me -- I'll tell you what's  
24 troubling me. I'm not sure it's in this proceeding in  
25 Phase I or in another proceeding, but the Staff on



1 occasion has taken the position that the FSAR is not a  
2 commitment but that it is a document recording what  
3 actually has been done and that the PSAR represents the  
4 commitments, including the amendments thereto. And  
5 there is some occasional confusion as to what is  
6 regarded in a particular case as a commitment.

7 I'm not positive what the testimony in Phase I  
8 said, but we did cover it on the record here.

9 MR. SINKIN: Well, Mr. Chairman, perhaps Mr.  
10 Reis can correct me, but if I remember the order to show  
11 cause correctly, there were statements in the FSAR about  
12 soil conditions that were termed material false  
13 statements because they said something had been done  
14 when, in fact, it hadn't been done.

15 It was later checked and it was determined  
16 that what had been done was adequately described in the  
17 FSAR. But the initial reaction of the investigator was  
18 they had said something was done in the FSAR and had  
19 not, in fact, done it in the field.

20 MR. REIS: The show cause order was to check  
21 out --

22 MR. GUTTERMAN: Yes.

23 MR. REIS: -- whether there was a material  
24 false statement, not that there was a material false  
25 statement.

1 MR. SINKIN: How could there be a material  
2 false statement in something that's just a commitment?

3 MR. REIS: It depends on the time. The FSAR  
4 is an evolving document. At the time of final plant  
5 licensing, it should reflect what was done at the  
6 plant. But at the time you apply for an OL, for an  
7 operating license, it is a commitment. And we have to  
8 be very careful of the time we're speaking about.

9 MR. GUTTERMAN: Perhaps I can clear this up a  
10 little if --

11 MR. REIS: I see a nodding from the witness'  
12 head. I don't know whether he's testifying, but I do  
13 see a nodding there.

14 But at the time when you apply for it, it's a  
15 commitment because you have to evaluate it and the plant  
16 isn't -- as we all know, the construction is continuing  
17 during the OL proceeding and while the Staff is  
18 evaluating it and if any hearings are taking place,  
19 they're taking place.

20 So, it's a commitment at that time. At the  
21 time the license is issued, of course, these commitments  
22 must be met, but that's at the time the license is  
23 issued which may be many years later.

24 MR. GUTTERMAN: Maybe if I can just explain  
25 what the issue was in Phase I, that will confirm what

1 Mr. Reis just said, which I agree with entirely and the  
2 issue there was that the FSAR described the methods by  
3 which compacted backfill would be inspected and tested.  
4 And the question was had those inspection and testing  
5 methods that were actually being implemented in the  
6 field met the commitments.

7 It was work that was already accomplished.  
8 There was no way to do that work later to satisfy the  
9 commitment. That was the issue. It was not a question  
10 of some future analysis that could be done at any point  
11 during the course of the design, it was a commitment on  
12 how work was being done that had actually been  
13 accomplished.

14 I think the record in Phase I showed that any  
15 exceptions to meeting the commitment were of minor  
16 significance and unintentional and that by and large the  
17 construction did meet the commitments in the FSAR. But  
18 the issue had to do with how construction was being done  
19 in the placement of backfill.

20 (No hiatus.)  
21  
22  
23  
24  
25

1           MR. SINKIN: To tie that to this particular  
2 event we're talking about here, as I read the documents,  
3 the FSAR said pipe break analysis has been performed for  
4 outside containment, and that if the NRC went to find out  
5 if it had been and read the FSAR, they would believe it  
6 had been when in fact it had not been.

7           MR. GUTTERMAN: I think that example, Mr.  
8 Chairman, is exactly what Mr. Reis was describing, that  
9 when this plant gets an operating license, Applicants  
10 have committed that at that point, the analysis for pipe  
11 break outside containment will have been completed, and  
12 the design will be in accord with the results of those  
13 analyses.

14          MR. REIS: That's right I agree with that.

15          MR. SINKIN: That's a very different wording,  
16 what I asked Mr. Stanley about, and what I thought his  
17 answer stated was that it said it had been done as  
18 opposed to "We will do it before licensing."

19               Now maybe I misunderstood what he said.

20          MR. REIS: I think we're confusing here --  
21 we're going into, without looking at an FSAR as to how  
22 it's written. Yes, is written as it has been done, but  
23 it's a commitment to do it at the time of licensing. And  
24 yes, the written in the present tense. But it is a  
25 commitment to do it at the time of licensing.

1 JUDGE BECHHOEFER: The only reason I raised the  
2 question is I wanted to make sure of what the context of  
3 Mr. Stanley's answers were.

4 THE WITNESS: I have been in complete agreement  
5 with Mr. Reis on what an FSAR is and how it changes from  
6 a commitment document to an accomplishment document. I  
7 agree completely with that.

8 Q (By Mr. Sinkin) Mr. Stanley, does line item  
9 142 form part of the basis for Quadrex generic finding  
10 3.1(f) on page 3-7?

11 A I'm sorry, I don't see a connection to that.

12 A The line item 142 is dealing with the fact that  
13 no analysis had been performed. And generic finding F  
14 starting on page 3-7 deals with FSAR commitment tracking.  
15 And I'm afraid I don't see a connection.

16 Q In your comment 30, referring to line item 167,  
17 I'd like you to focus on to Bechtel assessment.

18 A Okay. Why don't we try it, I've looked at a a  
19 couple of the Quadrex. I haven't reviewed them all. But  
20 let's try it.

21 Q In part, I'm trying to understand your  
22 difference with Bechtel and it may be a semantic  
23 difference to some extent, in comment 30, is this perhaps  
24 an instance where Bechtel is saying the procedure was  
25 adequate, which is what they say in there, "B&R review

1 procedures for vendor documents appear to be reasonable,"  
2 but what you're saying is the implementation was not  
3 adequate?

4 A That is correct. We were looking at the  
5 specific vendor submittals for pumps, valves, and things  
6 of this nature. We were looking at the unique review  
7 comments made by the Brown & Root reviewers. And our  
8 expert was making judgments on the technical depth, the  
9 technical content, the technical quality of those  
10 comments. We did not look at the procedure that was  
11 established for the review of those.

12 Q And did these deficiencies, the specific  
13 quality problems mentioned in comment 30, form part of  
14 generic finding 3.1(b) item three at page 3-3 of the  
15 Quadrex report?

16 A Yes. Some of those M series, M-41, M-49, M-5,  
17 M-52 are referenced in that, so yes, that is a correct  
18 reference.

19 JUDGE BECHHOEFER: Which number was that?

20 MR. SINKIN: It's 3.1(b) item three on page  
21 3-3.

22 THE WITNESS: I might point out that in some  
23 cases, we found some very excellent reviews, also.

24 JUDGE BECHHOEFER: Mr. Stanley, just to clarify  
25 comment 30 which we're still on, I guess, when you say



1 that Bechtel over lose the specific quality problems, do  
2 you mean were any of the quality problems quality  
3 assurance problems or were they something else?

4 THE WITNESS: No, they -- I was not using the  
5 word "quality" in my comment 30 in terms of quality  
6 assurance. I was really using it in terms of the  
7 technical depth, the technical content, the  
8 thoughtfulness that the individual engineer put into his  
9 review of a vendor submitted document. That was what I  
10 meant by the quality. And what we saw were some  
11 documents reviewed very thoughtfully very well, and  
12 others superficially.

13 JUDGE BECHHOEFER: Were the reviews uniformly  
14 in accordance with applicable review procedures?

15 THE WITNESS: We didn't --

16 MR. REIS: Mr. Chairman, I'm sorry, I didn't  
17 hear the question.

18 JUDGE BECHHOEFER: Were the reviews that are in  
19 question, good, bad or indifference, performed in  
20 accordance with applicable review procedures?

21 THE WITNESS: We didn't review the procedures  
22 that Brown & Root had for those reviews so I have no way  
23 of answering that question. What we were doing is -- was  
24 judging it based upon what we believe to be typical  
25 industry practice at that time, our expert reviewer.

1           Q     (By Mr. Sinkin) Mr. Stanley, comment 32, line  
2     item 171, I assume this is the same upset item we  
3     discussed earlier.

4           A     That is correct, we discussed this yesterday.

5           Q     Right. Is that line item 171 captured in any  
6     generic finding that comes to your mind; we won't go  
7     looking through the back, just if one comes to mind that  
8     would capture that?

9           A     I don't believe that it made the most serious  
10    category, because action had been taken by Brown & Root  
11    during the inspection.

12          Q     I believe you said yesterday that there could  
13    be some findings outside of the most serious category  
14    that would support a generic finding. Do I remember that  
15    correctly or --

16          A     That's entirely possible.

17          Q     Entirely possible.

18          A     Yes.

19          Q     But this one is not such a --

20          A     No, I don't believe so.

21          Q     In --

22                JUDGE SHON: Mr. Sinkin, before we leave this  
23    one, this No. 32, we'd like to ask Mr. Stanley whether in  
24    his view, the fact, the fact that seems to be more or  
25    less in dispute here, that is who found the error, you

1 say Quadrex did, Bechtel reports sort of implies that,  
2 well, it was found and B&R corrected it. Would the fact  
3 that Quadrex found it and B&R apparently didn't be a QA  
4 breakdown of any sort, that someone from the outside had  
5 to come in and find this thing, it wasn't found by the  
6 people that were working on it, you see?

7 JUDGE BECHHOEFER: Is this like an NRC  
8 inspector finding something that is wrong and issuing a  
9 violation, rather than a something found through the  
10 normal operation of the QA program?

11 MR. REIS: Mr. Chairman, I think he's used now.  
12 He has two questions before him. One proposed by Judge  
13 Shon and one proposed by you. And I don't care the  
14 answers to them are necessarily the same.

15 JUDGE SHON: Can we take them in order. The  
16 first one is. In your view, is the fact that this was  
17 found by an outside organization and not by Brown &  
18 Root's on verification system a QA breakdown or a QA  
19 deficiency?

20 THE WITNESS: I don't know the absolute answer  
21 to that because I'm not a QA expert but I do know that  
22 during the inspection, our team treated this as if it  
23 were very important and we were prepared, we indicated to  
24 HL&P, that if action were not promptly taken on  
25 identifying the depth of this one and the resolution of

1 it, that we felt an obligation as Quadrex to make a  
2 10CFR21 report on it. We treated this one quite  
3 seriously. Does that answer --

4 JUDGE SHON: I think it does.

5 JUDGE BECHHOEFER: I think it essentially  
6 answered mine, too.

7 JUDGE SHON: I think it answers the Chairman's  
8 question, too.

9 JUDGE LAMB: Are you saying, Mr. Stanley, that  
10 B&R in its process of verification should have verified  
11 and discovered this before Quadrex did?

12 THE WITNESS: Absolutely.

13 Q (By Mr. Sinkin) In comment 33, Mr. Stanley,  
14 looking at line item 185, and 205 --

15 A Could you he help me on this one, on a  
16 reference?

17 Q Sure.

18 A It seems to me that this has a reference to an  
19 electrical question rather than to a nuclear analysis  
20 question. Do you know the reference to the electrical  
21 question?

22 A That 4-E document I think was an electrical  
23 documents.

24 Q No, unfortunately, I don't.

25 A Okay. I'm going to have to find an electrical

1 question --

2 Q I see.

3 A -- in order to answer any question on it,  
4 because the issue is there was no evidence of sufficient  
5 analysis to support that system design description.

6 Q Maybe you can answer for me what kind of  
7 analysis it was you were looking for that you didn't find  
8 or do you need to see that question to know?

9 A I can -- I should really see it to be  
10 absolutely certain.

11 A I'm sorry, I went through there and I didn't  
12 see any reference.

13 Q All right.

14 A My expectation would be that it would be the  
15 environmental analyses by nuclear analysis.

16 Q Okay. In the Bechtel task force assessment of  
17 line item 185, Bechtel records Brown & Root as saying the  
18 basis for the values was either analysis or data from  
19 other projects. Was Quadrex given that same kind of  
20 response that it was a possibility that it was data from  
21 other projects that was being used?

22 A There is nothing in question N-15 that would  
23 suggest that. And I attended those meetings. I do not  
24 remember any statement along those lines with regard to  
25 environmental analysis.



1 Q Okay. If you would turn to page 3-10 of the  
2 Quadrex report?

3 A 3-10?

4 Q Uh-huh.

5 A Okay.

6 Q The fourth paragraph, "in other instances." Can  
7 you tell me what that referred to?

8 A Yes, the references behind the statement that  
9 in other instances design details have been obtained from  
10 other plants, PWR plants, and used without confirming  
11 their application, there were two cases. One was the the  
12 selection of locations for area radiation monitors, and  
13 the second case was valve open and close stroke times;  
14 those two instances are all that are behind that  
15 paragraph.

16 Q In your comment 34, are you saying that the  
17 FSAR commitment was to do a crack break analysis rather  
18 than a double ended break analysis?

19 A It's my understanding that the FSAR commitment  
20 was for a crack break analysis, yes.

21 Q And you did not find the performance of a  
22 double ended break analysis as an adequate substitute for  
23 a crack break analysis?

24 MR. BUTTERMAN: Objection, Mr. Chairman, I  
25 can't see how that would have any safety related



1 implications.

2 MR. SINKIN: If do you the wrong kind of  
3 analysis --

4 MR. REIS: He first must ascertain whether the  
5 environmental degradation or the results of a double  
6 ended break would be less than a crack. It is only if  
7 the results of a double ended break would give you less  
8 of a -- less severe accident condition than a crack that  
9 we have a situation where that could be relevant.

10 MR. SINKIN: I guess what I'm looking at is Mr.  
11 Stanley's actual comment in which he says the two kinds  
12 of analysis have no relationship to each other.

13 MR. REIS: I think we're again getting to  
14 questions of what may be an efficient method of design  
15 and what may be an economic method of constructing the  
16 plant and what is required by the regulation, and how far  
17 Brown & Root should go beyond what is required by  
18 regulations and were they went beyond what was required  
19 by regulation in this particular case or not.

20 JUDGE SHON: Mr. Stanley, your comment 34  
21 specifically says a double ended break analysis,  
22 particularly one using steam with enthalpy of 1306 BTU  
23 per pound in RELAP3, in a large building has no relation  
24 to results using a crack break which is the FSAR break  
25 commitment. I note also that Bechtel says, "In our

1 experience, the postulated crack (slot) breaks should  
2 also be analyzed to ensure conservative environmental  
3 conditions are identified." That suggests in both cases  
4 that there might be in some way a crack break that was  
5 worse than a double ended break as intuitively inverse as  
6 that may seem. Is that correct?

7 THE WITNESS: I believe that is a correct  
8 assessment of both our reviewer and the Bechtel, that  
9 while it doesn't seem possible that you have not bounded  
10 with a double ended break, one really should do the  
11 analysis to make certain.

12 MR. GUTTERMAN: I will withdraw my objection.

13 Q (By Mr. Sinkin) And Brown & Root had done the  
14 double ended but had not done the crack?

15 A That is correct.

16 Q Did this finding make its way into a generic  
17 finding; I couldn't quite match it up.

18 A Offhand, I don't recall. We can search if you  
19 would like.

20 Q Let's just try in nuclear analysis and see if  
21 it comes out there and if not we will skip it?

22 A It would be a reference to N-15.

23 I may be wrong on that. It would be a  
24 reference to N 13.

25 Q 13?

1           A     There doesn't appear to be any direct  
2 connection that I see, other than the reference to the  
3 aux feedwater pump motors on page 3-12. There's no  
4 direct connection to the N-13. We're dealing with the  
5 IVC in this particular one.

6           Q     Okay. Might it fall on 3-12, twelve might it  
7 fall in that number four that's sort of a catchall for --  
8 I see this as a 4.6 kind of finding.

9           A     I was tending to put it under item two on page  
10 3-12 that dealt with aux feedwater pump motors in IVC and  
11 accident environmental analysis for outside containment.  
12 It covered both areas.

13          Q     Regarding --

14               JUDGE BECHHOEFER: Mr. Stanley, are you saying  
15 then that in comment 34, that since the analysis didn't  
16 meet the FSAR commitment, it amounts to a deficiency,  
17 "it" meaning the type of analysis that was in fact done.

18               MR. GUTTERMAN: My confusion is with the word  
19 "deficiency," and whether the Chairman means as the word  
20 might be used in 50.55(e).

21               JUDGE BECHHOEFER: QA deficiency.

22               MR. REIS: QA breakdown.

23               JUDGE BECHHOEFER: Well, breakdown may require  
24 more than one.

25               THE WITNESS: I don't believe --

1 JUDGE BECHHOEFER: At least a QA deficiency?

2 JUDGE SHON: Mr. Stanley, if I can sort of  
3 point you in the direction behalf the Board's thinking,  
4 question N-13, I think, clears up a good bit of the  
5 Quadrex assessment of -- question N-13 clears up a good  
6 bit about what this difficulty is. It points out that  
7 the code RELAP3 use properly starts with a 212 degree  
8 Fahrenheit environment. And that's not what you've got  
9 with 1306 BTU per pound of steam. That's highly  
10 super-heated heated steam. It then solved it for an open  
11 ended pipe break but it didn't solve it for a crack.

12 And then it says that this obvious input error  
13 was not noted by either the analyst or the calculation  
14 reviewer  
15 and it concludes in saying: In summary,  
16 the wrong problem was solved, the wrong methodology was  
17 used and the input data was incorrect.

18 In other words, the thing was all fouled up and  
19 the reviewer didn't catch it.

20 THE WITNESS: That's correct.

21 JUDGE SHON: Does that constitute a quality  
22 assurance breakdown in the design stage?

23 THE WITNESS: I believe you'd have to find more  
24 than this one indication. This calculation clearly  
25 didn't meet the FSAR commitment. We wrote that sentence

1 because we were rather disappointed that they didn't  
2 identify the right problem, didn't use the right  
3 methodology and didn't use the right data, all three. So  
4 we wrote that sentence specifically to highlight that.

5 JUDGE SHON: And the analyst did it wrong and  
6 the reviewer didn't catch it.

7 THE WITNESS: And the verifier didn't catch it  
8 either. Personally, I would like to have more than one  
9 example before I said it was a quality assurance  
10 breakdown in the engineering work. But certainly this  
11 would be an area that one would want to look at very  
12 quickly, very closely. And see if it was more than one.

13 JUDGE SHON: Thank you, that's all we wanted to  
14 know, I think.

15 Q (By Mr. Sinkin) Given that interchange, would  
16 this finding be part of the support for Quadrex generic  
17 finding 3.1(b) two on page 3-3?

18 A Yes, it's not --

19 MR. REIS: Mr. Chairman.

20 Q I understand it's not referenced. But --

21 MR. SINKIN: I'm sorry, Mr. Reis was there an  
22 objection?

23 MR. REIS: Yes, the objection was that I don't  
24 see the probative value in that the HVAC design basis,  
25 and I believe it particularly dealt with the failure to



1 properly consider matters outside containment was  
2 reported as a 50.55(e) matter. Therefore, I don't think  
3 we're probative; I think we are spending alot of time on  
4 a matter that was reported.

5 MR. SINKIN: Is it your position, Mr. Reis,  
6 that the report on HVAC covered finding 4.6.2.1(j)?

7 MR. REIS: I don't think it covered that  
8 specifically, but I think it did cover design basis. And  
9 although it referenced 4.2.1(a), it also encompassed in  
10 going to the factors used these matters as well.

11 MR. SINKIN: Mr. chairman, my only response is  
12 that certainly there's been nothing represented by either  
13 the Applicant, the NRC or anyone else to my knowledge  
14 that this finding was ever reported to the NRC. If we're  
15 now to treat it as having been reported because it's  
16 related to some other finding that was reported, I think  
17 we've quite broadened what was reported to the NRC  
18 originally.

19 JUDGE BECHHOEFER: Is there an objection.

20 JUDGE SHON: Where do we stand, was there a  
21 question pending.

22 JUDGE BECHHOEFER: Wasn't the question answered  
23 in fact?

24 MR. SINKIN: I think the question was answered.

25 JUDGE BECHHOEFER: That's why I was trying to



1 figure out where we were.

2 Q (By Mr. Sinkin) Regarding comment 41, Mr.  
3 Stanley, is there a safety significance to Brown & Root  
4 correlating the radiation zones with the shielding  
5 designed for accident conditions?

6 A Again, I've got to state that I'm not an ALARA  
7 expert per se, but I don't believe that there is a safety  
8 concern in this particular one. You would have the  
9 exposure, radiation exposure of employees as your major  
10 concern, particularly in areas where you'd need to have  
11 access under accident conditions. So I view it more as  
12 an ALARA type concern.

13 Q I assume that we only speak in terms of ALARA  
14 in if exposure to employees is not at a disabling or  
15 harmful level, in the sense -- what I'm  
16 looking at is this: You're talking about ALARA,  
17 as low as reasonably achievable, the exposure to  
18 employees in the plant.

19 A That is correct.

20 Q We would not expect it to be any higher than a  
21 disabling dose at any time, am I correct? If it was a  
22 disabling dose, it certainly would not meet ALARA by  
23 definition. Is that correct?

24 MR. GUTTERMAN: Mr. Chairman, I don't see any  
25 foundation for that question. There's nothing about

1     disabling doses mentioned anyplace that I know of in the  
2     Quadrex report or any of these other documents we have  
3     spread out before us.

4             MR. SINKIN: I'm trying to clarify the safety  
5     implications of doing ALARA well or not doing ALARA well,  
6     and whether there are any and what the bounds of those  
7     might be. And I assumed, perhaps incorrectly, that when  
8     we're talking about ALARA, we're talking about having  
9     reduced the radiation exposure to employees below a  
10    certain threshold and now it's a question of whether  
11    you're going to do better than that, but the threshold  
12    is set at an exposure that will not be unduly harmful to  
13    them because they have to operate in that environment.

14            JUDGE BECHHOEFER: I'm not sure I understand  
15    what disabling refers to.

16            MR. SINKIN: Well, okay. I will withdraw the  
17    question.

18            Mr. Chairman, that concludes my cross on CCANP  
19    104, which I would move into evidence at this time. I  
20    don't believe it was ever accepted into evidence.

21            JUDGE BECHHOEFER: Any objection? Mr. Reis you  
22    had an earlier objection to all parts that weren't  
23    subject to questioning.

24            MR. REIS: Yes, I'm trying to think. I'll  
25    withdraw my objection, in that substantial parts of it

1 have been subject to cross-examination. And of course  
2 the worth of the document will be determined by the Board  
3 and the meaning of the document in findings.

4 MR. GUTTERMAN: I've got no objection do its  
5 admission.

6 JKUDGE BECHHOEFER: CCANP 104 will be admitted.  
7 (CCANP Exhibit No. 104 received  
8 in evidence.)

9 MR. SINKIN: This would be a good time for  
10 break for lunch, Mr. Chairman.

11 JUDGE BECHHOEFER: Let's be back at 1:30.  
12 (Luncheon recess taken.)

1 JUDGE BECHHOEFER: Back on the record.

2 Q (By Mr. Sinkin) Mr. Stanley, when we -- just  
3 before we broke for lunch I asked you about a particular  
4 generic finding at page 3-10 about Brown & Root using  
5 design details from other PWR plants and you answered  
6 that there were two instances of that. One was  
7 selection of the locations for area radiation monitors,  
8 the other was the valves -- valve opening and closing  
9 stroke times.

10 Can you point me to the discipline findings  
11 where those two items appear?

12 A Yes, I believe so.

13 Q Let me ask you, Mr. Stanley, so I can be  
14 helpful and maybe speed up the process, too, the area  
15 radiation monitors location, is that something that you  
16 would expect to find in the radiological discipline?

17 A Well, that's what I'm looking at now. I  
18 thought it was going to be in the electrical, but it  
19 turned out not to be there. So, it apparently must be  
20 in the radiological.

21 The other one on valve stroke times will  
22 probably be in the mechanical section.

23 MR. GUTTERMAN: Mr. Chairman, this seems to be  
24 taking a while and I wonder if it's really connected to  
25 a safety-related question that needs to be inquired

1     into. You know, the finding that we're looking at just  
2     says -- or the sentence in the finding that we're  
3     looking at just says that design details have been  
4     obtained from other PWR's and used without confirming  
5     their applicability on the STP. And it seems to me  
6     that's another way of pointing out use of preliminary  
7     information in the design which we've had extensive  
8     testimony about already.

9             MR. SINKIN: Well, I think, Mr. Chairman,  
10    there's a very clear distinction between preliminary  
11    data that's developed by Brown & Root where they have  
12    had something to do with the assumptions and  
13    calculations and everything else and data that they have  
14    taken from another PWR plant and just used without doing  
15    any work on it at all apparently. I think there's a  
16    distinct difference.

17            JUDGE BECHHOEFER: I think the answer to his  
18    question will determine whether it is safety-related or  
19    not.

20            MR. GUTTERMAN: Well, the question he was  
21    asked was find the underlying discipline findings that  
22    were mentioned.

23            JUDGE BECHHOEFER: Right.

24            MR. GUTTERMAN: And I don't see how that's  
25    going to answer that question at all. It's going to

1 take a while for Mr. Stanley to review the report to  
2 find them.

3 THE WITNESS: It's been a couple years since  
4 I've looked through this.

5 Q (By Mr. Sinkin) Perhaps this is something  
6 that we could leave to a break if you don't have any  
7 other obligations. If you have other obligations at the  
8 break, this would not be a priority.

9 Mr. Axelrad is shaking his head no. Maybe  
10 we'd better just make a quick pass --

11 MR. REIS: Mr. Chairman, I think we again have  
12 a fishing expedition. This is cross-examination. If he  
13 has a section in that thing and a question that he can  
14 point to one of the letters or numeric references of the  
15 questions that he can point to, it's fine. Otherwise,  
16 it's conducting discovery again.

17 MR. SINKIN: No, not at all. This is --

18 MR. REIS: Let him point to where he's going.

19 MR. SINKIN: Well, I pointed by asking him  
20 which discipline findings these were. I looked through  
21 mechanical, I looked through the radiological, I  
22 couldn't see them. It's probably my lack of expertise.

23 MR. REIS: It's discovery.

24 JUDGE BECHHOEFER: I'm not sure that's  
25 objectionable, however. I can cite you a page which I



1 have with me actually.

2 MR. SINKIN: I believe --

3 MR. REIS: It is objectionable because the  
4 hearings are supposed to be conducted in an expeditious  
5 manner and this does not lead to the conduct of the  
6 hearing in an expeditious manner.

7 MR. SINKIN: I believe Mr. Stanley has found  
8 one of them.

9 THE WITNESS: Do you want one?

10 JUDGE BECHHOEFER: Yes.

11 A R-19 in the Brown & Root response. It says  
12 monitor locations have been established by engineering  
13 judgment. It's a quotation that our reviewer wrote down  
14 from the discussion. That's the area radiation  
15 monitoring reference, R-19.

16 Q (By Mr. Sinkin) Okay. Oh, okay. You're  
17 looking in the questions.

18 A That's the only place I'm going to find it.

19 Q I was asking for a discipline finding that  
20 would have those items in it, that's what I was asking  
21 for.

22 A Oh, I'm sorry, I wasn't looking at it that  
23 way.

24 Q Okay. Well, I see on page 4-88 of the Quadrex  
25 report, Volume 1, that there is a reference to question

1 R-19, but that does not seem to address the locations.

2 JUDGE BECHHOEFER: It's also not a most  
3 serious finding.

4 MR. SINKIN: I understand that.

5 Q (By Mr. Sinkin) Let me ask you a question,  
6 Mr. Stanley, about the generic finding.

7 Did you consider that Brown & Root taking  
8 design details obtained from other pressurized water  
9 reactor plants and using them on the South Texas Nuclear  
10 Project without confirming their applicability could  
11 have safety significance?

12 MR. REIS: Mr. Chairman, I object to the  
13 question in that it isn't specific as to time and the  
14 design process when this would be done; therefore, an  
15 answer would not further the record.

16 Q (By Mr. Sinkin) In May of 1981, did you  
17 consider Brown & Root using design details from other  
18 pressurized water reactors without confirming their  
19 applicability to the South Texas Nuclear Project a  
20 potentially safety-related finding?

21 A At that particular point in time, I did not  
22 consider that it was a safety-related violation.

23 They chose area radiation monitoring  
24 locations, for example, they indicated to us in the oral  
25 discussion, based upon the locations selected at five

1 other operating PWR plants and they named the plants for  
2 us. The man didn't document that judgment as to how he  
3 chose the South Texas Project ones based upon those five  
4 plants that he visited.

5 In the case of valve stroke times, they  
6 selected values that Westinghouse had used for nuclear  
7 steam supply valves and when they wrote procurement  
8 specs for balance of plant valves, they used the same  
9 open and close times. Technically it may turn out that  
10 those are not bad numbers. Those may technically turn  
11 out to be satisfactory numbers. We were merely pointing  
12 out that they chose the values that way and that they  
13 should examine whether they are appropriate for balance  
14 of plant applications in different types of systems.

15 Now, at the time we reviewed that thing, my  
16 expectation was that they probably would not turn out to  
17 be wrong because the times were twelve-second,  
18 sixty-second type opening and closing times, those kinds  
19 of values. That's neither unreasonably fast nor  
20 unreasonably slow.

21 Q But it's true, is it not, that each nuclear  
22 power plant has a unique design?

23 A I think that's a --

24 MR. REIS: Mr. Chairman, I object to the  
25 question on unique. I don't know whether unique refers

1 to PWR's, BWR's or a difference between Indian Point 2  
2 and 3 or what unique refers to in that situation.

3 JUDGE BECHHOEFER: We'll sustain that one. I  
4 don't think unique is precise -- you'll have to define  
5 it more if you use it.

6 Q (By Mr. Sinkin) Mr. Stanley, do you have a  
7 list which correlates generic findings with discipline  
8 findings?

9 A A preliminary list of that correlation to  
10 Volume 2 and 3 questions and answers was prepared to  
11 assist Bechtel when Bechtel began their task force  
12 review. I don't have a list that correlates Section 3  
13 generic findings to Section 4 discipline. The  
14 correlation is from Section 3 generic back to the  
15 individual questions and answers.

16 Q At the time you delivered Quadrex to Houston  
17 Lighting & Power on May 7th, 1981, did you provide  
18 Houston Lighting & Power or Brown & Root with a list  
19 like that?

20 A I myself didn't even have such a list at that  
21 time. This was prepared afterwards.

22 Q What I'd like to do, Mr. Stanley, is to take  
23 the individual generic findings in the Quadrex report  
24 and attempt to identify the discipline findings that  
25 support that generic finding.

1 I have done this exercise. I hope this can go  
2 fairly quickly. You can simply say whether I'm right or  
3 wrong on a given finding. I have attempted over the  
4 lunchtime to eliminate any that we discussed coming from  
5 your comments of the Bechtel task force report.

6 If we can start with generic finding 3.1(a),  
7 if you will just have that in your mind and look at  
8 4.6.2.1(d).

9 A 4.6.2.1 --

10 Q D.

11 A Baker?

12 Q D as in dog, 4-60.

13 A Dog.

14 MR. REIS: 4-60?

15 Q (By Mr. Sinkin) Is 4.6.2.1(d) captured in  
16 3.1(a)?

17 MR. REIS: Four what?

18 MR. SINKIN: 6.2.1(d) as in dog.

19 MR. REIS: Okay. What page is that on?

20 MR. SINKIN: It's 4-60.

21 A It's marginal.

22 Q (By Mr. Sinkin) Marginal?

23 A Marginal at best.

24 Q Do you know if there's another generic that  
25 would capture it better?

1           A     I would think there's a better -- I would  
2 think there's a better fit.

3           Q     Would it fit better in I on page 3-11?

4           A     It's referred to in Charlie on page 3-5. I'll  
5 check I.

6           Q     Did you say referred to in -- oh, Charlie as  
7 in C?

8           A     Yeah, Charlie.

9           Q     Okay.

10          A     On page 3-5.

11          Q     Thank you.

12          A     The last paragraph of that one.

13                 And, yes, I would agree that I is probably the  
14 best correlation.

15          Q     Staying with 3.1(a) is where we'll start.  
16 Finding 4.1.2.4(n).

17          A     Can you give a page number? That will be  
18 easier.

19          Q     I will try that.

20          A     4.2 --

21          Q     4.1.2.4.

22                 MR. REIS: N?

23                 MR. SINKIN: N.

24                 MR. REIS: As in Nancy?

25                 MR. SINKIN: As in Nancy.



1           A     That's at the bottom of page 4-8?

2           Q     (By Mr. Sinkin) Right.

3           MR. REIS: Mr. Chairman, I object to this in  
4     that this isn't a most serious finding. It is listed  
5     under potential problem findings and doesn't seem to be  
6     a most serious finding as set out as a matter of inquiry  
7     at page 11 of your May 17th order as to what can be  
8     inquired into in relation to the discipline findings.

9           MR. SINKIN: But this is an inquiry into the  
10    generic findings, Mr. Chairman.

11          MR. REIS: That's right.

12          MR. SINKIN: What underlies the generic  
13    findings.

14          MR. REIS: It says the reportability of  
15    Quadrex generic findings is to be considered only  
16    insofar as the findings reflect, quote, most serious  
17    discipline findings, and the sentence continues.

18          MR. GUTTERMAN: Mr. Chairman?

19          JUDGE BECHHOEFER: Pardon? We were about to  
20    sustain that objection.

21          MR. GUTTERMAN: Okay. I was going to make a  
22    different objection to the same question, so that's  
23    redundant and I'll withdraw it.

24          JUDGE BECHHOEFER: Unless you want the  
25    question asked?

1 MR. GUTTERMAN: No.

2 Q (By Mr. Sinkin) Looking at generic finding  
3 3.1(b), Mr. Stanley, if you will just generally keep  
4 that one in mind. 4.1.2.1(a) on page 4-5, would that be  
5 captured by 3.1(b)(1)?

6 MR. GUTTERMAN: Mr. Chairman, I have an  
7 objection to that question and to this entire line of  
8 questioning. I don't think it's a useful exercise. The  
9 Quadrex report speaks for itself. What HL&P had to  
10 review on May the 7th and 8th of 1981 was the Quadrex  
11 report, not some post hoc attempt to connect findings to  
12 different things. They had the Quadrex report. What  
13 they had to review was this document right here.

14 These attempts to connect findings in the  
15 discipline category with a page and a quarter of  
16 discussion in the generic category is not particularly  
17 meaningful and doesn't shed any light on whether HL&P's  
18 process on May 7th and 8th was an appropriate proper  
19 process for reviewing the reportability of the Quadrex  
20 findings.

21 JUDGE BECHHOEFER: We're going to overrule the  
22 objection. The testimony thus far is that the generic  
23 findings were never reviewed, as such. Mr. Goldberg  
24 kept it in the back of his mind, but they were never  
25 reviewed as such, other than to say they only comprised

1 discipline findings. And the whole contention, one of  
2 the contentions is that the discipline findings are  
3 broader than the underlying discipline findings.

4 So, I think we'll -- I think to find out the  
5 extent to which the generic findings include most  
6 serious discipline findings is relevant. So, we'll  
7 overrule the objection.

8 Q (By Mr. Sinkin) Mr. Stanley, this is a  
9 cumbersome process and I'll try and be as helpful as I  
10 can.

11 JUDGE BECHHOEFER: I might add it would be  
12 lovely if you all could stipulate as to which most  
13 serious discipline findings were included in each  
14 generic finding. I don't know if you can work that  
15 out.

16 MR. GUTTERMAN: Mr. Chairman, the problem has  
17 been all along that CCANP has never been willing to tell  
18 us what their contentions are in this area. If Mr.  
19 Sinkin will give us a list and tell us what he's  
20 contending, maybe we can have a fair opportunity to  
21 analyze it and take a reasonable position on it.

22 But we're playing this game of continuous  
23 attempts at what's not surprise but we're not going to  
24 tell you in advance and I don't know what there is to  
25 stipulate on.

1 MR. SINKIN: Well, that's an interesting  
2 suggestion. I have a list that I've created just by  
3 reading the Quadrex report of what I -- and the  
4 questions, the whole thing, of what I think are the  
5 discipline findings that relate to the generic  
6 findings. I would be happy tonight to prepare it in a  
7 little more formal manner and have Mr. Stanley review it  
8 and say yes or no on the given findings as to whether  
9 they are part of the generic findings.

10 MR. GUTTERMAN: Mr. Chairman, you know, each  
11 of these generic findings is fairly lengthy, some of  
12 them run well over a page. They include a lot of  
13 different statements.

14 The fact that a statement in the Quadrex  
15 report is related to a discipline finding doesn't tell  
16 us anything. Obviously they are. That's what Mr.  
17 Stanley's testimony was. Mr. Stanley's testimony also  
18 is that if you review the most serious discipline  
19 findings with an eye towards identifying generic  
20 implications, you'll see whether there are any generic  
21 implications that are reportable.

22 I don't see how drawing this connection is in  
23 any way going to shed any meaningful light on anything  
24 the Board has to decide here. The Quadrex report speaks  
25 for itself. Those findings are what they are. The

1 discipline findings are clearly stated, they're written  
2 in the report. These --

3 MR. REIS: Mr. Chairman?

4 JUDGE BECHHOEFER: They don't include --  
5 apparently from what the witness has said, they do not  
6 always include the discipline findings upon which  
7 they're based by reference.

8 MR. GUTTERMAN: The generic findings do not  
9 include a cross-reference to the discipline findings,  
10 that's true.

11 MR. REIS: It is only if Mr. Sinkin was trying  
12 to prove the converse that the discipline findings do  
13 not include the generic findings need we go into them.  
14 Otherwise, we have the stipulation in the record that  
15 the generic findings are based on discipline findings.  
16 There is no particular need to go on and identify each  
17 one.

18 MR. SINKIN: I don't think there's any  
19 question that the generic findings are based on the  
20 discipline findings, but I don't think that tells us a  
21 whole lot. If you're trying to decide whether a  
22 particular generic finding should have been reported to  
23 the Nuclear Regulatory Commission, an essential part of  
24 that inquiry is the discipline findings upon which it  
25 was based. If you cannot identify from the report



1     itself which discipline findings comprehensively support  
2     that generic, you have to go to the source of the  
3     generic.

4             MR. REIS: We're discussing the generic  
5     findings of themselves which will give us -- if we  
6     answer the answer to the generic findings, that will  
7     tell us whether anything else had to be reported.

8             MR. SINKIN: I don't believe you can answer  
9     the generic findings in a total vacuum and I don't  
10    believe that anybody has used that process. I mean,  
11    what we're being told by Mr. Goldberg in his testimony,  
12    and Mr. Stanley has repeated more or less the same  
13    process, was that they put the generic findings in their  
14    mind, then they read the discipline findings to see if  
15    the discipline findings really supported the generic  
16    findings and if what they found in the discipline  
17    findings would have led them to report the generic  
18    findings, that that's the process that went on.

19            We don't have that process documented  
20    anywhere. It was not documented on May the 7th. It was  
21    not documented by Mr. Stanley when he gave them the  
22    report. This is our opportunity to document how the  
23    generic findings and the discipline findings relate to  
24    each other.

25            MR. GUTTERMAN: I just don't understand what



1 CCANP's contention is here that we're trying to prove  
2 up. The fact that you're going to draw a map that says  
3 this generic finding is based on this half dozen or  
4 dozen or three dozen discipline findings is not going to  
5 give the Board any meaningful guidance on whether that  
6 meant that that generic finding was or was not  
7 reportable. You still have to look at the nature of all  
8 these things and form judgments on whether the threads  
9 that connect them indicate some kind of a significant  
10 breakdown in the QA program. And merely drawing this  
11 chart of connections here isn't going to give any  
12 meaningful information on that question.

13 MR. SINKIN: I guess I would view that just  
14 the opposite, that the only way to have meaningful  
15 information on the generics is if you know which  
16 discipline findings support them and evaluate those  
17 discipline findings as to whether you think they are  
18 individually potentially reportable or of a serious  
19 nature. Then, after that evaluation, you go back to the  
20 generic and say, well, out of the seven discipline  
21 findings that appear to be supportive of this generic,  
22 we find none of them are at all important, therefore  
23 it's not reportable, or all of them are important and  
24 therefore it should have been reported and that that's  
25 the process that you go through.

1 JUDGE SHON: Why do we have to take hearing  
2 time for this, Mr. Sinkin? Couldn't you stipulate?

3 MR. SINKIN: It was a very creative suggestion  
4 and I was for it. Others had some reservations about  
5 it.

6 I would be willing to turn this into what I  
7 think are the findings that support the generics that  
8 I've identified, see if Mr. Stanley agrees and see where  
9 we go from there.

10 MR. GUTTERMAN: Are we going to keep Mr.  
11 Stanley sitting here for days while this process goes  
12 on?

13 MR. SINKIN: I hope not.

14 JUDGE BECHHOEFER: Well, could this be handled  
15 like in a half hour or --

16 MR. AXELRAD: Mr. Chairman, it's not going to  
17 be possible for Mr. Stanley to look over any kind of a  
18 list in a half hour and determine whether or not that is  
19 or is not an accurate representation of anything.

20 It seems to me really that what Mr. Sinkin has  
21 described is completely different than what the Board  
22 would meaningfully have in mind here. The question is  
23 whether or not any portion of a generic finding is  
24 reportable. That should be able to be determined, if  
25 Mr. Sinkin objects to the way it was done by the

1 Applicant, by looking at anything in the generic finding  
2 and determining whether or not that's reportable.

3 We, in fact, have witnesses, the two Bechtel  
4 witnesses, who will be testifying to having reviewed  
5 each of the generic findings and will be testifying as  
6 to why those generic findings are not reportable. And  
7 if Mr. Sinkin will have questions of those witnesses as  
8 to whether they considered discipline finding "umpty  
9 ump" which he has identified which they don't mention in  
10 their testimony, he can ask them those questions, if he  
11 can show why those particular discipline findings in  
12 some way detract from the conclusion of those witnesses  
13 that have testified.

14 But it seems to me that is the way to address  
15 the question of whether the generic findings are  
16 reportable, per se, is to examine what's in the generic  
17 findings and whether that's reportable.

18 MR. SINKIN: Mr. Chairman, I think --

19 JUDGE BECHHOEFER: Well, what I foresee is the  
20 Bechtel witnesses saying, well, we didn't consider that  
21 that discipline finding was included. And if we don't  
22 have some record that it is or isn't included, then it's  
23 just --

24 MR. AXELRAD: It will then be up to the Board  
25 to determine whether or not looking at that particular

1 finding and whatever CCANP wishes to say about that  
2 finding in their proposed findings and conclusions,  
3 whatever we can say about that finding in our proposed  
4 findings and conclusions, whether or not if the Bechtel  
5 witnesses, in fact, cannot answer how that particular  
6 finding affects a generic finding, whether that detracts  
7 from their conclusions.

8 JUDGE BECHHOEFER: I'm not assuming that will  
9 be the case. I'm --

10 MR. AXELRAD: I understand, Mr. Chairman.  
11 What I'm saying is that will go to the weight of the  
12 conclusions they have reached and whether or not the  
13 Board determined that their conclusion is an appropriate  
14 one.

15 MR. SINKIN: Well, I don't understand, Mr.  
16 Chairman, why the speculation by Bechtel as to which  
17 discipline findings support a generic finding has  
18 somehow more weight and value in the record than the man  
19 who wrote the report and knows the truth of the matter.

20 MR. AXELRAD: I resent Mr. Sinkin's reference  
21 to speculation. The Bechtel testimony will not be on  
22 the basis of speculation. The Bechtel testimony goes to  
23 each of the generic findings and explains why the  
24 Bechtel people, upon review of that generic finding and  
25 the Quadrex report, have determined that that generic

1 finding was not reportable. And either that testimony  
2 will be persuasive to the Board or will not be  
3 persuasive to the Board.

4 And Mr. Sinkin will be perfectly free to argue  
5 that that testimony did not include consideration of  
6 anything that Mr. Sinkin believes should have been  
7 included in the Quadrex report and the Board will then  
8 be able to reach a decision as to whether or not the  
9 conclusion reached by the Bechtel witness is worthy of a  
10 basis for the Board's own determinations.

11 But that's the way to address the generic  
12 findings, not to go through this list with Mr. Stanley.

13 MR. SINKIN: Mr. Chairman -- I'm sorry.

14 MR. AXELRAD: Just one last thing. The  
15 question is whether or not HL&P properly reported  
16 findings back at the time of May 7th or May 8th, and at  
17 that time the Quadrex report spoke for itself. They  
18 dealt with the Quadrex report based upon what was  
19 contained in it.

20 Mr. Stanley has specifically said he did not  
21 give HL&P a list tying the generics to the discipline.  
22 Mr. Sinkin asked that very question, and therefore that  
23 was obviously not a list that was used at that time.  
24 And whether or not Mr. Stanley could develop such a list  
25 this minute is irrelevant to the propriety of the



1 decisions that were made by HL&P back on May 7th and  
2 8th.

3 JUDGE BECHHOEFER: Mr. Stanley, let me ask you  
4 some questions -- a question.

5 Did you on or prior to May 8, '81, discuss  
6 with either HL&P officials or B&R officials the, I'll  
7 say, makeup of any of the generic findings in terms of  
8 their inclusiveness of discipline findings?

9 THE WITNESS: The only conversation that was  
10 held on that subject was held in the May 7th  
11 presentation meeting to both HL&P and Brown & Root where  
12 Mr. Goldberg asked me the direct question were the  
13 generic findings based upon discipline findings, as I  
14 recall the question. And I answered yes to that, that  
15 the generic findings had no other factual basis other  
16 than discipline findings.

17 Now, the makeup -- the referencing of these is  
18 to the Volume 2 and 3 questions and answers and that was  
19 done deliberately for two reasons. One, so that there  
20 was always a common referencing point, that the  
21 discipline findings were referenced to Volumes 2 and 3  
22 and the generics were referenced to Volumes 2 and 3.

23 The second part of the reason was that Volumes  
24 2 and 3 were finished on April 27th and were available  
25 for my use. Section 4 of the report was in the word



1 processing system and was at times largely unavailable  
2 for my use while I was finishing Section 3.

3 So, from a very practical and pragmatic  
4 viewpoint, I wanted to refer to everything where I could  
5 get my hands on it and that's how we did it. The only  
6 discussion we had was at the May 7th meeting.

7 (No hiatus.)  
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1 JUDGE SHON: You did not, then, in any time,  
2 identify to HL&P or Brown & Root which of the specific  
3 discipline findings each generic finding was based on.

4 THE WITNESS: That is correct. And even to  
5 this day, I have never prepared such a list.

6 JUDGE BECHHOEFER: Have you done it orally?

7 THE WITNESS: I am sorry?

8 JUDGE BECHHOEFER: Irrespective of the list,  
9 have you done it orally --

10 THE WITNESS: No.

11 JUDGE BECHHOEFER: -- or in discussions?

12 THE WITNESS: No. Now my position on that is  
13 that it should be -- it should be evident and it could  
14 I'm sure with time, be demonstrated, that the process we  
15 used would satisfy the statement that the generic  
16 findings have no factual basis other than section four  
17 discipline findings. I'm very confident that that is the  
18 outcome, because everything is based upon the same  
19 material.

20 JUDGE BECHHOEFER: Now, at any time, say, prior  
21 to -- prior to September 28, 1981, did you ever supply  
22 the correlation of generic findings and questions and  
23 answers in Volumes II and III to HL&P, anybody in HL&P?

24 THE WITNESS: Not to my knowledge. That was  
25 prepared after some November, and I believe the dates

1 were November 5th and 6th, meetings with Bechtel in San  
2 Francisco. We had a meeting with some HL&P  
3 representatives, quite a large number of the the Quadrex  
4 participants in the study, and Bechtel in San Francisco  
5 on November 5th and 6th.

6 And in preparation for that meeting and as a  
7 result of that meeting, I did prepare a list that  
8 correlated generic findings to questions and answers,  
9 handwritten, which was provided to both HL&P and to  
10 Bechtel. That's all I've ever prepared.

11 JUDGE BECHHOEFER: Yes. Nothing along that  
12 line or even oral statements prior to September 28, '81,  
13 were made by you. Is that correct?

14 THE WITNESS: Only the May 7th meeting  
15 statement, where Mr. Goldberg asked me the question. And  
16 as I recall the question that he asked me was: Are the  
17 generic findings based upon discipline findings.

18 And clearly in his mind, I now realize, he had  
19 in mind: Are section three items solely dependent on  
20 section four?

21 And I answered him yes. In my mind, I had  
22 section three to questions and answers. But to me that's  
23 not really an inconsistency. I think it's the same  
24 answer, that if you were to make that correlation, you  
25 wouldn't find anything different.

1 JUDGE BECHHOEFER: Now, in your May -- in the  
2 May 7, not yours, but the May 7 briefing, I guess it was  
3 yours, we understand that there was a lot of discussion,  
4 I think, of the -- I guess it may be the first or maybe  
5 the first two generic items.

6 Now, in that discussion, did you talk about any  
7 specific underlying discipline findings?

8 THE WITNESS: I don't recall being asked that  
9 question in that presentation by Brown & Root or HL&P.  
10 That discussion centered around their disagreement with  
11 the generic finding. And it wasn't really tied back to  
12 "Did it come out of civil or did it come out of  
13 electrical or" -- we didn't get into that kind of  
14 discussion; never got to that level.

15 JUDGE BECHHOEFER: Okay. I think based on the  
16 answers that Mr. Stanley has given, we will sustain the  
17 objection to the line of questioning, on the ground that  
18 HL&P's knowledge is what counts in terms of  
19 reportability, or possibly Brown & Root's knowledge which  
20 might have gotten back to HL&P.

21 And Mr. Stanley says he did not discuss this  
22 with either Brown & Root or HL&P in the time frame where  
23 reportability is significant; in other words, before  
24 September 28. So we will sustain on that -- on that  
25 basis.

1 MR. SINKIN: Mr. Stanley, I think I have just a  
2 couple of final questions to clear up some points.

3 Q (By Mr. Sinkin) In generic finding 3.1 E at  
4 Page 3-7.

5 A Okay.

6 Q In the second paragraph, you say, "and HVAC/I&C  
7 single failure criterion failure violation has been  
8 noted." And you reference question R-6, and E-15.

9 A Yes.

10 Q I wanted to get the connection between those  
11 two questions; R-6 is about a drawing, a common  
12 instrument air line. And E-15, I really have one very  
13 simple question. Question E-15, if you will, the Brown &  
14 Root response to the question?

15 A The Brown & Root.

16 Q Question E-15.

17 A All right.

18 A Okay. Go ahead.

19 Q You see under Brown & Root response that the  
20 item dated 2-24, is the drawing in R-6 the one B&R  
21 selected example that's referenced in E-15?

22 A Based upon my review of the Brown & Root  
23 response and our assessment to E-15, I'd have to say the  
24 answer was no, that there was no example provided.

25 On 2-24, we extracted a promise that a control

1 air/instrument air and one Brown & Root selected example  
2 are to be provided and discussed. And when you look at  
3 the material that's after that, it's relatively evident  
4 that we did not get the example.

5 The sketch of the fuel handling building, HVAC  
6 exhaust system, subsystem, shown in question R-6 is one  
7 that we uncovered at Quadrex found that single failure,  
8 circled the drawing and included it in the report  
9 ourselves.

10 Q I see. Is the problem that Quadrex was  
11 pointing to with the drawing, the area that you have  
12 circled, that there are four instruments on one common  
13 air line?

14 A No. The problem that we were identifying on  
15 that sketch attached to question R-6 was a common  
16 instrument air piping shown as the single line with  
17 hashed marks, we were postulating that anywhere in that  
18 line, that length of line, a blockage could occur that  
19 would prevent the exhausting of instrument air under  
20 accident conditions when needed. And therefore, those  
21 instruments wouldn't respond properly.

22 The control valves would not operate properly.  
23 And we were pointing out that that was a particular  
24 failure that was required to be addressed by IEEE 379,  
25 1972, a trial use standard on the application of single



1 failure criteria.

2 Q Let me be sure I understand. As I understood  
3 the problem originally, it was that one blockage could  
4 take out more than one instrument?

5 A Yes.

6 Q That is the problem?

7 A Yes.

8 Q Because the instruments are hooked up to a  
9 common line?

10 A Yes.

11 Q Okay.

12 A Now, the instrument -- I really ought to  
13 correct that, if you'll permit me, if I may take my  
14 glasses off to read it. It's really the valves that are  
15 below the hash -- below the circled areas.

16 Q The valves below the circled area?

17 A Right, both top and bottom. Those valves would  
18 not operate properly, if there was a postulated blockage  
19 in that instrument line. There should have been separate  
20 lines, to each.

21 Q And this discipline finding or this question,  
22 really, R-6, was part of your basis for concluding that  
23 there was no documented evidence that the single failure  
24 criteria has been satisfied because you had actually  
25 found a violation of it? I see them in the same

1 paragraph and I'm just trying to understand.

2 A I coupled the fact that we asked four  
3 disciplines for their list of postulated single failures  
4 and got no response.

5 I coupled that with the fact that in a brief  
6 examination of this drawing, we were quickly able to find  
7 for ourselves a violation. And I coupled those two  
8 together to make that finding.

9 Q I didn't really quite understand. Did you just  
10 say Quadrex found this drawing, Brown & Root didn't give  
11 it to Quadrex?

12 A We got this drawing as part of that discipline,  
13 the radiological control discipline --

14 Q Okay.

15 A -- and the HVAC discipline --

16 Q Okay.

17 A -- saw the same drawing. But the question that  
18 you had asked me earlier was in the electrical area.

19 Q Right, and --

20 A And the electrical didn't come forward with the  
21 example. So we chose material that we got from other  
22 sources.

23 Q Instrumentation and control provided you with  
24 this drawing and HVAC provided you with the same drawing?

25 A Of course, yeah.

1 Q It's a common drawing to the two disciplines?

2 A Multi-discipline type drawing.

3 Q Okay.

4 MR. SINKIN: That concludes my  
5 cross-examination, Mr. Chairman.

6 JUDGE BECHHOEFER: Does the staff want a break  
7 before it starts or would you --

8 MR. REIS: No, we can start now. I'm just going  
9 to move over so we can watch the witness and he can watch  
10 me. Make sure we both have our hands on the table.

11 MR. GUTTERMAN: I was just thinking we might  
12 want to take a break within a half hour or so.

13 JUDGE BECHHOEFER: Oh, yeah.

14

15 CROSS EXAMINATION

16

17 By Mr. Reis:

18 Q Mr. Stanley, you previously stated that you did  
19 work for the NRC as well as some of the utilities. Do  
20 you have any projects going forward for the NRC at the  
21 present time?

22 A Yes, I do.

23 Q What are they, very briefly?

24 A The integrated design inspection on Sharon  
25 Harris; Commanche Peak integrated IDVP, whatever that

1 stands for.

2 Q Independent design verification program?

3 A And a program for through EG&G on electrical  
4 component QA.

5 Q Mr. Stanley, are you aware of the 50.55(e)  
6 reports that were made by Houston Lighting & Power as a  
7 result of the Quadrex study?

8 A I was informed by telephone either May 8th or  
9 May 9th, somewhere through there, as to what had been  
10 reported. But the actual reports, I've never received.

11 Q So you don't know the scope of the reports?

12 A That's correct.

13 Q There was talk --

14 JUDGE BECHHOEFER: Could I interrupt one  
15 minute? Is your answer that you were aware of the  
16 reports only for those made on May 8, and later followed  
17 up, or are you including what was reported later as when  
18 Bechtel came in with its task force.

19 THE WITNESS: You mean the one additional item  
20 that got reported later?

21 JUDGE BECHHOEFER: Right.

22 THE WITNESS: I was made aware shortly after  
23 the report was submitted of the three reportable, under  
24 50.55(E) of the three items that HL&P had reported. I  
25 was unaware until we began preparing testimony that the

1 instrument line blockage had been reported and then  
2 withdrawn. I didn't even know that had happened.

3 JUDGE BECHHOEFER: Okay, sorry for the  
4 interruption. I just wanted to clarify that.

5 Q (By Mr. Reis) Calling your attention to CCANP  
6 Exhibit 105 and the second page thereof.

7 A Second page.

8 Q Yes. There's a reference to appendix E. Do  
9 you know what Appendix E is referred to there?

10 A I assume that it's 10 CFR 55 part E, or  
11 whatever it's.

12 Q Excuse me?

13 A Be right with you, just a second.

14 Q Appendix E, Appendix E part 50 deals with  
15 emergency planning. Is that what they were referring to  
16 there?

17 A No. No, I don't believe so.

18 Q If you don't know what they were referring to,  
19 you can just say so, Mr. Stanley.

20 A No, I do know what they were referring to. I'm  
21 just trying to get the exact words.

22 A I assumed when I received that letter that they  
23 were referring to the reporting requirements under 55.55  
24 part E.

25 Q So the words Appendix E had no meaning?



1           A     I disregarded it, the word "appendix."

2           Q     Okay. Fine. There's been discussion in the  
3 record, Mr. Stanley, as to whether the FSAR was a design  
4 document or I think you used the words licensing  
5 commitment document. Can you tell the difference in how  
6 you used those terms and what you mean by "design  
7 document" when you say the FSAR is not a design document,  
8 but a licensing commitment document?

9           A     If you designate the FSAR as a design input  
10 document, then it becomes an engineering document subject  
11 to all of the engineering controls, and if you use any  
12 values from the FSAR in calculations or other analyses as  
13 design inputs, they need to be subject to the design  
14 verification aspects of Appendix B.

15                 However, if you designate the FSAR as a  
16 licensing commitment document and not a design input  
17 document, then you don't need to perform those steps, but  
18 in place you need another document within the engineering  
19 system for the plant, that contains the values that would  
20 be used as design inputs. I hope that explains --

21           Q     In your answer, you're not implying that there  
22 is no need to meet the commitments in the FSAR in design,  
23 are you?

24           A     No, absolutely not. You must meet the  
25 commitments in design that are provided in the FSAR.



1           Q     Mr. Stanley, tell me if I'm correct, in your  
2 testimony yesterday, I believe you testified that you did  
3 not think any matters but the three original matters  
4 called out by HL&P as being reportable under 50.55(e) had  
5 to be reported. Did you so testify?

6           A     To the best of my recollection, that's correct.

7           Q     Today, we have dealt with what is CCANP Exhibit  
8 104, a letter of March 2nd, 1982, and I believe you might  
9 have it in front of you, and I will ask you, you dealt  
10 with comment five, seven, eight, ten, twelve, fourteen --  
11 you don't recall, is what you are saying; you just raised  
12 your hand.

13          A     Yeah, you are reading off a list of comments.

14          Q     Yes.

15          A     I didn't keep score.

16          Q     In your testimony on those various comments?

17          A     Yes.

18          Q     And as a result of the examination you made in  
19 those comments, do you now believe that any additional  
20 matters should have been reported from the Quadrex report  
21 under 50.55(e) besides those matters you testified to  
22 yesterday?

23          A     No. There are no additional matters arising  
24 from this letter.

25          Q     Does this letter, in any way, does this letter

1 indicate any breakdown in quality assurance?

2 A Not in my opinion. The thrust of this letter  
3 was to provide our viewpoint on the Bechtel task force,  
4 responses and evaluations, trying to round out where  
5 perhaps their understanding wasn't complete, or to show  
6 where they were internally contradicting from one line  
7 item to another line item, that their position wasn't  
8 necessarily established.

9 But there was nothing that came out of this  
10 that would affect reportability, at that time or even  
11 today.

12 Q In preparing these comments, set out in CCANP  
13 Exhibit 104, did you make any attempt to divide those  
14 comments which went to efficiency of construction or  
15 economy, financial matters, from those that dealt with  
16 safety, in your mind?

17 A No, I did not. I took the Bechtel task force  
18 report and item by item prepared a comment in the same  
19 sequence, and provided a statement of one or more  
20 sentences based upon that comment alone, without regard  
21 as to whether it was safety or non-safety or economic or  
22 uneconomic. I was merely trying to respond to the  
23 Bechtel task force evaluation.

24 MR. REIS: Thank you. One second. That's all  
25 I have. Decided to do it the short way.

1 JUDGE BECHHOEFER: Why don't we take a fifteen  
2 minute break before we start ours.

3 (Recess.)

4 (No hiatus.)

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## BOARD EXAMINATION

By Judge Bechhoefer:

Q Mr. Stanley, I guess I'm the only Board member to has any questions to ask you and I don't have too many. I'd like to clarify one matter that came up sometime yesterday. I wasn't able to find it in the transcript. In developing the report, itself, you mentioned that you supplied certain areas or questions, areas of questions to HL&P for their review?

A This was at the beginning of the project, in January.

Q Yes.

A We developed the set of questions in the later part of January. We provided those questions to HL&P for their review, comment and concurrence.

Q I wanted to just clear up the numbers of areas. I thought you testified that you provided seven areas or something of that line?

A In our original proposal, as I counted the items yesterday, we identified seven technical areas.

Q Yes.

A But in the report, itself, on page 1-1, there are more, there's one, two, three, four, five, six, seven, eight -- nine areas.

1 Q Right.

2 A So two areas were added in the January -- the  
3 meetings at the end of January at Quadrex.

4 Q Well, what I wanted to clear up was in staff  
5 inspection report 8202, I think you are quoted as stating  
6 that you originally supplied nine areas. And I just  
7 wondered whether one or the other statement was a mistake  
8 or whether there was some areas that got deleted or  
9 changed.

10 A Could we look at that exhibit? It's my  
11 testimony to the Region IV people.

12 Q Page 12 of the report. I don't have your  
13 statement.

14 A Oh, you are referring to the Region IV.

15 Q The Region IV. I don't have your sworn  
16 statements, though.

17 A I would really prefer to have that, because I  
18 had not ever received this Region IV report.

19 Q I see. That's all we have received.

20 A Yeah. I gave a sworn deposition or whatever it  
21 is, to two visitors. So let me search for the reference  
22 on here. In reading this first paragraph, I believe that  
23 there is an error in my statement to the NRC people from  
24 Region IV. The sentence at the end of paragraph one  
25 says, it's referring to Dr. Sumpter, he identified nine

1 engineering disciplines which he wanted to review to  
2 concentrate on.

3 At the time of the telephone call on January  
4 4th, there were seven. And the mechanical discipline was  
5 split so that there was mechanical as well as piping and  
6 supports. And then the computer programs and codes were  
7 pulled together, because we had questions on computer  
8 codes in a number of disciplines, we decided to pull  
9 those together into a common area and define that one.  
10 Other than that, there isn't any inconsistency.

11 I think at the time I made this statement to  
12 the NRC inspectors, I had completely forgotten about the  
13 proposal letter of seven, and had adopted the final  
14 result of nine in my thinking pattern.

15 Q Well, if we should happen to write a finding on  
16 it, then we should use seven as you said yesterday.

17 A Okay.

18 Q My question area that I'd like to ask you  
19 about, in the meetings that you attended on May 7, '81,  
20 meeting or meetings as the case may be, did any of the  
21 meetings, at any of the meetings, do you recall any  
22 discussion of how, the methodology, how HL&P would report  
23 Quadrex findings to NRC or alternatively would make  
24 records of what portions they did not report?

25 A I was not a participant in any of those



1 discussions. We made the presentation in the May 7th  
2 meeting. At the meeting of that, I had the brief one or  
3 two minute discussion with Mr. Goldberg about the fact  
4 that all of the items were correctable or doable, that  
5 sort of thing. And I was essentially removed from any  
6 further process involving the evaluation of  
7 reportability, other than to be available at Brown & Root  
8 on the afternoon and the evening of May 7th, as a  
9 resource to them if they needed it. And I simply got no  
10 instructions or heard no plans as to how they planned to  
11 conduct that review.

12 Q I see. Do you recall any of these meetings  
13 where Mr. Barker might have attended? Or did you even  
14 know Mr. Barker?

15 A Are you speaking of the meetings?

16 Q On May 7.

17 A On May 7?

18 Q Yes.

19 A I don't recall for certain whether he was at  
20 the May 7th presentation or not. I simply don't remember  
21 who all the attendees were. To my recollection, we  
22 didn't have any conversation at all that day, he and I.

23 Q Could your counsel show you Document No. 17 of  
24 the Quadrex documents that the Board was supplied?

25 We don't intend to introduce this, but we

1 would, Mr. Stanley, if you could read the last two items;  
2 I just would like to know whether those notes which are  
3 supposed to be Mr. Barker's notes refresh your  
4 recollection at all or whether you were present, either  
5 items nine or ten.

6 A Okay, item nine and ten is mark up a system,  
7 and document evaluation of each item, is that how you  
8 read it.

9 Q Yes.

10 A Must mark up a system.

11 Q Or "make up a system," I read it, but if you  
12 have no recollection of that, then it's not your notes or  
13 anything like that --

14 A These are not my notes.

15 Q -- and I assume you have never seen these.

16 A And item ten is, "Go through each item on an  
17 informal basis, use engineering judgment then present  
18 before IRC." I don't recall any discussion -- there was  
19 no discussion of that nature at the May 7th presentation  
20 meeting that concluded just about noontime. I don't  
21 recall that being discussed.

22 (No Hiatus.)  
23  
24  
25

1 Q I see.

2 A That's my recollection.

3 Q Okay. That's all I wanted to find out.

4 Third is just in general, did you or -- did  
5 you make the Quadrex report dramatic or overly  
6 dramatic --

7 MR. AXELRAD: Mr. Chairman, if I may just  
8 interrupt, perhaps the record could be a little  
9 clearer. I think you referred to a -- did you refer to  
10 Mr. Barker's notes?

11 JUDGE BECHHOEFER: Yes, I did. I mentioned  
12 Mr. Barker's name.

13 MR. AXELRAD: Okay. When we provided that  
14 information to the Board on April 19, we identified that  
15 as item 17 as handwritten notes by Mr. Blau. Now --

16 JUDGE BECHHOEFER: Oh, I'm sorry.

17 MR. AXELRAD: I can't vouch for either name  
18 name, but that's what we said when we provided it. I  
19 wanted to make sure the Board didn't have --

20 JUDGE BECHHOEFER: I might have looked at the  
21 wrong note here.

22 Q (By Judge Bechhoefer) Well, does it refresh  
23 your recollection anymore if you substitute the name  
24 Blau?

25 A There's no difference in my recollection.

1 JUDGE BECHHOEFER: I have the wrong name  
2 written down here.

3 MR. AXELRAD: Fine.

4 A In answer to your question, I think it's fair  
5 to say that the writing style on the Quadrex report is  
6 not atypical for me.

7 Q (By Judge Bechhoefer) I don't know if I got  
8 my whole question out.

9 A Okay. All right.

10 Q Was it either dramatic or overly dramatic in  
11 order to catch the attention of management? That's sort  
12 of a paraphrase of some earlier testimony we had.

13 A It's not significantly different than other  
14 reports that I've written in terms of style or tone,  
15 choice of words. Clearly we did want to get the  
16 attention of HL&P to what we felt were some management  
17 weaknesses in the technical disciplines and in the  
18 management of the technical disciplines. So, the  
19 putting of the generic findings as the first thing that  
20 one encounters was a deliberate move to try and capture  
21 their attention.

22 The report was not, if you will, jazzed up  
23 with any deliberate intent at all. This is quite  
24 typical of my writing style in general.

25 Q Would you now turn to CCANP Exhibit 104.

1           A     I have it.

2           Q     And comment 10, this is one of the few I  
3     didn't have a chance to break in on. With respect to  
4     that comment, do you see any QA implications at least  
5     to --

6           A     At the point in time that we submitted the  
7     report, there was evidence that they had not done a lot  
8     of analysis that had yet to be done. There was evidence  
9     that some of the analyses they had done were possibly  
10    incorrect or had errors in them. But we could tell at  
11    that point in time that they still had a lot of work to  
12    do and the biggest problem was that they had not done  
13    the work that we had expected that they would have  
14    done. So, at that point in time I didn't see a QA  
15    problem, per se.

16                Now, at the time that I wrote this March 2nd  
17    letter commenting on the Bechtel task force report, I  
18    had no additional input beyond that May 7th, 1981  
19    period. We had not received any new material from Brown  
20    & Root. We had not performed any further review of the  
21    material that we had. So, there wasn't anything in the  
22    way of new information that went into the making up of  
23    this comment. So, the position would have been the same  
24    at the same time.

25                And today, even today we really didn't have a



1 sufficient number of cases in my mind to where we could  
2 say there was a QA breakdown. We saw indications of  
3 problems. We thought that HL&P should pay some  
4 attention to this area quickly and see what the real  
5 problems were and set out on a course of action to  
6 correct them, but we didn't have enough information to  
7 draw a final conclusion on that.

8 Q The circumstance that some errors had been  
9 made, you may not have the expertise in 50.55(e)  
10 reporting to answer this, but would you think at least  
11 these items could have been considered potential?

12 A Well, not in my mind. We did keep track of  
13 the error rate during the review and the comment that we  
14 saw an error rate that was higher than expected was  
15 based upon an average of about four or five percent. We  
16 had looked at about eighty to a hundred different  
17 calculations. We found errors in four to five percent  
18 of those. Some of the errors were conservative, they  
19 were large errors in a safe direction. Other errors  
20 were in modeling or in inputs, things of this nature.

21 What I was commenting on with that was that  
22 four or five percent was above my threshold of  
23 tolerance, my subjective threshold of tolerance. I had  
24 in mind a one or two percent error rate which I would  
25 have considered to be normal or typical. And what I was



1     seeing was four and five percent, which wouldn't satisfy  
2     me were I in charge of those groups.

3             So -- now, a four or five percent error rate  
4     is not a very high rate anyway and we had sampled very  
5     quickly approximately eighty to a hundred calculations.  
6     That simply wasn't enough in my mind to say there was a  
7     QA breakdown in that area either. But it was an area  
8     that should be looked at.

9             Now, as I recall, they reported the computer  
10    code as a reportable deficiency. That was part of this  
11    also.

12            JUDGE BECHHOEFER: That's all the questions we  
13    have.

14            Mr. Axelrad or Mr. Gutterman?

15

16                    REDIRECT EXAMINATION

17    BY MR. GUTTERMAN:

18            Q     Mr. Stanley, in reviewing the transcript for  
19    yesterday I saw at page 13202 a discussion in which  
20    you -- well, you were asked about whether between May  
21    7th of 1981 and September of 1981 you had any further  
22    contacts with HL&P about the study. And your answer was  
23    that you were asked to come back to Houston for a one or  
24    two-day period as you recalled it in June or July. I'm  
25    paraphrasing it, it's not an exact quote. And you said

1 they wanted to determine if there was anything in the  
2 Quadrex report that would have impact upon the hearings  
3 that were about to begin.

4 Since yesterday have you had an opportunity to  
5 check your schedule and --

6 A Yes, I have, and I would like to correct the  
7 record on that point. My memory was in error  
8 yesterday.

9 I contacted -- I've reviewed my schedule book  
10 for 1981 and I've also called my wife and she has  
11 examined expense account copies that I submitted to  
12 Quadrex in that five-month period to determine where I  
13 was and what I was doing on specific dates.

14 With those two sources of information, the  
15 meetings in support of the hearings were at HL&P on  
16 November 2nd and 3rd of 1981, travel day was November 1  
17 to Houston. There were meetings in June, they were  
18 travel day June 10 and meetings in Houston on June 11th  
19 and June 12th, 1981, for the purpose of briefing, as I  
20 recall, John White who was at that time I believe a  
21 manager of licensing or was in the licensing group at  
22 HL&P, and possibly Mr. Robertson on specific items in  
23 the Quadrex report. I was asked to come back about a  
24 month after the report was submitted and provide  
25 additional input to them directly.

1           So, I appreciate the opportunity to correct  
2       that record.

3           Q     And that meeting in June had no relationship  
4       to hearings?

5           A     It had no relationship to hearings. It was on  
6       the South Texas Quadrex report project.

7           MR. GUTTERMAN: That's all --

8           A     It was not tied to the hearings.

9           MR. GUTTERMAN: That's the only questions I  
10      have, Mr. Chairman.

11          JUDGE BECHHOEFER: Was it tied to  
12      reportability of any item?

13          THE WITNESS: No. No, I believe it was to  
14      have direct interaction with John White who had not been  
15      involved in the entire period with this activity.

16          MR. GUTTERMAN: That's all the redirect.

17          JUDGE BECHHOEFER: I hate to possibly look  
18      stupid, but who's John White?

19          MR. GUTTERMAN: He was a witness in Phase I,  
20      Mr. Chairman.

21          JUDGE BECHHOEFER: That's what I thought,  
22      but --

23          MR. GUTTERMAN: He testified on the question  
24      of -- the one we talked about earlier this morning,  
25      about the question of whether there was a material false

1 statement in the FSAR.

2 JUDGE BECHHOEFER: Right. Okay. I just knew  
3 I recognized the name and I couldn't place him.

4 Mr. Sinkin?

5

6 RECROSS EXAMINATION

7 BY MR. SINKIN:

8 Q In your visit to Houston in June, your task  
9 was essentially to brief John White on what Quadrex had  
10 found?

11 A That's correct.

12 Q And what role do you remember that Mr.  
13 Robertson played in that meeting?

14 A My recollection is that we went over to the  
15 Brown & Root library for a portion of that meeting and  
16 that Mr. Robertson sat in with Mr. White while we  
17 discussed particular findings in the report. Other than  
18 that, I don't know what his role was, what his  
19 particular interest was. And, quite frankly, it's been  
20 too long to remember the specifics of it.

21 Q Did Mr. White bring up specific items he  
22 wanted to ask you about or had you come prepared to make  
23 a presentation?

24 A I made no presentation that day, those two  
25 days.

1 Q So, you basically responded to questions from  
2 Mr. White?

3 A That's my recollection, yes.

4 Q Were there any particular areas of concern to  
5 Mr. White that you remember?

6 A The entire episode I have had trouble  
7 recalling.

8 Q I think that's apparent here.

9 A That one I didn't remember very well.

10 MR. SINKIN: That's all I have, Mr. Chairman.

11 JUDGE BECHHOEFER: Mr. Reis?

12 MR. REIS: Nothing more.

13 MR. GUTTERMAN: Nothing more.

14 JUDGE BECHHOEFER: Mr. Gutterman, any  
15 further --

16 MR. GUTTERMAN: Applicants have no further  
17 questions.

18 JUDGE BECHHOEFER: Mr. Stanley, I guess you're  
19 excused.

20 THE WITNESS: Thank you, Mr. Chairman.

21 JUDGE BECHHOEFER: Before we move on, I'm just  
22 looking for some documents, the Board thinks we should  
23 discuss the Waterford decision at this time before we  
24 get on to the Bechtel panel -- I said before we move on  
25 to the Bechtel panel, we ought to discuss the Waterford

1 decision. That's what I'm looking for.

2 Okay. The Board advised the parties earlier  
3 that it might want to, probably would want to discuss  
4 the implications of a sentence which appears in a recent  
5 Appeal Board decision. It's in the Louisiana Power &  
6 Light Company Waterford decision. It's ALAB, 812, 812.

7 On page 11 of that decision, the Appeal Board,  
8 in the course of evaluating a motion to reopen which was  
9 based on certain alleged QA violations or charges  
10 actually, charges by some individuals in particular, the  
11 Appeal Board said that the intervenor's failure in that  
12 case to connect a charge or a particular charge with the  
13 correct criterion, and they're referring to the  
14 criterion in Appendix B, is not fatal to their case. I  
15 might add there were other things that were.

16 But this statement could be read to conflict  
17 with a ruling or determination which we made at the  
18 sixth prehearing conference, and I refer particularly to  
19 pages, transcript pages 11184 through 11192, that may be  
20 slightly more pages than I needed, where we in essence  
21 said that we would evaluate the alleged QA violations of  
22 the failure to report in terms of only the criteria  
23 which Mr. Sinkin had listed in a November -- either in a  
24 November 1981 letter or at one of the later prehearing  
25 conferences. And I'm not sure that that ruling was



1 consistent with the Appeal Board's more recent  
2 statement.

3 Whether this is a problem or not may depend on  
4 the scope of the parties' testimony on those particular  
5 issues.

6 It appears to at least the Board Chairman that  
7 the Staff's testimony in the very least is broader than  
8 the specific listed criteria in the contention. So, I  
9 mean, insofar as the Staff is concerned, it is clear to  
10 us that whether we -- if we should expand the  
11 contentions to include any violation of any criteria,  
12 the Staff would still -- the change would be moot as far  
13 as the Staff's testimony is concerned.

14 It appears to me that the Applicants'  
15 testimony may also be broader, but I cannot -- I have  
16 not determined or gone through each item to determine  
17 whether in every case the Applicants' panel, which is  
18 the panel which is due to come on, has addressed any  
19 alleged violation in terms of any criterion of Appendix  
20 B. So, whether or not this change, if we made it, would  
21 be of any substance to the Applicants, I'm not sure.

22 First, I assume Mr. Sinkin would want us to  
23 follow the point of view set forth in Waterford on page  
24 11.

25 MR. SINKIN: Yes, Mr. Chairman, we have a

1 statement on that point, if you'd like that now.

2 MR. AXELRAD: It might short circuit this  
3 discussion if we stated our position.

4 JUDGE BECHHOEFER: If the Applicants agree,  
5 you may not have to make one. You've made a statement  
6 already, and I'm not going to preclude you from making  
7 another one if you have to. You made one already  
8 earlier at the prehearing conference within the pages I  
9 cited. I would like to find out what the Applicants'  
10 position is.

11 MR. AXELRAD: Fine, Mr. Chairman.

12 We have read ALAB 812, including page 11." It  
13 appears to us that the situation that the Appeal Board  
14 had before it in that case was different than the  
15 situation that the Licensing Board has before it in this  
16 case.

17 As best we can understand the Waterford  
18 circumstances, the intervenors had filed a very large  
19 number of charges and they had grouped those into twelve  
20 categories which I gather somehow related to some  
21 Appendix B criteria. And the Appeal Board decided that  
22 for purposes of ruling on the motion to reopen, it was  
23 just easier for the Appeal Board not to pay any  
24 attention to the specific criterion that had been cited,  
25 but just to look at the charges themselves, decide

1 whether any of the charges were safety significant, and  
2 thereby decide whether or not one of the criteria that  
3 had to be met for reopening a proceeding had been  
4 satisfied.

5 I do not read that decision as stating a  
6 proposition of law as to whether or not it's appropriate  
7 to limit a contention to a specific criteria in Appendix  
8 B under appropriate circumstances.

9 It does appear to us that in this particular  
10 case we have had specific statements by CCANP as to  
11 which criteria they believed to have been violated by  
12 particular findings and that it would have been  
13 perfectly appropriate, as the Board did indicate, to  
14 limit this proceeding to whether or not those findings  
15 violated those particular criteria.

16 We did find, however, in drafting our  
17 testimony, the testimony particularly of the Bechtel  
18 panel, that it was much more rational in discussing each  
19 of those particular findings to address the particular  
20 criteria that CCANP had identified and then, in order to  
21 make sure the Board understood that there was no  
22 violation of Appendix B involved, to go on and discuss  
23 the criteria which might, in fact, be much more  
24 rationally related to the subject matter of the  
25 particular finding.

1           So, the Board is correct. As in the case of  
2 the Staff's testimony, our testimony does, in fact, go  
3 beyond the specific criteria which had been identified  
4 by CCANP and therefore we would not be prejudiced if the  
5 Board were to make clear that the particular findings  
6 will be judged against whatever criteria of Appendix B  
7 might possibly relate to those particular subject  
8 matters.

9           JUDGE BECHHOEFER: Does the Staff have any  
10 comment?

11           MR. REIS: Well, the Staff reads the case as  
12 being sui generis and applying to the fact situation  
13 for the Appeal Board at that time. We don't feel the  
14 language can be broadened to all cases or that the  
15 Appeal Board in any way in speaking of the particular  
16 case before them was speaking as to a general rule of  
17 law. We think the rules as to contentions and the need  
18 to state things with specificity in NRC proceedings,  
19 this isn't exactly a contention but it's analogous,  
20 still follows.

21           However, we don't think it makes any  
22 difference in this case as the Applicant does. And,  
23 therefore, whether or not we follow the Appeal Board or  
24 don't follow the Appeal Board, we feel the testimony  
25 fully deals with Appendix B as a whole and we've

1       approached it that way.

2               However, I wouldn't like any precedent from  
3       this Licensing Board to indicate that in the future  
4       drafting of contentions or issues that one need not at  
5       any time specify which criteria might be violated. I  
6       just think it would be awful for NRC proceedings in the  
7       future. But I don't think it makes any difference in  
8       this case. I think it's ridic -- has no meaning.

9               JUDGE BECHHOEFER: The Board will, without  
10       setting any precedent or expressing any opinion as to  
11       whether the Appeal Board decision is sui generis or  
12       broader, we will consider in this case whether any  
13       criteria have been violated without expressing any  
14       opinion as to whether in the future contentions would  
15       necessarily have to be resolved in that manner or  
16       decided in that manner.

17              So, with that, I guess we can go on to the  
18       Bechtel panel. Unless you have anybody else --

19              MR. SINKIN: Wait, Mr. Chairman. First of  
20       all, in reviewing my notes I wanted to catch up on one  
21       thing. We had brought up the matter of the audit on  
22       soils and my notes reflect that there was going to be a  
23       report this morning on the status of that audit.

24              MR. AXELRAD: I'll have to defer that until  
25       tomorrow morning, Mr. Chairman.

1 MR. SINKIN: And also that there was going to  
2 be a filing of a revision of the notice on violation.

3 MR. AXELRAD: That would be part of the same  
4 package tomorrow morning.

5 MR. REIS: As long as we're making other  
6 business before we get to the next panel, I might  
7 announce that Mr. Pirfo will represent the Staff at the  
8 hearing tomorrow. I have other business that takes me  
9 away within the NRC.

10 MR. SINKIN: I have one other matter, Mr.  
11 Chairman. You had called attention also to page 18 of  
12 ALAB 812 as to whether it would affect us here and that  
13 may not be a matter -- that may just be a briefing  
14 matter for later, but I want to be sure if there was  
15 something that you wanted to discuss, that we did  
16 respond to it.

17 JUDGE BECHHOEFER: I guess I had referred to  
18 the footnote --

19 MR. SINKIN: Footnote 15.

20 JUDGE BECHHOEFER: -- on page 18 where the  
21 Appeal Board treated a certain MAC report in a certain  
22 way. I don't know whether this has any bearing on  
23 anything further that we have to rule on in Phase II  
24 particularly, but maybe it does. I'm not sure.

25 MR. AXELRAD: I'm sure that particular



1 footnote will be referred to in somebody's proposed  
2 findings.

3 JUDGE BECHHOEFER: Yes, but I don't think we  
4 need to have oral argument on what it means now.

5 MR. AXELRAD: Yes, Mr. Chairman.

6 JUDGE BECHHOEFER: Or oral argument now on  
7 what it means.

8 MR. SINKIN: Mr. Chairman, one other item. As  
9 we understood today we were going to do Mr. Stanley and  
10 then do the ALAB and then we were going to quit.

11 JUDGE BECHHOEFER: We ended up a little  
12 earlier than we thought.

13 MR. SINKIN: We did end up early.

14 JUDGE BECHHOEFER: What we thought is that we  
15 would not get into any testimony as such, but at least  
16 hear arguments on whether the forthcoming panel  
17 testimony is admissible. You have filed a motion which  
18 includes --

19 MR. SINKIN: Yes. I mean, because of the  
20 arrangement I didn't even bring that material with me.  
21 Although, I'm sure someone else has the motion to  
22 strike. That's not all the material I didn't bring with  
23 me.

24 (No hiatus.)

25

1 MR. AXELRAD: Mr. Chairman, I would like to  
2 make a suggestion in view of what Mr. Sinkin has just  
3 said.

4 What we would propose to do this afternoon is  
5 simply to put the Bechtel panel on; we have a couple of  
6 exhibits which we are going to put into that panel, get  
7 those exhibits into the record, deal with the motion to  
8 strike and presumably any voir dire and that's it.

9 We may, in fact, have some additional oral  
10 direct testimony that we may ask of this panel. We  
11 haven't quite decided that yet, but we can consider that  
12 overnight and save some time.

13 If there is any additional direct testimony, we  
14 would do that first thing tomorrow morning. So all that  
15 would be needed to be done with this panel this afternoon  
16 is the exhibits, getting their testimony, their prefiled  
17 testimony into the record, doing with any motions to  
18 strike and getting the exhibits into the record, and then  
19 adjourn -- and voir dire and then adjourn until tomorrow.

20 MR. SINKIN: I understand the proposal. It was  
21 the voir dire was going to be fairly extensive.

22 MR. AXELRAD: We've got a couple of hours to do  
23 that, then.

24 MR. SINKIN: Which I was not prepared to go  
25 forward with at this time, is my problem.

1 MR. REIS: Mr. Chairman -- did you finish, Mr.  
2 Sinkin?

3 MR. SINKIN: Yes, I'm finished.

4 MR. REIS: I don't understand why we can't go  
5 forward. We know the order of witnesses, people are  
6 here, we were told what it was. The fact that we got rid  
7 of Mr. Stanley early, this hearing is not running behind  
8 its projected pace and we ought to move forward.

9 JUDGE SHON: If he wants a copy of its motion  
10 to strike, we can --

11 JUDGE BECHHOEFER: Off the record for a minute.  
12 (Discussion off the record.)

13 JUDGE BECHHOEFER: Okay, back on the record.

14 MR. FRANTZ: The Applicant will now call Dr.  
15 Sidney Bernsen and Frank Lopez to the stand.

16 The witnesses have not yet been sworn in this  
17 proceeding.

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1 Whereupon,  
2

3 SIDNEY A. BERNSEN AND FRANK LOPEZ, JR.  
4 were called as witnesses by the Applicants and, having  
5 been first duly sworn upon their oaths, testified as  
6 follows:

7 DIRECT EXAMINATION

8 By Mr. Frantz:

9 Q Dr. Bernsen and Mr. Lopez, will each of you  
10 state your full name for the record.

11 A (By Mr. Lopez) My name is Frank Lopez, Jr.

12 A (By Mr. Bernsen) My name is Sidney A. Bernsen.

13 Q Have each of you read or each of are you  
14 familiar with the prefiled testimony on behalf of Houston  
15 Lighting & Power, et al, of Sidney A. Bernsen and Frank  
16 Lopez, Jr., consisting of 107 pages plus attached  
17 resumes?

18 A (By Mr. Bernsen) Yes, I am.

19 A (By Mr. Lopez) Yes, I am.

20 Q Do you have any corrections deletions or  
21 modifications that you wish to make to your testimony.

22 A (By Mr. Lopez) Yes, we do.

23 Q Will you please state those?

24 A (By Mr. Bernsen) On page three, line 21 or two  
25 and-a-half, there's a misspelling of the word

1 "organization," transposition of the letters "i" and "t."

2 On page 17, line 11, add an "s" after  
3 "description," so it should read "system design  
4 descriptions."

5 Page 19, line 1, insert the word "to," after  
6 the word "limited."

7 MR. REIS: How do you spell "to?"

8 MR. BERNSEN: T-o, limited to those reported to  
9 the NRC.

10 A (By Mr. Bernsen) Page 35, line 22, delete the  
11 word "the," second word in that line.

12 Page 36, line 6, add a comma after the word  
13 "procurements."

14 Page 39, line 2, in the word "certification,"  
15 strike the third "i," the one after the "c".

16 Page 65, line 7, add an "s" to the word  
17 "different," so that it would read "these differences."

18 Then in my resume, on page 2, the last  
19 paragraph, as you might expect, 1, 2, 3, 4, 5, 6, 7 lines  
20 from the bottom of the last word, "assurance" should have  
21 an "a."

22 Frank, let me give the QA conclusions on this.  
23 I'll let him correct his resume.

24 MR. LOPEZ. Okay. On my resume, under the  
25 education section, for clarity, after the word

1 "University" in the second line, add a comma between the  
2 word "University" and "graduate."

3 On the 6th line, there's a sentence -- phrase  
4 being program and management, delete the "and" --

5 JUDGE LAMB: Where is that?

6 MR. LOPEZ: Is under the section after the  
7 "MMBA." It should read "program management and financial  
8 management."

9 And under the employer section, delete the  
10 phrase "graduation from college," and replace it with  
11 "since completion of his nuclear engineering graduate  
12 studies."

13 Q (By Mr. Frantz) Does that complete your  
14 modifications?

15 A (By Mr. Lopez) Yes, sir.

16 Q Can I bring your attention to perhaps one  
17 further modification? On page 11, line 14. Does that  
18 refresh your memory?

19 A (By Mr. Bernsen) Yes. In the parenthetic  
20 expression "except those actual reported to the NRC,"  
21 that should be limited except to "some actually  
22 reported."

23 Q Thank you.

24 A (By Mr. Bernsen) Some of those.

25 JUDGE LAMB: Could you give me that again.



1 MR. BERNSEN: "Except to some of those actually  
2 reported."

3 Q (By Mr. Frantz) Dr. Bernsen, are the portions  
4 of this testimony sponsored by you as modified true and  
5 correct to the best of your knowledge, information and  
6 belief?

7 A (By Mr. Bernsen) Yes, they are.

8 Q Do you, Dr. Bernsen, do you adopt those portion  
9 of this testimony sponsored by you as modified as your  
10 testimony in this proceeding?

11 A Yes.

12 Q Mr. Lopez, are the portions of this testimony  
13 sponsored by you as modified true and correct to the best  
14 of your knowledge, information and belief?

15 A (By Mr. Lopez) Yes, they are.

16 Q Mr. Lopez, do you adopt this testimony as  
17 modified as your testimony in this proceeding?

18 A Yes, I do.

19 MR. FRANTZ: The Applicants move that the  
20 testimony on behalf of Houston Lighting & Power Company,  
21 et al, of Sidney Bernsen and Frank Lopez, Jr., as  
22 modified been admitted into evidence in this proceeding.

23 MR. SINKIN: Objection, Mr. Chairman.

24 JUDGE BECHHOEFER: Let me ask if there's any  
25 objections.

1 MR. SINKIN: Sorry.

2 JUDGE BECHHOEFER: That's all right. Do you  
3 wish to handle the objections in terms, first, of the  
4 motion to strike the portions applicable to this  
5 testimony? Or do you wish to conduct voir dire first?

6 MR. SINKIN: I think what I'd like to do is,  
7 Mr. Chairman, is start with a general objection to the  
8 entire testimony and then we can proceed from there to  
9 whether specific parts of the testimony come in or not.

10 JUDGE BECHHOEFER: Okay, fine.

11 MR. SINKIN: We have just been through a  
12 lengthy argument about whether CCANP would be allowed to  
13 ask Mr. Stanley to link specific findings to generic  
14 findings. And the Applicant argued I should not be  
15 allowed to do that because HL&P's process was not related  
16 to that, that what I was doing was not meaningful, would  
17 shed no light on the HL&P process, was a post hoc  
18 creation and therefore should be ruled out of order. And  
19 their objection was sustained.

20 And I was not allowed to proceed with Mr.  
21 Stanley, the author of the Quadrex report, to create some  
22 picture of how the specific findings relate to the  
23 generic findings.

24 Now we have testimony prepared four years after  
25 the fact by people who were not on the project, who were

1 not involved in the Quadrex study, who purport to give  
2 the rationale on why the findings at issue in this  
3 proceeding should not have to be reported to the NRC. I  
4 can't imagine that if my inquiry of Mr. Stanley could  
5 shed no light on the HL&P process and was post hoc and  
6 not meaningful, that something done by people having  
7 absolutely no connection with the study four years later  
8 is in any way meaningful or can shed any light on the  
9 HL&P process.

10 The Applicant argued that the issue here was  
11 how did HL&P decide what to report and what not to  
12 report. It is not an issue of what someone comes along  
13 later and puts in their mouth as to what they should have  
14 reported or not reported. And that's essentially what we  
15 have here. And on that basis, we would object to this  
16 testimony in its entirety and ask that it be stricken --  
17 well, ask that it be not admitted.

18 MR. FRANTZ: Mr. Chairman, I couldn't disagree  
19 with Mr. Sinkin's characterization more. What we  
20 objected to previously today was an attempt to link up  
21 specific discipline findings which are not at issue in  
22 this proceeding with certain generic findings which are.  
23 What we have from Mr. Bernsen and Mr. Lopez are testimony  
24 on the exact findings in issue, and whether those  
25 findings should have been reported to the NRC.

1           That testimony is clearly relevant, clearly  
2 material; has nothing at all to do with our previous  
3 objection to the line of cross posed by Mr. Sinkin and we  
4 don't see any basis for objecting to this testimony on  
5 that ground.

6           JUDGE BECHHOEFER: Does the staff have a view?

7           MR. REIS: Yes, the staff also feels the  
8 situation is quite different. The testimony as we see it  
9 coming in is testimony of an expert nature, telling as to  
10 whether the information there was such as to indicate  
11 whether it should have been reported. And we don't think  
12 that was the situation.

13           And keeping out the testimony of of Mr. Stanley  
14 this afternoon on the basis of all the Board's rulings  
15 keeping out the testimony of Mr. Stanley. Certainly it  
16 is appropriate to have an expert opinion as to whether  
17 the matters and the words in what was handed to HL&P, and  
18 which they reviewed within 24 hours, indicated any  
19 breakdown in quality assurance and that's what we have  
20 here from Bechtel.

21           MR. SINKIN: If I could respond, Mr. Chairman.  
22 First of all, I believe Applicants' counsel misspoke  
23 himself to some extent. There's no way to know whether I  
24 was attempting to link up specific discipline findings  
25 not at issue in this proceeding with the generic findings

1 since I only got to two of them and intended to get to  
2 far more than that and many of them would have been  
3 specifically at issue in this proceeding and tied to a  
4 generic.

5 So I don't think that's a valid argument about  
6 why I should not have been allowed to do that. More to  
7 the point, the situation is simply different in my view  
8 in that what I wanted to ask Mr. Stanley was far more  
9 relevant than what we have here. The panel testifying,  
10 the objection to my proceeding with Mr. Stanley, was that  
11 what's at stake is the HL&P process.

12 This panel has no idea what information HL&P  
13 had available to it because of the May 7th review,  
14 because of the various briefings they had had from Mr.  
15 Stanley who had that information available to him; they  
16 weren't there on April 15th, they weren't there on April  
17 30th, they weren't there in March for the first meetings  
18 and they weren't there on May 7th and they weren't there  
19 on May 8th.

20 But now they are to come forward and tell how  
21 that decision making process should have been done and  
22 we're to accept this as somehow representing what HL&P  
23 should have done four years ago. The problem for HL&P is  
24 precisely that, HL&P did not give this report to quality  
25 assurance to review. If it had gone to the incident



1 review committee, quality assurance would have seen it  
2 and that didn't happen.

3 Now, four years later, they want to bring  
4 forward quality assurance related people to say, "Oh, if  
5 the incident review committee had seen the Quadrex  
6 report, they wouldn't have reported it to the NRC  
7 either." That's just not at all probative of anything  
8 for them to come now and say that. And that's our basic  
9 objection to this testimony.

10 MR. FRANTZ: Judge Bechhoefer, the testimony by  
11 Mr. Bernsen and Mr. Lopez addresses contention 9 which  
12 essentially has two parts. First of all, whether HL&P  
13 should have reported more than the findings they actually  
14 did; and second of all whether any such failure reflects  
15 adversely on their character or competence.

16 The witnesses here are not intending to address  
17 the actual process that HL&P went through back on May 7th  
18 and May 8th. They are here to address reportability and  
19 whether any additional findings called out by the Board's  
20 order specifically should have been reported to the Board  
21 or to the -- excuse me, to the NRC staff.

22 Mr. Sinkin's attempt earlier today to get the  
23 Board and the witnesses to consider findings not at issue  
24 is what we objected to. I don't see any basis for  
25 sustaining Mr. Sinkin's objection on the witnesses here



1 today. There's just no basis for that. We obviously, as  
2 Mr. Reis points out, are having expert testimony on  
3 whether the findings should have been reported. That's  
4 clearly relevant and material. Similarly the staff's  
5 testimony is addressed to the same point.

6 Mr. Sinkin is in essence trying to preclude any  
7 expert testimony at all on reportability; that's  
8 certainly not appropriate.

9 JUDGE BECHHOEFER: Mr. Frantz, we did uphold  
10 the objection not on the ground that it related to  
11 findings that were not in issue; that we had previously  
12 upheld an objection that. We upheld it across the Board  
13 on the ground that HL&P or Brown & Root didn't have that  
14 information and at least before September 28, '81. And  
15 that was the ground we upheld it on. I explained that  
16 very specifically so it had nothing to do at all with  
17 whether or not the particular findings were in issue.

18 We did not allow Mr. Stanley to link up generic  
19 findings with any discipline findings, reportable or not.  
20 So I just point out your characterization of our ruling  
21 is it just not accurate.

22 MR. FRANTZ: I understand. All I was trying to  
23 point out is that these witnesses are addressing the same  
24 Quadrex report that was addressed by the HL&P back on May  
25 8th. What counsel or representative for CCANP was trying

1 to do was to get the witnesses to far beyond the face of  
2 the report, which HL&P had to address.

3 And that's, I think, one of the key reasons why  
4 it was objectionable. Our witnesses from Bechtel are  
5 looking at the same Quadrex report that HL&P looked at  
6 and are addressing whether or not that should have been  
7 reported to the NRC. That's clearly relevant and  
8 material.

9 JUDGE BECHHOEFER: Mr. Sinkin, let me ask you;  
10 we allowed considerable amount of cross-examination on  
11 the basis of CCANP 104.

12 MR. SINKIN: Right.

13 JUDGE BECHHOEFER: Now, that was a critique of  
14 a report that I understand was prepared by these  
15 witnesses.

16 MR. SINKIN: No, in fact, Mr. Chairman, I think  
17 Mr. Bernsen was in a managerial position during the  
18 Bechtel task force report, but I'm not absolutely sure of  
19 that. I don't think he was --

20 JUDGE BECHHOEFER: Let me ask, either or both  
21 of you, have any association with the preparation of the  
22 Bechtel task force report, the March '82 report, which is  
23 Applicants' exhibits -- I'm not sure what number, but --

24 MR. BERNSEN: Judge Bechhoefer, I was not a  
25 member of the task force, but I was in a management,

1 Bechtel management position and one of the management  
2 team members that reviewed the report and interacted with  
3 the task force and essentially agreed with the  
4 characterization of what we considered to be acceptable  
5 practice. And in the course of doing this, I reviewed  
6 essentially every Quadrex finding in the task force  
7 responses to it and coordinated the senior technical  
8 staff overview of the Quadrex -- of the task force  
9 report.

10 So in that context, I'm quite familiar with it  
11 and the sort of the people who worked on it.

12 MR. LOPEZ: Judge Bechhoefer, response to your  
13 question, I had no involvement with the Bechtel task  
14 force report until after its issuance and its receipt by  
15 the project as a basis for the development of the EN 619  
16 report.

17 MR. SINKIN: I would point out, Mr. Chairman,  
18 you called attention to CCANP 104 there is a comment in  
19 that from Mr. Stanley that he doesn't even bother respond  
20 to go the generic findings in this Bechtel task force  
21 report because all Bechtel is saying we don't do it that  
22 way. There isn't a real Bechtel addressing of the  
23 generic findings in that task force report.

24 MR. REIS: Mr. Chairman, the issue here is  
25 contention nine and whether HL&P acted properly in not

1 turning over the report. Here we're dealing with the  
2 information before them on May 7th and 8th, 1981 and  
3 we're dealing with what was there.

4 The questions addressed to Mr. Stanley were in  
5 essence adding further knowledge which was not presented  
6 at that time, and would not have been probative of the  
7 issues.

8 Here the issues we're dealing with are expert  
9 engineers in looking at this in a relatively short term  
10 frame, what should they have said, what -- how should  
11 they have re-evaluated this report and come forward with  
12 it. And here we have experts coming giving their views  
13 on this. And I think it's very material and very  
14 relevent.

15 MR. SINKIN: If you're going to talk about  
16 people testifying about knowledge they didn't have at the  
17 time, clearly these witnesses have no knowledge of what  
18 knowledge HL&P had at the time. But further more --

19 JUDGE BECHHOEFER: Mr. Sinkin, I'm not sure you  
20 may have to ask the witnesses; whether they were relying  
21 on information which they believed was available in May  
22 '81 or later. You may just have to ask them with respect  
23 to each of the findings, you may just have to ask them  
24 whether their opinion is based on what they believe was  
25 available at that time. That would of course go to the

1 weight. The answers they give would then to go the  
2 weight of what they're to be given to their conclusions.

3 MR. SINKIN: Our position is they simply were  
4 not there, that we're creating a fictitious situation  
5 that is irrelevant to what went on at HL&P. HL&P decided  
6 not to review the generic findings, they decided not to  
7 give the report to the IRC and that's what happened and  
8 that's what the Board has to look at and decide whether  
9 it was right or wrong.

10 This exercise is nothing more than an exercise,  
11 in our opinion, even if it is a hundred and seven pages.

12 MR. REIS: Mr. Chairman, let me say this, you  
13 can't know that without knowing the technical worth and  
14 the technical matter in the report. Trying to make that  
15 evaluation without it will lead nowhere.

16 MR. SINKIN: Mr. Chairman, if I can add one  
17 more thing.

18 JUDGE BECHHOEFER: Okay.

19 MR. SINKIN: Mr. Bernsen at least participated  
20 in the management review of the Bechtel task force  
21 report; and served as a member of the Bechtel project  
22 management team with overview responsibility for EN 619.  
23 He hardly comes to this task with a -- I don't want to  
24 say a clean mind, a blank slate as it were. He has a lot  
25 of information in him post Quadrex, as to Bechtel's



1 entire evaluation of the Quadrex report.

2 Now he's sitting down to look at the generics  
3 and evaluate them. That's hardly the situation HL&P was  
4 in on May 7th 1891.

5 MR. FRANTZ: I don't see the point.

6 JUDGE BECHHOEFER: Well, the Board has decided  
7 to at least deny that motion or general objection. We  
8 think the expert testimony will or can be useful. We  
9 also will permit questioning as to what information they  
10 believed was available at the time to HL&P, or Brown &  
11 Root as the case may be, at the time of the Quadrex  
12 report.

13 We certainly would allow that, that subject to  
14 be examined. But that would go to the weight of that we  
15 would give to this testimony, rather than to its  
16 admissibility, I think. So we will deny the general  
17 objection.

18 MR. SINKIN: Are we ready to move on to the  
19 CCANP motion to strike?

20 JUDGE BECHHOEFER: Soon as I get it out.

21 JUDGE BECHHOEFER: Okay. You may proceed on  
22 that.

23 MR. SINKIN: Mr. Chairman, we have filed a  
24 motion to strike which first addresses Page 33, line 5,  
25 continuing through Page 33, line 14. The question being



1 answered begins some pages before, on page 30; and the  
2 question is whether Quadrex's finding that calculations  
3 containing errors were being verified as correct with a  
4 higher frequency than should be encountered indicates a  
5 significant breakdown in any portion of the QA program  
6 for STP.

7 The portion of the answers we seek to strike  
8 deals with Bechtel's evaluation of Brown & Root's work  
9 long after the Quadrex report where they reach certain  
10 conclusions about the adequacy of Brown & Root's actual  
11 work.

12 We don't consider that that is in any way  
13 relevant to a determination of whether the Quadrex  
14 finding should or should not have been reported to the  
15 Nuclear Regulatory Commission, because that information  
16 was not available to Houston Lighting & Power on May the  
17 7th, 1981.

18 MR. FRANTZ: Mr. Chairman, it is quite frequent  
19 that when experts testify, they apply data and  
20 evaluations and their own judgment to underlying facts to  
21 arrive at conclusions. That's what we have done here.  
22 Back in 1982, I guess subsequently, Bechtel looked at the  
23 underlying documents in the civil structural area, and  
24 determined that the designs were adequate.

25 They applied their own judgment and experience,

1     formed their own evaluations on the underlying data that  
2     was available to HL&P on May 8. And based upon that  
3     evaluation, they determined the designs in this area were  
4     adequate.

5             That is clearly relevant and material as to  
6     whether this particular aspect of the Quadrex report  
7     should have been reported to the NRC; it indicates quite  
8     clearly that there was not a matter warranting reporting.

9             I might point out that Mr. Stanley testified  
10    that the generic findings did not represent conclusions  
11    regarding deficiencies, but only matters warranting  
12    further investigation by HL&P. This testimony by Bechtel  
13    confirms that basic conclusion; it indicates that the  
14    generic finding at issue here on page 33 was not  
15    identifying any conclusions regarding deficiencies in the  
16    work being done by Brown & Root, but only a matter  
17    warranting further investigation and upon that further  
18    investigation, it was found not to be significant.

19            There certainly is no basis to strike this kind  
20    of expert testimony, it occurs all the time in  
21    proceedings.

22            (No hiatus.)  
23  
24  
25

1 MR. SINKIN: Well, Mr. Chairman --

2 I'm sorry, Mr. Reis, did you have something?

3 JUDGE BECHHOEFER: Mr. Reis?

4 MR. REIS: The only thing I was going to say,  
5 the question is, and I think it's one that's  
6 appropriate, please explain whether Quadrex findings of  
7 the calculations containing errors were being verified  
8 as correct with a higher frequency than should be  
9 encountered indicates a significant breakdown.

10 And I think the very conclusions as to whether  
11 there was a higher frequency is relevant to whether  
12 there was a breakdown which is what this question --  
13 which is the question facing the Board. Therefore, I  
14 see no basis to strike.

15 MR. SINKIN: Mr. Chairman, we are seeing the  
16 issues in the hearing being redefined before our eyes.  
17 Now it's not whether reading the Quadrex report finding  
18 that there are a higher frequency of errors in Brown &  
19 Root's work than there should be, knowing what you know  
20 on May the 7th, you report that fact to the NRC. You  
21 now have the opportunity to spend two years, go back and  
22 review the Brown & Root calculations that Quadrex looked  
23 at maybe, it's not at all clear to me that that's what  
24 happened here, but maybe, and then reach a conclusion  
25 that the calculation rate isn't really that much higher

1 and therefore you don't have to report it.

2 Well, what we have is the entire 50.55(e)  
3 process at work, not the 24-hour notification process,  
4 but the 24-hour notification process plus the evaluation  
5 process. And the question before this Board is not was  
6 this item reportable, the question is should the NRC  
7 staff have been notified within 24 hours of the item and  
8 then the Applicants go forward to decide whether it's  
9 reportable.

10 MR. FRANTZ: Chairman Bechhoefer, the  
11 Applicants looked at the Quadrex report back on May 8th  
12 and determined within 24 hours whether anything was  
13 reportable. The Bechtel testimony simply confirms the  
14 judgments being reached back on May 8th. It's clearly  
15 relevant and material.

16 Mr. Sinkin has tried repeatedly to draw some  
17 kind of difference between reportability and what he  
18 calls notifiability. That's a rather novel legal  
19 argument without precedent. I think it would be more  
20 appropriate for him to try to argue that point in his  
21 proposed findings of fact and conclusions of law rather  
22 than try to exclude testimony based upon that novel  
23 argument.

24 JUDGE BECHHOEFER: The Board will not grant  
25 this particular sentence. We might add, however, that

1 putting this in does not mean that the Board would not  
2 consider some of these items to have been potentially  
3 reportable on May 8th requiring further study. That's  
4 one of the questions we have to decide under the  
5 potential reportability standard which is essentially  
6 the same thing you were referring to as I guess  
7 informability or whatever. So, we're not saying that  
8 you can't attempt to prove that there was enough on May  
9 8 to report it, notwithstanding the need for further  
10 study.

11 MR. SINKIN: Okay.

12 JUDGE BECHHOEFER: So, by our denying you,  
13 we're not precluding you from attempting to prove that  
14 or inquire into that, at least.

15 MR. SINKIN: The second item is on page 50 at  
16 line 14 which is again a post-May 7th piece of  
17 information. The fact that HL&P may have later  
18 determined that an item reported to the NRC was not  
19 reportable is not really relevant. We know they  
20 reported it and that's not even at issue. The fact that  
21 they reported it is counted to begin with. The fact  
22 that it later turned out not to be reportable is  
23 irrelevant to the question before the Board of whether  
24 they should have reported more findings than they did.

25 JUDGE BECHHOEFER: We think that this one



1 stays in on the same ground that the -- there was a  
2 comparable Goldberg one, maybe two.

3 MR. FRANTZ: Yes, I --

4 JUDGE BECHHOEFER: So, I don't think we have  
5 to --

6 MR. SINKIN: I think it was called facts and  
7 circumstances.

8 JUDGE BECHHOEFER: Facts and circumstances.

9 MR. SINKIN: Maybe I'll do the facts and  
10 circumstances analysis first, Mr. Chairman, before I  
11 bring up any other items.

12 Mr. Chairman, the next item is on page 67,  
13 line 7.

14 MR. FRANTZ: Excuse me, Mr. Chairman. I'm not  
15 sure whether Mr. Sinkin has inadvertently admitted page  
16 52, line 15, or whether he's dropping that entirely.

17 MR. SINKIN: Excuse me. I did inadvertently  
18 skip over it.

19 Well, Mr. Chairman, I guess on page 52, line  
20 15, we may have the first category called requiring  
21 further study. We would object to that testimony in  
22 that it's Bechtel's review of a question that  
23 essentially disputes Quadrex' finding by doing more  
24 research and finding something Quadrex apparently didn't  
25 know about and saying that therefore the finding is not



1 a notifiable finding.

2 Certainly HL&P had no opportunity on May the  
3 7th to investigate the level instrumentation and decide  
4 whether it was a safety-related problem or not. And the  
5 fact that it was found out later not to be  
6 safety-related hardly has any weight, is irrelevant, in  
7 fact, to whether you would view the Quadrex finding as  
8 safety-related and notify the NRC about it.

9 MR. FRANTZ: First of all, Mr. Chairman, I  
10 disagree with Mr. Sinkin's characterization. The  
11 Bechtel testimony here is not disputing anything in the  
12 Quadrex report. The Quadrex report, and in particular  
13 H-23 which is the question at issue here, merely  
14 questioned whether or not that particular piece of  
15 equipment should have been safety-related. It was not  
16 saying -- it was not making a definitive conclusion that  
17 it was safety-related. Bechtel, looking at the same  
18 information that was available back on May 7th and May  
19 8th, concluded that it was not safety-related and should  
20 not have been classified as such.

21 There is no dispute with Quadrex on this  
22 point. This is clearly relevant to reportability. I  
23 see no reason for us striking this passage.

24 JUDGE BECHHOEFER: Does the Staff have any  
25 opinion on that one?

1 MR. REIS: I think it's a matter of whether  
2 HL&P could have learned within the 24 hours as to  
3 whether this was safety-related certainly is a matter  
4 appropriate for cross-examination and could be gone into  
5 at that time.

6 I further think that it is probative of  
7 whether a matter is reported within the 24 hours of  
8 whether it ultimately turns out to be reportable.  
9 Whether a matter should have been reported within the 24  
10 hours as to whether it ultimately is a safety concern  
11 that should have been reported. It goes to prove or  
12 disprove the correctness of the original determination.  
13 And although it is more study than what has gone on  
14 after that 24-hour period, it does lend some weight to  
15 the validity of the study that was made within that 24  
16 hours.

17 JUDGE SHON: Mr. Reis, if the reason why  
18 matter was found to be unreportable is a matter not  
19 known to the decision makers at the time they made their  
20 decision, then how can it bear on their competence or  
21 their character in any way? I mean, if they had said it  
22 was not reportable and then something else was found out  
23 that indeed showed it was not reportable but was unknown  
24 to them, that does not seem relevant to either their  
25 character or their competence in making that decision,

1 does it?

2 MR. FRANTZ: If I can respond briefly, Judge  
3 Shon.

4 JUDGE SHON: Yes, sure.

5 MR. FRANTZ: We had Mr. Goldberg on the stand,  
6 we had Dr. Sumpter on the stand. What they knew back on  
7 May 8th wasn't asked of them. Mr. Sinkin chose not to  
8 do so. He's now attempting to strike testimony in the  
9 Bersen and Lopez testimony which is clearly relevant to  
10 reportability and therefore does at least give some  
11 weight to the decisions actually made by HL&P back on  
12 May 8th.

13 MR. SINKIN: I think it's clear from Mr.  
14 Goldberg's testimony and Dr. Sumpter's testimony that  
15 they relied heavily on Brown & Root's report which is in  
16 evidence. That this review -- if you read the Quad -- I  
17 may not be reading the Quadrex question correctly, but  
18 as I read the Quadrex question it very specifically says  
19 that if the drainage system is the only means for  
20 leakage detection, then it should be considered  
21 safety-related. Which means that at the time Quadrex  
22 looked at it, that's the only system they could see.  
23 Now, if someone comes along later and sees another  
24 system, that wasn't done on May the 7th.

25 MR. REIS: I think that could be inquired

1     into. It's a perfect example of what could be inquired  
2     into. But I don't think that there's any indication  
3     here in this testimony that it could not have been known  
4     at that time in those first two days.

5             MR. SINKIN: Mr. Chairman, I have one further  
6     response.

7             JUDGE BECHHOEFER: All right.

8             MR. SINKIN: I have one further response.

9             JUDGE BECHHOEFER: Okay.

10            MR. SINKIN: I think a remark by Applicants'  
11     counsel demonstrates the pernicious nature of this  
12     testimony. It now appears that it is incumbent upon me  
13     to take the Bechtel task force report, EN-619, the  
14     testimony of Mr. Bersen and Mr. Lopez and go through  
15     every item in those reports that's an evaluation of a  
16     Quadrex finding and ask Mr. Goldberg did you know about  
17     this on May the 7th. Now, we'd have been here for two  
18     months while I did that and I don't think I would have  
19     been allowed to do it. But they can introduce  
20     information that came later and use that as a basis for  
21     arguing it's not reportable.

22            JUDGE BECHHOEFER: With this one we will grant  
23     the motion to strike. We will allow the Applicants to  
24     supplement their testimony, if they wish, on the basis  
25     of what information was available back in the May '81

1 time frame.

2 MR. FRANTZ: We're going to ask for that order  
3 to be reconsidered, Judge Bechhoefer. What HL&P did  
4 back on May 8th has been the subject of Mr. Goldberg's  
5 testimony and Dr. Sumpter's testimony. The Bechtel  
6 testimony is intended to go back and confirm those  
7 results, to give added weight to the decision made by  
8 the -- to the correctness of the decisions made by HL&P  
9 back on May 8th.

10 JUDGE BECHHOEFER: This particular couple of  
11 sentences, though, appear to be based entirely on  
12 information not available in that early time frame.

13 MR. REIS: I am not at all sure, Mr. Chairman  
14 Bechhoefer. If you read the response of Brown & Root to  
15 question H-23, that's not at all clear.

16 MR. FRANTZ: In any case, it would appear to  
17 me to go to the weight to be given to the testimony, not  
18 to strike the testimony.

19 MR. SINKIN: Well, Mr. Chairman, again, if the  
20 argument is that with every item like this that there's  
21 later information on it's possible that Mr. Goldberg  
22 could have known that and therefore there was no need to  
23 make a notification to the NRC, then basically all of  
24 these documents coming in, the Bechtel task force  
25 report, EN-619 and this testimony are all loading up the



1 record with post hoc information that will be used as a  
2 post hoc rationalization for why Quadrex findings were  
3 not notified to the NRC.

4 That's precisely why in 1981 we asked that the  
5 hearing on the notification issue be held immediately  
6 rather than waiting for all these reports to be written  
7 because we were afraid of just this very thing, that all  
8 these reports would come in saying they didn't do  
9 anything wrong because X, Y, Z and a hundred other  
10 reasons that weren't available to them. But now  
11 apparently the burden was on us in every one of these  
12 documents to go through every piece of new information  
13 that Bechtel came up with and ask Mr. Goldberg and Dr.  
14 Sumpter did you know this on May 7th, 1981. And we  
15 think that's an incredible burden that probably would  
16 not even have transpired if we tried to do it.

17 MR. FRANTZ: This testimony by Bechtel clearly  
18 demonstrates that this aspect in the Quadrex report was  
19 not reportable. It seems incredible to me that the  
20 Board would not hear this evidence. It clearly is  
21 material and relevant to whether or not HL&P violated  
22 its obligation under 50.55(e).

23 If Mr. Sinkin wants to argue that it's based  
24 on information that may not have been available back on  
25 May 8th, well, that's pure speculation on his part.



1 He's free to do so. And that goes to the weight of this  
2 testimony, but not to its admissibility.

3 JUDGE BECHHOEFER: By the way, it says on its  
4 face that it was based on Bechtel's review which was  
5 after May 8th.

6 MR. FRANTZ: It was based on Bechtel's review  
7 but it may have been based on a review of information  
8 that was available back on May 8th.

9 MR. REIS: And I certainly can't tell in  
10 reading the answers to B&R's response to H-23, and it  
11 talks about pipe rupture, whether it is common to have  
12 instrumentation on these lines that would show it in  
13 another manner than in monitoring the drain. Certainly  
14 we don't know at this point whether B&R's review is  
15 because the lines applying cooling water to the diesel  
16 generator result in shutdown of the diesel generator.  
17 Well, it may be quite so that there will be another  
18 alarm that will show that.

19 Pipe rupture in the ECW line supplying cooling  
20 water to the AAB chiller condenser is the only accident  
21 which might -- whether that could rupture is otherwise  
22 monitored. In other words, I can't tell in the limited  
23 amount here as to whether it is common knowledge to  
24 nuclear engineers that there is another instrumentation  
25 that supplies this information, and that I don't know.

1 And when I read the B&R response itself, it gives me  
2 pause because on the diesel matter, for instance, and I  
3 can't testify, but on the diesel matter I know --

4 MR. SINKIN: I do believe --

5 MR. REIS: -- from working with other matters  
6 that there are alarms that would show this sort of  
7 thing. The cooling water ceases going to a diesel, that  
8 certainly is an alarm. And you don't rely on the sump  
9 in the floor.

10 MR. SINKIN: Well, Mr. Chairman --

11 MR. REIS: I don't know as to the others. I  
12 can't tell.

13 MR. SINKIN: Mr. Chairman, I think Mr. Reis  
14 accurately characterized what he's doing. He's now  
15 testifying about engineering matters in the Quadrex  
16 report and I think that's irrelevant to what faces us  
17 here.

18 The question facing us here is whether the  
19 subsequent reviews done by Bechtel can be used as a  
20 basis for reaching a conclusion that a finding should  
21 not have been notified to the NRC within 24 hours.

22 There's nothing novel about my trying to  
23 separate notify and reportable. You notify something  
24 that's potentially reportable and then you decide if  
25 it's reportable.

1           We are not here to inquire whether these items  
2           were reportable. That whole inquiry was ruled out by  
3           the Board as something they were not going to hear. The  
4           inquiry here is solely within the first 24 hours of  
5           receiving the Quadrex report, should HL&P have notified  
6           the NRC of further findings than they did or turned over  
7           the report to the NRC staff.

8           MR. FRANTZ: Mr. Chairman, that argument is  
9           extremely unique. If you look at the regulation itself  
10          on its face, there is no distinction whatsoever between  
11          deficiencies which are reportable after 30 days and  
12          deficiencies which are reportable within 24 hours. That  
13          distinction is a --

14          JUDGE BECHHOEFER: Whoa, whoa, whoa. Anything  
15          reportable or notifiable under the regulation is within  
16          24 hours. Thirty days is for confirmation, so you  
17          better not --

18          MR. FRANTZ: That's our whole point, Mr.  
19          Chairman. Mr. Sinkin is trying to make a distinction  
20          between what's to be notified within 24 hours and what's  
21          to be notified within 30 days and there isn't that  
22          distinction in the regulation. Either a deficiency is  
23          reportable or it's not. If it's not reportable, it need  
24          not be reported within 24 hours. The Bechtel testimony  
25          here clearly demonstrates that this item was not

1 reportable.

2 (No hiatus.)

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1           MR. REIS: Mr. Chairman, to review the  
2 testimony so far, Dr. Sumpter particularly testified that  
3 he went back and he talked to Brown & Root about each of  
4 these matters and what was there. Now, I think these  
5 people as experts could say what is in their knowledge  
6 and to see whether there is any basis for this to whether  
7 this information is something that would have been  
8 gathered within 24 hours, when we talk about a Bechtel  
9 review --

10           MR. SINKIN: Could have.

11           MR. REIS: -- it doesn't indicate that this is  
12 not something that could not have been gotten in 24  
13 hours, particularly when I look at what the ECW line  
14 rupture would cause.

15           MR. SINKIN: Why are we talking about things --

16           MR. REIS: That would cause probably other  
17 alarms to shut off. We ought to keep in it to explore  
18 this issue.

19           MR. SINKIN: I don't understand why we're  
20 talking about things that could have been available to  
21 HL&P. I'm not interested in the witnesses' testimony  
22 about about what could have been available to HL&P. That  
23 is pure speculation. Even if it was available, it's pure  
24 speculation.

25           JUDGE BECHHOEFER: I think the Board will stick

1 with its decision, but we will allow you to supplement --  
2 the Bechtel people can review what information that Brown  
3 & Root had developed on the particular subject, the  
4 Bechtel people can testify as to their view of whether  
5 HL&P had an adequate reason not to notify or report it as  
6 of May 7 or 8, May 8, I should say. So just these two  
7 sentences, we will grant.

8 Do you want to move to the next one?

9 MR. SINKIN: I'm not sure I understand the  
10 second part of your ruling, Mr. Chairman. What is it  
11 they're allowed to supplement with?

12 JUDGE BECHHOEFER: The Bechtel people could  
13 come back and explain that certain information was  
14 available to HL&P or Brown & Root back in May, and that  
15 they properly or improperly as the case may be,  
16 formulated a decision not to report it. The particular --

17 MR. SINKIN: Are you saying that this is  
18 certain information that was available whether or not it  
19 was known to Mr. Goldberg Dr. Sumpter and Mr. Robertson?  
20 I don't understand the relevance of information that may  
21 have been out there somewhere if they didn't know it.

22 JUDGE BECHHOEFER: Well, available -- well, I  
23 guess they would have had to have -- available to them.  
24 Perhaps known to them, but --

25 MR. SINKIN: So we would be supplementing the



1 direct testimony of Mr. Goldberg or Dr. Sumpter for them  
2 to say that they knew about this in 1981?

3 JUDGE BECHHOEFER: Well, it's up to the  
4 Applicants to justify the failure to report.

5 MR. SINKIN: Okay.

6 JUDGE BECHHOEFER: We're just saying that this  
7 looks like it was after the fact and would not on its  
8 face constitute an adequate justification.

9 MR. SINKIN: The next item, Mr. Chairman, is on  
10 page 67, line 7, and what we have here is a discussion of  
11 the Quadrex finding and the question put to the Bechtel  
12 panel is whether this finding identifies a significant  
13 breakdown in any portion of the QA program. They  
14 describe the Quadrex finding, and then say based on their  
15 own evaluation of Brown & Root's design basis  
16 information, there is no need for this -- this does not  
17 indicate a significant breakdown in any portion of the QA  
18 program for STP.

19 I think again, we have a clear example of  
20 what's wrong in this kind of testimony. This is  
21 Bechtel's evaluation of Brown & Root's design and  
22 engineering. This is not Quadrex evaluation. The  
23 Quadrex findings says what the Quadrex finding says, if  
24 Bechtel disagrees, fine. That's irrelevant to the  
25 decision on May 7, 1981 when they didn't have this

1 Bechtel evaluation.

2 MR. FRANTZ: Chairman Bechhoefer --

3 JUDGE BECHHOEFER: Wait a minute. This one  
4 we're going to leave in. We think someone can examine  
5 the validity of the comments but the fact -- those reg  
6 guides and safety analysis reports and all that were as  
7 available to HL&P at the time as to Bechtel later. So  
8 that on its face can stay in, subject to  
9 cross-examination.

10 MR. SINKIN: Mr. Chairman.

11 JUDGE BECHHOEFER: That's a legal conclusion,  
12 essentially; it's not --

13 MR. SINKIN: It's an irrelevant conclusion is  
14 my only point.

15 JUDGE BECHHOEFER: Well, it's not irrelevant.  
16 It's not irrelevant, because if in fact the concern is  
17 not based upon a breakdown of the portion of the QA  
18 program, but based on a deviation from a reg guide, for  
19 instance, deviations from reg guides are permissible  
20 under many circumstances. That goes to the weight  
21 completely.

22 So this one can stay in subject obviously to  
23 cross examination. We think this is different. This  
24 doesn't involve any later work by -- I mean, Bechtel may  
25 have formed its opinion later, but the opinion was there

1 to form by HL&P and others at the time, based on  
2 information they clearly had available.

3 MR. SINKIN: But how is this in any way  
4 probative that they formed the opinion at that time, the  
5 fact that Bechtel did did its own review later?

6 JUDGE BECHHOEFER: Well, that goes to the  
7 weight. That goes to the weight. They may testify that  
8 the reg guides were the same all along and that this --  
9 anyway, we're going to leave that one in. I assume the  
10 staff and Applicant don't disagree with that.

11 MR. FRANTZ: No, sir.

12 JUDGE BECHHOEFER: We didn't listen to you, but --

13 MR. SINKIN: The next item, Mr. Chairman is  
14 than on page 93 at line 27. Here we're dealing with a  
15 finding that Bechtel notified to the NRC as opposed to  
16 HL&P. And the testimony is that it was later determined  
17 it was not in fact reportable and the NRC was so  
18 informed. We don't consider the fact that it was  
19 reportable or not reportable on a finding by Bechtel is  
20 in any way relevant to whether it should have been  
21 noticed by HL&P on May the 7th 1918..

22 MR. FRANTZ: Mr. Chairman, I may note that the  
23 entire paragraph deals with a later analysis by Bechtel.  
24 It was not potentially reported by HL&P until that  
25 Bechtel analysis was done. It seems rather anomalous to

1 me that Mr. Sinkin would move to strike the result, the  
2 very Bechtel analysis that at least in the initial  
3 stages, that led to the potential reporting of this item.  
4 Moreover I might note that the same observation was  
5 raised with respect to Mr. Goldberg's testimony.

6 JUDGE BECHHOEFER: I was about to say you  
7 almost don't have to. We're going to leave this one in.

8 MR. SINKIN: The facts and circumstances on  
9 Bechtel are equally relevant?

10 JUDGE BECHHOEFER: Well, this testimony does  
11 not say that HL&P reported it back in May '81. And you  
12 can make what you want of that. It was reported when  
13 Bechtel told, that Bechtel found it and HL&P then  
14 reported it.

15 MR. SINKIN: I understand.

16 JUDGE BECHHOEFER: That's clearly relevant.

17 MR. SINKIN: The next item is page 104, line  
18 11. The sentence obviously refers to a later analysis of  
19 the design of the MAB HVAC system which found that the  
20 design did comply with the requirements of Appendix I,  
21 whether or not that later analysis confirmed or did not  
22 confirm is irrelevant to whether the NRC should have been  
23 notified of this finding within 24 hours.

24 MR. FRANTZ: Mr. Sinkin has first of all has  
25 mischaracterized what is being stated here. There's no

1 reference her to a latter analysis. In fact the analysis  
2 had been done prior to the Quadrex review. Moreover, I  
3 might note that the Board rejected the same argument with  
4 respect to Mr. Goldberg's testimony.

5 JUDGE BECHHOEFER: The Board will leave this  
6 one in, I think. This is just expert testimony on a  
7 particular question.

8 MR. SINKIN: The next item is page 105, line  
9 10, and I will withdraw the item as it is also facts and  
10 circumstances.

11 JUDGE BECHHOEFER: Okay. The Board thinks that --  
12 we've now finished the motion to strike. We think it's  
13 gotten late enough so that perhaps we should not start  
14 the voir dire today.

15 MR. AXELRAD: We do have two exhibits, Mr.  
16 Chairman, that we'd like to get into today if it was  
17 amenable the Board.

18 JUDGE BECHHOEFER: Okay, we just thought we  
19 should not divide the voir dire and since Mr. Sinkin said  
20 he did not have all his material with him on that --

21 MR. FRANTZ: I assume the testimony comes in,  
22 with the one passage being struck, as if read into  
23 evidence?

24 MR. SINKIN: Well, there will be further  
25 challenges, but --



1 JUDGE BECHHOEFER: Will that go to the weight  
2 or admissibility.

3 MR. SINKIN: There will be some to the  
4 admissibility.

5 JUDGE BECHHOEFER: We'll hold off on that until  
6 tomorrow.

7 Do you object to them identifying exhibits?

8 MR. SINKIN: Not to them identifying them, no.  
9 Admitting them is something else again.

10 MR. FRANTZ: Well, unless -- I think it would  
11 be more appropriate for the Board to first rule on any  
12 voir dire Mr. Sinkin might have, admit the testimony and  
13 then rule on the admissibility of the exhibits, because  
14 the admissibility of the exhibits is based at least in  
15 part on the testimony of these experts.

16 JUDGE BECHHOEFER: Is there anything else that  
17 anyone wishes to take up before we adjourn?

18 MR. SINKIN: I would just like to essentially  
19 make a motion, a reconsideration, that perhaps the Board  
20 can think about overnight; we view this testimony by Mr.  
21 Bernsen and Mr. Lopez as essentially a Trojan horse,  
22 designed to bring the Bechtel task force report and the  
23 EN 619 report into evidence in this proceeding where they  
24 simply don't belong, and to load up the record with  
25 justifications post hoc rationalizations and any other



1       excuse that Bechtel could come up with for why this  
2       report didn't need to be turned over to the NRC.

3               I think it's putting material in the record  
4       that simply irrelevant, and should not be allowed; it  
5       expands the record into an area where we're going to be  
6       arguing over something that took place years later rather  
7       than over what took place at the time the contention is  
8       written.

9               JUDGE BECHHOEFER: I don't think the Board will  
10       accept that. We will deny that motion on the spot. We  
11       disagree, there may be some question as to the weight of  
12       some or all of it, but for the reasons we expressed  
13       earlier, we will deny the motion. Anything further?

14              MR. FRANTZ: No, sir.

15              JUDGE BECHHOEFER: Did Mr. Reis raise his hand?

16              MR. SINKIN: No, pointing to the parthanon on  
17       the building over here thinking of the Trojan horse.

18              JUDGE BECHHOEFER: I guess with that, we will  
19       adjourn until the tomorrow morning.

20              (Recess at 5:12 p.m.)

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CERTIFICATE OF OFFICIAL REPORTERS

This is to certify that the attached proceedings before  
the UNITED STATES NUCLEAR COMMISSION in the matter of:

NAME OF PROCEEDING: EVIDENTIARY HEARING  
HOUSTON LIGHTING AND POWER COMPANY,  
ET AL (SOUTH TEXAS PROJECT, UNITS 1  
AND 2)


DOCKET NO.: STN 50-498-OL  
STN 50-499-OL

PLACE: HOUSTON, TX

DATE: Tuesday, July 30, 1985

were held as herein appears, and that this is the  
original transcript thereof for the file of the United  
States Nuclear Regulatory Commission.

  
R. Patrick Tate, CSR

  
Susan R. Goldstein, CSR

Official Reporters