

ORIGINAL

UNITED STATES NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

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

EVIDENTIARY HEARING

HOUSTON LIGHTING AND POWER COMPANY,
et al.

(SOUTH TEXAS PROJECT, Units 1 and 2)

LOCATION: HOUSTON, TEXAS

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DATE: MONDAY, JULY 29, 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 Monday, 29 July 1985
17

18 The hearing in the above-entitled matter was
19 convened, pursuant to adjournment, at 9:30 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.,
8 ALVIN GUTTERMAN, Esq.,
9 DONALD J. SILVERMAN, Esq.,
10 STEVEN P. FRANTZ, Esq.,
11 Newman & Holtzinger,
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,
21 3022 Porter St. N.W., #304
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	13046	13051	-	-	-
		13110	-	-	-

EXHIBITS:	FOR ID	IN EVD.
Applicant's Exhibit 65	13049	13049
Applicant's Exhibit 58		13050
CCANP Exhibit 99	13051	
CCANP Exhibit 100	13058	13061
CCANP Exhibit 101	13061	13063
CCANP Exhibit 102	13069	
CCANP Exhibit 103	13070	13071
CCANP Exhibit 104	13128	
CCANP Exhibit 105	13205	

1 JUDGE BECHHOEFER: Good morning, ladies and
2 gentlemen. This is a resumption of the hearings on the
3 South Texas operating license applications.

4 As a preliminary matter, the Board has two
5 matters we wish to raise. First, we would like to
6 inquire from the staff what if anything is being done
7 with respect to the allegations which we were given some
8 time earlier, particularly whether the staff is following
9 up on those concerning drug abuse, alcoholism, that type
10 of thing.

11 It appeared to us that some of the technical
12 matters were sent to perhaps the I&E but we were
13 wondering whether the staff was going to follow up on the
14 allegations of drug abuse and alcohol use, that type of
15 thing.

16 MR. REIS: Only insofar as they are related to
17 safety related matters and if they can be shown to be
18 related to safety related matters.

19 JUDGE BECHHOEFER: Are you going to interview
20 at least the one individual who seems to have supplied a
21 lot of --

22 MR. REIS: He's moved to another site and he
23 will be interviewed. We are in the process. Most of
24 these allegations I've been informed since then were not
25 new, though, at the time I got them on the eve of the

1 hearing, they were new to me. But I've been informed
2 that these allegations have been made before. And there
3 was some investigation done before, though I'm not aware
4 of the full extent of it. But the staff, in its usual
5 things of getting allegations and particularly as the
6 Board knows, allegations come in right to the end of --
7 right to the time the Commission is acting, itself, all
8 the time continually, are being handled by the staff and
9 they're looking at them.

10 JUDGE BECHHOEFER: Right. Well, the --

11 MR. REIS: I can make some more inquiries as to
12 what is particularly happening on those. But we are
13 investigating that as we investigate, you know, every
14 allegation that comes to us.

15 JUDGE BECHHOEFER: Well, mainly whether anyone
16 from the staff is going to interview or has interviewed I
17 guess his name it Hoot, Mr. Hoot.

18 MR. REIS: We will interview Hoot. I am sure
19 of that. We will in some way try to interview Hoot.

20 JUDGE SHON: Mr. Reis, one of the things that
21 trouble the Board a by the -- when we discussed it it was
22 the fact that there seemed to be two kinds of
23 allegations.

24 MR. REIS: Right.

25 JUDGE SHON: That is the technical ones and the

1 ones that had to do with alcohol and drugs and things of
2 that sort. And although we naturally expect the
3 technical ones, if they have any substance at all, will
4 be looked into by the staff from the safety standpoint,
5 it seemed as if the office of inspection had sort of more
6 or less given up on the other things. I'm sorry,
7 investigation.

8 MR. REIS: I can't say that the Commission as a
9 whole has given up, Judge. It's certainly a generic
10 matter that the Commission is certainly concerned with.
11 And I was at a Commission meeting last week, an open
12 public meeting on a totally different plant and of course
13 the Commission voiced its concern about the general use
14 by construction workers, particularly of illegal
15 substances. And they did, of course look in favor on
16 programs to crack down very hard on these things that
17 could affect safety. There's no question that it could
18 affect safety, more so in operating plants than in plants
19 under construction.

20 But it is a serious problem. But the
21 Commission is looking into it generically. And I am sure
22 that we will -- so often I know that these things at
23 individual plants are referred to the local law
24 enforcement agencies, which are the ones in our society
25 charged with that.

1 This is not a -- unless you can show interstate
2 movement or something of the substances, our concern is
3 safety. And there has to be a safety correlation.

4 Now, we are concerned with it; we do forward
5 these matters on; we are encouraging the utilities to
6 take a very very hard line on these things and not to
7 wink or allow either alcoholism or drinking at all on the
8 job, or certainly use of illegal substances to exist.

9 But I don't think it is within the Commission's
10 purview generally in contrasting with the Drug
11 Enforcement Administration or the Federal Bureau of
12 Investigation, to look at just drug use generally. It
13 has to have a safety nexus.

14 JUDGE SHON: Well, wouldn't it seem that a
15 construction job involving a nuclear power plant would
16 give it a safety nexus --

17 MR. REIS: Yes, it would.

18 JUDGE SHON: -- presumptively.

19 I just have the feeling that one can assume
20 that if people have been stoned on the job, that maybe
21 they did something wrong.

22 MR. REIS: There's no question. And we have on
23 occasion, I know, gone back and reinspected large areas
24 of work or had the utilities reinspect areas of work
25 where we suspected that the people were under the

1 influence of drugs or alcohol.

2 Now, we are going to talk to Mr. Hoot and go
3 into these matters. But as I say, it's a generic matter
4 and just the fact that there were drugs or alcohol, I
5 mean, doesn't necessarily, although it may raise a safety
6 connection, doesn't -- I mean the worker takes a can of
7 beer at lunch time, although it's probably to be
8 discouraged if he's doing vital work, is not necessarily --
9 does not necessarily affect the quality of the job.

10 JUDGE SHON: Thank you.

11 MR. REIS: I'll inquire further about what
12 particular matters are being inquired into in relation,
13 in this instance, and information the Board of it.

14 JUDGE BECHHOEFER: Thank you.

15 MR. REIS: I also have a preliminary matter.

16 JUDGE BECHHOEFER: We have one other. That is --
17 we would like to set some sort of schedule for parties to
18 argue CCANP's motion for reconsideration concerning Mr.
19 Powell. And we wanted to find out when the parties would
20 be prepared to do that and whether the parties wish to
21 submit anything in writing first.

22 MR. AXELRAD: I am fairly certain we will want
23 to submit something in writing, Mr. Chairman. We took a
24 very quick look at the motion over the weekend. And we
25 would need some time to prepare that. I think we may be

1 able to file something in writing by Wednesday, say.

2 MR. REIS: The staff hasn't seen the motion yet
3 although we found out on Friday that it was -- that it
4 was served on the Applicants.

5 MR. AXELRAD: It was served by mail.

6 JUDGE BECHHOEFER: It was served by mail. We
7 received in it the office.

8 MR. SINKIN: Were you down here --

9 MR. REIS: That might not have gotten from the
10 9th floor to the 10th floor in our building. We never
11 know.

12 MR. AXELRAD: Why don't we file something in
13 writing by Thursday and then we'll have the oral argument
14 on Friday.

15 MR. REIS: That's fine. I'm sure we'll be in a
16 position to respond orally by that time, if we wish to.

17 MR. AXELRAD: We will provide a written
18 response on Thursday and the argument can be on Friday.

19 JUDGE BECHHOEFER: Yeah, I think that's fine.
20 The staff, if it wishes to respond in writing, should try
21 to follow the same schedule. If no one has to respond in
22 writing. We'll hear it on the record otherwise. Okay,
23 other preliminary matters.

24 MR. REIS: I talked to Mr. Collins who the
25 Board indicated it wishes the staff to call as a witness.

1 Mr. Collins is not available next week but he is
2 available the week after at the Board's convenience.

3 My thought was if we are finished up here next
4 week, which I frankly doubt, we could hear Mr. Collins in
5 Washington if that would be the Board's pleasure.
6 Otherwise, he can come down here. But he will not be
7 available next week, he was another assignment he has to
8 take care of.

9 JUDGE BECHHOEFER: Where is he located?

10 MR. REIS: In Washington, in the same building
11 you are, Judge.

12 MR. SINKIN: Am I confused or do we not have
13 the third week already scheduled here?

14 JUDGE BECHHOEFER: Yes, we do.

15 MR. REIS: I'm just saying if we possibly get
16 through next week.

17 MR. SINKIN: Oh, through next week.

18 MR. REIS: Through next week and we have just
19 Mr. Collins left, I would like to produce him in
20 Washington rather than have is all travel back here.
21 That's the only thing I'm saying and that he is not
22 available next week.

23 JUDGE BECHHOEFER: Well, the Board doesn't
24 oppose any hearings in Washington.

25 MR. AXELRAD: Mr. Chairman, let's wait and see

1 where we stand at the end of next week.

2 JUDGE BECHHOEFER: Right.

3 MR. AXELRAD: There's always the possibility of
4 a rebuttal case that would come after that and the
5 witnesses for that would be here in Houston. So I think
6 the Applicants would prefer that those three weeks of
7 hearings to be held here.

8 But we can discuss that, see where we stand at
9 the end of next week.

10 JUDGE BECHHOEFER: Right. Well, to the extent
11 Mr. -- we would have no problem with Mr. Collins either
12 coming down here or later scheduling something for him at
13 another date possibly in Washington. It is possible that
14 we could hold a one or two day session at some point in
15 Washington just for that purpose.

16 MR. REIS: Let's wait and see how things go.
17 As I say, he could certainly come down here if we were
18 still in session. It depends on what the Board's
19 pleasure is and what the parties feel is appropriate.

20 JUDGE BECHHOEFER: Fine.

21 MR. AXELRAD: I do have one preliminary matter,
22 Mr. Chairman.

23 JUDGE BECHHOEFER: Okay.

24 MR. AXELRAD: With respect to scheduling of
25 witnesses, the subpoena for Mr. Poston provides a date of

1 August 5th. And even though the subpoenaed witnesses
2 should appear after the Applicants' case is complete, I
3 think with respect to Mr. Poston we would like to set a
4 firm date for him to appear on August 5th, whether or not
5 our -- the Applicants' case is completed at that time.

6 JUDGE BECHHOEFER: My only -- I think our only
7 problem with that, don't we have something -- don't we
8 have the soils matters reserved for the 5th.

9 MR. AXELRAD: No, the soils people are Thursday
10 and Friday of this week.

11 JUDGE BECHHOEFER: Right. But wasn't the 5th
12 the last day the staff's --

13 MR. PIRFO: Yes, sir.

14 JUDGE BECHHOEFER: -- witnesses, if it should
15 carry over --

16 MR. AXELRAD: We have Thursday Friday and
17 Saturday. I can't imagine the soils panel will take more
18 than three days.

19 JUDGE BECHHOEFER: Well, not having seen
20 cross-examination plans, we will -- well your soils panel
21 plus the staff's.

22 MR. AXELRAD: Right. I can't imagine that's
23 going to take more than three days of hearing.

24 JUDGE BECHHOEFER: Well, it will be up to Mr.
25 Sinkin in part. And we don't have any cross-examination

1 plans yet.

2 MR. AXELRAD: I didn't want to get into
3 personal matters but Mr. Poston is going in for surgery
4 on the 7th so it would have to be the 5th or the 6th if
5 he testifies. we'll set the 5th. Is the 5th the last
6 day Mr. Tapia could be here?

7 MR. PIRFO: I presume the 6th at the very
8 latest, close of business on the 6th.

9 JUDGE BECHHOEFER: Right. And Mr. Poston would
10 have to be through by the 6th, I take it?

11 MR. AXELRAD: Yes.

12 JUDGE BECHHOEFER: Well, I hope these things
13 will work out.

14 MR. PIRFO: The 6th was really our safety valve
15 day for Mr. Tapia. We presumed he would come on on the
16 5th and then flop over on to the 6th.

17 JUDGE BECHHOEFER: Will he be here to come in
18 this week.

19 MR. PIRFO: He'll be here as of Wednesday
20 morning.

21 JUDGE BECHHOEFER: I see, okay.

22 MR. AXELRAD: The agreement, I think, that was
23 reached last week was that whether or not our previous
24 witnesses are finished beginning Thursday morning, we
25 would put on our soils panel to be followed by the

1 staff's soil witness and the idea was that those three
2 days should be Thursday, Friday and Saturday should be
3 enough to take care of both our panel on soils and the
4 staff witness, so at this time wouldn't be necessary for
5 Mr. Tapia to come back on the 5th or the 6th.

6 JUDGE BECHHOEFER: Again that will depend on --
7 I don't know what Mr. Sinkin's cross-examination plans
8 are at this time.

9 MR. SINKIN: That sounds reasonable, that we
10 could finish by Saturday.

11 JUDGE BECHHOEFER: Okay, we will expect Mr.
12 Poston on Monday, then. Anything further?

13 MR. SINKIN: I have some preliminary matters,
14 Mr. Chairman. First of all, since it is not clear yet
15 that someone is being called that can address Mr. Dircks'
16 testimony before Congress, I would like to do an offer of
17 proof this morning of that testimony just to protect the
18 record. And I have a technical problem and that is that
19 when discussing Mr. Powell in the last session, I asked
20 that an exhibit be marked as 99, and we decided not to
21 mark it.

22 JUDGE BECHHOEFER: My recollection is that it
23 is not a marked exhibit -- although the words are
24 probably in there because I read it, but it's not in the
25 index.

1 MR. SINKIN: It's not in the index okay. Then
2 I will ask that this be marked for identification.

3 JUDGE BECHHOEFER: You ought to wait for a
4 witness.

5 MR. SINKIN: We may not have a witness who can
6 sponsor this testimony. I want to protect on the record
7 is that I would this is what I would have Mr. Dircks
8 testified to.

9 JUDGE BECHHOEFER: I think we're going do have
10 Mr. Collins.

11 MR. SINKIN: Mr. Collins did not write this
12 testimony; Mr. Reis already said that.

13 MR. AXELRAD: Why don't we wate until after Mr.
14 Collins testifies and see and then decide whether he
15 needs an offer of proof to protect --

16 JUDGE BECHHOEFER: As in the case of all the
17 staff witnesses, if they are unable to address some
18 material questions, other witnesses may be required to
19 come. That was the general basis for our ruling.

20 MR. SINKIN: Other --

21 JUDGE BECHHOEFER: By the way, it is clear that
22 Mr. Collins is being called to testify concerning that
23 testimony before Congress. So --

24 MR. SINKIN: It's my understanding from Mr.
25 Reis in the last session} Mr. Collins did not write that

1 testimony and was not present when it was delivered.

2 MR. REIS: Oh, he was present in Congress when
3 it was delivered,

4 MR. SINKIN: He was present when it was
5 delivered?

6 MR. REIS: Yes, it's in the Congressional
7 Record -- it's in the hearings of the House.

8 MR. SINKIN: Okay, we'll see.

9 This is an article that came to our attention
10 that I thought I would bring to the Board's attention.
11 The reason I bring this up is that the Board adopted a
12 soils issue in their order of February 26, I believe, and
13 did not provide for either Board discovery or discovery
14 by parties.

15 This article from the Houston Post indicates
16 that there is a 1985 soil conditions audit done by HL&P
17 auditors that was requested by the Houston Post but was
18 refused by Houston Lighting & Power. It seems to me that
19 this audit should be a part of the record in this
20 proceeding, that it may fall under a kind of McGuire
21 obligation in a sense in that there has been no discovery
22 and so any information available in 1985 is essentially
23 new information.

24 There was an audit report in 1984 that has been
25 released, but this is a second report in 1985. And we

1 wanted to call it to the attention of the Board and the
2 parties.

3 JUDGE BECHHOEFER: The 1984 audit we all have.

4 MR. SINKIN: Right.

5 JUDGE BECHHOEFER: If it's the one I'm thinking
6 about.

7 MR. AXELRAD: You have the summary of the audit
8 report which was provided --

9 JUDGE BECHHOEFER: That's correct. That's
10 correct.

11 Mr. Axelrad, can you comment on this '85
12 report?

13 MR. AXELRAD: Mr. Chairman, I haven't seen this
14 particular newspaper article. I think the only thing I
15 can tell this Board is that with respect to the matters
16 under litigation in this proceeding, the soils matters
17 that the Board has explicitly put into contention here,
18 which were a particular notice of violation, two items in
19 that and two items in the audit report, any new
20 information that will be relevant to those matters, if
21 they would be relevant and material to those matters,
22 would be provided to the Board.

23 I'm not sure exactly what this article refers
24 to. But if there was anything that was relevant and
25 material to the contentions admitted by this Board they

1 would be provided under the McGuire rule. The Board has
2 not put into contention soils conditions in general; that
3 is not the issue before this board.

4 MR. SINKIN: I would just respond, briefly Mr.
5 Chairman, that the McGuire rule says new information
6 which might influence the decision of the Board. I don't
7 know -- I think McGuire is more broadly worded than is
8 being expressed by Mr. Axelrad. I realize he hasn't seen
9 this, but perhaps after he's seen the audit that was
10 referred to there, he would have a better feel for
11 whether it should come forward.

12 MR. AXELRAD: Mr. Chairman, if I can interrupt
13 the Board for a minute, make I can shortcircuit this. We
14 will put on a panel on soils and as far as the Applicants
15 are concerned, the Board is perfectly free to question
16 that panel with respect to any audit reports on soils
17 that have been performed since the 1984 audit that have
18 that have any relevance the the matters before the Board.
19 I'm just not familiar with what's here.

20 Our witness will be prepared to answer any
21 questions.

22 JUDGE BECHHOEFER: We were discussing whether
23 the audit should be turned over to Mr. Sinkin and the
24 staff prior to the time the witnesses get here.

25 MR. GUTTERMAN: I don't know what reports

1 they're talking about.

2 JUDGE BECHHOEFER: We're unsure either. That's
3 the problem.

4 MR. AXELRAD: Without taking up any additional
5 time of the Board, why don't we ascertain what might have
6 been referred to in this particular article and report
7 back to the Board sometime tomorrow morning.

8 JUDGE BECHHOEFER: That will be all right,
9 because it's possible if there's anything that touches on
10 the contention, at least the various parties ought to be
11 familiar with it.

12 MR. AXELRAD: Fine.

13 JUDGE BECHHOEFER: Possibly us, but more
14 importantly the parties who can plan cross-examination on
15 the basis of that. Anything further?

16 MR. SINKIN: Yes, we have one other item, maybe
17 two. We now have the radio transcript that we have been
18 writing to the Board about regarding the cooling lakes
19 and the seepage and we'll file the new contention as soon
20 as possible after the hearings are closed. Also, the
21 Board --

22 JUDGE BECHHOEFER: Is this a contention that if
23 it were to be heard, that it could be heard in Phase III
24 if it were to be accepted, or is it particularly relevant
25 to anything we've got in Phase II?

1 MR. SINKIN: It's tangentially relevant to the
2 soils but I don't think it's a directly a soils
3 contention.

4 JUDGE BECHHOEFER: I see. Okay.

5 MR. SINKIN: Then I just wanted to inquire of
6 the Board, our attention was called to ALAB A-12, and we
7 are prepared to discuss that. I didn't know if you
8 intended to do that this morning.

9 JUDGE BECHHOEFER: I think we should do that.
10 That's the Waterford --

11 MR. SINKIN: The Waterford opinion.

12 JUDGE BECHHOEFER: -- that the Board was
13 interested -- and we informed the Applicant and the staff
14 that we -- and CCANP that we might discuss this, we were
15 interested in whether the sentence -- there's a sentence
16 on page eleven of the slip opinion, I think it's eleven
17 --

18 MR. SINKIN: It's page eleven.

19 JUDGE BECHHOEFER: --was inconsistent --

20 MR. AXELRAD: Mr. Chairman, I didn't realize we
21 were going to be discussing that. I left my file on that
22 subject someplace else. Can we put that off and discuss
23 it after lunch break, say?

24 JUDGE BECHHOEFER: Yeah, I think so.

25 JUDGE SHON: Sure.

1 JUDGE BECHHOEFER: Yeah, it's crucial that we
2 discuss it before your panel of Burnsen et al., get on as
3 well as before Mr. Taylor testifies for the staff.

4 MR. AXELRAD: Fine. Just going back to the
5 soils, I would like to mention one thing. HL&P is in the
6 process of preparing a minor revision to the response to
7 the notice of violation on soils which it plans to file I
8 think either today or tomorrow, since that does appear to
9 be potentially, you know, relevant to the issues before
10 this proceeding, we will have copies of those for the
11 Board and the parties probably tomorrow.

12 JUDGE BECHHOEFER: Okay.

13 Any other preliminary matters?

14 MR. SINKIN: No.

15 JUDGE BECHHOEFER: Let's see, Mr. Newman or Mr.
16 Axelrad or Mr. Gutterman?

17 MR. GUTTERMAN: The Applicant at this time
18 would like to call Mr. Loren Stanly. He has not been
19 previously sworn.

20

21 Whereupon,

22

23

LOREN STANLEY

24

25 was called as a witness by the Applicant and, having been

1 first duly sworn, was examined and testified as follows:

2

3

DIRECT EXAMINATION

4

5 QUESTIONS BY MR. GUTTERMAN:

6 Q Mr. Stanley, would you please state your full
7 name for the record.

8 A My name is Loren Stanley.

9 Q Mr. Stanley, do you have before you a copy of a
10 document entitled Testimony on Behalf of Houston Lighting
11 & Power Company, et al?

12 A I do.

13 Q Of Loren Stanley?

14 A I do.

15 Q And it consists does it not of eight pages plus
16 a 23 page statement of professional qualifications of
17 Loren Stanley?

18 A Yes, it does.

19 Q Are you familiar with the contents of that
20 document?

21 A Yes.

22 Q Are there any corrections that need to be made
23 it to?

24 A There's one word correction on page three, line
25 12, at the end of that line, the word "plant" should be

1 stricken and the word "design" should be substituted.

2 Q Are there any other corrections,

3 A There are no other corrections.

4 Q With that correction, are the contents of the
5 testimony on behalf of Houston Lighting & Power Company
6 et al of Loren Stanley true and correct to the best of
7 your knowledge and belief?

8 A Yes, they are.

9 MR. GUTTERMAN: Mr. Chairman, I'd move that the
10 testimony on behalf of Houston Lighting & Power Company
11 et al of Loren Stanley be admitted into evidence and
12 bound into the transcript as if read.

13 MR. SINKIN: No objection.

14 MR. PIRFO: The staff has no objection.

15 JUDGE BECHHOEFER: Okay, Mr. Stanley's
16 testimony will be admitted into evidence and bound into
17 the transcript at in point.

18 Mr. Sinkin -- this is off the record.

19 (Discussion off the record.)

20 (No Hiatus.)

21

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3 BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

4 In the Matter of)
5 HOUSTON LIGHTING & POWER) Docket Nos. STN 50-498 OL
COMPANY, ET AL.) STN 50-499 OL
6 (South Texas Project, Units 1)
7 and 2))

8
9 TESTIMONY ON BEHALF OF HOUSTON LIGHTING & POWER COMPANY,
10 ET AL.,
11 OF LOREN STANLEY

12 Q.1 What is your name?

13 A.1 My name is Loren Stanley.

14
15 Q.2 Please identify your present employment.

16 A.2 I am President of Zytor, Inc., located in San Jose,
17 California. Zytor, Inc., provides engineering and
18 consulting services related to nuclear power
19 generation and other areas.

20
21 Q.3 Please describe your professional qualifications.

22 A.3 My professional qualifications are described in the
23 Statement of Professional Qualifications of Loren
24 Stanley, which is attached hereto and incorporated by
25 reference.

26

27

28

1 Q.4 What is the purpose of your testimony?

2 A.4 The purpose of my testimony is to describe the purpose
3 and nature of the "Design Review of Brown and Root
4 Engineering Work for the South Texas Project"
5 (Quadrex Report) (May 1981).
6

7 Q.5 What was your role in preparing the Quadrex Report?

8 A.5 At the time the Quadrex Report was prepared, I was
9 employed by the Quadrex Corporation (Quadrex) and was
10 assigned as the project manager in charge of the
11 review of Brown & Root (B&R) engineering. The Quadrex
12 Report was prepared under my supervision and control,
13 and it describes the results of the review of B&R
14 engineering.
15

16 Q.6 Is Applicants' Exhibit 60 a true and correct copy of
17 the Quadrex Report?

18 A.6 Yes.
19

20 Q.7 Have you read the "Testimony on Behalf of Houston
21 Lighting & Power Company, et al., of Jerome H.
22 Goldberg" and "Testimony on Behalf of Houston Lighting
23 & Power Company et al., of Dr. James R. Sumpter?"

24 A.7 Yes.
25
26
27
28

1 Q.8 Do you agree with Mr. Goldberg's and Dr. Sumpter's
2 description of the role of Houston Lighting & Power
3 Company (HL&P) in the performance of the Quadrex
4 review of B&R engineering and their description of the
5 meetings involving HL&P and Quadrex?

6 A.8 Yes.
7

8 Q.9 What was the purpose of the Quadrex review of B&R
9 engineering?

10 A.9 The purpose of the Quadrex review of B&R engineering
11 was to evaluate B&R's engineering activities as they
12 might reflect on B&R's ability to complete the plant
13 in an efficient and orderly way. Quadrex was asked to
14 make this evaluation by reviewing selected aspects of
15 B&R's engineering response to issues that were known
16 to present difficulties to the nuclear industry as
17 well as those areas in which HL&P believed that B&R
18 was experiencing problems. Based on this information,
19 Quadrex found indications of potentially weak areas
20 and identified these to HL&P so that they could
21 inquire further into the specific details and
22 characterizations regarding each issue.
23

24 Q.10 What were the major results of its review that Quadrex
25 intended to convey to HL&P in its Report?
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1 A.10 Our review of B&R engineering primarily indicated that
2 B&R was not as far advanced in the design of STP as we
3 would have expected for a plant which had been under
4 design for at least seven years. In many areas, such
5 as mechanical, electrical, instrumentation, and
6 piping, B&R had not yet performed much of the work
7 needed to complete the design, including the
8 development of basic design documents. In a few
9 instances, we also observed some deficiencies in the
10 design work that had been performed; these instances
11 are identified in the Report.

12
13 Q.11 Was it the purpose of the Quadrex review to identify
14 failures of B&R to conform to the requirements of
15 Appendix B to 10 CFR Part 50 in the design process for
16 STP?

17 A.11 No, this was not our assigned task. We did not review
18 B&R's design procedures or quality assurance (QA)
19 program for design activities, nor did we assess B&R's
20 compliance with such procedures and program.

21
22 Q.12 Did you separately identify specific findings which
23 might have licensing implications?

24 A.12 Yes. These findings were placed in a "most serious"
25 category.

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1 Q.13 At the time Quadrex performed its review, were you
2 aware of 10 CFR § 50.55(e)?

3 A.13 Yes, we were aware of it. However, the only similar
4 reporting requirement applicable to Quadrex was 10 CFR
5 Part 21.

6
7 Q.14 Did you identify findings which were reportable to NRC
8 under 10 CFR § 50.55(e)?

9 A.14 No. HL&P had asked us to try to identify any findings
10 which might be potentially reportable under 10 CFR §
11 50.55(e). However, we could not make this determina-
12 tion because we felt we did not have sufficient
13 information to make such a judgment. Instead, we put
14 everything with possible licensing implications into
15 the "most serious" category. We believed this
16 category would encompass anything that might be
17 possibly reportable. Additionally, this category
18 included findings which clearly were not reportable.

19
20 Q.15 Why did Quadrex include generic findings in its
21 report?

22 A.15 The Quadrex review of B&R engineering was not intended
23 to be a detailed review of the B&R design work. HL&P
24 desired to have a quick review of the status of B&R's
25 engineering work. Consequently, Quadrex devised a
26 program to sample a limited segment of B&R's work in
27 selected areas. The specific results of this sample
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1 are presented in Volumes II and III of the Quadrex
2 Report and are summarized in the discipline findings
3 in Section 4.0 of Volume I of the Report.
4

5 In the generic findings in Section 3.0 of Volume I
6 of the Quadrex Report, we attempted to identify some
7 common threads which appeared in the discipline
8 findings. The generic findings were intended to
9 assist HL&P in identifying areas where HL&P could
10 inquire to determine whether improvements were
11 desirable; they do not represent conclusions regarding
12 the existence of any deficiencies in design.
13

14 Q.16 Do you recall discussing with HL&P whether the generic
15 findings were based on the discipline findings?

16 A.16 Yes. Our report plainly stated that the generic
17 findings were based on the discipline findings.
18 Additionally, I confirmed that point with HL&P.
19

20 Q.17 Could a determination of whether the most serious
21 generic findings in the Quadrex Report were reportable
22 be made based upon a review of the most serious
23 discipline findings?

24 A.17 Yes. Since the generic findings did not have indepen-
25 dent factual bases, they did not have to be reviewed
26 separately for reportability. A careful examination
27 of the most serious discipline findings by experienced
28

1 engineers alert to the potential that several most
2 serious discipline findings could, as a group, repre-
3 sent a systematic deficiency would have captured
4 anything reportable under 10 CFR 50.55(e). If the
5 HL&P reviewers were sensitive to this consideration,
6 the foregoing approach was reasonable.
7

8 Q.18 Please describe Applicants' Exhibit 65.

9 A.18 Applicants' Exhibit 65 is a copy of a letter dated
10 March 16, 1981, from me to Dr. J. R. Sumpter, then
11 Manager of HL&P's Nuclear Services Department. This
12 letter states my conclusions that B&R's method of
13 conducting ALARA reviews was inadequate to meet HL&P's
14 needs.
15

16 Q.19 Was it your intent in this letter to identify a
17 significant breakdown in the QA program for STP with
18 respect to ALARA or to identify violations of the
19 ALARA principle?

20 A.19 No. B&R's ALARA review program was similar to
21 industry practice at that time. However, it was
22 HL&P's goal to establish an ALARA program which far
23 exceeded industry practice. The purpose of my letter
24 was to alert HL&P to the fact that B&R's ALARA program
25 did not satisfy HL&P's goals.
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1 Q.20 Does this conclude your testimony?

2 A.20 Yes.

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STATEMENT OF PROFESSIONAL QUALIFICATIONS
OF LOREN STANLEY

Experience Highlights

Twenty-nine years in engineering design, systems evaluation, and consulting service with nuclear plant systems and aerospace instrumentation. Thirteen years experience in Quality List development and implementation, and seventeen years experience in systems design review on BWR, PWR, and HTGR plants.

Thirteen years managing technical groups performing design, licensing, and consulting activities. Provided FSAR licensing; response to USNRC questions; failure mode and effects reliability analyses; safety-related component determinations; instrumentation design and analysis, and design review of engineering work.

Professional Experience

2/83-Present President, Zytro, Inc., San Jose, CA.

Performed the Instrumentation and Control (I&C) portion of Integrated Design Inspections at two BWR and three PWR plants, and participated in an audit of electrical construction at a PWR plant. Performed accident monitoring instrumentation conformance analyses relative to USNRC R.G. 1.97 rev. 3 and provided recommendations for analog transmitter implementation at an operating BWR plant. Provided ASLB testimony regarding a BWR plant Component Classification Program involving safety-related and important-to-safety aspects.

3/74-2/83 Quadrex Corporation, Campbell, CA.

Group Manager, Licensing and Systems Analysis Department.

Supervised consulting activities in licensing, design review, safety classification of plant components, and probabilistic risk assessment. Directed a technical review of Brown & Root South Texas Project engineering work.

Deputy Director, Engineering Services. Prepared technical proposals and performed technical design reviews of engineering output for client projects.

Director, Project Services.

Supervised consulting activities in Licensing and Safety, Quality Assurance, Environmental Services, Reliability and Risk Assessment, and

Records Management. Participated in a MFTF fusion reactor reliability improvement program, a TNS fusion reactor licensing criteria evaluation, and an EPRI study of PWR feedwater steam generator level trips.

Manager, Licensing, Safety, and Reliability. Supervised FSAR reformat with added technical content for six BWR plants. Developed and implemented Q-List methodology to identify and classify safety-related components and spare parts for BWR and PWR plants. Supervised an accident monitoring instrumentation study of a typical Westinghouse PWR and a pressure sensor response time verification program for EPRI. Prepared FMEAs for TMI 1/2-ECCS, BWR 5/6 ECCS, HTGR Steam Dump System, ATR Plant Protection System Upgrade, and LMFBR secondary control rod system and test facility. Performed hazard analysis and MTBF estimates for the ATR PPS Upgrade program.

4/63-3/74

General Electric Company, San Jose, CA.

Manager, Nuclear Instrumentation and Protection Systems.

Supervised initial conversion of the BWR safety systems to a solid-state design, and design of safety-related control systems. Prepared technical system descriptions, compliance analyses, and technical responses to USNRC licensing questions.

Technical Leader, Control and Electrical Systems. Performed design improvements for BWR control rod drive and reactor protection systems. Designed instrumentation for the process computer system, rod worth minimizer, and a prototype RWM system at Dresden 1. Participated in the development and testing of intermediate range neutron monitoring system equipment.

6/56-4/63

General Electric Company, Utica, NY.

Lead Electrical Engineer, Polaris Guidance Electrics and Orbiting Astrological Observatory Electronics. Assisted in the initial design of the Apollo guidance computer, and Polaris guidance and fire control computers.

Field Service and Senior Field Service Engineer.
Provided technical training and maintenance
supervision for Polaris guidance electronics
equipment and airborne ARR-39A data link
electronics equipment.

Education

M.B.A. University of Santa Clara, Santa Clara, CA, 1970.
B.S.E.E. Carnegie Institute of Technology, Pittsburgh, PA.,
1956.

Professional Registration

Professional Engineer, California, Electrical Engineering,
1975.

Professional Affiliations

Senior Member, IEEE
Member, IEEE/PES Nuclear Power Engineering Committee,
1971-Present
Chairman, IEEE/PES/NPEC SC6, Safety-Related Systems,
1972-1975.

Member, American Nuclear Society
Chairman, ANS 4.5 Writing Group, Criteria for Accident
Monitoring Functions in LWRs, 1979-1980.
Member, ANS Nuclear Power Plant Standards Committee,
1981-1983.

Member, IAEA Work Group on Safety System Safety
Guide SG-D3, Vienna, 1976.

1 JUDGE BECHHOEFER: Back on the record.

2 MR. SINKIN: Good morning, Mr. Stanley --

3 MR. GUTTERMAN: I haven't finished my direct
4 examination.

5 JUDGE BECHHOEFER: Oh, I'm sorry. I'm sorry.
6 We were just discussing his cross-examination plan.
7 But, anyway --

8 Q (By Mr. Gutterman) Mr. Stanley, I'd like to
9 direct your attention to page 2 of your testimony, line
10 16, question 6. The testimony refers to Applicants'
11 Exhibit 60 and I'd just like to ask you to look at
12 Applicants' Exhibit 60 and verify whether that is, in
13 fact, the Quadrex report.

14 A Yes, it is.

15 Q I'm now referring you to page 7 of your
16 testimony.

17 A Okay.

18 Q On line 8, question 18 refers to Applicants'
19 Exhibit 65.

20 MR. GUTTERMAN: As a first step, I'm handing
21 three copies to the Reporter and I'm asking that this
22 document be marked as Applicants' Exhibit 65 for
23 identification. It's a two-page letter dated March 16,
24 1981, addressed to Dr. J. R. Sumpter, Manager of Nuclear
25 Services Department, Houston Lighting & Power Company,

1 and it's signed Loren Stanley, Quadrex.

2 And I believe the parties have already
3 received copies of Applicants' Exhibit 65.

4 JUDGE BECHHOEFER: Do you have one extra?

5 MR. GUTTERMAN: Yes.

6 (Applicants' Exhibit No. 65 marked for
7 identification.)

8 Q (By Mr. Gutterman) Mr. Stanley, do you have a
9 copy of Applicants' Exhibit 65?

10 You do now.

11 A Yes.

12 Q Is the document I've handed you that's been
13 marked as Applicants' Exhibit 65 the document referred
14 to in the answer to question 18 on page 7 of your
15 testimony?

16 A Yes, it is.

17 MR. GUTTERMAN: Based on the prefiled
18 testimony which has been admitted into evidence, I move
19 that Applicants' Exhibit 65 be admitted into evidence.

20 MR. SINKIN: No objection.

21 MR. PIRFO: No objection.

22 JUDGE BECHHOEFER: Applicants' Exhibit 65 will
23 be admitted.

24 (Applicants' Exhibit No. 65 admitted into
25 evidence.)

1 JUDGE BECHHOEFER: Mr. Gutterman, how about
2 60?

3 MR. SINKIN: It's been admitted.

4 MR. GUTTERMAN: I think that's already been
5 admitted into evidence.

6 JUDGE BECHHOEFER: Oh, okay.

7 Q (By Mr. Gutterman) Now, Mr. Stanley, I'd like
8 to direct your attention to Applicants' Exhibit 58 which
9 I believe has been previously marked for identification.

10 A I have it.

11 Q Are the handwritten notations on the
12 right-hand margin and on the bottom margin of
13 Applicants' Exhibit 58 your handwriting?

14 A Yes, they are.

15 MR. GUTTERMAN: Mr. Chairman, I move that
16 Applicants' Exhibit 58 be admitted into evidence.

17 MR. SINKIN: No objection.

18 MR. PIRFO: No objection.

19 JUDGE BECHHOEFER: Applicants' Exhibit 58 will
20 be admitted into evidence.

21 (Applicants' Exhibit No. 58 admitted into
22 evidence.)

23 MR. GUTTERMAN: Applicants have no further
24 questions.

25 JUDGE BECHHOEFER: Mr. Sinkin?

CROSS-EXAMINATION

BY MR. SINKIN:

Q Good morning, Mr. Stanley.

A Good morning.

Q I'm Lanny Sinkin. I represent Citizens
Concerned About Nuclear Power.

Mr. Stanley, prior to your becoming a witness
for Houston Lighting & Power, you and I discussed
whether you would become a witness for CCANP. Do you
remember those discussions?

A That's correct. Yes, I do.

Q And we discussed the Quadrex report and
Houston Lighting & Power's response to that report on a
number of issues?

A Yes.

Q You decided not to become a witness for CCANP;
is that correct?

A That's correct.

Q I'm going to show you what I ask be marked for
identification as CCANP 99.

(CCANP Exhibit No. 99 marked for
identification.)

Q (By Mr. Sinkin) Do you recognize this letter,
Mr. Stanley?

1 A Yes, I do.

2 Q Does this letter accurately describe the
3 decision you reached regarding appearing as a witness
4 for CCANP?

5 A Yes, it does.

6 Q And the reasons for that decision?

7 A Yes.

8 MR. SINKIN: I would move CCANP 99 into
9 evidence, Mr. Chairman.

10 MR. PIRFO: The Staff fails to see any
11 relevance in the letter. I mean, we don't have any
12 reason to keep it out, but I'm not sure for what purpose
13 it's being offered. I mean, it's not relevant to any of
14 the issues.

15 Again, if he intends to use it in some way to
16 impeach credibility, it's a little bit premature to
17 offer it into evidence at this point.

18 MR. GUTTERMAN: Applicants would join in that
19 comment. We don't see any relevance in this document.

20 MR. SINKIN: The document is offered to create
21 the context in which Mr. Stanley appears here. The
22 reasons that he would not appear for CCANP but would
23 appear for HL&P do go to the overall approach that the
24 witness is taking to the questions provided. Now,
25 that's why it's offered as really the context of his

1 appearance.

2 MR. PIRFO: Well, that can be brought out on
3 cross-examination. And to the extent Mr. Stanley
4 punitively contradicts this letter, then the letter can
5 be presented to the witness. But I just simply don't
6 see why the record should be burdened with an irrelevant
7 document.

8 MR. SINKIN: I don't expect Mr. Stanley to
9 contradict the letter. He's already stated that the
10 letter accurately represents what he decided to do. I'm
11 just demonstrating what he decided to do as the context
12 for his appearance here today.

13 JUDGE BECHHOEFER: The Board has decided that
14 we will not admit this letter, but it can travel with
15 the record to explain Mr. Stanley's previous answer. It
16 isn't relevant particularly to any contention, or issue
17 I should say.

18 Q (By Mr. Sinkin) Mr. Stanley, are you
19 appearing here today pursuant to a contractual
20 relationship with Houston Lighting & Power?

21 A Indirectly through the attorneys, yes.

22 Q Through the attorneys.

23 In your prefiled testimony, Mr. Stanley, on
24 page 1, lines 17 through 19, by the phrase nuclear power
25 generation, do you mean nuclear power plants or do you

1 mean anything else besides that?

2 A I mean nuclear power plants.

3 Q And what other areas than nuclear power plants
4 does Zytor consult in.

5 A At the present time only nuclear power plants,
6 nuclear power generation.

7 Q And you work for both utilities and the NRC?

8 A Yes, I do.

9 Q Does the name Zytor have any particular
10 meaning?

11 A No.

12 Q Had you previously done work on the South
13 Texas Nuclear Project prior to the Quadrex report that's
14 at issue in this proceeding?

15 A I participated in a small number of studies
16 while I was with Quadrex of the staffing levels and the
17 technical resource requirements required by Houston
18 Lighting & Power for both Allens Creek and South Texas.
19 These studies were generally small and preceded the
20 Quadrex report on South Texas. That was the extent of
21 my involvement.

22 Q You did a report that was delivered to Houston
23 Lighting & Power in January of 1980 on technical
24 capabilities and manpower requirements for Houston
25 Lighting & Power?

1 A May I review the report?

2 A Yes, I participated in this program.

3 Q I don't have a lot of questions about this,
4 Mr. Stanley. I just wanted to get clear the difference
5 between this and Quadrex, the later Quadrex report and I
6 think I can do that very quickly.

7 The primary purpose of the 1980 report was to
8 assess the staffing needs as opposed to the adequacy of
9 what was being done; is that correct?

10 MR. GUTTERMAN: I've got an objection here
11 because I perceive some confusion between staffing needs
12 of the utility as opposed to the architect engineer.

13 Q (By Mr. Sinkin) The primary purpose of the
14 1980 study was to evaluate the staffing needs of Houston
15 Lighting & Power?

16 A That is correct.

17 Q At the same time, Mr. Stanley, let me just
18 show you this page, it appears that you did make some
19 recommendations concerning technical support activities
20 that should be carried out by the utility; is that
21 correct?

22 MR. GUTTERMAN: I request that we get to see a
23 copy of what's being shown the witness.

24 JUDGE BECHHOEFER: Mr. Stanley, if you answer
25 that question, would you also try to explain, or maybe

1 you can, somebody can explain to me what technical
2 support activities as used in that report means?

3 MR. SINKIN: I was going to call attention to
4 a particular technical support activity that he
5 identified needed to be performed and just ask him if he
6 had indeed recommended that that activity be performed.
7 So, I think that will clarify it.

8 JUDGE BECHHOEFER: It's a little vague to me
9 what it means.

10 A I would appreciate it if I could have the
11 question rephrased. I've forgotten what it was.

12 Q (By Mr. Sinkin) The only question was in
13 addition to manpower staffing levels, you also seemed to
14 have recommended certain technical support activities
15 that HL&P should perform. I think they're on the page
16 that you're looking at and the following two pages. I
17 just wanted you to review that.

18 MR. GUTTERMAN: I'll object to the question on
19 the grounds that it's not seeking material information.
20 It's dealing with a report that's not at issue here.
21 It's dealing with HL&P rather than with Brown & Root and
22 it has nothing to do with reportability of any of the
23 findings in the Quadrex report of 1981.

24 MR. SINKIN: Mr. Chairman, this was really
25 asked as a foundation question. I think the next

1 question will demonstrate the relevance of the line of
2 questioning. I'm just trying to establish that he's
3 familiar with the recommendations that were made in the
4 report.

5 JUDGE BECHHOEFER: I just wanted to see
6 something.

7 The Board will overrule the objection. It
8 seems to relate rather directly to some of Mr.
9 Goldberg's testimony, page 5. Page 5 of Mr. Goldberg's
10 testimony.

11 MR. SINKIN: That would be the prior work done
12 by Quadrex for HL&P?

13 JUDGE BECHHOEFER: It says the organization
14 could not have had prior substantial involvement in the
15 project. These questions can certainly go to that.
16 So --

17 Q (By Mr. Sinkin) Have you had a chance to
18 review those three pages, Mr. Stanley?

19 A Yes, I have.

20 Q If you would -- well, let me just ask you, did
21 you recommend to HL&P management that there be a greater
22 depth and extent of system level design reviews by HL&P
23 engineering, taking into consideration construction and
24 operational problems encountered by other utilities?

25 A Yes, we did. That's item B on page 11.

1 Q And is this, in fact, an 84-page report that
2 was prepared by the Quadrex corporation?

3 A It appears to be 84 pages. It's been five
4 years since I've seen this one.

5 Q Mr. Stanley, I'm going to show you a letter
6 which I'll ask be marked for identification as CCANP
7 100.

8 (CCANP Exhibit No. 100 marked for
9 identification.)

10 Q (By Mr. Sinkin) Do you recognize that letter,
11 Mr. Stanley?

12 A Yes, I do.

13 Q And this letter is Quadrex' response to HL&P's
14 approach to Quadrex to do what eventually turned into
15 the Quadrex report?

16 A That's correct.

17 Q In this letter you refer to a brief two-week
18 engineering audit. Could you explain your use of the
19 term engineering audit?

20 A In the context of the work we did, what we
21 meant by that engineering audit was an engineering
22 review of the design work that Brown & Root had
23 performed. We did not mean the term audit in the sense
24 of a quality assurance audit.

25 Q Was the original plan by Quadrex to involve

1 only the individuals identified in this letter, or where
2 there's a blank as to the individual one person?

3 A The letter states one technical participant in
4 a technical discipline area. So, it was our intent to
5 support this effort with one person in each discipline.

6 Q So, originally it would have been a staff of
7 perhaps seven with yourself as manager?

8 A That's correct.

9 Q And it was expected to take two weeks?

10 A Yes.

11 Q And the original cost was to be \$32,500?

12 A That's what the letter states, yes.

13 Q What was the final cost of the Quadrex report,
14 if you remember?

15 A My recollection of the cost at the end of the
16 review, May '81, that we were in the range of 132 to
17 \$140,000. There were subsequent efforts in reviewing
18 the Bechtel task force report that raised that total,
19 but the final dollar amount I simply do not recall any
20 longer.

21 Q So, the 132 to 140,000 range was just to
22 produce the three-volume report. Later on you reviewed
23 Bechtel's task force response to the report. Did you do
24 any work beyond that?

25 A That's the only thing that I can recall where

1 we were funded.

2 Q I see.

3 Well, there was a later Bechtel EN-619, a big
4 two-volume thing. You were not funded to review that?

5 A My memory is not that good. I don't
6 remember. I know that I personally reviewed the EN-619
7 Bechtel report, but I don't believe that we were
8 funded.

9 Q In setting the schedule for this review, did
10 you discuss with Dr. Sumpter or other members of the
11 HL&P management why it was needed in a two-week period?

12 A I don't have a good recollection of why we
13 picked two weeks; however, based upon other similar
14 proposals that I prepared while I was at Quadrex, that
15 almost certainly was based upon input from the client,
16 an indication of the time frame that they wanted us to
17 perform the work in. Typically two weeks is
18 impossible.

19 Q But you thought you could --

20 A I would not volunteer two weeks ordinarily.

21 Q But you don't remember a specific indication
22 from HL&P as to why it had to be two weeks?

23 A No, no, I didn't know the basis of that.

24 Q Was it at all mentioned to you prior to the
25 initiation of this study that licensing hearings were

1 coming up in May of 1981?

2 A I was unaware of that.

3 MR. SINKIN: Mr. Chairman, I would move CCANP
4 100 into evidence.

5 JUDGE BECHHOEFER: Any objections to that?

6 MR. GUTTERMAN: I don't want to start an
7 objection about it, Mr. Chairman. I really don't see
8 why it's material, but we won't object to it.

9 MR. PIRFO: The Staff has the exact same
10 feeling and has no objection.

11 JUDGE BECHHOEFER: Okay. CCANP 100 will be
12 admitted into evidence.

13 (CCANP Exhibit No. 100 admitted into
14 evidence.)

15 Q (By Mr. Sinkin) Mr. Stanley, I'm going to
16 show you a letter that I ask be marked as CCANP Exhibit
17 101.

18 (CCANP Exhibit No. 101 marked for
19 identification.)

20 Q (By Mr. Sinkin) Do you recognize this letter?

21 A Yes, I do.

22 Q Is this letter the formal authorization you
23 received to begin the Quadrex review?

24 A This letter is supportive of the funding
25 level. The authorization is in the form of a purchase

1 order through the HL&P purchasing department.

2 Q I see. I noticed in the first line Dr.
3 Sumpter is saying this letter is to authorize Quadrex.
4 But you're saying the formal authorization is an actual
5 purchase order?

6 A That's correct.

7 Q I see.

8 Had Quadrex begun any work on the review
9 before the date of this letter, January 27th, 1981?

10 A My recollection is that we had begun work
11 about the 19th of January, somewhere in that range.

12 Q Were the purchase orders you received
13 similarly marked confidential?

14 A In the purchase orders I believe there is a
15 standard terms and conditions section which identifies
16 that work performed for the client is to be treated
17 confidential and disclosed only after written
18 authorization. That's a fairly standard clause in all
19 the contractual arrangements with other utilities as
20 well.

21 MR. SINKIN: I would move CCANP No. 101 into
22 evidence.

23 MR. PIRFO: No objection.

24 MR. GUTTERMAN: No objection.

25 JUDGE BECHHOEFER: CCANP 101 will be admitted

1 into evidence.

2 (CCANP Exhibit No. 101 admitted into
3 evidence.)

4 JUDGE BECHHOEFER: Mr. Sinkin, are you going
5 to ask further questions on 101 at this time?

6 MR. SINKIN: Not on 101, Mr. Chairman, no.

7 JUDGE BECHHOEFER: I'd like to ask one short
8 question.

9 Mr. Stanley, when you mentioned that the
10 confidentiality clause was fairly standard, did you have
11 any discussions about confidentiality of this particular
12 report with either Mr. Goldberg or Dr. Sumpter or any of
13 the other HL&P persons with whom you interacted?

14 THE WITNESS: I don't recall any discussions
15 with Dr. Sumpter or Mr. Goldberg with regard to
16 confidentiality.

17 This is very standard for all work done for
18 utilities. I wasn't the least bit surprised by this
19 sentence and fully expected it.

20 JUDGE BECHHOEFER: Did you have any
21 discussions about whether any or all parts of the report
22 or the work in progress were going to be reported to the
23 NRC, any part of the NRC?

24 THE WITNESS: I don't recall any discussions
25 along that line at all.

1 After the report was turned in to HL&P, later
2 that fall we received several requests from the
3 utilities by telephone to obtain a copy of the report.
4 The first request was from Pacific Gas & Electric and
5 the second request was from Commonwealth Edison
6 Company. In each case I contacted Mr. Goldberg by phone
7 and determined whether we could or could not permit the
8 party to see the report.

9 In the case of Diablo Canyon, we were not
10 permitted to make a copy for PG&E, but we did permit a
11 PG&E engineer to come to my house on Halloween night and
12 read the report while I handed out candy to the
13 children.

14 In the second case, we were permitted to mail
15 the report to a designated individual at Commonwealth
16 Edison on the promise that he would make no copies,
17 disclose to no one else and promptly return that copy to
18 me, which he did.

19 Those were the only cases.

20 JUDGE BECHHOEFER: Were both of those
21 situations after September '81?

22 THE WITNESS: Yes, both were after September
23 '81.

24 JUDGE BECHHOEFER: So, that was after the
25 report --

1 THE WITNESS: After it had been turned over to
2 the Board.

3 JUDGE BECHHOEFER: Right. Thank you.

4 Q (By Mr. Sinkin) After you began discussing
5 with Houston Lighting & Power doing this review, it's
6 obviously not a two-week audit that's done by seven
7 people, so the scope expanded of the review; is that
8 correct?

9 A That is correct.

10 Q And were the changes in the scope at the
11 suggestion of Houston Lighting & Power?

12 A There were two changes that I believe
13 occurred. Here I've listed seven groups and my memory
14 says that we reviewed nine technical disciplines. The
15 second part of the scope expansion was the depth of
16 review which was based upon the questions that we
17 prepared. Once we had prepared the questions and
18 determined the areas of inquiry, the scope expanded
19 considerably.

20 (No hiatus.)

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1 Q Were you preparing the questions having in mind
2 a two-week audit, or did you already know when you
3 started preparing the questions that this was going to be
4 more than a two-week audit?

5 A Let's go back for a minute if we can. The
6 letter that referred to the two-week audit was done on
7 January 5th, following a telephone conversation the day
8 before from Dr. Sumpter. Shortly after that, in further
9 telephone conversations with him, it became evident that
10 this estimate was unrealistic, that the work couldn't be
11 accomplished in that time frame.

12 Q And was that unrealistic because HL&P wanted
13 you to do more than they had originally thought or
14 unrealistic because you wanted to do more than HL&P had
15 suggested?

16 A The latter is more correctly -- more correctly
17 depicts the situation. What we did was prepare a list of
18 questions that we thought were appropriate to ask, with
19 the expectation that that list of questions would be
20 added to, modified or deleted based upon what the utility
21 wanted to do.

22 As it turns out, the majority of the questions
23 did not get deleted. They remained in the study which is
24 then an indication of the extent of the scope.

25 Q You mentioned that it went from seven topics to

1 as you remembered it, nine. Would I be correct that in
2 service engineering -- in service inspection and access
3 engineering were added?

4 A That was one activity that did get added in the
5 middle of the study.

6 Q And who added that?

7 A I made the recommendation that we look more
8 seriously at access space, maintenance space, et cetera,
9 to Dr. Sumpter, and proposed the name of one man who had
10 more experience in that area than any of our other team
11 members. And he agreed for a small amount of effort to
12 be added to the program to cover ISI.

13 Q Did you make that recommendation based upon
14 observations of this project or based on your general
15 experience?

16 A I made that recommendation based upon the
17 observations we had made on the review at that point.

18 Q You said you began your work developing
19 questions around January 19th, I believe. Where are we
20 in the process that you've made enough observations to
21 make this recommendation to Dr. Sumpter?

22 A Are you referring to the ISI recommendation?

23 Q The ISI recommendation, what time are we --

24 A Much later.

25 Q Much later?

1 A Much later; it was in March sometime.

2 Q And there was one other area added?

3 A I recall the number nine but I don't recall the
4 specifics any longer.

5 Q Would that have been piping and supports stress
6 analysis?

7 A That was one. Also I see the computer codes
8 was added.

9 A We identified electrical, civil, mechanical,
10 nuclear, radiological, geotechnical and HVAC and we did
11 add piping and supports.

12 Q And computer codes?

13 A Computer code.

14 Q Well, just looking at Applicant Exhibit 60, the
15 Quadrex report, the table of contents, Page I, it appears
16 to me that whereas originally in the January 5th letter
17 you spoke of doing geotechnic, geotechnic was actually
18 not done. Is that correct?

19 A There were a limited number of questions in the
20 geotechnic area. I believe we asked six questions of
21 that discipline.

22 Q Why was that discipline more limited than the
23 others?

24 A I don't know the answer to that. I'm sorry.

25 Q And then on piping and supports, the stress

1 analysis, do you remember how that got added; was that
2 something Quadrex suggested or something HL&P suggested?

3 A Again, I don't recall who was the originator of
4 that addition.

5 Q How about the computer codes?

6 A I feel reasonably certain that that was
7 prompted by HL&P, rather than Quadrex. We were able to
8 support it, but I believe that suggestion came from HL&P.

9 Q Do you remember a time frame at all as to when
10 that suggestion was made?

11 A Well, all of these eight areas, these eight
12 areas except for in service inspection were decided upon
13 at the time that HL&P visited Quadrex; I believe that was
14 around the end of January, 1981.

15 Q Okay.

16 MR. SINKIN: Mr. Stanley, I'm going to show you
17 what I ask be marked as CCANP Exhibit 102.

18 (CCANP Exhibit 102 marked
19 for identification.)

20 Q (By Mr. Sinkin) Is CCANP Exhibit 102 a
21 schedule you drew up for the study, Mr. Stanley?

22 A I do not believe so. I don't recall ever
23 seeing this particular --

24 Q Okay.

25 MR. SINKIN: Mr. Stanley, I'm going to show you

1 a document -- I don't intend to move in 102 since he
2 hadn't seen it.

3 JUDGE BECHHOEFER: I've already marked my copy.

4 MR. SINKIN: Just to be clear about that. I
5 show you what I ask be marked as 103.

6 (CCANP Exhibit 103 marked
7 for identification.)

8 A I recall this letter.

9 Q (By Mr. Sinkin) This letter represents your
10 suggestions to Dr. Sumpter in February of 1981 as to how
11 the actual report should be organized?

12 A That is correct.

13 Q And the questions that you would seek to answer
14 with this assessment?

15 A That is correct.

16 Q At the end of the letter, you state that you
17 would welcome Dr. Sumpter's thoughts on the proposed
18 outline. Did you actually receive a response from Dr.
19 Sumpter to this letter?

20 A I don't believe there was any written response.
21 My recollection is that he orally said okay on the
22 outline, with no change.

23 The purpose of putting this letter out was to
24 format the report early so that any disagreements could
25 be addressed.

1 Q Well, as I read the letter, it's both to format
2 it and to identify the questions that the study is going
3 to attempt to answer?

4 A That's correct.

5 MR. SINKIN: I would move CCANP 103 into
6 evidence.

7 MR. PIRFO: The staff has no objection.

8 MR. GUTTERMAN: The Applicants have no
9 objection.

10 JUDGE BECHHOEFER: CCANP 103 will be admitted
11 into evidence.

12 (CCANP Exhibit 103 admitted
13 into evidence.)

14 Q (By Mr. Sinkin) Mr. Stanley, approximately how
15 many person hours did the Quadrex report study take?

16 A Approximately 24 to 26 hundred manhours.

17 Q And is that just Quadrex?

18 A Yes.

19 Q That doesn't count Brown & Root's time or
20 HL&P's time?

21 A That's strictly Quadrex.

22 Q How many total Quadrex personnel worked on that
23 study?

24 A I can only give you an approximate number.
25 Approximately 13 people.

1 Q Turning to Page 3 of your testimony, Mr.
2 Stanley, your prefiled testimony. First of all, Mr.
3 Stanley, let me ask you about the testimony, itself.

4 Were these questions and answers written by
5 Houston Lighting & Power attorneys and then submitted to
6 you for your review?

7 A They were developed in a joint meeting where we
8 sat down together and discussed the questions and the
9 responses. I helped prepare with the attorneys these
10 words, this text.

11 Q On page three, line ten, the statement about
12 the purpose of the Quadrex report, could you tell me what
13 you mean by the word "efficient" at line 13?

14 A The word "efficient" in this context means
15 "economic," as opposed to any safety consideration. The
16 thing is we were asked to look at Brown & Root's ability
17 to complete the design in a cost effective and a time
18 efficient manner.

19 Q And what do you mean by the word "orderly"?

20 A The word "orderly" in that sentence means that
21 the work was being accomplished with proper management
22 controls, that the sufficient number of resources were
23 there, priorities were correct, that the work was being
24 accomplished in an orderly manner.

25 Q Mr. Stanley, was the only purpose of the

1 Quadrex report to look at whether Brown & Root had the
2 ability to complete the design in a cost effective and
3 timely manner?

4 A The exact statement is, I believe, just a bit
5 different. We were to take a snapshot of the current
6 design as of March '81, and then to also make an
7 assessment of the technical capabilities and the skills
8 that we had observed in the meetings with Brown & Root.
9 So we were to provide an assessment of the technical
10 adequacy or inadequacy of the current design output as
11 well as try to make a forecast of the future.

12 Q I'd like you to review answer nine on page
13 three, Mr. Stanley, and see if that provides a complete
14 description of what Quadrex did in their study?

15 MR. GUTTERMAN: Mr. Chairman, I think it's kind
16 of a strange question since the question nine doesn't ask
17 for a complete description of what Quadrex did in its
18 study. It asks what was the purpose of the Quadrex
19 review of Brown & Root Engineering. I'm kind of confused
20 by the question.

21 MR. SINKIN: The answer goes beyond the simple
22 purpose into what Quadrex actually did. I'm asking him
23 whether that's a complete discription of what Quadrex
24 actually did. If there's a problem, I can do it another
25 way, Mr. Stanley. We'll try it another way.

1 Q (By Mr. Sinkin) Quadrex reviewed selected
2 aspects of Brown & Root's engineering by a process of
3 questions and answers. Is that correct?

4 A That's correct.

5 Q And based on that review, Quadrex then wrote
6 discipline findings. Is that correct?

7 A That's correct.

8 Q In the discipline findings, did Quadrex find
9 areas of design and engineering where Brown & Root was
10 weak?

11 A Yes, there were a few.

12 Q Based upon the review of the questions and
13 answers and did discipline findings, Quadrex then wrote
14 generic findings. Is that correct?

15 A That is correct.

16 Q The sentence on page three beginning at line 18
17 where it says, "Based on this information," that sentence
18 describes the generic findings, does it not?

19 A Not necessarily at all. The potentially weak
20 areas fall into two categories. The ones where HL&P
21 eventually reported such as the HVAC, temperature
22 conditions had only been the normal plant conditions,
23 computer code verification; it included those kinds of
24 things as well as areas where the work had not been
25 started or had not been completed and that the staffing

1 levels and skill levels were such that they were
2 potentially weak, that's what we what we meant by that
3 term.

4 Q So by "weak," you were really referring to the
5 skill levels; the adequacy of staffing?

6 A Partially, yes.

7 Q How other than that are you using "weak"?

8 A We also identified specific defects.

9 Q Okay. Thank you.

10 MR. GUTTERMAN: I wonder if we might think
11 about taking a break pretty soon, Mr. Chairman.

12 JUDGE BECHHOEFER: I was just thinking about
13 that --

14 MR. SINKIN: That's fine.

15 JUDGE BECHHOEFER: Let's take a fifteen minute
16 break.

17 (Recess)

18 JUDGE BECHHOEFER: Okay, back on the record.

19 Q (By Mr. Sinkin) Mr. Stanley, let me ask you to
20 turn to Page 2-1 of the Quadrex report, the document that
21 is Applicants' Exhibit 60.

22 A I have the page.

23 Q Looking at the item dated January 29th, did Dr.
24 Sumpter select the Quadrex personnel who were to do the
25 audit?

1 A Yes.

2 Q You provided him with a list of resumes and he
3 selected from the resumes or did he actually interview
4 the personnel?

5 A The people -- the entire group that we had
6 proposed met in a large conference room and we spent a
7 number of hours going over the questions and discussing
8 the scope. Afterwards, he decided which participants he
9 wanted and which ones he -- were not to be put on the
10 project.

11 Q I think you said that to the best of your
12 recollection, there were 13 that actually --

13 A Approximately.

14 Q It's in the report.

15 A In section two, for example, on page 2-9, we've
16 got one, two, three, four, five, six, seven, eight, nine,
17 ten, eleven -- twelve technical people. In addition we
18 had some review by Quadrex management, we had
19 secretarial, clerical help.

20 Q You weren't counting management review in the
21 12 or 13, those were people that actually worked on the --

22 A Technical, right.

23 Q All right. In the proposed group, how many
24 were there; how many did Dr. Sumpter eliminate?

25 A Oh, there were only one or two individuals that

1 were eliminated in that process.

2 Q In your prefiled testimony at Page 3, question
3 and answer eight --

4 A I have it.

5 Q Did you, in fact, review Mr. Goldberg's and Dr.
6 Sumpter's prefiled testimony as that testimony described
7 the meetings involving Quadrex and HL&P?

8 A Yes, I have reviewed their testimony and I have
9 sat in the back and heard their direct testimony, also.

10 Q If you would turn in Mr. Goldberg's testimony,
11 if the Applicant could provide you with Mr. Goldberg's
12 testimony.

13 A Okay.

14 Q If you would turn to Page 9, question and
15 answer 14 describes the March 18th briefing.

16 A Okay.

17 Q Do you agree or -- let's see. Was the meeting
18 on March 18th so brief that you could not have covered
19 all the points in the outline that you had prepared?

20 A Yes. The meeting started at 4:00 p.m. and was
21 over before 6:00 p.m.

22 Q If Applicants could provide you with CCANP 74,
23 which is your notes for that meeting.

24 A Okay.

25 Q These are notes you prepared prior to the

1 meeting of items you were going to corps in the meeting?

2 A That's correct.

3 Q Turning to the third and fourth pages of this
4 document, do the numbers in circles on the left-hand side
5 refer to the numbers found on the first and second pages
6 in circles?

7 A I would say yes, that the -- that the circle
8 attachment 6A, Page 3, which starts with a circled 6 and
9 ends with a circled 3, that those circled numbers are
10 cross references to the first two pages where I had
11 listed my general observations and had numbered them.

12 Q Can you identify the points in this outline
13 that you did not discover on March the 18th?

14 A No, I'm afraid I cannot. It's too long. We
15 covered some of this material but we certainly did not
16 get a chance to cover it all.

17 Q On item No. 1, in your general observations on
18 page one?

19 A Correct.

20 Q The last line, "Strong evidence of hostile
21 attitude toward HL&P." I assume that that's evidence of
22 hostile attitude on behalf of Brown & Root towards HL&P?

23 A That's correct.

24 Q Was the hostility you observed present at all
25 levels of the Brown & Root operation or was it

1 concentrated on a particular level.

2 MR. REIS: I object to the question, Mr.
3 Chairman. I don't think it has any bearing on the issues
4 before this Board as admitted by the Board's orders.

5 MR. SINKIN: Mr. Chairman, Mr. Goldberg has
6 testified as to what Mr. Stanley said in this particular
7 briefing, and he has testified particularly on this point
8 as to what Mr. Stanley said in the briefing; I'm now
9 asking Mr. Stanley's recollection of what Mr. Stanley
10 said in the briefing.

11 JUDGE BECHHOEFER: Does the staff have a view?

12 MR. PIRFO: I have no recollection of the
13 testimony specifically.

14 MR. GUTTERMAN: Mr. Chairman, if I could make
15 one additional comment. The question that was posed to
16 the witness didn't ask what the witness told Mr.
17 Goldberg, the question was, "What did you observe?"

18 And I just submit that that is not either
19 introduced by anything in Applicant direct case nor
20 relevant or material to any issue before this proceeding.
21 It certainly doesn't have any bearing on something that's
22 in the Quadrex report that the Board has selected for
23 being at issue in this proceeding.

24 MR. PIRFO: The staff would add simply because
25 Mr. Goldberg has referred to in his cross-examination

1 doesn't necessarily mean it's relevant to extent that Mr.
2 Sinkin is going to continue to pursue with Mr. Stanley.
3 That's all I have.

4 MR. SINKIN: One area of relevance, Mr.
5 Chairman, is the credibility of Mr. Goldberg and how he
6 responded to my questions about those representations
7 about that presentation. I'm get Mr. Goldberg Stanley's
8 recollection of that as a check on whether those were
9 accurate representations.

10 MR. PIRFO: Again, if he's using it forever the
11 purposes to go to credibility, he's attempting to impeach
12 Mr. Goldberg on a collateral issue so that would be
13 another problem with the question, if that's his purpose.

14 MR. SINKIN: I don't consider the presentations
15 made by Quadrex since one of the issues in this
16 proceeding is the treatment of draft reports by HL&P, I
17 don't consider the presentations made by Quadrex on March
18 the 18th as outside the scope of this hearing. And I
19 don't consider Mr. Goldberg's representations of what
20 Quadrex said during that briefing as a collateral issue.

21 JUDGE BECHHOEFER: This objection we'll
22 sustain. We're not ruling out everything Mr. Stanley
23 might have said on March 18th, but this doesn't appear to
24 have much to do with any of the contentions.

25 Q (By Mr. Sinkin) Turning to item five on page

1 one, Mr. Stanley --

2 A I have it.

3 Q Was the absence of the key front end documents
4 a systematic problem or an isolated problem in the Brown
5 & Root design and engineering process.

6 MR. GUTTERMAN: I'm kind of confused by the
7 questions. What's confusing me, Mr. Chairman, is that we
8 are looking at a document which is, I think, pretty clear
9 from the testimony Mr. Stanley's notes of what he
10 intended to talk about at a meeting. The questions seem
11 to be asking about what Mr. Stanley observed. I'm not
12 sure if it's intended that the witness is supposed to be
13 explaining what was discussed at the meeting or what his
14 sense was of why he wrote these notes; the whole area
15 seems ambiguous to me.

16 MR. SINKIN: I think I can clarify it.

17 Q (By Mr. Sinkin) The first question was: Did
18 you mean by the observation and the second question is
19 did you convey that observation to the meeting on March
20 the 18th.

21 MR. GUTTERMAN: I assume the important part,
22 Mr. Chairman, is: What was told to Mr. Goldberg; why
23 these notes were written seems irrelevant
24 to me. So the question ought to be first what he told
25 Mr. Goldberg.

1 JUDGE BECHHOEFER: Why don't you reverse the
2 questions first. For No. 5 and -- first see if 5 was a
3 topic discussed at the meeting. --

4 Q (By Mr. Sinkin) We'll make the first question,
5 Mr. Stanley, did you discuss topic No. 5 on page one of
6 CCANP 74 at the briefing on March 18, 1981?

7 A I believe item five was discussed at that
8 meeting with Mr. Goldberg.

9 Q Did you convey to -- let me just clarify it.
10 More than Mr. Goldberg were present, more people than Mr.
11 Goldberg were present is that true?

12 A Dr. Sumpter and Mr. Goldberg and I were the
13 three individuals.

14 Q Did you convey to Mr. Goldberg and Dr. Sumpter
15 that the key front end documents that were missing were a
16 systematic problem or an isolated problem in the Brown &
17 Root design engineering process?

18 A I did not categorize this point in either a
19 systematic or an isolated problem framework. What I was
20 trying to convey was that the design had been in process
21 for seven years and that from the period of March 3rd,
22 through March 18th, we had identified that some front end
23 documents such as the ISI manual, environmental analysis
24 curves, safety related classifications, et cetera, were
25 just being prepared. And to me that seemed to be

1 untimely.

2 But by March 18th, the framework was not
3 systematic or isolated. We were not that far along.

4 Q Was this of serious concern, did you express
5 this as a serious concern at that time or was this
6 something that did not significantly trouble you?

7 A I conveyed this as a serious concern in terms
8 of the overall completion of the design. I tried to
9 identify in this outline things that I thought he should
10 hear at that point; that he should be made aware of. You
11 have to realize that the amount of evidence we had was
12 limited, it had only been the first two weeks, so there
13 was a fairly good chance that some of my comments would
14 turn out to be not true as we gathered more evidence.
15 But I tried to give him my best professional opinion that
16 I could at that time.

17 Q But in that first two weeks, you had already
18 determined that some of these key front end documents
19 simply had never been prepared?

20 A Yes. Or they had been prepared and were in a
21 draft form and had not yet been issued so that they were
22 controlled type documents in the engineering process.

23 Q Turning to item six, in the second line, you
24 state that there was considerable evidence of a chaotic
25 work situation. Are you aware that ANSI N-44.2.11

1 requires that design activities be carried out in a
2 planned, controlled, and orderly -- excuse me, planned,
3 orderly and correct manner?

4 A Correct, I understand, yes.

5 Q As you use the term "chaotic work situation,"
6 were you attempting to convey that the design activities
7 were not being carried out in a planned manner?

8 A No, I was not -- I was not trying to convey a
9 quality assurance or an ANSI N45.2 connotation when I
10 used the word "chaotic."

11 I was really addressing it from a design
12 engineering standpoint, that certain pieces of work
13 hadn't been started, other pieces of work had been
14 started but were still in a preliminary state; there was
15 a great deal of work to be done; there were numerous
16 referrals to two or three key groups at Brown & Root
17 which in our mind became the pillar groups that would
18 support the total design. And the work of those groups
19 had not been completed.

20 So the word "chaotic" in that sense was that
21 things were out of sequence, were not complete, not that
22 they were not orderly.

23 The work products that were completed that we
24 looked at with respect generally technically quite good.
25 We didn't see enough of the work products.

1 Q You spoke of referrals to three or four key
2 groups. Could you explain what you mean by that term?

3 A We would ask a question of a technical
4 discipline at Brown & Root and they would indicate that
5 they needed to get design input from nuclear analysis or
6 HVAC or the special stress group in piping and supports.
7 We received quite a few of those referrals in answers to
8 our questions. So it became very evident that these
9 groups were significant contributors to the design
10 effort.

11 (No Hiatus.)
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1 Q So, you would ask, for example, mechanical or
2 electrical or civil a question and they would say the
3 answer has to come from these other disciplines?

4 A That's correct.

5 Q And then when you looked at the other
6 disciplines, you found that the answers were not
7 available because they hadn't started the would work or
8 the work was in draft form or for some other reason?

9 A That's a generalization, but, yes, generally
10 true.

11 Q And in item 10 when you say virtually no
12 analysis capability, are you referring to nuclear
13 analysis?

14 A Yes, I was referring primarily to nuclear
15 analysis and it was referring to the Brown & Root
16 organization.

17 Q You said primarily. Were there other areas
18 where you found they didn't have analysis capability?

19 A I don't recall the specifics, but I believe it
20 was more than just nuclear analysis before I made this
21 statement.

22 Q And you did make this statement at the March
23 18th meeting?

24 A I believe -- yes. I believe I also covered
25 item 10.

1 Q And in item 10 it says not much evidence of
2 concern here either. Was that lack of concern a Brown &
3 Root lack of concern?

4 A To be perfectly honest, I don't recall the
5 context of that. It starts off with virtually no
6 analysis capability, NUS dependence, EDS dependence, not
7 much evidence of concern here either. I really don't
8 recall the context of that at this point.

9 Q Did you convey on March the 18th to Mr.
10 Goldberg and Dr. Sumpter that Brown & Root was heavily
11 dependent on other organizations for nuclear analysis?

12 A Yes.

13 Q And did you convey to them that Brown & Root
14 didn't seem to be bothered by that fact?

15 A I don't recall whether I conveyed that or
16 not. The thing I was attempting to convey with that was
17 the error rate in the calculations that we looked at.
18 That was my primary point.

19 Q So, you did on March the 18th specifically
20 bring up the error rate in calculations as a concern?

21 A Yes.

22 Q Can you tell me how either Mr. Goldberg or Dr.
23 Sumpter responded to your bringing up the error rate in
24 calculations?

25 A I don't recall any specific response negative

1 or positive on that particular item.

2 Q Turning to page 2, item 16, did you bring up
3 this item in the March 18th meeting?

4 A Yes, I'm reasonably certain that item 16 was
5 discussed at that meeting.

6 Q Can you tell me what you mean by the phrase
7 multi-disciplinary freeze?

8 A That phrase is a reflection of the GE design
9 practice which was part of my background where at some
10 point in the design of each project the documents for a
11 given system were brought together and coordinated among
12 all the disciplines in a series of meetings over a one
13 or two-day period so that it was multi-disciplinary, it
14 was a review that was multi-disciplinary in scope. And
15 then the documents were frozen, if you will, where
16 design changes were very hard to accomplish after that
17 point.

18 So, I was trying to explain that the
19 integration of systems within Brown & Root did not
20 appear to have that type of coordination at the point in
21 time that we were looking at Brown & Root.

22 Now, a multi-disciplinary freeze is not the
23 only way to accomplish the coordination. It's one way
24 that I was exposed to that I've seen work. There are
25 many other ways of accomplishing the same objective.

1 Q But as far as you observed, as of March 18th,
2 Brown & Root didn't have a way of accomplishing that; is
3 that correct?

4 A I didn't -- at that point in time I had not
5 seen any way.

6 Q Prior to completion of your study, did you
7 ever see a way that Brown & Root had to accomplish this?

8 A Well, the method that they were using was a
9 review of documents by each discipline as they came
10 around and reviewed so that a flow diagram would be
11 circulated to the affected disciplines and they would
12 make their comments on it. But that type of approach
13 was the only one that we saw.

14 Q And from what you saw of that approach, was
15 that an adequate way to achieve systems engineering?

16 A It's possible to accomplish the integration
17 that way if you have strong technical discipline
18 leaders.

19 Q Were they accomplishing it as of that time?

20 A In my opinion, no, and that was why I raised
21 the issue here that the amount of integration that was
22 being accomplished was not at the level I had expected
23 to see.

24 Q And when you said earlier in a design
25 freeze -- in the multi-disciplinary freeze method that

1 design changes would be hard to accomplish, is that
2 because there's been a basic agreement this is how we're
3 going to do it, so if you want to change, you have to go
4 through a lot of people?

5 A Exactly.

6 Q At the March 18th, 1981 meeting, Mr. Stanley,
7 did you tell Mr. Goldberg and Dr. Sumpter that you were
8 aghast at the preliminary observations made by Quadrex?

9 A No, the word aghast was used in only one
10 document, that was my testimony to the NRC Region IV
11 people later that year. I don't recall using the word
12 aghast in the March 18th meeting.

13 Q Did you convey to Mr. Goldberg and Dr. Sumpter
14 that you were very disturbed by what you were seeing?

15 A Disturbed is not the correct word either.
16 Disappointed is probably the correct word.

17 When we prepared our questions, we were aware
18 that the plant had been under design for seven or eight
19 years and our people prepared questions expecting that
20 the design would be at that point. As we got into the
21 questions and answers with Brown & Root, it became very
22 evident that the design state was much more preliminary
23 than we had anticipated and I was really disappointed
24 and surprised at that state of affairs.

25 Q Were either Mr. Goldberg or Dr. Sumpter

1 surprised at that state of affairs on March the 18th?

2 A I really can't express that because I wasn't
3 attempting to look for reactions, I was trying to convey
4 some initial impressions and some initial observations
5 so that they would at least be aware of my thinking. I
6 wasn't seeking reaction at that meeting.

7 Q Well, did you get any reaction? Did they have
8 any comments about what you were saying to them?

9 A Certain items were discussed as to what the
10 backup was. But in the main it was mainly a one-sided
11 presentation without a great deal of interaction or
12 response. .

13 JUDGE BECHHOEFER: Was the one side you?

14 THE WITNESS: Obviously.

15 JUDGE BECHHOEFER: Mr. Stanley, before we get
16 too far away from that item 16 that you were just
17 talking about --

18 THE WITNESS: Okay.

19 JUDGE BECHHOEFER: -- in CCANP 74 there's a
20 note which says, if I can read it correctly, no one
21 checking in environmental qualification. Is that what
22 it said? Is that your notes?

23 THE WITNESS: I'm sorry. Could you direct me
24 to where you're reading from?

25 JUDGE BECHHOEFER: Right by item 16 on page

1 2.

2 MR. GUTTERMAN: In the left-hand margin.

3 THE WITNESS: Oh, I can't read that.

4 It says what now?

5 JUDGE BECHHOEFER: Well, if I'm reading it
6 correctly, it says no one checking on environmental
7 qualification.

8 THE WITNESS: Okay. That was one of the
9 examples that I wanted to use in the discussion of
10 that. We had been made aware of the aux feedwater pump
11 motor being located down in the IVC at the basement and
12 that that area was subjected to line break, postulated
13 line breaks, but that the pump motor had been procured
14 to something like 104 or 120 degrees F, totally
15 unrealistic with what the environmental conditions
16 were. That was one example of where multi-discipline
17 integration involving EQ and nuclear analysis and so
18 forth of equipment, mechanical equipment, electrical
19 equipment and designers, that was one example where they
20 could have caught that mismatch had they had a
21 coordinated approach.

22 I don't know the particulars of how that was
23 detected. It was detected before we came. But it was
24 certainly one example applied to this concern.

25 JUDGE BECHHOEFER: Would you characterize what

1 you just described as a design deficiency?

2 THE WITNESS: I would call it an error. A
3 deficiency in my lexicon would be something that doesn't
4 meet regulatory requirements or might not later on meet
5 eventual regulatory requirements.

6 JUDGE BECHHOEFER: That's how I was referring
7 to it.

8 THE WITNESS: I would characterize it at that
9 point as a single design error.

10 JUDGE SHON: But still, Mr. Stanley, it seems
11 to me that you saw in it a more fundamental and
12 pervasive difficulty, not just that they made a mistake
13 in this one motor.

14 THE WITNESS: I saw the potential. And what
15 we were trying to do through the review was to see if
16 there were more examples that would say that it was
17 across disciplines. At that point I had that one
18 example and the fact that documents were being
19 circulated for review and that there was no centralized
20 synergistic meetings to make sure that everything was
21 compatible. So, at this point I was merely flagging the
22 potential of a systems integration problem.

23 JUDGE SHON: And later you discovered that, in
24 fact, it did exist; is that right?

25 THE WITNESS: We found quite a few examples to

1 support this, yes, of work that hadn't been done that
2 should have been done and that would have been flagged
3 had they gotten together that it was missing.

4 JUDGE BECHHOEFER: Would that reach the level
5 of a significant QA breakdown in design?

6 THE WITNESS: Not in my opinion. Again, our
7 program was not looking at QA or QC, we were trying to
8 take a snapshot of the engineering design and also make
9 an assessment of the engineering skills and capabilities
10 that they had. We really were not looking at it from
11 the aspect of a quality assurance type of thing.

12 JUDGE BECHHOEFER: Given the information that
13 you provided to HL&P at the March 18 meeting, should
14 they have been aware of a potential QA breakdown from
15 what you told them?

16 THE WITNESS: I don't really believe I'm
17 qualified to answer in that sense. I've never had the
18 responsibility of reporting under 50.55(e). And what we
19 were trying to convey to Mr. Goldberg at this point was
20 some initial observations that we were pursuing so that
21 he would be aware of them. But at no -- I had
22 insufficient evidence at this point in time to say that
23 this was anything like a QA breakdown. That was not in
24 my mind at all.

25 Q (By Mr. Sinkin) Mr. Stanley, I would ask the

1 Applicants to show you Applicants' Exhibit 65 and
2 Applicants' Exhibit 71. I have an extra copy of 65 if
3 you need it.

4 A Okay. I have both documents.

5 Q Let's start with Applicants' Exhibit 71. This
6 has been identified by Dr. Sumpter as notes of a
7 conversation he had with you on the 13th of March,
8 1981. Apparently there is an error at the top, it
9 should be '81. Do you remember that conversation?

10 A Yes, I do.

11 Q Prior to this conversation, were you aware of
12 problems in the Brown & Root ALARA review program?

13 A We had just completed the radiological control
14 review, including ALARA, with the Brown & Root people on
15 the 13th, which was a Friday, I believe. So, we had
16 just spent two or three days reviewing that area with
17 the Brown & Root people.

18 Q Were you aware of problems in the
19 implementation of that program at that time?

20 A Based upon the review that we had with Brown &
21 Root, I would not characterize it as problems. The
22 characterization that we saw primarily was that Brown &
23 Root was implementing ALARA criteria that were typical
24 of those used in the industry at that time and had not
25 implemented more extensive criteria, more rigorous

1 criteria that HL&P had wanted to be implemented. That
2 was the major characterization of that.

3 Both Dr. Sumpter and I saw an opportunity with
4 Brown & Root to initiate an ALARA rereview and this note
5 was a summary of our discussion along those lines.

6 Q As part of your study, the Quadrex report
7 study, did you ever ask to see the quality assurance
8 audits of Houston Lighting & Power or Brown & Root?

9 A No, that was not our assigned scope. We were
10 hard pressed to do the work we laid out.

11 Q Turning to Applicants' Exhibit 65, could you
12 explain how you came to write this letter to Dr.
13 Sumpter?

14 A Well, as I explained previously in a previous
15 answer, both Dr. Sumpter and I saw an opportunity to
16 have Brown & Root begin an ALARA rereview based upon the
17 two or three days of review we had had of radiological
18 control. Our discussion, his note ended up in this
19 letter which I prepared and submitted to him and led to
20 a meeting with Brown & Root shortly thereafter that did,
21 in fact, reinitiate the ALARA rereview.

22 So, to me it was an opportunity to move
23 ahead. We saw a breakthrough there and we wanted to
24 pursue that.

25 Q Was Dr. Sumpter approaching you about writing

1 this letter to say if you write this letter, it will
2 help HL&P convince Brown & Root to get this rereview
3 going?

4 A No, not in -- I wouldn't characterize it in
5 those terms. The discussion was back and forth as to
6 whether there was an opportunity or whether there
7 wasn't; whether Brown & Root would adopt HL&P's criteria
8 or whether they would not.

9 The suggestion was that if the letter came
10 from the consultant, it might have more impact. And I
11 saw it as an opportunity for one group at Brown & Root
12 to begin using criteria that HL&P had established rather
13 than not using it. I was perfectly willing to write
14 this letter and see if we could cement the parties
15 together. And, in fact, that happened in this area.

16 Q Your letter states that, let me see, in the
17 second paragraph states, "Yet, the number of piping
18 interferences observed, their seriousness, and the
19 number of ISI accessibility exceptions required for STP
20 attest to the overall ineffectiveness of the present
21 ALARA review method."

22 Do you see that sentence?

23 A Yes, I do.

24 Q Were the observations that you include in that
25 sentence regarding piping interferences, ISI

1 accessibility exceptions, were those observations you
2 had actually made in that two or three day review with
3 Brown & Root?

4 A Some of them were in the review meeting. Some
5 of them were based upon viewing the plastic model that
6 was constructed of the portions of the plant. Some of
7 it was based upon the review of our ISI individual.

8 Q You mean --

9 A We just felt that an improved ALARA review
10 method would reduce -- would never eliminate all of
11 those, but it would reduce the number and the severity
12 of those cases.

13 On the model we saw an example of a valve
14 installed upside down. That becomes a trap for
15 radioactivity and an effective ALARA review would be
16 sensitive to that. It was that kind of thing.

17 Q Is it your testimony that the Brown & Root
18 program for ALARA review in place at that time was
19 comparable to the programs of other architect engineers
20 in the industry?

21 A That was the viewpoint of our reviewer, our
22 technical reviewer in that area.

23 Q Was the implementation of that program
24 comparable?

25 A I would characterize it, yes, that it probably

1 was, based upon the responses that we got and the
2 reviewer's assessments.

3 The big point is that it was not up to the
4 criteria that HL&P wanted to have imposed, that was the
5 big difference.

6 Q And the fact that Brown & Root was not
7 operating up to the level HL&P wanted was known to HL&P
8 even before you did your review, was it not?

9 MR. GUTTERMAN: Objection. First of all, he's
10 asking the witness to speculate on what was in HL&P's
11 mind. And, second of all, I can't see how it relates to
12 any safety-related finding in the Quadrex report that is
13 at issue in this proceeding.

14 MR. SINKIN: Well, the ALARA findings are at
15 issue in this proceeding. They have been since early
16 on.

17 MR. GUTTERMAN: But the fact of whether HL&P
18 knew or didn't know whether Brown & Root was
19 implementing HL&P's criteria is far afield from the
20 specific ALARA findings that we have at issue and the
21 specific Quadrex findings that are called out in the
22 Board's order.

23 JUDGE BECHHOEFER: We'll overrule the
24 objection.

25 You can testify to the extent that you were

1 told or aware of HL&P's views.

2 A Could you repeat the question? It's been a
3 little bit. Please.

4 Was I aware of what --

5 JUDGE BECHHOEFER: I was saying you can't
6 speculate what was in HL&P's mind. But to the extent
7 you were aware of that, they told you or you found out
8 through some other means, you may testify.

9 Q (By Mr. Sinkin) The question -- let me try
10 the question again.

11 You're pointing out a problem that HL&P has a
12 certain criteria they want implemented in ALARA. Your
13 view is Brown & Root is not performing up to that
14 level. Did HL&P know that Brown & Root was not
15 performing up to that level before you told them?

16 A I can infer the answer to that and the answer
17 would be yes because the HL&P engineers that were
18 working at Brown & Root in that area pointed out to us
19 that the HL&P manual that had been given by HL&P to
20 Brown & Root for that very purpose was not being used in
21 those reviews. So, by inference, yes.

22 Q How about Dr. Sumpter? Before your
23 conversation of March the 13th, was he aware that Brown
24 & Root was not living up to --

25 A I have no way of knowing. I don't know.

1 Q But in your conversation on March the 13th,
2 you did discuss that point?

3 A Yes. We -- this was at the conclusion of the
4 review of radiological control and we saw an opportunity
5 to go off on a new path, one that met the client's
6 objectives.

7 JUDGE SHON: Mr. Stanley, do you know whether
8 conformance with that manual and living up to that
9 standard would be necessary to meet the obligations in
10 the FSAR?

11 THE WITNESS: That I don't know. I don't know
12 for sure.

13 Q (By Mr. Sinkin) Did your reviewer review the
14 FSAR section as to what Brown & Root was to do on ALARA?

15 A Yes.

16 Q Did you ever discuss that with your reviewer?

17 A I don't recall the discussions. However, you
18 need to keep in context that I was the coordinator, sat
19 in on thirty days worth of meetings and every second or
20 third day it was a different discipline. I really had
21 to depend on my discipline people to track those kinds
22 of issues. I simply couldn't keep all that straight.

23 Q In your prefiled testimony, Mr. Stanley, on
24 page 7, answer 19.

25 A Okay.

1 Q In the last line of that answer you state that
2 the purpose of my letter was to alert HL&P to the fact
3 that B&R's ALARA program did not satisfy HL&P's goals.

4 Isn't it true that by the time you wrote that
5 letter, HL&P was well aware of it and you were actually
6 writing the letter to influence Brown & Root?

7 A I was writing the letter to influence Brown &
8 Root, but I didn't know how much distribution within
9 HL&P the letter would also receive. I had talked with
10 Dr. Sumpter about it, but I didn't know whether other
11 members of his staff or other groups would then be
12 notified that the program wasn't meeting their needs.

13 Q Did you subsequently check with Dr. Sumpter as
14 to what kind of distribution the letter received?

15 A No, I did not.

16 Q In Applicants' Exhibit 71, Dr. Sumpter's
17 notes --

18 A Okay.

19 Q -- it says our review indicates the ALARA
20 review is inconsistent. Is he referring to your review?

21 A Yes, the Quadrex review.

22 Q The Quadrex review.

23 He says in his notes, this same review would
24 appear to indicate a breakdown in the ALARA review at
25 the present time. Did you and Dr. Sumpter discuss that?

1 A I'm sure that we did. I don't recall the
2 specific discussion. I didn't feel at that point in
3 time that I would characterize it that way.
4 Consequently, I didn't use that term in the letter that
5 I wrote.

6 This was -- you need to remember, this was the
7 first instance that we came across in the review where
8 we saw a chance to get the team working together again.
9 And my whole thrust at that point in time was to try and
10 find a way for Brown & Root and HL&P to become partners
11 and work hard on a particular issue. So, I didn't feel
12 that it was a breakdown and I didn't characterize it as
13 a breakdown.

14 JUDGE SHON: Mr. Stanley, in this connection,
15 had you thought of it as a breakdown or had someone
16 thought of it as a breakdown, would they also face the
17 implication that a breakdown in an ALARA review was in
18 some way the equivalent of a breakdown in quality
19 assurance? Are the two that bound up?

20 THE WITNESS: I don't know that I can answer
21 your question definitively in the linkage of a breakdown
22 in ALARA to a breakdown in QA. I'm not sure of that.
23 What I noticed here was more of a commercial situation.
24 The utility client had set some goals and the vendor
25 architect engineer was not performing at that level.

1 JUDGE SHON: Yes.

2 THE WITNESS: Was actually performing at what
3 was typical of the industry. Whenever you don't get the
4 client's wishes, you need to be wary, you're on
5 dangerous ground. And it was that gap that we were
6 trying to close.

7 We really hadn't thought of the issue in terms
8 of a QA breakdown because we were trying to look at the
9 technical detail. Have the ALARA principles been
10 incorporated in the design output documents? Have they
11 thought of radiation exposure to people? Things of that
12 nature. So --

13 JUDGE SHON: Thank you. *

14 JUDGE BECHHOEFER: Mr. Stanley, is it common
15 industry practice to install valves upside down?

16 THE WITNESS: No, it's not. In my experience
17 that has not been common.

18 JUDGE BECHHOEFER: Well, is that purely a
19 commercial matter?

20 THE WITNESS: In that particular instance, we
21 viewed that as an ALARA radiation exposure problem to
22 maintenance workers, that the maintenance people would
23 be exposed to greater levels of radiation because of
24 that.

25 JUDGE BECHHOEFER: So, that would be safety

1 significant?

2 THE WITNESS: I wouldn't characterize it as
3 safety significant. I would characterize it as
4 radiation exposure, keeping the radiation exposure as
5 low as possible.

6 You're dealing in an area where, you know, the
7 degree of compliance is a subjective measure. It's as
8 low as reasonably achievable, so what's reasonable?
9 It's subjective by nature.

10 JUDGE SHON: Yeah, but it would seem that
11 putting the equipment together right side up is
12 reasonable.

13 THE WITNESS: We thought so also.

14 JUDGE LAMB: Mr. Stanley, was the upside-down
15 valve in the field or in the working model?

16 THE WITNESS: It was in the plastic model.

17 JUDGE LAMB: So, it was not actually installed
18 that way in the field; is that correct?

19 THE WITNESS: No, it was not installed that
20 way.

21 JUDGE LAMB: That was what I understood from
22 your earlier answer. I just wanted to make sure I
23 understood that.

24 THE WITNESS: I want to clarify that then. We
25 observed it on the plastic model and confirmed it in the

1 design drawings, but it had not been installed yet.

2 Q (By Mr. Sinkin) When you confirmed it in the
3 design drawings, had those drawings been released for
4 construction?

5 A I don't know the answer to that question
6 because I don't recall that.

7 MR. SINKIN: Mr. Chairman, I see that it's
8 12:20. I'm moving into a separate inquiry. If we want
9 to break for lunch, that's fine.

10 JUDGE BECHHOEFER: I guess we'll break now.

11 MR. GUTTERMAN: Mr. Chairman, before we go off
12 the record, well, I don't care if we're on the record,
13 but I wonder if we can get some estimate as to how we're
14 doing time wise so we can plan on the schedule for the
15 succeeding witness panel.

16 JUDGE BECHHOEFER: Well, we really -- we're
17 coming -- toward the end is a very major area which may
18 or may not be acceptable. Toward the end there's a
19 couple major areas which may or may not be permissible
20 and the difference on those rulings, which we haven't
21 made and obviously haven't heard about, could make a big
22 difference.

23 I would -- it looks to me, Mr. Sinkin, you can
24 correct me, but it looks to me that in an event we will
25 carry over till tomorrow morning.

1 MR. SINKIN: Yes.

2 JUDGE BECHHOEFER: No matter what happens on
3 those last two items, but it's hard for me to estimate
4 otherwise.

5 MR. SINKIN: Yes. Definitely till tomorrow
6 morning.

7 JUDGE BECHHOEFER: But beyond that I can't --
8 it will depend on a couple of rulings which I'm sure
9 we'll have to make.

10 MR. GUTTERMAN: Thank you.

11 JUDGE BECHHOEFER: So, let's make it 1:30,
12 back at 1:30.

13 (Luncheon recess taken.)
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1 JUDGE BECHHOEFER: Back on the record. As a
2 preliminary matter, the Board thinks we will probably
3 postpone our discussion of Waterford until tomorrow or
4 perhaps even later after Mr. Stanley's testimony. It
5 doesn't enter into our discussion of this testimony. But
6 possibly first thing in the morning.

7 MR. AXELRAD: Fine.

8 MR. REIS: Mr. Chairman, the staff has made
9 further inquiries on the Hoot allegation and just what is
10 being done with it. The staff coordinator has identified
11 particular concerns in -- the Region IV coordinator --
12 dealing with allegations that identified particular
13 concerns that we're looking into in what he sent forward,
14 and we've been attempting to get in touch with him.

15 His address is rather hard to find now. But
16 we've gone through the private organization he first
17 wrote to. We have a Post Office Box number and he's not
18 responding to us. But we are trying to get in touch with
19 him.

20 As far as the drug and alcohol issues, at HL&P,
21 if there are any, I have been informed that HL&P has been
22 very aggressive; I don't think that's part of this
23 hearing, but just for the Board's information, has been
24 very aggressive at the site in using dogs to sniff out
25 illegal substances and firing anybody who either has

1 alcoholic beverages or illegal substances on the site,
2 just summarily, in trying to control the situation. To a
3 great deal, as the Board is probably aware, this is a
4 problem at many plants all over the country and is
5 endemic in our society both these matters. And there's
6 been no question in the Staff's mind that HL&P has been
7 very much on top of these matters. I don't think it's a
8 particular issue in this hearing, but I'm just telling
9 the Board what I found out in my inquiries because the
10 Board asked me this morning about it.

11 JUDGE BECHHOEFER: Right. Well, our inquiry
12 was really motivated not so much because it was a
13 particular issue, but because it just appeared to us that
14 possibly the drug and alcohol problems could fall between
15 the cracks if OI did not investigate and, for instance,
16 I&E would be looking into technical questions; it's
17 possible that the alcohol and drug problems would not
18 have been looked at. So that was why we raised the
19 inquiry.

20 MR. REIS: Well, the staff, as I say, is
21 concerned about these matters and whether in one sense,
22 it's illegalities in the sense -- and violations of law
23 in the sense that OI looks at them but if they do have
24 safety implications, certainly the I&E is concerned about
25 these things as well.

1 JUDGE BECHHOEFER: Right. Well, I had
2 concluded that there was a lack of specificity and that's
3 why we thought, well, maybe somebody should interview Mr.
4 Hoot.

5 MR. REIS: There's no question that the region
6 is trying to get back to Mr. Hoot and if Mr. Hoot will
7 cooperate, well --

8 JUDGE BECHHOEFER: Right. Thank you. Anything
9 further before we resume, Mr. Sinkin.

10
11 CROSS-EXAMINATION CONTINUED
12

13 Q (By Mr. Sinkin) Mr. Stanley, I'd ask that you
14 take a look at CCANP Exhibits 94 and 95.

15 A 94 is indicated March 31 --

16 Q That is correct.

17 A -- '81?

18 Q That's correct. And 95 is dated April 27 --

19 A April 27.

20 Q -- 1981.

21 A Okay. It will take me a minute, I have not
22 seen these before. Okay.

23 Q Exhibit 94 calls attention to a problem in the
24 limits in the upset loads and it states that, "During the
25 Quadrex audit, it was noted that this problem existed."

1 Did you bring this problem to the attention of HL&P?

2 A The technical reviewer for us in the mechanical
3 components area and myself brought this to the attention
4 of both Brown & Root and HL&P. It was our technical
5 reviewer that found the problem.

6 Q Found it?

7 A Yes, sir.

8 Q Okay. And do you know when that was -- I see
9 this is dated March 31st so it's obviously before March
10 31st, but do you have a feel for when that was?

11 A Let me try to answer that. I believe that we
12 found that on March 5th. But that was the day that our
13 mechanical components reviewer was in. But that's
14 strictly an educated guess on my part.

15 Q Was that Mr. Monson?

16 A Yes.

17 Q Who at HL&P was informed that this problem had
18 been found?

19 A Dr. Sumpter was informed. I don't recall if
20 there were any others. I'm sure that there were but I
21 don't recall who they were.

22 Q And who told Dr. Sumpter?

23 A It was either Mr. Monson or myself or both of
24 us.

25 Q After Dr. Sumpter was notified of this finding,

1 did you or Mr. Monson stay in touch with him to see how
2 the problem was being addressed?

3 A We did, yes.

4 Q And what did he tell you?

5 A He brought the people that were investigating
6 this matter to us and we had a discussion about what
7 additional information they had looked at and what their
8 conclusion was with regard to that particular item.

9 Q Would one of those people have been Mr. Poole?

10 A Possibly. I don't have a good recollection of
11 exactly who we spoke to.

12 Q But when you said they brought -- the people
13 who had been investigating, the HL&P people, the HL&P
14 engineering personnel?

15 A As I recall, there were some Brown & Root
16 people there also.

17 Q Also?

18 A Also.

19 Q Subsequent to that meeting, did you get any
20 further report on how this had been resolved?

21 A No, we were just informed that they had looked
22 into it, it seemed to be limited to this one area. We
23 were led to believe that it was going to be processed
24 through their review committee. And at that point, at
25 that point, we were satisfied that any immediate

1 reporting requirement was being handled.

2 Q What led you to bring this particular item to
3 the attention of Dr. Sumpter?

4 A The fact that the code had an internal
5 contradiction within it between the figure and the text
6 material; that Brown & Root had used the material that
7 was in the figure incorrectly, and that by using a 3.3
8 factor instead of a 3.0 factor that there was the
9 potential for some stress, over-stress problems; because
10 of that potential, we felt obliged to bring it to his
11 attention immediately.

12 Q The over-stress problem would be a safety
13 problem if it did exist?

14 A It had the potential of being a safety problem,
15 yes, if it were missed.

16 Q When you first discovered the value being used
17 by Brown & Root was 3.3, did you at that same time
18 discover that it was because of the inconsistency in the
19 code?

20 A Our expert in that area, Mr. Monson, was well
21 aware of this inadvertent error in this codes. He'd been
22 active as a member in the ASME code development. So he
23 was intimately familiar with that problem.

24 Q In the CCANP 94, it says "The ASME"- the first
25 paragraph at the end, "The ASME B&PV code is to be the

1 1974 edition with addenda through summer '76.

2 Was one of the sources of the problem the use
3 of the 3.3, that they did not go beyond the summer of '76
4 to update addenda through '77 and '78?

5 MR. GUTTERMAN: I object, Mr. Chairman. It
6 seems to me that the ASME code applicable to the plant is
7 specified in the NRC regulations and 50.55(a); I can't
8 imagine why we would get into a discussion of whether
9 those regulations properly apply the right editions of
10 the code.

11 MR. SINKIN: I'm trying to get an understanding
12 of what -- how this event came to transpire. We know the
13 incorrect table was used, the question is whether they
14 should have been using a different table.

15 MR. SINKIN: Let me rephrase the question maybe
16 we can respond to the objection.

17 Q (By Mr. Sinkin) Did Quadrex review which ASME
18 codes and addendas should be in use at the project?

19 A I'm reasonably certain that our technical
20 reviewer checked that out and was aware of it.

21 Q Do you know if he had any concerns that the
22 code in use was only the addenda through summer of '76?

23 A I'm not aware of any concerns that he had along
24 that line.

25 Q Between March the 5th or so when you discovered

1 this item and the briefing on April the 13th, did you
2 approach HL&P with any other items you felt needed a
3 review similar to that given the upset condition?

4 A No, there were no other items. This was the
5 only one.

6 Q After the April 13, between the April 13th
7 briefing and the May 7th final report, did you bring any
8 other times to their attention?

9 A There were no items in that period, either.

10 Q Did you ever discuss after March the 5th, 1981,
11 did you ever discuss with HL&P personnel whether you
12 should continue to bring items to them individually or
13 whether they should be held for the final report?

14 A No, there was no discussion of that. I was
15 operating on the basis that if we uncovered a problem of
16 that type, that we would immediately bring it to their
17 attention regardless of time.

18 Q And you operated under that assumption all the
19 way up to May 7th?

20 A All the way.

21 Q Turning to Page 9 of Mr. Goldberg's testimony --

22 A Okay, I have it.

23 Q Starting at the very bottom, it says, "Please
24 describe the April 13th briefing." And then on page ten,
25 Mr. Goldberg describes that briefing.

1 I'd like you to review Mr. Goldberg's
2 description of that briefing and tell me if there's
3 anything that he conveys in his answer that you would
4 convey differently about the role of Quadrex in that
5 briefing?

6 A There's nothing that I would disagree within
7 this testimony.

8 Q Would it be correct to say that by April 13,
9 the Quadrex technical reviewers had prepared their
10 individual findings for each discipline?

11 A They'd -- at least their first draft at that
12 point. They did continue to work through much of the
13 rest of April to complete their write-ups.

14 Q Did you say to complete their --

15 A To complete their write-ups. We turned Volumes
16 II and III over to HL&P at the end of April. So they
17 were continuing to work on their write-ups.

18 Q If you would look at Applicant Exhibit 57,

19 A I have it.

20 Q All right. If you will notice on the left-hand
21 side, on occasion there's a star kind of mark. What I'd
22 like you to do, Mr. Stanley, is for each starred item,
23 explain whether the work of Quadrex, the review by
24 Quadrex, was complete as of April 13th on that item, and
25 if it was not complete, what remained to be done.

1 Q First one is item five, "Receipt of input
2 design control."

3 A I think you are asking me a question that I'm
4 really going to be speculating a lot about.

5 JUDGE BECHHOEFER: Shouldn't speculate.

6 MR. SINKIN: We aren't looking for speculation --

7 THE WITNESS: He's asking me to say it whether
8 I know whether the item was complete or not.

9 MR. SINKIN: Right.

10 THE WITNESS: And there's no way I can be
11 absolutely certain of that. We started writing the
12 report in March, as people came back from Houston; we
13 turned the report over to HL&P Volumes II and III, in
14 April 27th, and in between that time, when something was
15 finished, I simply don't know. There's no way that I can
16 answer that question.

17 Q (By Mr. Sinkin) Okay. If you can't answer it,
18 you can't answer it.

19 When you were making your presentation on April
20 13, did you attempt to convey whether a given item was
21 finished or still more work had to be done?

22 A No, we didn't. We didn't make that distinction
23 for the HL&P people that we were presenting to. What we
24 did try to do was to present our current status, in the
25 development of specific findings. But I had the other

1 nine or ten or eleven members of our team back in
2 California working still; they were trying to get
3 additional information from Brown & Root counterparts;
4 they were attempting to collect their material for the
5 material that they looked at during the review as well as
6 comments that I had provided to them; certainly we were
7 nearing the end, but I just can't state that they were
8 done at that point. I don't know.

9 Q When you say "comments you provided," were
10 those comments of your own?

11 A Yes.

12 Q Or were those --

13 A Yes.

14 Q But for the people sitting in the meeting on
15 April 13, would there be any way for them to know whether
16 a finding you presented was indeed a finding at that
17 point or whether there was additional information that
18 you were gathering that might alter the finding?

19 A I believe we set the ground work that this was
20 a interim type of meeting in the middle of the report
21 preparation phase. It was intended to communicate our
22 status, give them some advance knowledge of what we were
23 writing about, where we were headed, and to solicit from
24 them what comments they wanted to provide. That was the
25 purpose of this meeting.

1 Q Let me ask you if you will turn to the fifth
2 page of this document.

3 A It starts with item ten at the top?

4 Q No, back up one page.

5 A Starts with item eight on the ECP?

6 Q Yes.

7 Q You have what Mr. Goldberg has recorded generic
8 observations. Was this the first time that Quadrex
9 indicated that they were going to do generic findings in
10 this fashion?

11 A I believe earlier you introduced an exhibit --

12 Q I think you are absolutely right.

13 A -- which was my outline of the report where I
14 had generic items listed.

15 Q Yes.

16 A So it was my intent from that point to have
17 generic observations, where they were relevant and
18 pertinent. I believe from his notes here, this is the
19 first presentation where we have called things generic
20 observations.

21 In the March 18th meeting, I was giving him
22 some preliminary indications of early information that I
23 had picked up. But this is, I believe, the first time
24 where we presented anything that would be called a
25 generic observation, to the group of HL&P managers.

1 Q Down at the bottom of the page, item eight,
2 "Use of preliminary data up to fuel loading"?

3 A Yes.

4 Q What was that? What was the basis of that
5 generic observation?

6 MR. GUTTERMAN: I've got a problem, it seems to
7 me that the questions ought to deal with what was told to
8 HL&P, not --

9 MR. SINKIN: I'll ask it that way.

10 Q (By Mr. Sinkin) What did you tell HL&P was the
11 basis for that generic finding?

12 A What we indicated to HL&P was that through out
13 a number of disciplines at Brown & Root, a number of
14 different meetings, we had been told that it was going to
15 be Brown & Root's position to design -- verify design
16 documents when the data became final and that that could
17 be all the way up to the point of fuel loading.

18 We had heard that message many, many times,
19 that it was their intent to do the verification at the
20 time of final data which would be fuel loading. So we
21 wanted to report that to Mr. Goldberg, that we thought --
22 we thought in our mind that that was not particularly
23 economic, not particularly the right way to approach the
24 verification of final designs.

25 Q Was your only concern economic?

1 A Primarily it was economic. There is always the
2 potential that it could involve safety related equipment,
3 safety related designs. However, based upon the design
4 outputs that we were exposed to and we had looked at, the
5 design output documents at that point in time were
6 relatively good. And in many cases were very over
7 conservative.

8 There was plenty of margin in some of the
9 things we looked at. So safety wasn't our primary
10 concern with that one as much as it was economic. It
11 could lead to equipment redesigns, equipment up sizing,
12 things of this nature, which would be mostly an economic
13 issue.

14 JUDGE BECHHOEFER: Mr. Stanley, were you aware
15 at that time whether any of the preliminary data that was --
16 that you apparently referenced was, in laymen's language,
17 non-conservative on its face?

18 THE WITNESS: I don't recall any of our
19 reviewers saying that they had come across preliminary
20 data that was non-conservative. Probably the closest
21 would be HVAC, where they had designed the system for
22 normal operating conditions and had not even considered
23 accident conditions. Clearly any preliminary data there
24 would probably be non-conservative and that item turned
25 out to be reported. But I'm not aware of any of our

1 reviewers saying, "Hey, I found a bad number, and we
2 think this is clearly wrong." That didn't occur.

3 Our concern primarily was the attitude that "We
4 don't have to do verification until we get final data and
5 we don't have to have final data until fuel load." And
6 that just seemed to me to be a very risky course from an
7 economic, from getting a license, from those stand
8 points.

9 JUDGE BECHHOEFER: I take it that you would
10 have considered designs which incorporated the
11 preliminary data as or at least as including those which
12 had been released for construction?

13 MR. AXELRAD: I'm sorry, Mr. Chairman, I didn't
14 hear your question.

15 JUDGE BECHHOEFER: As at least including those
16 which -- those designs which would have been released for
17 construction, designed for the preliminary data, that is.

18 THE WITNESS: My understanding of general
19 industry practice, based on what I've looked at over the
20 years, that designs are frequently released for
21 construction with preliminary data, where a listing is
22 kept or some other mechanism of tracking is kept to
23 identify what data it is that is preliminary so that you
24 can search for the final results, and then verify that
25 the design is still conservative.

1 I don't think that's at all unusual. What was
2 unusual here was a strong attitude toward, "I don't have
3 to do it until fuel loading." That was pervasive across
4 the disciplines. We just felt that that was a risk that
5 HL&P should not have to bear from an economic standpoint.

6 JUDGE BECHHOEFER: I just guess to repeat, you
7 don't know of any other than perhaps the HVAC area, you
8 don't know of any of these designs, assuming they were
9 released for construction, designs using preliminary data
10 which were, to your knowledge, non-conservative?

11 THE WITNESS: I am not aware of any that fit
12 that category.

13 JUDGE BECHHOEFER: All right.

14 Q (By Mr. Sinkin) During your study, Mr.
15 Stanley, did you see evidence demonstrated that Brown &
16 Root was assuring that the design assumptions were
17 conservative?

18 MR. GUTTERMAN: I will have the same objection
19 I've had throughout that the questions ought to be
20 phrased in terms of what was told to HL&P rather than
21 what Quadrex saw.

22 MR. SINKIN: Not on this question, I don't
23 believe. I'm following up on the Chairman's question
24 about what the designs they considered were and whether
25 those designs were found to have non-conservative values.

1 He said no.

2 I'm now asking whether he saw evidence that
3 Brown & Root was assuring that the design assumptions
4 were conservative.

5 JUDGE BECHHOEFER: Well, are you limiting it as
6 I did to where preliminary data was being used?

7 MR. SINKIN: Where preliminary data was being
8 used.

9 A There were indications that Brown & Root was
10 performing checks of calculations and verification of
11 drawings and I would guess -- I would state that the
12 facts that the design output documents that we looked at
13 did not contain significant errors is an indication that
14 that was probably true. Other than that, I didn't have
15 any evidence.

16 Q So you knew that Brown & Root was performing
17 checks of calculations and drawings and you had looked at
18 drawings and had not found --

19 A We had not found significant errors in the
20 drawings.

21 Q But in terms of a Brown & Root process that
22 would show you they were assuring the -- that the
23 assumptions were conservative, did you see that kind of
24 process?

25 A Not at that time, because their stated policy

1 was that they would do design verification when the
2 numbers were final. That was going to be some time in
3 the future.

4 Q It may be a difficult with my question. Let me
5 try and rephrase it.

6 One of the reasons that you have expressed that
7 it is a general practice to release things, construct
8 them, install them, on preliminary data, is that you
9 assume the assumptions being made are conservative, and
10 that when you go to verify it, everything is going to be
11 all right.

12 My question was: Did you find evidence that
13 Brown & Root was adequately assuring that the assumptions
14 underlying the preliminary data were conservative?

15 MR. GUTTERMAN: I object to that as asked and
16 answered. I think that was answered two questions back.

17 MR. SINKIN: I think he answered in a slightly
18 different way than that question was worded. And we can
19 go back and have the court reporter read the question and
20 answer.

21 MR. GUTTERMAN: Mr. Chairman, I don't see the
22 need to do that. I think the witness clearly stated that
23 he looked at the output drawings, the design outputs, and
24 that they didn't indicate significant errors, and that
25 was an indication that they were doing checks.

1 That's as my notes reflects and I think that
2 was directly responsive to the question that was posed
3 before and that was directly responsive to the question
4 that's now pending.

5 MR. SINKIN: Well, I don't agree, Mr. Chairman.
6 The fact that they looked at output documents and didn't
7 find errors does not establish that there was an in-place
8 system that at Brown & Root for assuring that the
9 assumptions underlying the use of preliminary data were
10 indeed conservative.

11 They only looked at a sample of some drawings.
12 What I'm looking for is was there a formal process, was
13 there evidence that Brown & Root was assuring that the
14 assumptions under the preliminary data were conservative?

15 JUDGE BECHHOEFER: I think we'll overrule the
16 objection.

17 A If I understand your question correctly, you
18 are trying to search out whether we saw evidence of QA
19 records that would indicate that the assumptions were
20 being checked by Brown & Root.

21 Q (By Mr. Sinkin) Okay. Let me try again on the
22 question. I'm not necessarily referring to QA records.
23 When you're using preliminary data --

24 A Right.

25 Q -- you supposedly have a certain confidence

1 that the assumptions are conservative. When you looked
2 at Brown & Root's operation, did you find that they had
3 an operation that would give you the kind of confidence --
4 let me try again.

5 A I think I can I can answer your question
6 without the question.

7 MR. GUTTERMAN: We need to have a question
8 before your answer can be meaningful on the record.

9 Q (By Mr. Sinkin) Okay. I was hoping there
10 would be an easier way to do this, but I'm not sure that
11 I have an easier way.

12 I did have something specific in mind and let
13 me show you, Mr. Stanley. If Applicant would provide you
14 with Applicant Exhibit 63, which is the Bechtel task
15 force assessment. Do you have that?

16 (No Hiatus.)
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1 MR. SINKIN: I'm going to distribute what I
2 ask be marked as CCANP Exhibit 104.

3 (CCANP Exhibit No. 104 marked for
4 identification.)

5 Q (By Mr. Sinkin) Do you recognize CCANP
6 Exhibit 104?

7 A Yes, I do.

8 Q Is this your comments in reviewing the draft
9 of Applicants' Exhibit 63?

10 A They are, yes.

11 Q Okay. I'd like you to go to comment number
12 3. And perhaps in order to be sure your answer is
13 completely accurate, you might want to review the
14 particular line items mentioned in that comment and then
15 I'll ask you to address your comment.

16 While you're reviewing the line item, Mr.
17 Stanley, if you would also review the task force
18 assessment, I think that clarifies your comment.

19 A Okay.

20 Q All right. As I read line item 2, line item
21 10 and line item 22, these are examples of areas where
22 preliminary data is being used and the Quadrex finding
23 is expressing a concern about the licensing risk
24 involved in using such preliminary data. Is that
25 correct?

1 A Yes, that's correct.

2 Q And in each of the Bechtel task force
3 assessments, they say that it is an acceptable approach
4 to design the structures using preliminary data in a
5 judicious manner. And then in parentheses they say i.e.
6 with the application of appropriate factors depending on
7 the confidence level in these data.

8 And then in your comment you say you do not
9 see any evidence during your review that appropriate
10 factors were applied by Brown & Root to account for the
11 confidence level.

12 A That's correct.

13 Q That's where I'm trying to aim my question.

14 A That's correct.

15 Q You did not see evidence that Brown & Root was
16 applying appropriate factors to assure the confidence
17 level they were claiming they had?

18 A And that was what I was trying to point out to
19 the Bechtel task force that I could accept their
20 disposition or their assessment of it had we seen those
21 factors. Our reviewers indicated to me that they had
22 not seen them in these particular areas.

23 Q Right. Okay. Thank you.

24 JUDGE SHON: Mr. Stanley, did you see evidence
25 that there was any general set of rules of thumb or

1 practices that Brown & Root was using uniformly to
2 account for the fact that they didn't have great
3 confidence in the preliminary data?

4 THE WITNESS: That's a very good point because
5 this first item, line item 2, deals with the structural
6 discipline.

7 JUDGE SHON: Uh-huh.

8 THE WITNESS: The second one is also in
9 structures and the third one is also in structures. And
10 what we did observe was that the design was extremely
11 conservative from a loading standpoint. Much more
12 concrete and much more reinforcing bar than we actually
13 expected to see.

14 So, the design was very very conservative.
15 Our reviewer in this area did not feel that when the
16 final loads were ultimately developed, that there was
17 much risk that there would be an overload.

18 JUDGE SHON: So --

19 THE WITNESS: So, we felt that the design
20 process they were using was compensating for the fact
21 that they didn't have these factors to account for the
22 preliminary data.

23 JUDGE SHON: Something in --

24 THE WITNESS: It's a different approach.

25 JUDGE SHON: What you're saying then is

1 something in their design factors, you don't know
2 whether it was factors or what it was, but something was
3 making them tend to overbuild and hence go on to the
4 conservative side?

5 THE WITNESS: Yes, that was the impression
6 that we had.

7 JUDGE SHON: Thank you.

8 JUDGE LAMB: Mr. Stanley, you said that your
9 people did not see those, if I recall your statement.

10 THE WITNESS: The factors.

11 JUDGE LAMB: That's right.

12 THE WITNESS: They didn't see the preliminary
13 data --

14 JUDGE LAMB: By that do you mean they
15 positively identified them as being absent or they just
16 didn't see them?

17 THE WITNESS: No, they positively identified
18 that they were absent, that that approach was not being
19 used by Brown & Root.

20 However, as I pointed out to Judge Shon, the
21 design was very conservative in this discipline and our
22 reviewer did not think that there was a technical
23 problem.

24 JUDGE LAMB: Could your reviewer account for
25 that? Did he account --

1 THE WITNESS: I believe so. In the
2 categorization of these findings, I believe that's how
3 he accounted for that.

4 Yes, sir.

5 JUDGE BECHHOEFER: Mr. Stanley, did they have
6 an adequate tracking system so they knew where they had
7 used preliminary data and what they should go back and
8 check?

9 THE WITNESS: I don't really recall the
10 specifics. I'm not sure. I just don't remember that
11 point as to what we saw there or what we didn't see.

12 JUDGE BECHHOEFER: All right.

13 Q (By Mr. Sinkin) I didn't quite understand.
14 Judge Lamb asked you how your reviewers accounted for
15 this over-conservatism you found. You said
16 categorization. I'm not sure your answer and his
17 question -- let me ask that question.

18 A He was asking me if we positively did not see
19 these factors.

20 Q Right.

21 A And I stated that we positively did not see
22 them. So, that design approach of taking preliminary
23 data and using a multiplying factor to provide a
24 conservative estimate, that approach was apparently not
25 being used. However, there must have been another

1 approach that Brown & Root was using because the design
2 was overly conservative from a safety standpoint.

3 Q At any point in the review did you discover
4 what it was Brown & Root was doing that led to it being
5 over-conservative?

6 A Not to my knowledge. Now, the reviewer that
7 performed this review had at one time worked on South
8 Texas for Brown & Root, so I think he was familiar with
9 the method they were using.

10 Q This reviewer worked for Brown & Root on South
11 Texas?

12 A For a brief period of time.

13 Q Brief period of time. In the structural
14 discipline?

15 A Yeah. The issue didn't come up, so
16 consequently I feel very confident that he was satisfied
17 that the design from a safety standpoint was
18 sufficiently conservative, even though the datas were
19 preliminary.

20 Q When you say the issue didn't come up, the
21 issue didn't come up as to how they achieved
22 over-conservatism?

23 A Yeah, he didn't even bring that up. Had he
24 been concerned, I'm sure he would have.

25 JUDGE BECHHOEFER: I don't know how relevant

1 this is, but did that reviewer quit or was he fired?

2 THE WITNESS: No, no.

3 JUDGE BECHHOEFER: Not by Quadrex, but by
4 Brown & Root?

5 THE WITNESS: Voluntarily.

6 Q (By Mr. Sinkin) Well, Mr. Stanley, was any
7 effort made by Quadrex when this study began to screen
8 out people who had actually worked on the South Texas
9 Project?

10 MR. REIS: Mr. Chairman, I'm going to object.
11 That's not relevant. There is no way that can be
12 relevant to this proceeding and the reason is the issue
13 is not whether -- no way can an issue of whether Quadrex
14 wasn't strict enough can be an issue in this
15 proceeding.

16 JUDGE BECHHOEFER: That's true.

17 MR. SINKIN: Well, Mr. Chairman, I mean, we
18 note that Mr. Goldberg made quite clear that the purpose
19 was to have an independent reviewer with no previous
20 involvement in the project and suddenly it pops out one
21 of the reviewers is --

22 MR. REIS: We're going into all kinds of
23 collateral issues and it's taking forever and this is
24 just another one.

25 MR. GUTTERMAN: We just seem to be having this

1 proposition argued over and over again that if some fact
2 that is stated in the testimony, however collateral it
3 may be, that there is some reason why we ought to go
4 into a deep investigation of it just because it came
5 into the record. If it's not material to anything,
6 there's no reason to go into it.

7 MR. SINKIN: Mr. Chairman, Mr. Goldberg made
8 quite a point in his testimony of saying they wanted to
9 hire someone independent of the project who had never
10 been involved in the project. It at least goes to the
11 credibility of that representation in his testimony.

12 MR. REIS: I don't know whether we're taking
13 more time with this objection which I made to shorten
14 things, but certainly as a general proposition as we go
15 through these things we're getting into matters that are
16 so collateral and so removed from what we should be
17 focusing on, which is the matters that the Board set out
18 in its two prehearing conference orders, and this is not
19 one of them.

20 JUDGE BECHHOEFER: We'll sustain the
21 objection.

22 MR. SINKIN: I would move CCANP No. 104 into
23 evidence, Mr. Chairman.

24 MR. PIRFO: No objection from the staff.

25 MR. REIS: No, wait.

1 MR. PIRFO: Strike that, please.

2 MR. SINKIN: Can we have specified which
3 attorney will be arguing this objection?

4 MR. PIRFO: I think you just got that
5 specification.

6 MR. REIS: Mr. Chairman, I don't mind for the
7 matters stated on comment 3 to come in to illustrate the
8 testimony, but there has been no -- this is a long
9 document and there's no testimony on anything else in
10 the document. We just have it on essentially six lines
11 on the first page of an eight-page document. We don't
12 have a whole document introduced for every purpose just
13 because it is illustrative of six lines on one page.

14 JUDGE BECHHOEFER: Mr. Sinkin, do you propose
15 to question Mr. Stanley about any of the other comments
16 in the document? Before you get done I mean?

17 MR. SINKIN: Before I get done, yes. Not at
18 this time in my cross-examination, but --

19 JUDGE BECHHOEFER: The Board will defer ruling
20 on this one at least until the end of your
21 cross-examination of Mr. Stanley.

22 MR. SINKIN: Okay.

23 JUDGE BECHHOEFER: And then at least we'll see
24 how much of it would come in --

25 MR. SINKIN: All right.

1 JUDGE BECHHOEFER: -- if not all of it.

2 Q (By Mr. Sinkin) Mr. Stanley, if you would
3 refer to Applicants' Exhibit 58.

4 A I have it.

5 Q I believe you've already testified that the
6 handwritten notes are your notes.

7 A That's correct.

8 Q In looking at those handwritten notes, it
9 looks to me like, and you tell me if I'm right or wrong,
10 three different attempts to define for yourself what the
11 categories would be.

12 A It's possible, I don't recall whether it was
13 three attempts or two attempts, but --

14 Q Okay.

15 A -- certainly they were attempts.

16 Q Were you going through this process with Dr.
17 Sumpter?

18 A No, the initial attempt at categorizing the
19 findings that we had written up, and there were some
20 three hundred of them, into the four categories was
21 done -- I did that myself. The review of the
22 shortcomings of that four-letter system was conducted
23 with Dr. Sumpter by telephone. I was explaining to him
24 the difficulty that I was having in finding an
25 appropriate category for a number of the findings we

1 wrote and we went over some of those examples by
2 telephone so that he could begin to understand the
3 problem.

4 And then we did interact on what should be the
5 definition of category A, B and C. For example, this
6 A-1 would be the prevention from getting a license or
7 could delay getting a license or is a serious matter of
8 concern to the NRC. We discussed whether those items
9 should be in that category or not and agreed upon that
10 and then I went back through it and tried to classify
11 all of the findings into those categories.

12 Q So, you got the letter -- you got a copy of
13 this letter first?

14 A Yes.

15 Q And then you sat down to try to --

16 A And we tried to use it.

17 Q -- use it. You had problems because things
18 didn't fit?

19 A Right.

20 Q You called Dr. Sumpter, you told him the
21 problems and then you worked out something where they
22 would fit?

23 A Right.

24 Q Okay. Let's start with some of the problems
25 that simply did not fit into Mr. Goldberg's proposed

1 categories. What were those problems?

2 A Well, the major problem that I had was with
3 his item A, most serious. His definition of it was
4 these problems pose a serious threat to plant
5 licensability in that we have not satisfied NRC
6 requirements applicable to STP.

7 The difficulty that I was having with that was
8 that in many cases we hadn't gotten to the point where
9 we could make that final determination of satisfaction
10 or nonsatisfaction. The Brown & Root design was not at
11 the point in many many of these cases where you could
12 actually make that determination. All you could do was
13 indicate that there was the potential that it might not
14 satisfy when it was completed sometime in the future.
15 So, we had to expand category A to give us some leeway
16 in categorizing our findings.

17 Q So, you expanded category A to things that
18 you're looking at Brown & Root not having done as
19 opposed to things they had done which you could judge?

20 A I think that was the essence of what I
21 answered in that by saying that item A-1 would include
22 things that could delay getting a license, that would be
23 future work. If they didn't complete the environmental
24 analysis for quite a while, that could delay getting a
25 license.

1 Our problem was with his A, that it was much
2 too narrow to encompass all of the findings that we
3 had. They didn't fit in A and they didn't fit in B, C
4 or D. That was my dilemma.

5 Q Did Dr. Sumpter tell you that Mr. Goldberg had
6 made it narrow in an effort to capture all potentially
7 reportable 50.55(e) items?

8 A I don't recall the discussion being in terms
9 of 50.55(e), but certainly he wanted to have A, most
10 serious category, capture those items that might or
11 would be reportable. I think his intention was clear
12 and that was expressed to us.

13 Q In drawing up your categories, did you, in
14 fact, believe that there was no possibility of
15 potentially reportable findings falling in other than A?

16 A That was clearly our intention. We tried to
17 fulfill that objective that categories B, C, D and E
18 would not be items that could be potentially
19 reportable. Those would be items that would have an
20 economic impact, things of this nature.

21 JUDGE BECHHOEFER: Mr. Stanley, does the item
22 that is indicated as A-2 on the bottom of Applicants'
23 Exhibit 58 where it says, I guess, FSAR correction is
24 the way I read it --

25 THE WITNESS: Yes.

1 JUDGE BECHHOEFER: -- did you intend that to
2 be all not reportable or not potentially reportable? In
3 other words, was that basically items that would not
4 fall in A-1 or --

5 MR. GUTTERMAN: Mr. Chairman, I'm just
6 concerned that there might be a confusion created
7 because this is a draft of something that, as far as I
8 can tell, it doesn't end up in the report itself. And I
9 hope the record is clear when Mr. Stanley is answering
10 this question whether he's talking about as the report
11 was ultimately written or as he would have conceived it
12 when he was writing this definition.

13 JUDGE BECHHOEFER: Well, maybe you could --

14 THE WITNESS: I can explain --

15 JUDGE BECHHOEFER: -- explain first what the
16 words mean on this document and then perhaps how that
17 would fit into the categories as they eventually appear
18 to report so that it will be clear on the record.

19 THE WITNESS: My recollection is that the
20 words that are horizontal, A-1 potentially report or
21 reportable if I completed it, A-2 FSAR correction or
22 something that licensing should look at, I believe that
23 this was our first attempt to take category A and to
24 break it into two pieces.

25 But that, as the attorneys pointed out, that

1 is correct, this did not make the cut to the final
2 report. The thing that did make the cut is the item
3 higher up on the page marked A-1. A-1-1, prevent from
4 receiving a license, that did make it to page 3.1 of the
5 report. 2, could delay getting license, that made it
6 also, and 3, items that the NRC feels are serious
7 matters.

8 So, it's clear that the items marked A-1 in
9 the right-hand margin, upper right-hand margin are the
10 ones that made it to the final report and the ones that
11 we used as our assessment basis. I think the other
12 notes below this were earlier attempts to come up with
13 that categorization method.

14 JUDGE BECHHOEFER: I see. But items that are
15 designated at the bottom of the report A-1 and A-2
16 eventually fell into the most serious category for
17 Quadrex?

18 THE WITNESS: Oh, yes. Definitely. Both of
19 those fell into the most serious category.

20 JUDGE BECHHOEFER: But other matters also, is
21 that correct, fell into the most serious beyond A-1 and
22 A-2 as --

23 THE WITNESS: Probably so. I don't know all
24 the specifics anymore, but yes. Anything that would
25 have had a licensing impact or the potential for

1 reportability would have ended up in A-1. Anything that
2 had to do with generating reliable power, plant
3 availability, would have ended up in category B and so
4 forth down. Each of them had a definite niche. But if
5 there was any question as to whether it was potentially
6 reportable or it was a licensing matter or a safety
7 issue, it ended up in the A category.

8 JUDGE BECHHOEFER: Now -- let me see if I can
9 find something. How does the general category that is
10 referenced in the Quadrex report itself as potential
11 problem findings, how would that -- how is that
12 reconciled with the most serious ones? Could potential
13 problem findings include the genesis of matters that
14 would be reportable eventually, or could be reportable
15 eventually I should say?

16 THE WITNESS: Well, the way that we
17 characterized the potential problem findings were that,
18 I'll read the words, the potential for future problems
19 as indicated by the following findings may or may not
20 exist. Further investigation would be necessary to
21 fully assess the impact.

22 So, it was a case where we had some very
23 limited amount of information, very preliminary
24 information, and we just didn't have enough information
25 to carry it further than this category. They could go

1 either way depending upon the information that was
2 developed afterwards. That's all we meant by that.

3 JUDGE BECHHOEFER: I see.

4 Q (By Mr. Sinkin) There can be events in the
5 operation of a nuclear power plant that lead to a
6 turbine trip, right? And that could be a safety problem
7 or could not be a safety problem, is that right?

8 MR. GUTTERMAN: I don't understand the --

9 MR. SINKIN: The event. We're generalizing
10 here. An event that would lead to a turbine trip could
11 be a safety problem or might not be a safety problem.

12 MR. GUTTERMAN: That's a strange question to
13 me. Is the question whether causing a turbine trip is
14 itself a safety problem or is the question something
15 like a tornado or an earthquake that might also cause a
16 turbine trip might also be a safety problem?

17 MR. SINKIN: I see. I see. Okay.

18 Q (By Mr. Sinkin) Let me put it in terms of
19 category B, generation of reliable power. Generation of
20 reliable power says to me that the plant is operating
21 and delivering electricity. There could be events that
22 cause a turbine trip where the plant would stop
23 generating electricity, correct?

24 A Yes.

25 Q We'll exclude acts of God, tornadoes,

1 earthquakes, hurricanes. We'll talk about the operation
2 of the plant itself, the internal operation of the plant
3 itself.

4 Well, let me ask, in your view is the fact of
5 a turbine trip a safety-related event in and of itself?

6 A No, it is not.

7 Q Okay.

8 A It's an anticipated operational occurrence.
9 It's an anticipated operational occurrence.

10 Q A turbine trip is an anticipated operational
11 occurrence? It can happen?

12 A It's anticipated that it will occur during
13 operation.

14 Q Okay. And it can occur from a broad variety
15 of factors in the operating of a plant.

16 A Certainly.

17 Q Some of those factors could be safety-related
18 while others are not; is that correct?

19 MR. GUTTERMAN: I'm getting perplexed about
20 what the relevance or materiality is of this line of
21 questioning. It seems to me if we're trying to figure
22 out --

23 MR. SINKIN: Let me try it differently then.
24 I'll try it differently.

25 Q (By Mr. Sinkin) If you're approaching your

1 findings from the point of view of reliable power and
2 you find something that could cause a turbine trip, does
3 it go into category B because it affects reliable power
4 or can it also be in category A because the item itself
5 is safety-related?

6 A Perhaps it would be easier if I explained the
7 approach we used.

8 Q Fine.

9 A Rather than worry about an item being in
10 category B and overlooking the potential of an A, we
11 approached each finding as if it were an A and analyzed
12 it as to whether it had any licensing effect or any
13 safety impact. And when we ruled those out, we then
14 tried to apply the lower categories. The approach was
15 from the top down always.

16 Now, that doesn't mean that we didn't miss
17 one. That's always the possibility. But the attempt
18 was to try and put any item that HL&P had to address in
19 category A if there was any doubt at all.

20 Q Was there anytime subsequent to your final
21 categorization that you had occasion to think you had
22 put one in B or C or D that should have been in A?

23 MR. GUTTERMAN: Mr. Chairman, I'll object to
24 that. We're getting into thought processes that don't
25 have anything to do with what was communicated to HL&P.

1 MR. SINKIN: That was going to be my next
2 question.

3 MR. GUTTERMAN: I hear Mr. Sinkin's side
4 comment and that just indicates we're off fishing
5 again. I think if there's some point to be made in
6 cross-examination, we ought to make that point instead
7 of asking these hypothetically irrelevant questions that
8 don't have any point connected to them.

9 MR. SINKIN: Well, I think that both questions
10 are relevant, Mr. Chairman. If Mr. Stanley perceived an
11 item in the report that at a later time he thought
12 should have been in A, then that could well be an item
13 that was potentially reportable. If he communicated
14 that to HL&P, then that's something HL&P should have
15 considered.

16 MR. GUTTERMAN: Mr. Chairman, we have a list
17 of Quadrex findings that are at issue about whether they
18 are reportable or not reportable. Each of those
19 findings, as I recall it, is categorized as most
20 serious. Why we should go into questions about whether
21 something else which is not at issue in this proceeding
22 might possibly have been thought of as belonging in the
23 other category, I can't see. There's no grounds for it,
24 there's no foundation for it, we're just off on these
25 hypotheticals about, gee, what if he thought of

1 something that should have been in A. There's just know
2 basis for that.

3 JUDGE BECHHOEFER: I think we're going to
4 sustain the objection, but reask the question in a
5 slightly different way.

6 Did you ever tell HL&P that any item that the
7 Quadrex report categorized in categories B or below or 2
8 or below, anyway not serious, should be put into the
9 most serious category after May of '81?

10 THE WITNESS: No, no.

11 JUDGE BECHHOEFER: Did you ever come back to
12 HL&P and tell them that some items which were viewed as
13 not affecting licensability were later -- you later, you
14 or Quadrex later decided should be categorized in that
15 most serious category?

16 THE WITNESS: No, we never had occasion where
17 that occurred where we came back and indicated that to
18 HL&P.

19 All of these judgments, these categorizations
20 were made in April. Three individuals reviewed each
21 categorization, myself, our lead technical reviewer in
22 the discipline and Dr. Sumpter by telephone. So, we
23 were in complete agreement on each and every finding
24 during April and there was no change after that.

25 JUDGE BECHHOEFER: All right.

1 JUDGE LAMB: Could I pursue a question?

2 JUDGE BECHHOEFER: Yes, go ahead.

3 JUDGE LAMB: Mr. Stanley, I want to make sure
4 I have a good clean understanding of category A.

5 THE WITNESS: Okay.

6 JUDGE LAMB: We've heard about this from Mr.
7 Goldberg, what his understanding was. I want to make
8 certain that we have your understanding clearly.

9 Was it your intent that all reportable items
10 or potentially reportable items would be included in
11 category A?

12 THE WITNESS: Yes, it was.

13 JUDGE LAMB: Was it your intent that all items
14 included in category A were either reportable or
15 potentially reportable?

16 THE WITNESS: No, no. Our intention for
17 category A was broader than that and we had defined on
18 page 3.1 of the Quadrex report what those were. The
19 finding could prevent the obtaining of a license. The
20 finding could produce a significant delay in getting a
21 license. The finding addresses a matter of serious
22 concern to the NRC at this time. And then we subdivided
23 it between those that are expected to pose a serious
24 concern to plant licensability as opposed to those that
25 just may pose a serious concern.

1 But anything that had to do with licensing,
2 whether it was reportable or not, we put into category A
3 so that HL&P could make their own independent
4 determination on reportability.

5 JUDGE LAMB: I just want to make very sure
6 that I have a clear understanding. You are indicating,
7 if I am correct, that the fact that something was listed
8 in category A does not mean that you or your staff
9 thought it was reportable necessarily?

10 THE WITNESS: That's absolutely correct.
11 There are many items in category A that are clearly not
12 reportable.

13 JUDGE LAMB: Okay.

14 THE WITNESS: Any reasonable individual would
15 come to the determination that it was clearly not
16 reportable. Nevertheless, it was put into A because it
17 had an impact on licensing.

18 JUDGE LAMB: Thank you.

19 Q (By Mr. Sinkin) Mr. Stanley, did you say that
20 Dr. Sumpter participated in the categorization process?

21 A After I had concluded my assessment, my
22 categorization, and to a certain extent after our
23 technical expert had reviewed my determinations and
24 either talked me out of it or agreed with me. Now, some
25 of that was done -- some of these reviews with Dr.

1 Sumpter were done after my reviewer and myself had
2 reviewed them, others were not. But that was strictly
3 because of availability of people, timing on the
4 telephone.

5 Q So, sometimes you would have done it, but not
6 the reviewer, and you talked to Dr. Sumpter and then
7 sometimes you both --

8 A And then I'd get back to the reviewer.

9 Q But Dr. Sumpter heard for each finding --

10 A Every single finding.

11 Q -- what your categorization was going to be?

12 A Right. And sometimes --

13 Q And this was in April?

14 A This was during April, yes.

15 Q Was this prior to the April 13th meeting?

16 A No.

17 Q But prior --

18 A We didn't receive this letter until after the
19 15th of April.

20 Q It was prior to the April 30th meeting?

21 A Yes.

22 Q If you would turn in the Quadrex report to
23 Volume 1, page 4-23.

24 A Okay. I have it.

25 Q Finding N on that page.

1 A Okay.

2 Q Did you consider when that finding was written
3 that it had any safety significance at all?

4 A Correct me if I'm wrong, but it appears that
5 that is in the most serious category?

6 Q That is in the most serious category and it
7 does refer to question E 14, if that is of any help to
8 you.

9 A And your question was did I ever --
10 (No hiatus.)

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1 Q Did you consider whether this finding had any
2 safety significance at all?

3 A At the time of the review, they had not yet
4 implemented isolation devices as required by IEEE 344,
5 1974, or regulatory guide 1.75.

6 Since the electrical design, the
7 instrumentation and control design were fairly
8 preliminary, they were at a preliminary state at that
9 point, it was not yet to the point where there was a
10 safety issue.

11 Now, had the designs gone to completion, had
12 they been final designs released for construction, had
13 they not properly implemented the isolation device
14 requirements, then there would be a technical concern.
15 But the designs were not at that state.

16 What we were trying to point out with N was
17 that they hadn't -- this is 1981 now, six years after the
18 regulatory guide, seven years after the IEEE standard,
19 the design group still could not answer the question on
20 what types of isolation devices they intended to use.

21 And that was the gist of the question, was that
22 they were late in making this determination.

23 Q Was it your understanding then at that time
24 that there were no designs issued by Brown & Root in the
25 isolation drawing category?

1 A What you would find was that on electrical
2 diagrams, one line, three line and other kind of
3 diagrams, and on instrumentation and control diagrams,
4 you would find the use of isolation devices such as
5 fuses, circuit breakers, relays, whatever; and they
6 simply hadn't produced very much of that type of drawing.

7 So there wasn't much that we could judge. Our
8 reviewer asked the question, "Well, when you get this
9 drawing through, what type of isolation devices will you
10 use?" And we didn't get an answer.

11 And the reason it was put into this category
12 was if they didn't solve this problem somewhere, it could
13 impact licensing, licensability of the plant.

14 Q Turning to question E 14 that relates to this
15 finding.

16 A Okay. Could you tell me which page?

17 Q The Quadrex assessment, the last page of that
18 finding. I'm really looking at the last sentence; it
19 says, "It should also be recognized that B&R's use of
20 industry standards such as IEEE 323, 344 and 48384 in
21 procurement specifications does not provide enough
22 guidance to the vendors regarding what is really needed
23 for STP."

24 The way it was worded in this report, it seems
25 that those procurement specifications had actually been

1 issued. Have they, in fact, not been issued to vendors?

2 A That these procurement specs?

3 Q Right.

4 A No, they had been, some of the procurement
5 specs had been issued to vendors.

6 Q For isolation devices?

7 A Well, they referenced, they referenced IEEE 384
8 which is the one that's referred to. However, IEEE 384
9 does not state that in this application, you use this
10 device, in this application you use a different device;
11 that was the type of thing we were trying to suggest here
12 is that Brown & Root should provide that guidance to
13 their vendors. "We want you using circuit breakers, we
14 don't want you using fuses," for example.

15 Q Are you saying then that the specifications
16 issued to a given vendor could not have been fulfilled
17 because they wouldn't have that information or would this
18 vendor try and fulfill it on their own?

19 A My presumption is that the vendor would try to
20 fulfill it on his own.

21 Q And that's what you were concerned about?

22 A That it may not satisfy HL&P's requirements.

23 Q Okay.

24 JUDGE BECHHOEFER: Does the fact that one
25 vendor might fulfill it in one way and another vendor

1 might fulfill it in another, does that represent at least
2 a QA problem of some sort?

3 THE WITNESS: If NRC will only license one of
4 those ways then something has to be changed. That was
5 our concern. No matter what happened, it could always be
6 corrected. The right device could be substituted for the
7 devices that were wrong. That was always the option.
8 But it takes time, costs money. And it was truly
9 unnecessary.

10 JUDGE BECHHOEFER: Does NRC now have varying
11 types of devices --

12 JUDGE SHON: May I ask a question that would
13 clear this up a bit. As I understand what you're telling
14 us, the use of the IEEE standards is not a sufficient
15 specification to be absolutely certain that it will meet
16 NRC specifications.

17 THE WITNESS: Presumably, that's exactly the
18 problem. And what we were saying was that the Brown &
19 Root engineers in this discipline had not yet encountered
20 that problem.

21 JUDGE SHON: And they didn't know enough to
22 know to say, "You have to use this." They just used the
23 IEEE spec?

2 THE WITNESS: That's correct.

25 JUDGE SHON: Why, in a sense, is this not a QA

1 breakdown, since quality assurance involves, according to
2 its definition, all those actions to -- necessary to make
3 sure that a device performs its function properly. Seems
4 to me they've omitted an action that is necessary.

5 THE WITNESS: I think its more a case that they
6 hadn't gotten to the point of taking an action, of
7 actually sitting down and specifying that "I will use
8 circuit breakers in these applications, fuses in these
9 applications, and isolation relays in other
10 applications." I think it was just a case, as we read
11 it, the situation, that they had not yet gotten to the
12 point where they needed to do that because the drawings
13 weren't sufficient --

14 JUDGE SHON: But they had ordered something
15 from a vendor.

16 THE WITNESS: True.

17 JUDGE SHON: And they had ordered something
18 that might not work, in a sense?

19 THE WITNESS: It would work. It's a case of
20 licensability.

21 JUDGE SHON: But the object is to license the
22 plant and to make it work the way the NRC says you
23 should. So it would seem that an action necessary to
24 make it perform as it should exactly would be to order
25 the right kind of isolation device.

1 THE WITNESS: Well, there are technical
2 disagreements in the industry over fuses versus circuit
3 breakers. The NRC has taken the position that fuses are
4 not an isolation device. The majority of the industry
5 has not agreed with that position. So there are
6 technical arguments on either side.

7 I have seen designs using fuses recently that
8 have been justified and are technically acceptable. The
9 same thing is true of relays, of coil to contact
10 isolation is permitted; contact to contact isolation is
11 no longer permitted.

12 A very subtle difference there. But the point
13 is that even if the equipment came in in NRC said "Well,
14 do not license that." It could change readily. This is
15 not a major technical problem. And they were very early
16 in the electrical and the instrumentation design, they
17 really hasn't gotten to the problem.

18 JUDGE SHON: Thank you.

19 JUDGE BECHHOEFER: Is that sort of like saying,
20 "If you're building doesn't confirm, you can tear it down
21 and build it over again, because it might be a QA
22 violation involved you got to that stage."

23 THE WITNESS: The distinction I'm trying to
24 draw here it seems to me that I said hard to say you have
25 a QA violation until you've actually done the work wrong.

1 JUDGE LAMB: I couldn't hear that last --

2 THE WITNESS: Until you've done the work
3 incorrectly or you've done the work wrong. I don't think
4 you can declare a QA violation prior to that; it doesn't
5 seem fair or reasonable.

6 JUDGE LAMB: Would the act of ordering a piece
7 of major equipment be that -- have reached that point?

8 THE WITNESS: Well, I'm not the expert in this
9 area. My personal opinion is probably that it would not.

10 JUDGE LAMB: Why not?

11 THE WITNESS: Simply because the designs
12 weren't done; secondly, that it was correctable, and
13 easily correctable. You frequently have to order
14 equipment because of lead times to get delivery when you
15 don't have the design in a final state. Recognizing that
16 you're taking some risk.

17 JUDGE LAMB: Is this in the order of a
18 preliminary design? In other words, the selection and
19 ordering of that piece of equipment you're viewing as a
20 preliminary step which must be verified later on?

21 THE WITNESS: Yes, oh, yes, definitely. There
22 would be verification steps after that. So if --

23 JUDGE LAMB: So you would not consider that as
24 a plan or something which had been released for design,
25 at that point, released for construction?

1 In other words, the ordering of that piece of
2 equipment, I'm trying to determine the parallel, if there
3 is one, between the ordering of a piece of equipment of
4 that type and releasing the plan for construction.

5 THE WITNESS: I guess I can't answer the
6 question. I really don't have enough experience to
7 answer that. I don't know. But in the cases I was
8 concerned about, there would be many checks and balances
9 before the equipment was installed. No question about
10 that.

11 JUDGE LAMB: But you feel then that the
12 ordering of it is a speculation, it's a preliminary act
13 which may or may not prove to be correct later?

14 THE WITNESS: And I think that is very
15 frequently done in the industry.

16 JUDGE BECHHOEFER: Are you saying that just
17 take -- I don't know if you can generalize, but would
18 electrical equipment for which isolation devices of some
19 sort would be required, would there normally on a nuclear
20 plant be more than one type of isolation device that
21 ended up in the final plant.

22 THE WITNESS: Yes, there are many types. There
23 are four or five different types of acceptable isolation
24 devices.

25 JUDGE BECHHOEFER: I realize that. But is it

1 usual that more than one of those would be on a given one
2 plant?

3 THE WITNESS: Oh, yes, all five.

4 JUDGE BECHHOEFER: As distinguished from being
5 acceptable to start out with.

6 THE WITNESS: Typically you would find all five
7 on the plant in different places. Fuses are used in some
8 places, circuit breakers are used in others; isolation
9 relays are used in certain cabinets. Optical isolators
10 are used with process cabinets; it's -- you typically find
11 all five.

12 JUDGE BECHHOEFER: And normally if an order
13 were placed with a vendor, would there be a specification
14 of the type of device?

15 THE WITNESS: Yes, normally you would expect to
16 find that. In other words, a complete engineering, final
17 engineering specification would delineate that, either by
18 direct paragraphs in the specification or by attached
19 drawings that describe what was to be used. But that
20 would be at the final state. The design could be
21 released to start the vendor going on a preliminary basis
22 where those details were not only yet finalized. And
23 that is done quite frequently.

24 JUDGE BECHHOEFER: Do you know whether any of
25 these devices had been delivered at the time, prior to

1 the specification of what type of isolation device,
2 specification by B&R or HL&P, of what type of isolation
3 device should be used?

4 THE WITNESS: I can only speak of the one
5 Sunday where we made the site tour, and I'll try to find
6 the date for you on -- here in the report. Where we went
7 down and made a tour of the STP Unit 1 and portions of
8 the base mat of Unit 2.

9 At that time, there was none of this equipment
10 was installed; there was very little equipment installed
11 in the plant at that time. It was a trip we made in
12 April, I believe, March or April -- March somewhere.

13 JUDGE BECHHOEFER: Had the equipment been --
14 any of it been delivered to B&R?

15 THE WITNESS: I don't know for sure, but I
16 would doubt very seriously that much had been delivered.
17 I don't believe very much had been delivered.

18 MR. GUTTERMAN: Mr. Chairman, I wonder if this
19 would a good time for a break?

20 JUDGE BECHHOEFER: Sure. Why don't we have
21 fifteen minutes.

22 (Recess.)

23 JUDGE BECHHOEFER: Okay, back on the record.

24 Q (By Mr. Sinkin) Mr. Stanley, in 1981, would it
25 be correct that you did not view Quadrex as the

1 consultant to have the primary responsibility for making
2 50.55(e) notification determinations?

3 A That is correct. Quadrex's responsibility was
4 limited to 10 CFR Part 21.

5 Q The primary responsibility for 50.55(e) was
6 with HL&P?

7 A That is correct.

8 Q Would it be correct to say that as of May 1981,
9 your background was such that you would not have worked a
10 great deal at the interface with NRC on questions like
11 50.55(e)?

12 A That is correct. I've had very little
13 experience in 50.55(e) items.

14 Q On April 29th, 1981, you sent Volumes II and
15 III to Dr. Sumpter. Is that correct?

16 A That's correct.

17 Q Those were the final versions?

18 A That is correct, yes.

19 Q And on April 30th, you went to HL&P to present
20 the Quadrex findings to HL&P.

21 A Yes.

22 Q And to Brown & Root the following day, May 1st?

23 A Yes.

24 Q Other than the briefings of HL&P and Brown &
25 Root, did you meet separately with Dr. Sumpter to discuss

1 the study on April 30th or May 1st?

2 A Not that I can recall at all on April 30th and
3 we were not with HL&P on May 1st.

4 JUDGE BECHHOEFER: Some clarification. On May
5 1st, were you with over at Brown & Root?

6 THE WITNESS: Yes, I was.

7 JUDGE BECHHOEFER: Was not an HL&P
8 representative, perhaps Dr. Sumpter there as well? Was
9 not an HL&P representative at that May 1 meeting as well?
10 I guess I said Dr. Sumpter or --

11 THE WITNESS: I don't believe there was anyone
12 from HL&P at that meeting.

13 JUDGE BECHHOEFER: Okay.

14 THE WITNESS: I don't recall any HL&P employee
15 being at the meeting between Quadrex and Brown & Root on
16 May 1.

17 Q (By Mr. Sinkin) If you would look at CCANP
18 Exhibit 8, Mr. Stanley.

19 A This says Applicant. Okay.

20 Q I just want to confirm with you that these are
21 reproductions, essentially of the slides you used to
22 brief both HL&P and Brown & Root?

23 A Yes.

24 A These are the reproductions of those flimsies.

25 Q And did you go through each one of these?

1 A Yes, we did, in both presentations.

2 Q In No. -- CCANP No. 88, there are some flimsies
3 that had headings with titles and then there were others
4 that had numbers. Is the distinction that the front ones
5 were the generic findings and the back ones were the
6 specific discipline finding?

7 A Yes.

8 Q The generic findings presented by Quadrex were
9 a controversial part of this report, where they not, Mr.
10 Stanley?

11 MR. GUTTERMAN: I object to that. I don't
12 understand what controversial means and how this is going
13 to contribute to the record at all.

14 JUDGE BECHHOEFER: Mr. Sinkin, could you ,
15 rephrase that question to maybe better define what you
16 mean by controversial or put --

17 Q (By Mr. Sinkin) Did the generic findings cause
18 HL&P a great deal of consternation? Does that help?

19 MR. GUTTERMAN: It would help me some if the
20 question were tied down to reactions at a specific
21 meeting, or whether they called up and complained or
22 something. But this generalized "Did it cause some
23 consternation," I don't know how anybody can meaningfully
24 deal with that.

25 MR. SINKIN: Okay. I'll try and sharpen it up.

1 Q (By Mr. Sinkin) At the April 30th briefing of
2 HL&P, you presented at least some of the generic findings
3 in your flimsies.

4 A Each one of these Xerox sheets was presented.

5 Q Right.

6 A So as I counted, I thought there were six.

7 One, two, three, four, -- there appear to be six that are
8 in the generic category.

9 Q Did your presentation provoke what you would
10 consider spirited discussion of these generic findings?

11 A Not that I can recall. The discussion was -- I
12 wouldn't characterize it as spirited. It was again an
13 information meeting to communicate again where we were in
14 the state of the project.

15 It was a refinement of the information that we
16 had presented on April 13, just a continuation of that
17 communication process with the utilities.

18 Q Were there some generic findings in the
19 ultimate Quadrex report, Mr. Stanley, that were not tied,
20 in fact, to discipline findings?

21 A The only one that I am aware of is the one that
22 you raised in previous days, the symmetry finding, which
23 is not tied to any discipline finding. That's the only
24 one I'm aware of.

25 Q And did you introduce that generic into the

1 report?

2 A Guilty.

3 Q I take it that's a yes?

4 A Yes.

5 Q If you would turn to Page 3-15 of the Quadrex
6 report. That is the finding we're talking about, is it
7 not?

8 A Yes. That's one that I introduced into the
9 report on my own.

10 Q Is the concern in that finding with access --

11 MR. GUTTERMAN: Objection, Mr. Chairman, we're
12 getting away from the most serious findings. We're going
13 off on tangents again that have nothing to do with the
14 issues in this proceeding..

15 MR. SINKIN: Let me withdraw the question and
16 ask a separate question.

17 Q (By Mr. Sinkin) Would you turn to Page 4-94 of
18 the Quadrex report, Mr. Stanley.

19 A Okay, I have it.

20 Q Under 4.9.2, "Maintenance Access Engineering,"
21 if you would review the second paragraph.

22 Is that a finding by one of the discipline
23 reviewers as opposed to yourself?

24 MR. GUTTERMAN: Mr. Chairman, I'll object to
25 that because we're again not dealing with the specific

1 Quadrex findings that are at issue; we're off on
2 generalized discussions, I don't believe that paragraph
3 is really designated as a finding in the sense that we've
4 been dealing with fundings.

5 JUDGE BECHHOEFER: Mr. Sinkin, is this related
6 to any of the findings that was designated for hearing?

7 MR. SINKIN: Actually, Mr. Chairman, all I was
8 trying to demonstrate was that we start with are all the --
9 are all the generic findings represented in the
10 discipline findings. That's been a topic. Mr. Stanley
11 said that the plant symmetry finding he put in there, it
12 wasn't from the discipline findings. I happened to
13 notice that there is a similar discipline finding that he
14 may have not a been aware of whether he wrote his
15 findings.

16 I am asking if anybody else may have seen this
17 plant symmetry, and whether it was a maintenance point ISI
18 access problem and a ALARA review problem all ties in
19 with plant symmetry. I think it at least relates to the
20 ALARA topic.

21 JUDGE BECHHOEFER: For better or for worse I
22 think we limited ALARA to a particular set of findings.
23 Maybe we did so mistakenly, but we did.

24 MR. SINKIN: I'll withdraw the question, Mr.
25 Chairman, and make it easy.

1 JUDGE BECHHOEFER: Okay.

2 At this time, do you have any further questions
3 on CCANP 88 or --

4 MR. SINKIN: Not at this time, no.

5 JUDGE BECHHOEFER: I wanted to ask one perhaps
6 clarifying question. Was there any particular reason why
7 the particular topics discussed at the slide show were
8 discussed while other findings were not? I mean the six
9 generic and the selected list of discipline findings; was
10 there any particular reason why those were discussed?

11 THE WITNESS: In terms of the discipline
12 findings that start 412 A, I believe these were the ones
13 that were in the most serious category in the discipline
14 section of the report, section four.

15 JUDGE BECHHOEFER: Yes.

16 THE WITNESS: And the attempt was to discuss
17 each of the most serious in each of the disciplines. The
18 six previous slides, which were the generic ones, the
19 reason that there are only six is that that was all that
20 was available and ready to go. The reason that they were
21 not numbered is that that part of the report wasn't
22 finished yet, otherwise they would have had numbers.

23 So it's an indication of where we were in the
24 report writing phase more than anything.

25 JUDGE BECHHOEFER: I want to turn -- to take

1 just one of those findings as an example, the last one,
2 4.8.2.1 A, which is one of the the findings under most
3 serious, 4.8.2.1 B, through G are those which you say may
4 have a serious impact but are nevertheless most serious.

5 At those slide presentations, did you only
6 discuss the matters which Quadrex put in the expected --
7 expected to seriously impact licensability criteria?

8 THE WITNESS: You are absolutely right, Mr.
9 Chairman. Obviously it's only the ones that were in the
10 expected to seriously impact licensing; you are correct.

11 JUDGE BECHHOEFER: I haven't checked that out
12 through all of them but I assume that that would be
13 similar.

14 THE WITNESS: Yes. I think you are right.

15 Let me take a one to check one more. No,
16 that's not true. I can't explain it. I don't know why.

17 JUDGE BECHHOEFER: Okay.

18 Q (By Mr. Sinkin) Who selected the ones -- you
19 did selected them?

20 A But I cannot explain the basis for my selection
21 at this point.

22 Q On 4.4.2.1 B, Mr. Stanley --

23 A You are back in --

24 Q In the same document?

25 A 88. 4.2. --

1 Q 4.4.2.1.

2 A B? 4.4.2.1 B?

3 Q 4.4.2.1 B.

4 A Safety classification of HVAC systems.

5 Q That's it. What do you mean in that finding by
6 "user systems;" you've put it in quotes?

7 A HVAC is a -- has two elements it to, it has a
8 safety related portion and it has a non-safety related
9 portion.

10 If we deal only with the safety related
11 portion, it's a supporting system needed to cool or
12 maintain environmental conditions for certain safety
13 related systems. So we were looking for a link, for
14 example, that the aux feedwater system required certain
15 HVAC systems; that the component cooling water system
16 required certain HVAC systems, that the control room
17 areas were safety related controls were located required
18 other HVAC systems.

19 We were trying to see if Brown & Root had made
20 a relationship between the safety related systems of the
21 plant that are needed to mitigate the consequences of an
22 accident and the supporting HVAC systems needed to assure
23 that those systems would work. That's what we meant by
24 traceable to user systems, the user systems being the
25 safety related systems.

1 Q So then the system would define whether the
2 HVAC was safety related or not? Or are you saying that
3 the system would define whether the HVAC was technically
4 of the level it should be?

5 A I think either case is true, that if the system
6 needed to be cooled, then there should be a documented
7 requirement that the HVAC system supporting that system
8 was also safety related. We didn't see the connection in
9 the Brown & Root documentation.

10 Q And on April 30th, you told HL&P that you had
11 been unable to find the connection?

12 A Yes.

13 (No Hiatus.)

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1 JUDGE SHON: Mr. Stanley, the Board's a little
2 confused now on this particular point 4.4.2.1(b) which
3 was not reported, you know, under 50.55(e). The
4 question is whether in your view, at any rate, first
5 does quality assurance require traceability of this
6 particular point?

7 MR. GUTTERMAN: Judge Shon, I hate to
8 interrupt, but I'm kind of confused by your question
9 because you start off by premising it on the proposition
10 that it was not reported.

11 JUDGE SHON: Right.

12 MR. GUTTERMAN: And I believe it was.

13 JUDGE SHON: Oh, was it?

14 JUDGE BECHHOEFER: I thought it was 2.1(a).

15 JUDGE SHON: I thought only (a) was.

16 MR. GUTTERMAN: Let me suggest we consult Mr.
17 Goldberg's testimony on page 34 which refers to both
18 2.1(a) and 2.1(b) as being reported.

19 MR. REIS: Also in NUREG 0948 on page 19, the
20 following items were reported as potential 50.55(e)
21 items and it has HVAC system classification.

22 JUDGE SHON: Okay.

23 JUDGE SHON: I'm certain the question has no
24 point to it really. Thank you.

25 Q (By Mr. Sinkin) Mr. Stanley, let me direct

1 your attention to Applicants' Exhibit 63 again which is
2 the Bechtel task force report.

3 MR. SINKIN: Anyway, I have an extra copy if
4 the Board needs one.

5 A 63?

6 Q (By Mr. Sinkin) Line item 57.

7 A Do you have, per chance, a cross-reference to
8 my March 2nd letter where I commented on this report for
9 that item?

10 Q It's comment 7.

11 A Thank you.

12 Okay. I'm ready.

13 Q The task force assessment of line item 57
14 states that Brown & Root told the task force that their
15 system design descriptions identify all support systems
16 in this -- apparently in the HVAC area. And my question
17 is does this mean that Quadrex did not review the system
18 design descriptions for this component of the plant or
19 that at the time you reviewed them they didn't have --
20 they didn't identify all support systems?

21 MR. GUTTERMAN: Mr. Chairman, I'm kind of
22 confused now. The question seemed to be referring to
23 HVAC --

24 THE WITNESS: It still is.

25 MR. GUTTERMAN: -- systems. If I read Exhibit

1 63 right, I haven't done all the cross-referencing, it
2 appears to be under the electrical and I&C discipline,
3 so the premise of the question seems to be confusing to
4 me. And it's not apparent that this is one of the
5 findings in issue. I'm not even sure --

6 MR. SINKIN: Well, it traces to line item -- I
7 tell you what, maybe I'll make it easier.

8 Q (By Mr. Sinkin) Let's go to line item 82.

9 MR. GUTTERMAN: Fine.

10 Q (By Mr. Sinkin) Is line item 82 the specific
11 HVAC finding on this point that we were discussing?

12 A Yes, I think it is.

13 Q Okay.

14 A Do you have again a cross-reference to my
15 letter on that?

16 Q It's comment 7 actually, I think. At the end
17 of comment 7 you reference line item 82.

18 A Okay.

19 Q And you had tied them together in your
20 comment. That's what tied them together in my mind as
21 two instances where there was not a basis or a procedure
22 to identify support systems.

23 Maybe we ought to deal with 82 first since
24 that's the one we started out discussing. Would this
25 traceability have appeared in a system design

1 description for HVAC?

2 A That's one place where the traceability could
3 have occurred, yes.

4 Q And you looked at the system design
5 descriptions but didn't see it?

6 A We reviewed system design descriptions and we
7 didn't see that connection.

8 Q Okay. Then linking back to line item 57 --

9 MR. GUTTERMAN: Mr. Chairman, I'm going to
10 renew my objection. I haven't heard the question, but
11 the prospect of linking back to a finding that's not in
12 issue seems inappropriate to me.

13 MR. REIS: The Staff would agree with that.
14 Further, even these questions on 4.4.2.1(b), let me
15 point out that there was no question this was reported.
16 It just has no -- it doesn't add to the record at all.

17 MR. SINKIN: Let me --

18 MR. REIS: It is not probative in that it's
19 already established in the record it was reported.

20 MR. SINKIN: Okay. Let me try a different
21 question and maybe I can make the link.

22 Q (By Mr. Sinkin) If you will turn to page 3-6
23 of the Quadrex report.

24 A Okay.

25 Q Did the HVAC finding that we've just been

1 discussing, 4.4.2.1(b), form part of the basis for the
2 generic finding in the parentheses number 5 on page 3-6?

3 A It certainly should have. The reference is to
4 H-4 and this one refers to question H-5. I'm not sure
5 if we made a typographical error there, but -- yes, they
6 should have been. The HVAC H-4 or H-5 should have been
7 the basis, one of the bases.

8 Q Well, would it be correct, Mr. Stanley, that
9 in some of the generic findings there were questions
10 referenced that supported them, but not necessarily all
11 questions that supported them would be referenced?

12 A That's correct.

13 Q And was line item 57 also part of the support
14 for generic finding parentheses 5 on page 3-6?

15 A It's listed as E-3, yes.

16 Q E-3. Okay.

17 A And if you go back to E-3 in our assessment,
18 there's a line that says there was no basis or procedure
19 for designating user systems, the very last line of
20 E-3.

21 Q Yes. Finally, no basis or procedures were
22 provided to identify support systems.

23 Now, in this instance apparently the Bechtel
24 task force disagreed, or at least based on what Brown &
25 Root told them --

1 A Yes.

2 Q -- they disagreed. They said that Brown &
3 Root had said the system design descriptions did
4 identify the support systems.

5 From your comment number 7, it seems to me
6 that -- well, tell me, does your comment number 7 mean
7 that on line item 57 you also reviewed the system design
8 descriptions and did not find this traceability?

9 A That's correct.

10 Q Okay. Thank you.

11 Dealing with those two examples for the
12 moment, line item 82, line item 57, is that how a
13 generic finding got generated? You would see it in more
14 than one discipline?

15 A Yes, that is correct. That was the process.

16 Q Turning to page 2-15 of the Quadrex report.

17 A Okay.

18 Q The paragraph beginning "in addition to."

19 A Okay.

20 Q Okay? Did you write that paragraph?

21 A Yes.

22 Q And does that describe how a generic -- does
23 that describe what a generic finding means?

24 A I believe so. It states, if I can paraphrase
25 it, that certain practices, policies and procedures

1 adopted by Brown & Root continue to have a generic
2 impact on most, if not all, of the technical
3 disciplines. Yes.

4 Q You created the generic findings, Mr. Stanley,
5 to draw management's attention to problems you saw in
6 more than one discipline; is that correct?

7 A I would classify them as indications of
8 problems rather than as, if you will, proven problems.
9 What I was trying to convey to management was
10 indications that there may indeed be a generic problem
11 and that they should address some attention to these
12 particular issues, but it was nothing more than an
13 indication.

14 Q Well, in this instance that we -- the sample
15 that we just looked at in line item 82 and line item 57,
16 these were, in fact, findings that the system design
17 description did not have traceability to the user
18 system?

19 A That is correct, but the traceability could
20 have been provided in other documents that were not
21 shown to us. We looked at system design descriptions,
22 we looked at engineering design output documents to try
23 and find that traceability. And in the sample of
24 documents that we looked at, we did not find it.

25 Q Did you approach Brown & Root and ask them if

1 they had any other way of tracing?

2 A Specifically we did, yes.

3 Q And what was their answer?

4 A They didn't have an answer. But that doesn't
5 mean that it didn't exist.

6 Q Okay. On page 2-15 of the Quadrex report, in
7 the top paragraph.

8 A Okay.

9 Q Am I to judge from that paragraph that the
10 officers of Quadrex Corporation listed there reviewed
11 the generic findings as well as the discipline findings?

12 A That is correct, yes.

13 Q In both draft and final form?

14 A That is correct.

15 Q In your testimony at page 6, Mr. Stanley,
16 lines 8 through 12, did the Quadrex Corporation believe
17 that HL&P should use the generic findings as a basis for
18 further inquiry?

19 A Yes, along with the discipline findings.

20 Q Did the generic findings represent to Quadrex
21 areas where improvements were clearly desirable?

22 A I would say that --

23 MR. PIRFO: I'm going to object to that
24 question, Judge Bechhoefer, that's kind of vague.

25 Clearly desirable, on whose part and for what purpose?

1 I mean, why is Quadrex' assessment of it relevant?

2 MR. SINKIN: We're dealing in this instance,
3 Mr. Chairman, with Mr. Stanley's prefiled testimony
4 where he states the generic findings were intended to
5 assist HL&P in identifying areas where HL&P could
6 inquire to determine whether improvements were
7 desirable.

8 I think I'm trying to clarify what their
9 position, in fact, was, whether their position was that
10 HL&P could go see if there might be improvements that
11 were desirable or if the discipline findings had already
12 given Quadrex enough knowledge to know that improvements
13 were desirable.

14 A Is that a question?

15 Q (By Mr. Sinkin) You don't follow that
16 question?

17 A No, is it a question?

18 Q I was trying to make it a question. Let me
19 try again.

20 You say that HL&P could inquire to determine
21 whether improvements were desirable. From the example
22 we've worked through here, it seemed to me that you had
23 identified things where you clearly thought there was
24 improvement needed. You had pulled those into a generic
25 finding and given it to HL&P.

1 MR. REIS: I object to the question in that I
2 don't think it encompasses the witness' testimony.

3 MR. SINKIN: Encompasses?

4 MR. REIS: Well, reflects.

5 MR. SINKIN: Oh, reflects.

6 MR. REIS: Reflects is what I mean.

7 Q (By Mr. Sinkin) Well, would it be correct,
8 Mr. Stanley, that in the item 4.4.2.1(b) you believed
9 that there was improvement necessary so that there would
10 be traceability to the user systems?

11 A In the discipline findings, I think that's a
12 fair characterization. With regard to the generic
13 finding, all I would characterize that as is an
14 indicator. And the reason I would do that is that the
15 Brown & Root personnel were not always able to find the
16 documents that were needed to prove a point one way or
17 another. This program was under tight constraints for
18 us as well as for Brown & Root and in the generic
19 finding I would be giving them the benefit of the
20 doubt. I would not be drawing conclusions with the
21 generic findings. We did see a common thread. There
22 may be a solution that we didn't see.

23 Q Did the generic findings represent conclusions
24 regarding the existence of potential deficiencies in the
25 design process as opposed to the design itself?

1 A The potential for design deficiencies in both
2 the process and the output are reflected in the generic
3 findings. Both areas are covered.

4 Q Okay.

5 Let me go back to the process by which Quadrex
6 generated generic findings. Did the Quadrex engineers
7 who performed the study review their own discipline
8 findings?

9 A Yes.

10 Q With the possibility of a generic in mind?

11 A I specifically asked each one to -- that was
12 part of our instructions to each of the technical
13 reviewers was to keep that potential in mind and to
14 alert me.

15 Q So, many of these generics originated with a
16 discipline engineer rather than originating with you?

17 MR. GUTTERMAN: Objection. That certainly
18 isn't even close to a fair characterization of what the
19 testimony was.

20 Q (By Mr. Sinkin) Well, I'll ask did many of
21 the discipline engineers write a generic finding that
22 you later adopted as opposed to your writing it?

23 A No, I wrote the generic findings because I had
24 access to the overall view. What I did do, though, was
25 go back to the discipline individuals and confirm that I

1 was characterizing it appropriately in their mind. So,
2 when we found the electrical E-3 and we found the HVAC
3 H-5, I would touch base with both of those disciplines
4 to see if they would support a generic finding.

5 Q Let me be real clear. I thought from my first
6 question that you asked the discipline engineers to look
7 at their findings and see if the findings suggested a
8 generic that they would then communicate to you.

9 A Right.

10 Q Is that what happened?

11 A Yes.

12 Q And then based on their communications, you
13 wrote the actual finding and then went back to double
14 check with them that it accurately reflected --

15 A Well --

16 MR. GUTTERMAN: I'm confused by the question
17 because there seems to be an unstated implication that
18 all of the generics resulted from comments by technical
19 reviewers, that there seems to be something generic here
20 and I don't think that's been established from the prior
21 testimony. If that's the question, I think it ought to
22 be stated explicitly in the question instead of the
23 implication of it.

24 MR. SINKIN: I'm not -- I didn't use the word
25 all, I used the word many. That was objected to. Let

1 me try and sharpen this up a little.

2 Q (By Mr. Sinkin) Now, let's stick with the
3 process of how the -- that's what I'm trying to do is
4 just get the process of how the generics ended up in the
5 report.

6 Now, from what I understood you to say
7 earlier, you asked discipline engineers to review their
8 own disciplines with the possibility of a generic
9 finding in mind. They did that and communicated to you
10 their findings that they -- their generic observations.
11 That's one way a generic would be initiated.

12 Did you independent of the discipline
13 engineers initiate your own generic findings other than
14 plant symmetry?

15 A Each of the generic findings was originated
16 from my work. I had asked the discipline engineers to
17 be cognizant of generic implications and to communicate
18 upward, if you will, any that they found. They simply
19 didn't communicate anything upward. So, I formulated
20 the generic findings as we uncovered common threads in
21 the discipline meetings and then I proceeded to
22 communicate downward to the discipline engineers this is
23 a conclusion I'm drawing, will you support it or will
24 you not. And that was the process that we used.

25 Q I see. Thank you.

1 In generating a generic finding, were you
2 reviewing all categories of findings, some categories or
3 one category? What was your approach?

4 A I considered the entire set of all 303
5 findings in the preparation of the generic findings.

6 Q That suggests to me that there could be
7 support for a generic finding -- some of the support for
8 a generic finding might actually be found in a category
9 other than most serious; is that correct?

10 A There is the possibility of a small -- certain
11 amount of that. I don't think it's a very large amount,
12 however.

13 Q In terms of generating the generics, you went
14 to the discipline meetings, you listened to what they
15 were saying, you formulated in your own mind possible
16 generic and you went back to the discipline engineers to
17 see if they agreed or disagreed. How --

18 MR. GUTTERMAN: I don't know if that's -- oh,
19 sorry, I didn't mean to interrupt.

20 Q (By Mr. Sinkin) Does that accurately
21 characterize the process, Mr. Stanley?

22 A Yes, it does.

23 Q Thank you.

24 Can you give me a rough estimate of how much
25 time the formulation of the generics took you in the

1 preparation of this report?

2 A I would say it was a relatively small
3 percentage of time because it occurred over time. It
4 occurred during the meetings. It occurred in the hotel
5 room at night when I was synthesizing what we had heard
6 the day before or that particular day. The amount of
7 effort put into the generics was relatively small
8 compared to the total effort.

9 Q Well, would you say you spent two hours or
10 fifty hours?

11 A I'd probably put forty hours on the generic
12 findings in total.

13 Q In your testimony on page 4, line 8 through
14 11, you speak of deficiencies in the design work that
15 Quadrex reviewed and that those instances are identified
16 in the report. What instances did you have in mind when
17 you gave this answer?

18 A One of them was the nuclear analysis finding
19 where the environmental conditions had not been
20 calculated. Another one was HVAC where the accident
21 conditions had not been introduced into the design.
22 Another one was the one that's in the R section and the
23 E section, the common instrument air line in the fuel
24 handling building where there was a single failure
25 violation. Another one was the computer codes

1 verification. Those were the deficiencies that I was
2 referring to when this sentence was written.

3 Q I see.

4 Can you distinguish for me the first one you
5 mentioned, the environmental conditions not calculated
6 from the HVAC, accident conditions not in the --

7 A Well, you're merging two there. The first one
8 was nuclear analysis and the fact that they hadn't done
9 much in the way of analysis. So, they hadn't set the
10 environmental temperatures and pressures for a great
11 deal of the equipment.

12 The next one was HVAC where they had
13 considered normal plant conditions in the design of the
14 system and hadn't gotten to accident conditions.

15 Q Then is the first one the failure modes and
16 effects analysis?

17 A The third one. The instrument line is the
18 failure modes and effects.

19 Q Okay. Okay. Thank you.

20 In doing the Quadrex study, you were looking
21 at activities that are covered by Appendix B, were you
22 not?

23 A Yes, as well as activities not covered by
24 Appendix B.

25 Q Well, in your answer on page 4 of your

1 testimony, question 11, answer 11, do you mean to state
2 that conformance to Appendix B is measured solely by
3 compliance with design procedures and the QA program for
4 design activities?

5 A I don't believe the answer to that question is
6 stating that. All I was stating in this is that we did
7 not review Brown & Root's design procedures or quality
8 assurance program for design activities. That's all
9 that I'm trying to state is that the scope of our review
10 is as stated in the front of the report. It was to
11 evaluate the current status of the Brown & Root
12 engineering design and their capability to perform the
13 design.

14 Q Let me call your attention to CCANP 104, the
15 comments you made on the Bechtel task force report,
16 comment number 31.

17 A What question or what comment were you
18 referring to?

19 Q Comment 31 on page 7. You might want to look
20 at line item 168 in the Bechtel task force report.

21 A Okay.

22 Q All right?

23 Regarding comment 31, does the Quadrex finding
24 noted in the line item 4.5.5.1(d) form part of the basis
25 for the Quadrex generic finding 3.1(d) at page 3-6?

1 A You have to do that slow. Give me the
2 discipline reference first.

3 Q Okay. Start with -- well, if you stick with
4 the Bechtel task force report, you have the discipline
5 finding.

6 A I want to confirm that they --

7 Q Oh, the discipline finding would be
8 4.5.5.1(d).

9 A Am I reading it correctly? 4.5.5.1 Baker?

10 Q No, dog.

11 A Sorry.

12 JUDGE BECHHOEFER: 3.1 --

13 A Okay. Now, give me the generic reference,
14 please?

15 Q (By Mr. Sinkin) The generic I referred to was
16 on page 3-6 and I'm referring to the top two lines on
17 page 3-6.

18 A Could I ask again one more favor?

19 Q Sure.

20 A Could you give me the reference to the generic
21 one again? I'm on page 3-6.

22 Q Top two lines.

23 A Of the page?

24 Q Of the page.

25 A Yes, that's certainly one of the instances.

1 Q One of the instances?

2 A Yes.

3 Q Now, in terms of comment 31 that you made to
4 Bechtel, is it your understanding of Appendix B that all
5 safety-related calculations, including preliminary
6 calculations, should be designated as safety-related and
7 performed with verified computer codes?

8 A I've got to redefine what you've stated
9 because you've stated it too broadly.

10 I'm not an Appendix B expert; however, I have
11 some exposure to it. It's my understanding that
12 Appendix B requires that calculations associated with
13 safety-related equipment need to be verified. And it
14 has been my experience in organizations I have worked
15 with that those calculations are verified whether they
16 are preliminary or final. I cannot state if that's a
17 universal opinion held by other members of the
18 industry. That's my understanding.

19 We made the comment that the main steam line
20 safety relief valve calculation, that's clearly a
21 safety-related component from a number of standpoints,
22 had been designated as non-safety-related in our review
23 of the material and we felt that that was
24 inappropriate.

25 Q And as a result of the designation, a computer

1 code was used to make calculations about that that was
2 not a safety-related computer code?

3 A It had not been verified.

4 Q It had not been verified.

5 And your position was that it should have been
6 classified safety-related and a code that was verified
7 should have been used even for preliminary calculations?

8 A That was the position of our reviewer and of
9 ourselves, yes.

10 Q But Bechtel took a different view in their
11 task force report?

12 A Bechtel's answer, as I read the task force
13 assessment, is that a non-safety code had been used to
14 do preliminary estimates and that final analysis will be
15 designated safety-related utilizing verified codes.
16 That may be the Bechtel position, that certainly is not
17 my position.

18 Q Okay.

19 JUDGE BECHHOEFER: Mr. Stanley, when your --
20 your comment 31, when you speak about our understanding
21 of 10CFR50 Appendix B, does the word our include other
22 persons than yourself?

23 THE WITNESS: It should state me, mine. I
24 wrote these responses, so it's really my position. But
25 the reason I wrote --

1 JUDGE BECHHOEFER: Were you advised at all by
2 members of the Quadrex staff who had more experience
3 with Appendix B or other experience with Appendix B?

4 THE WITNESS: The other person that reviewed
5 this before it went out was Mr. Ray who was my immediate
6 manager. We have comparable backgrounds in both
7 Appendix B and in design engineering, so we didn't have
8 the full expertise of a QA person.

9 My problem with the Bechtel task force
10 position is that I don't know of anything that
11 distinguishes between preliminary and final. It says
12 that you can do it unverified on preliminary if you do
13 it verified on final. I've never read that
14 permissiveness into the regulations, so consequently I
15 don't practice it.

16 Q (By Mr. Sinkin) Did this same finding make
17 its way into the generic findings on computer codes, the
18 4.2.2.1 finding?

19 A Could you give me any kind of references to
20 guide me?

21 Q Well, at page 4-14.

22 A Okay.

23 MR. GUTTERMAN: I'm sorry. Is there a
24 question pending?

25 MR. SINKIN: Whether this particular

1 discipline finding formed part of the basis for the
2 computer code findings.

3 MR. CUTTERMAN: The question is whether the
4 discipline finding 4.5.5.1(d) was a basis --

5 MR. SINKIN: Formed a part of the basis of the
6 computer code findings as well, whether that same
7 discipline finding appears in the computer code
8 findings.

9 Just I'm noting that this is in part a problem
10 with computer codes. I'm trying to see if it was also
11 noted in the computer code section.

12 A I don't believe so. I don't see any direct
13 connection --

14 Q (By Mr. Sinkin) Okay.

15 A -- between those.

16 Q On May 7th, 1981, you presented the Quadrex
17 report to a joint meeting of HL&P and Brown & Root; is
18 that correct?

19 A That is correct.

20 Q Did you begin with the generic findings?

21 A Yes, I did.

22 Q And what took place as you began to present
23 the generic findings?

24 A There was an immediate objection raised to the
25 context of the first generic finding, to the content of

1 the first generic finding.

2 Q And what was the nature of that objection?

3 A Disagreement with the conclusion or the --
4 disagreement with the information the way it was being
5 presented.

6 Q With the way the information was presented
7 or --

8 A The content of it.

9 Q -- the content? There was a challenge that it
10 was in error?

11 A In essence.

12 Q And what did you do at that point?

13 A I can't recall whether I got beyond the first
14 generic finding to the second one or not. But certainly
15 after the first or the second generic finding, Mr.
16 Goldberg asked me the question as to whether the generic
17 findings had any factual basis other than the discipline
18 findings and I answered that question that there was no
19 other basis for the generic findings except the
20 discipline findings. He then suggested to the entire
21 meeting that we move to the review of the discipline
22 findings since that would, in essence, capture all of
23 the elements of the generic findings. That was agreed
24 to and I promptly moved to the discipline findings.

25 Q When the meeting ended, did you meet with Mr.

1 Goldberg and Dr. Sumpter?

2 A I recall meeting briefly with Mr. Goldberg at
3 the conclusion of that meeting before everyone left the
4 room and left for lunch. We had a very brief
5 conversation at the end of that.

6 Q Can you tell me the essence of that
7 conversation?

8 A Basically what I conveyed to Mr. Goldberg was
9 that despite all of the findings that were written in
10 the report, that I didn't find anything that was not
11 reparable or correctible in the design process, that
12 there was nothing that had gone to the point where it
13 was irreversible. And I tried to convey to him that
14 despite the fact that it was a report that had only
15 negative findings in it, that my judgment was that it
16 was not that bad a situation. I tried to convey that to
17 him.

18 (No hiatus.)
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1 Q Was his primary concern whether Brown & Root
2 could actually finish the job?

3 A I really don't know what was in his mind.

4 Q In anything he expressed to you, I mean?

5 A He didn't convey that thought to me at all at
6 that point.

7 Q What did he say to you that prompted you to
8 give these various responses about the report?

9 A He didn't do anything to initiate that
10 response, and didn't really say much afterwards. I did
11 that mainly to try and give a perspective. The thing
12 that the Quadrex report lacks is a preface that I wish had
13 been written to put in context all of the findings.

14 We simply ran out of time and could not --
15 didn't have the time to do that. And I was trying to
16 give him an oral preface, if you will, since I realized
17 he was going into a reportable review. I wanted him to
18 know that I didn't find anything in the whole review, and
19 neither did our reviewers, that was beyond correction,
20 repair, whatever.

21 Q Was Dr. Sumpter there with the two of you?

22 A I don't recall that he was there. This was
23 just a brief stand-up meeting as we were getting ready to
24 depart the meeting room. Couldn't have lasted more than
25 a minute or two.

1 Q In that minute or two, did you discuss at all
2 whether the report should be sent to the NRC?

3 A No, that was never discussed with me.

4 Q And the evening of May the 7th, Brown & Root
5 sat down with the Quadrex report to develop its response,
6 particularly on the question of notifying the NRC. Did
7 you attend the Brown & Root meeting on the evening of May
8 7th?

9 A At the end of the May 7th presentation, which
10 was about noontime, I was asked if I would make myself
11 available to Brown & Root during their deliberations as a
12 resource person.

13 So I proceeded to drive Mr. Wrat to the airport
14 and then I arrived at Brown & Root about 2:00 or 2:15 in
15 the afternoon. And I stayed on the 6th floor until 6:30
16 when they called me down and they had dinner available.

17 At the conclusion of that dinner, they said
18 they would not need me any further and I caught the
19 midnight plane back to San Jose.

20 Q Red-eye special?

21 Now, when you were on the 6th floor from 2:00
22 until 6:30, was the meeting going on there?

23 A It was going -- the Brown & Root review meeting
24 was going on, as I recall, on the first floor conference
25 room, very large conference room.

1 Q And you were not in there?

2 A There was absolutely no contact whatsoever in
3 that whole period.

4 MR. GUTTERMAN: I don't know if this would be a
5 convenient point to break for a break or not, Mr.
6 Chairman. I suggest we work another break in around this
7 time.

8 JUDGE BECHHOEFER: I think it's a good idea.

9 MR. SINKIN: Yeah, that's fine, this is a good
10 point.

11 (Recess.)

12 JUDGE BECHHOEFER: Back on the record.

13 Q (By Mr. Sinkin) Mr. Stanley, let's return for
14 just a moment to the Bechtel task force report document
15 Applicant 63, item 57, we discussed a little earlier.

16 A Okay.

17 Q All right. In the task force assessment
18 section, they refer to the design assurance group. At
19 the time -- well, as of May 7th, 1981, could you explain
20 your understanding of the status and role of the design
21 assurance group in Brown & Root?

22 A We were aware that the group existed. But we
23 did not specifically look at the systems design assurance
24 group during the Quadrex review. Two members of that
25 group, however, did participate in discipline meetings.

1 One was Johnny Pinto with the electrical, and there was
2 another gentleman whose name at the moment escapes me.

3 We did have the opportunity during the review
4 to look at some of the documents that the systems design
5 assurance group was responsible for. And in particular,
6 there was a separation technical reference document that
7 had been prepared approximately eleven months before, it
8 was still in draft form, still on review, and hadn't been
9 issued. So we had some exposure to the activities of the
10 group but we did not specifically look at that group.

11 Q Did you specifically exclude a review of their
12 activities?

13 A The designation of the groups that we were to
14 look at was a suggestion approved by HL&P, and this
15 particular group was not on that list.

16 If you will look at that organization chart
17 that we had in the book, in the report.

18 MR. GUTTERMAN: We're referring now to the
19 Quadrex report?

20 THE WITNESS: I'm referring to the Quadrex report,
21 Applicant Exhibit 60. There's an organization chart that
22 was put into the front part of the report.

23 Q (By Mr. Sinkin) Page 2-11.

24 A Page 2-11, thank you. And the system design
25 assurance group has a box just next to the DPE shielding

1 analysis, and the name Grimes is in the box. Grimes
2 attended one of our meetings.

3 Q That's the second gentleman?

4 A And the other one was Johnny Pinto who managed
5 the systems engineering group that that group reported
6 to. So we did have some exposure to the group,
7 to their work -- to their products.

8 Q Turning to Page 2-2, I see about halfway down a
9 J. Grimes.

10 A Yes, that's the same individual.

11 Q And that's issued February 24th, in the morning
12 parentheses (RAD).

13 A Radiation.

14 Q Radiation?

15 A Control. Yes.

16 Q I also see Mr. Pinto at the bottom of the page
17 next to the last --

18 A With electrical.

19 Q With electrical.

20 A Yes.

21 That's the same gentleman.

22 Q And then on page 2-5, near the bottom, I see
23 Mr. Pinto again in three different meetings.

24 A It's hard to line up; I'm not sure.

25 Q I'm not sure I've got it lined up right.

1 A I think he only attended the radiation and I&C
2 meeting.

3 Q I see an "X" in nuclear on 3-16, and an "X" in
4 radiation on 3-17.

5 A I guess you are right. He looks like he
6 attended three of those meetings.

7 Q Finding 3.1 A, at Page 3-2 in the second
8 paragraph, there's a sentence, "Assigned responsibility
9 for systems engineering is only a recent development."
10 Does that sentence refer to the Brown & Root system
11 design assurance group?

12 A Yes, and the systems engineering function under
13 Johnny Pinto.

14 Q I would ask you to look at Applicant Exhibit
15 62. It's the May 8th Brown & Root response to the
16 Quadrex report.

17 A I have it.

18 Q Were you ever asked to respond to or otherwise
19 review and comment upon this document?

20 A No, we were not.

21 Q Between May the 7th when you got on the plane
22 and went back to San Jose and September of 1981, when the
23 Quadrex report was released to the Nuclear Regulatory
24 Commission Board, did you have any further contacts with
25 HL&P about the study?

1 A My recollection is that I was asked to come
2 back down to Houston for a one or two day period, two day
3 period, probably, and my recollection was that it was
4 somewhere in June or late July, early July or late June,
5 to help them determine if there was anything in the
6 Quadrex report that would have impact upon the hearings
7 that were about to begin. They wanted to have the
8 opportunity to discuss whether there were any impacts or
9 correlations.

10 Q Now, the hearings began in May of 1981.

11 A Then I'm not clear as to what hearings we're
12 speaking of.

13 Q The licensing hearings began, if I'm correct,
14 about May the 12th, 12th, approximately five days after
15 you delivered your report. But it wasn't in that five
16 days that you returned from San Jose?

17 A No, no, no, this was in late June or late July,
18 somewhere in there.

19 Q What was the nature of that meeting, what did
20 you discuss?

21 A They asked questions, you know, as to whether
22 one finding or another finding, and I helped prepare some
23 written material that it had no impact on construction or
24 QA, and it didn't address issues of construction or QA,
25 per se.

1 Q Who was present at that meeting?

2 A Mr. Robertson is the one that I recall. I did
3 have some interaction with Dr. Sumpter.

4 Q Anyone else that you --

5 A Not that I can recall.

6 Q Now, in this period from May 7th to September,
7 CCANP 104 was -- no, I'm sorry, September 81, never mind.
8 Strike that question.

9 Did you, at any time during the Quadrex study
10 up to May 7th, January to May, have any contact with the
11 attorneys for Houston Lighting & Power?

12 A None. There was no contact.

13 Q Between May 7th and September did you have any
14 contact with the attorneys?

15 A I don't recall any. I just simply don't recall
16 any.

17 Q In your visit in late June or early July, did
18 you talk to the attorneys at all?

19 A No.

20 Q On page five of your prefilled testimony,
21 question and answer 13, after May the 7th, did Quadrex,
22 in fact, perform a part 21 annalysis regarding the
23 Quadrex report?

24 A Yes, an internal review for part 21 was
25 conducted by three individuals that were off the project.

1 Q That were off the project?

2 A All three individuals had not been associated
3 with the project.

4 Q I'm going to distribute what I ask be marked as
5 CCANP 106.

6 JUDGE BECHHOEFER: What was 105.

7 MR. SINKIN: Let me double check. I thought I
8 had a 105.

9 MR. SINKIN: I may be in error. We'll mark
10 this 105.

11 (CCANP Exhibit 105 marked
12 for identification.)

13 Q (By Mr. Sinkin) Do you recognize these two
14 memorandums?

15 A Yes, I do.

16 Q Are the three individuals independent of the
17 project who made the part 21 review, Mr. Leonard, Mr.
18 Golden and Mr. Ready?

19 A That's correct.

20 Q And their determination was that there was
21 nothing reportable under 10 CRF 21?

22 A That is correct. We had turned over all three
23 volumes and they felt that anything that we needed to
24 provide to HL&P was satisfied by Volume 1. That's what
25 that paragraph says.

1 Q Would part 21 require you to do anything more
2 than simply inform HL&P of a deficiency? Does Quadrex
3 have an independent reporting requirement under part 21?

4 A It's my understanding that yes, Quadrex did
5 have an independent reporting requirement.

6 Q And that was addressed by the three gentlemen
7 as well?

8 A We asked these three individuals to review the
9 report and in their estimation, did they see anything
10 that would trigger a 10 CFR 21 report. Their answer was
11 no. I then was asked to make the first letter.

12 Q That you are referring to as the memo from
13 you to Mr. Wray?

14 A Right. I was asking to prepare that memo
15 putting me on the record that I agreed with their
16 assessment.

17 Q Did Mr. Wray initiate the Part 21 inquiry?

18 A Yes, he did.

19 Q And the basis for a Part 21 report is different
20 from the basis for a 50.55(e) report. Is that correct?

21 A Yes, it is.

22 Q For Part 21, what you're looking for is a
23 specific defect in place in finished work. Is that your
24 understanding of Part 21?

25 MR. GUTTERMAN: Mr. Chairman, as I recall it,

1 there is no issue that the Board has designated regarding
2 reporting under Part 21 and certainly there's no issue
3 about whether Quadrex fulfilled any responsibilities it
4 might have under Part 21.

5 We're entering into this line of examination
6 about exhibits and questions about Part 21 that I just
7 see no relevance to or no reason I can see why this is at
8 all material to the issues in the proceeding.

9 MR. SINKIN: Mr. Chairman, I think the reasons
10 that Quadrex performed a Part 21 analysis, the particular
11 findings that led them to perform a Part 21 analysis
12 gives an indication of which findings they felt were
13 perhaps the most serious in terms of their
14 responsibilities to report to the NRC and give us some
15 view independent of HL&P as to which findings are indeed
16 the more serious.

17 MR. REIS: Mr. Chairman, again I must go back
18 to the order of May 17th, and what the Board designated
19 was in issue. And all these attempts to go beyond that
20 and we've gone far beyond those findings today and this
21 afternoon, spent a large amount of time beyond those
22 particular ones called out in the Board's previous order.
23 I think it's not relevant to what the Board has said
24 before and we've spent an inordinant amount of time this
25 afternoon on those matters.

1 (Discussion of the record.)

2 JUDGE BECHHOEFER: Mr. Stanley, let me ask you
3 something. Do you know what the words in the May 18th
4 memo from Leonard and others to Mr. Wray, the words quote,
5 "except as reported to the client in this executive
6 summary;" do you know what that had reference to? Which
7 particular findings or --

8 THE WITNESS: I tried to clarify that in my May
9 18th letter that the executive summary was the Volume 1
10 of the Quadrex report.

11 JUDGE BECHHOEFER: I recognize that.

12 THE WITNESS: You mean --

13 JUDGE BECHHOEFER: What findings are you
14 referring to there.

15 THE WITNESS: In this May 18th letter from Greg
16 Leonard? Basically what he's saying is that he found,
17 the three member team, found nothing among the 303
18 findings, found nothing that was reportable under
19 50.55(e) or 10 CFR 21.

20 JUDGE BECHHOEFER: Then the except language
21 says something different and that's what I'm trying to
22 figure out what that means.

23 THE WITNESS: Mr. Leonard was the in-house
24 attorney for Quadrex. I'm quite sure he prepared that
25 paragraph. I don't know how to read it exactly except

1 that he found nothing. I think all he's saying is that
2 acknowledging that we reported the material in Volume 1
3 to HL&P, the client, and that that -- I think he's just
4 acknowledging that that was transferred to them.

5 JUDGE SHON: But does that mean that everything
6 they reported in the executive summary is reportable
7 under one of these two or --

8 THE WITNESS: No.

9 JUDGE SHON: Or under a -- neither of these two
10 or under both or what?

11 THE WITNESS: I read the sentence is that
12 nothing contained in the subject report.

13 JUDGE SHON: Except as reported to the client
14 in the executive summary and and awful lot of material
15 was reported to the client in the executive summary.

16 THE WITNESS: I guess I'm at this point unable
17 to answer the question. I don't know what that means.

18 JUDGE BECHHOEFER: When you said you concurred
19 with the assessment, what was your view?

20 THE WITNESS: Well, it's stated in my letter,
21 stating that the Volume 1 executive summary report
22 satisfies the deficiency reporting needed between Quadrex
23 and HL&P.

24 JUDGE BECHHOEFER: Does that say --

25 THE WITNESS: Just transmittal of the report

1 was sufficient.

2 JUDGE BECHHOEFER: Right. But you did not
3 think that under Part 21, for instance, the executive
4 summary should have been sent by you to NRC?

5 THE WITNESS: Oh, that's correct. We had
6 simply an insufficient amount of information on any one
7 of those findings; we clearly did not have a sufficient
8 amount of information to say that we know with certainty
9 that there is a defect in a basic component. We simply
10 didn't have enough information to make that
11 determination.

12 If you look at the 303 findings and the 2600
13 manhours, we spent an average of eight manhours per item.
14 That's simply not sufficient to make 10 CFR Part 21
15 determinations. You need to look at a lot more evidence
16 before you make those determinations.

17 JUDGE BECHHOEFER: I think given the various
18 answers we've had, we'll probably have to sustain the
19 objections to the original question that was asked.

20 Q (By Mr. Sinkin) Mr. Stanley, when the NRC
21 contacted HL&P in September of 1981 about HL&P turning
22 Quadrex report over to the NRC, did HL&P contact you at
23 that time?

24 A No, they did not.

25 Q Now, between the time the Quadrex report was

1 released in September of 1981 and the preparation of the
2 draft of the Bechtel task force report that you responded
3 to, did you have any other contacts with HL&P regarding
4 the Quadrex study?

5 A No, we had no further contact on the South
6 Texas Project. We had no further contact with HL&P on
7 the South Texas Project report.

8 Q In looking at CCANP 104, you received a letter
9 from HL&P -- no, apparently from Bechtel, Mr. Ashley at
10 Bechtel, you received a letter on February 12, 1982,
11 asking for your comments on the Bechtel task force
12 report?

13 A Yes, we did receive a letter from Mr. Ashley.

14 Q And accompanying the letter was the draft of
15 the report?

16 A I believe so, yes.

17 Q When you got it?

18 A I believe so.

19 Q And then from the time you received it until
20 March the 2nd, was when you prepared your response?

21 A Yes.

22 Q And did you say that this is solely your work
23 or did you consult with other people in Quadrex?

24 A On a couple of occasions, several of these
25 issues, I did go back to the technical expert and go over

1 the Bechtel position and go over the proposed resolution.
2 But in general, the vast majority of this letter I
3 prepared myself; Mr. Wray reviewed the entire letter,
4 commented on it; I incorporated his comments.

5 Q Did you and Mr. Wray have any significant
6 differences of opinion about the responses?

7 A Not the technical content. The major
8 contribution he made was in terms of tone, phrasing.

9 Q Did you feel that the Bechtel task force had
10 been unduly critical of task force in their approach?

11 A My concern was not whether they were critical
12 of our work or not; that didn't particularly bother me.
13 What did bother me was that they were making statements
14 as to their assessment based upon oral inputs from Brown
15 & Root and others without having checked any of the
16 technical evidence.

17 So I thought that many of their positions were
18 based upon their past experience as to how Bechtel would do
19 it, rather than on whether Brown & Root had done the work
20 or was capable of doing the work.

21 I think that was the area of major
22 disagreement. I viewed them as seeing the issue through
23 their eyes and not necessarily through an examination of
24 the documents, that we had looked at.

25 Q I see in the second paragraph, you say that at

1 the end, in many instances, these Bechtel assessments
2 appear to reflect modified designs subsequently
3 accomplished by Brown & Root rather than the actual state
4 of design reviewed by Quadrex in March of 1981.

5 A That was my feeling at the time; I have no way
6 of verifying whether it was actually true or not. But a
7 considerable amount of time had passed and it was my
8 assumption that by that time, knowing the areas that we
9 had pointed out that the engineering organization would
10 have taken corrective action.

11 JUDGE BECHHOEFER: Were you referring to
12 actions taken by Brown & Root between May and September
13 of '81.

14 THE WITNESS: Yes, yes, that's what I was
15 referring to.

16 Q (By Mr. Sinkin) On page 3-11 of the Quadrex
17 report, item J, the first paragraph near the bottom --

18 JUDGE BECHHOEFER: Is this the one that should
19 be I.

20 THE WITNESS: Yes.

21 MR. SINKIN: There is the one that should be I,
22 yes.

23 JUDGE BECHHOEFER: Okay.

24 Q (By Mr. Sinkin) You state that an abnormally
25 high error rate was observed in calculations. We're in

1 the nuclear related analysis section here. Turning to
2 your comment four in CCANP 104, your comments on the Bechtel
3 task force report, you may want to look at line
4 item 20?

5 My question is whether the failure to include
6 an appropriate pressure load in the duct ring
7 calculation is something you would consider an error in a
8 calculation?

9 A If I could have a minute, I'd like to look at C
10 12.

11 Yes, the answer -- I would consider that an
12 error in modeling or an error in inputs.

13 (No hiatus.)
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1 Q Turning to 3-3 of the Quadrex report, page 3-3
2 of the Quadrex report, item 2, you state the
3 calculations containing errors are being reviewed and
4 verified as correct with a higher frequency than should
5 be encountered.

6 Does this same duct ring item fall into that
7 category?

8 A Yes, it's referenced as question C-16.

9 Q That is question C-16?

10 A Along with H-15 and the N-1 and N-17.

11 Q And what you're saying in comment 4 is that
12 there is a -- well, Bechtel says in their assessment
13 that there is a reanalysis of that calculation going
14 on. What you're saying in comment 4 is at the time you
15 did the Quadrex study, there was no reanalysis available
16 for you to review?

17 A And that's all we're saying.

18 Q That's all you're saying.

19 MR. GUTTERMAN: I'm kind of confused by the
20 last question and answer. The question paraphrased, I
21 guess, that's a terrible way of putting it, the
22 statement in the exhibit. I'm not sure --

23 MR. SINKIN: Well, let me -- I'll walk through
24 it again if it's not clear in the record.

25 MR. GUTTERMAN: Thank you.

1 Q (By Mr. Sinkin) Looking first at line item 20
2 in the Bechtel task force report. The Bechtel
3 assessment stated that Brown & Root stated there were
4 past problems with this design calculation, but they
5 were reanalyzing these calculations. Then it says
6 Quadrex stated that the plan for the reanalysis was
7 acceptable.

8 MR. GUTTERMAN: Right.

9 Q (By Mr. Sinkin) In your comment 4, part of
10 what you're saying is you never actually saw the
11 reanalysis itself.

12 A That is correct.

13 Q Okay.

14 A Comment 4 is really a triviality. I stated
15 again that the plan for reanalysis was acceptable and
16 all I was trying to say to Bechtel was we didn't look at
17 the reanalysis.

18 Q The actual reanalysis.

19 A I just wanted them to know that.

20 Q Okay.

21 MR. GUTTERMAN: Thank you.

22 Q (By Mr. Sinkin) Turning to comment 5 in 104.

23 A Okay.

24 Q If you would just take a moment to refresh
25 yourself on the comment itself.

1 A The comment, okay.

2 Q All right?

3 Is it correct that during the Quadrex study
4 four separate disciplines could not provide Quadrex with
5 a response to the technical requirements for
6 consideration of failure modes and effects or single
7 failures?

8 A If I can be permitted, I'd like to phrase
9 exactly what was stated.

10 Q Fine.

11 A I asked four specific disciplines to provide
12 me with their informal list of single failures that they
13 considered in doing a failure mode and effects
14 analysis. None of the four disciplines provided me with
15 that list. I did not get down to the determination as
16 to whether they could or could not, I could only note
17 that they did not.

18 Q They did not.

19 Then given that these four disciplines did not
20 respond to your questions combined with the fact that
21 you found an instrument line blockage, was that part of
22 the basis for generic finding 3.1(a) at 3-1?

23 A What page is that generic?

24 Q 3-1 at the bottom.

25 A Oh, page 3-1.

1 Q I'm sorry, yes, page 3-1, finding 3.1(a), at
2 the beginning states, "There is no indication that an
3 effective systems integration and overview function
4 exists within the Brown & Root design process."

5 Was this an example of not having a systems
6 integration and overview function?

7 A No, I didn't view it that way. That
8 particular one supports a different generic.

9 Q Which generic? Would it be 3.1(e)?

10 A E on page 3-7, yes.

11 Q Looking at your comment 5 and the assessment
12 of line item 212 which you reference in that comment,
13 apparently the original assessment for line item 212,
14 the one in the draft said that the design assurance
15 group would review the FMEA work to be performed by the
16 disciplines but not actually perform it. Do you
17 remember that?

18 A No, I don't remember that. Are you referring
19 to the first line of my comment?

20 Q Yes.

21 A The first sentence of my comment?

22 Q Yes.

23 A The first sentence of my comment says that the
24 Bechtel evaluation contradicts as to whether the Brown &
25 Root design assurance group would review the FMEA's as

1 prepared by the discipline groups or would prepare the
2 FMEA's themselves. That's a direct response to the task
3 force report which stated that Brown & Root stated a
4 FMEA would be performed, and the key is here, and/or
5 reviewed by their design assurance group. The and/or is
6 an indicator of a lack of precision as to which group
7 would do it and which group would review it and I was
8 responding to that and/or.

9 Q I guess what I'm seeking is the basis for
10 saying there's a contradiction between the assessment of
11 item 48 and the assessment of item 212.

12 A Oh, okay. Excuse me for a minute. I'll look
13 that up.

14 Okay. Now, line item 48 in the Bechtel task
15 force report is addressing the instrument line single
16 failure that was identified in the fuel handling
17 building and the task force assessment states that
18 "Brown & Root stated that the design assurance group had
19 the responsibility for reviewing designs and performing
20 and/or," again an imprecision, "reviewing failure modes
21 and effects analysis. Details of their scope of
22 responsibility were reviewed and it appears that this
23 methodology is reasonable and should ensure."

24 So, Bechtel is saying they intended to accept
25 Brown & Root's --

1 Q Right.

2 A I'm saying they still haven't answered the
3 question as to who's going to do the work and who's
4 going to review it.

5 Q I understand that, that that was your concern
6 when you read this. All I'm really trying to get at is
7 apparently when you read the draft there was a
8 contradiction between what was stated in item 48 and
9 what's stated in item 212.

10 MR. GUTTERMAN: Mr. Chairman, I'm --

11 Q (By Mr. Sinkin) My assumption was that
12 apparently the original item 48 did not include the
13 design assurance group either performing or reviewing,
14 one or the other, the failure modes and effects
15 analysis.

16 MR. GUTTERMAN: Mr. Chairman, I'm having a
17 hard time understanding why it's material to this
18 proceeding what this report said in a draft that was
19 commented on back in 1982 which was well after HL&P had
20 received the report and done its reportability review.

21 MR. SINKIN: I was going to seek the basis for
22 the change, if he knew it, from the draft to the final
23 report.

24 MR. GUTTERMAN: And ask him to speculate on
25 why the authors of this report changed it. That just

1 heightens my objection.

2 MR. SINKIN: I was going to ask if he knew the
3 basis for why they changed it, not speculate.

4 MR. GUTTERMAN: Mr. Chairman, I can't see why
5 that information, whether he knows why it changed or
6 not, would be at all helpful to understanding the issues
7 we're dealing with in this proceeding.

8 MR. SINKIN: Since the witness doesn't seem
9 familiar with the contradiction itself, Mr. Chairman,
10 I'm ready to move on to another item.

11 JUDGE BECHHOEFER: Mr. Stanley, I would like
12 some clarification, even though Mr. Sinkin is prepared
13 to move on. But before we do, were you stating as to
14 item 48, line item 48, and I guess also line item 212,
15 that unless the actual functions performed by the design
16 assurance group were spelled out precisely, that the
17 methodology of system design review was not reasonable?

18 In other words, were you disagreeing with
19 Bechtel that unless definite responsibility were
20 assigned in terms of review and comparing, I guess,
21 preparing these FMEA documents, unless it was definitely
22 assigned, are you saying that is not a reasonable
23 solution to the problem that the Quadrex report --

24 THE WITNESS: That's precisely what I was
25 trying to express was that Bechtel's acceptance of this

1 ambiguity, whether it would be the discipline group or
2 the system design assurance group, their acceptance of
3 that ambiguity was not correct, it was unacceptable.

4 But there was a deeper thing that I was
5 driving at and that is that those of us that
6 participated in the early design phases of this industry
7 quickly learned that it was unwise to have a separate
8 group assigned responsibilities like things for
9 reliability, things for single failure analysis; that if
10 you had separate groups set up to do these tasks, the
11 designer would have a tendency to become lax and not be
12 as careful in his design efforts and therefore these
13 groups -- he would defer to these groups, well, they'll
14 catch it, they'll find the problem.

15 So, there was a strong push in the design
16 organizations that I participated in that when you had
17 subjects like reliability, you pushed those down to the
18 individual designers and you held them responsible and
19 that that was the best way to get a complete thorough
20 engineering job.

21 I didn't state it, but that was behind that
22 comment. Not only should they make the assignment, but
23 they should not make the assignment to the system design
24 assurance group, that's wrong. It should be pinned down
25 to the designer. The system design assurance group

1 reviews it.

2 JUDGE BECHHOEFER: Do you think the failure,
3 or in your opinion do you think the failure to assign
4 responsibility represented any QA deficiency or problem?

5 THE WITNESS: No, I don't believe that it is a
6 QA deficiency. In my mind it's clearly a management
7 deficiency, a management weakness. If the work isn't
8 being assigned, then it's probably not getting done and
9 therefore it just costs more money and it takes longer.
10 But until they do the work, you can't really make the QA
11 determination as to whether it was done correctly or
12 done incorrectly.

13 JUDGE BECHHOEFER: Would it be a deficiency in
14 the QA program for design not to have assigned definite
15 responsibilities for --

16 THE WITNESS: I don't believe that I would put
17 it into that category. I think it's more fundamental.
18 I think it's an engineering management planning,
19 prioritizing, scheduling problem. I think it's in that
20 vein. That's how I viewed it.

21 JUDGE BECHHOEFER: Thank you.

22 We were just looking at time. Would we rather
23 stay here while it's raining or are you at a -- getting
24 to a place where --

25 MR. SINKIN: I can break here. That's fine.

1 We can see what the weather's like, if you want.

2 MR. PIRFO: What if it rains till 8:00
3 o'clock?

4 MR. SINKIN: Yeah, really.

5 JUDGE LAMB: Mr. Beef, is it raining?

6 MR. BEEF: It's a light, light rain.

7 JUDGE BECHHOEFER: A light?

8 MR. BEEF: Well, I can see the street now.
9 You'd get wet going to the car, but it's not a
10 gully-washer.

11 MR. GUTTERMAN: I assume we don't want this on
12 the record.

13 JUDGE BECHHOEFER: Off the record.

14 (Discussion off the record.)

15 JUDGE BECHHOEFER: What would the parties wish
16 to do? We don't have any strong preference. We
17 wouldn't go too far, but --

18 MR. SINKIN: Well, Mr. Chairman, I feel like
19 I've had a long day. I wouldn't mind breaking.

20 JUDGE BECHHOEFER: I guess Mr. Stanley's had a
21 long day, too.

22 THE WITNESS: It doesn't matter.

23 MR. GUTTERMAN: I wonder if we could get a
24 time estimate for completing Mr. Stanley's testimony.

25 JUDGE BECHHOEFER: We might have to talk to

1 Mr. Sinkin first.

2 MR. SINKIN: It would not be within the next
3 fifteen minutes.

4 MR. GUTTERMAN: Well, I wasn't suggesting
5 that. I'm just suggesting that Mr. Stanley has to make
6 plans on whether he's going to go back home tomorrow.
7 We have to make plans on whether the next witness panel
8 will be on tomorrow. Those are the kinds of
9 considerations I had in mind in asking the question.

10 JUDGE BECHHOEFER: Well, we could go off the
11 record. Why don't we -- we'll conclude for the day, but
12 we'll discuss this after we close the record.

13 So, we'll be back at 9:00 o'clock tomorrow in
14 this room.

15 (Hearing recessed at 6:05 p.m.)
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CERTIFICATE OF OFFICIAL REPORTER

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: Monday, July 29, 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

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