

ORIGINAL

UNITED STATES
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

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

HOUSTON LIGHTING AND POWER COMPANY,
et al.

(SOUTH TEXAS PROJECT, Units 1 and 2)

EVIDENTIARY HEARING

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

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University of Houston
Teaching Unit II, #215
Houston, Texas

Wednesday, 7 August 1985

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

BEFORE:

JUDGE CHARLES BECHHOEFER, Chairman,
Atomic Safety and Licensing Board.
JUDGE JAMES C. LAMB, Member,
Atomic Safety and Licensing Board.

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

4 APPEARANCES:

5 On behalf of the Applicants:

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7 ALVIN GUTTERMAN, Esq.,

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11 Washington, D.C.
12

13 On behalf of the Nuclear Regulatory Commission Staff:

14 EDWIN J. REIS, Esq.,

15 ORESTE RUSS PIRFO, Esq.,

16 Office of the Executive Legal Director
17

18 On behalf of the Intervenor:

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21 Washington, D.C. 20008

22 Representative for Citizens Concerned About

23 Nuclear Power.
24
25

1 WEDNESDAY, AUGUST 7, 1985

2 C O N T E N T S

3
 4 WITNESSES: DIRECT CROSS REDIRECT RECROSS BOARD
 5 CLOIN ROBERTSON 14608 14707 14772 14799 14720
 6 14713 14801

7
 8 EXHIBITS: FOR ID. IN EVD
 9 CCANP Exhibit 128 14673 14674
 10 CCANP Exhibit 129 14675 14682
 11 CCANP Exhibit 130 14685 14687
 12 CCANP Exhibit 131 14687 14691
 13 CCANP Exhibit 132 14691 14695
 14 CCANP Exhibit 133 14704 14706

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1 P R O C E E D I N G S

2 JUDGE BECHHOEFER: Good morning, ladies and
3 gentlemen. Are there any preliminary matters this
4 morning?

5 MR. GUTTERMAN: I have the page to complete
6 CCANP Exhibit 72.

7 JUDGE BECHHOEFER: Okay. Any other matters?

8 MR. SINKIN: No.

9 CLOIN ROBERTSON

10 testified further upon his oath as follows:

11 DIRECT EXAMINATION CONTINUED

12 By Mr. Sinkin:

13 Q Good morning, Mr. Robertson.

14 A Good morning.

15 Q Did you attend the April 30th briefing that
16 Quadrex gave to Houston Lighting & Power?

17 A No.

18 Q Can you tell me why you didn't attend that
19 briefing?

20 A Not definitively. During that period of time,
21 I was heavily engaged in handling the licensing
22 activities with Allens Creek, and I can only guess that
23 something in that area had occupied my time to the point
24 where I considered that more important than attending
25 this particular briefing.

1 Q Did you attend the May 7th Quadrex briefing of
2 Houston Lighting & Power and Brown & Root?

3 A No.

4 Q Would that have been for the same reason, that
5 you were involved with Allens Creek?

6 A As I recall, I received a set of Quadrex report
7 volumes reasonably early that morning and I elected to
8 spend my time starting my review of that report rather
9 than attend a particular briefing session that Quadrex
10 was having with Brown & Root.

11 Q When did Mr. Goldberg first inform you that you
12 were to be part of the three person review team for
13 Houston Lighting & Power to decide on notifications?

14 A Mr. Goldberg and I discussed that, it seems to
15 me it was sometime during the first few days of May in
16 detail as to how we would handle our review. I can't be
17 exact, but it seems to me it was a matter of three or
18 four days prior to the receipt of the report. And at
19 that discussion, we decided that the review would be done
20 by Mr. Goldberg and myself and Dr. Sumpter.

21 Q Did you attend the May 7th Brown & Root meeting
22 where Quadrex findings were discussed?

23 A Yes.

24 Q What was your role in that meeting?

25 A Observer, listening to and taking as much

1 information as I could from the Brown & Root
2 presentations so that I would have as much understanding
3 of the Brown & Root assessments as possible.

4 Q Did you contribute directly to the discussion
5 or were you simply an observer?

6 A I was an observer strictly, except that the one
7 point at the end of their discussion of computer codes, I
8 made the observation to the group in words somewhat like
9 this, that I suggest that they look carefully at this
10 matter because it was an issue of importance to Mr.
11 Goldberg and myself. Those are pretty close to the words
12 I used.

13 Q Computer codes had been identified since the
14 beginning of the Quadrex report as an issue, is that not
15 correct?

16 A I don't know, except the first time I heard
17 anything about it was at the April 13th meeting of
18 Quadrex.

19 Q That you had a concern since April the 13th at
20 least about that issue?

21 A I knew that that was an issue that Quadrex was
22 addressing and it was an issue I was interested in.

23 Q Were you sitting with Dr. Sumpter in that Brown
24 & Root meeting?

25 A I believe we were sitting side by side.

1 Q What was his role in the meeting?

2 A As I recall, he did not say anything at the
3 meeting. He and I talked to each other from time to time
4 but I don't recall Dr. Sumpter saying anything to the
5 group at large.

6 Q Were you taking notes during that May 7th
7 meeting?

8 A No.

9 Q Was Dr. Sumpter?

10 A I don't remember.

11 Q Were you present -- well, at any time while you
12 were present, did Brown & Root make a decision to refer
13 some Quadrex findings to NUS for a response?

14 A I don't recall -- I do not recall Brown & Root
15 doing anything to refer anything to anybody else during
16 that meeting. They were under instructions to come to
17 conclusions by the next morning. I don't recall them
18 referring any matters on to any other entity except
19 themselves.

20 Q Let me ask your counsel to show you CCANP 96
21 and 97 and see if this in any way refreshes you memory?

22 A 96 and 97?

23 Q Right, they go together.

24 A I still do not recall any particular statements
25 made that evening that would be a reference of Brown &

1 Root to matters object on to NUS. It could have
2 happened. I don't know.

3 Q You've never seen 96 or 97 before?

4 A Yes, I've seen them before.

5 Q When did you see them prior to today?

6 A Well, I can't tell you for sure at the times
7 I've seen them, but I saw the May 11th NUS letter some
8 time in my review of Quadrex issues getting ready for
9 this proceedings.

10 Whether I've seen it before then or not, I
11 don't know. I can't be definitive, but I know I saw it
12 at that point and I must -- you know, I've seen the May
13 8th also as part of this same activity, but I can't tell
14 you that I've seen it before recent months. I may have,
15 I just don't -- I can't recall.

16 MR. SINKIN: Mr. Chairman, my notes don't
17 reflect that these are actually in evidence. I would
18 like to move CCANP 96 and 97 into evidence at this time.

19 MR. GUTTERMAN: I would object to that, Mr.
20 Chairman. I can't see that anybody has authenticated it
21 and I don't see what the basis is or how it could be
22 offered to prove anything.

23 MR. REIS: That's the main part of the staff
24 objection is that it has no probative value. Nobody's
25 said anything about it.

1 MR. SINKIN: Well, these letters --

2 MR. REIS: It's just not material.

3 MR. SINKIN: These letters demonstrate that
4 there were at least some items on May the 8 that Brown &
5 Root referred to somebody else for response that was not
6 received until May the 11th.

7 MR. REIS: That doesn't show that.

8 MR. SINKIN: It shows that the items referring
9 to NUS were referred to NUS for response and that NUS
10 responded on May the 11th.

11 MR. GUTTERMAN: First of all, I think Dr.
12 Sumpter testified about this very matter and explained
13 why Mr. Sinkin's explanation of this matter is not the
14 only one, it's probably not the right one. And there's
15 no testimony to put these things in perspective other
16 than Dr. Sumpter's which was not based on a knowledge of
17 these specific documents.

18 No witness has told us what these documents
19 are, and why they were written; nobody's authenticated
20 it; I can't see that it proves anything.

21 MR. REIS: Further, it's just not probative to
22 whether the matters should have been reported in that it
23 doesn't -- if you look at 97, there's nothing there, as
24 to whether anything should have been reported.

25 JUDGE BECHHOEFER: We're trying to figure out

1 if we've previously ruled on this document at all.

2 MR. REIS: I can't fine a ruling on it.
3 Unless it went over to the next day.

4 MR. SINKIN: I don't think they were offered.
5 That's what I had my note here.

6 JUDGE SHON: Okay. We don't think they were
7 offered either.

8 JUDGE BECHHOEFER: The Board will decline to
9 admit these two documents. I would say at least as of
10 this time, given the authentication.

11 Q (By Mr. Sinkin) After the Brown & Root meeting
12 adjourned on May the 7th, did you and Dr. Sumpter discuss
13 the Quadrex review further that evening?

14 A No.

15 Q How about the next morning?

16 A Yes, we did discuss it the next morning.

17 Q Can you tell me the circumstances that that
18 discussion took place in?

19 A Only that we met. I can't recall whether it
20 was my office or his office, we were both in the same
21 building; and we discussed various matters. I don't
22 recall what they all might be. But I believe I can
23 clearly recall that we discussed shielding calculations,
24 and there may have been other matters.

25 That's the only one that I could attest to

1 clearly that was discussed. I'm sure there were a lot of
2 others.

3 Q Was this just you and Dr. Sumpter; was anyone
4 else present?

5 A Yes, I recall it was just the two of us.

6 Q Was Dr. Sumpter surprised that Brown & Root had
7 identified only one potentially reportable finding?

8 MR. GUTTERMAN: Objection. I think the
9 question ought to be -- we've been through this about ten
10 times now, why don't you ask him if Dr. Sumpter said he
11 was surprised.

12 Q (By Mr. Sinkin) Did Dr. Sumpter indicate to
13 you that he was surprised that Brown & Root had
14 identified only one potentially reportable finding?

15 A I don't recall he and I discussing any in that
16 fashion. I don't -- I can't -- I can't recall any
17 statement by Dr. Sumpter that he was surprised about the
18 Brown & Root's determinations. We -- I'm sure, we did
19 discuss the fact that we didn't agree at that point, the
20 morning of May 8th; we were not in agreement with what
21 determinations Brown & Root had made.

22 Q There were other findings at that time that you
23 and Dr. Sumpter thought were potentially reportable?

24 MR. GUTTERMAN: I'm sorry, what's got me lost
25 is other than what?

1 MR. SINKIN: Other than the one Brown & Root
2 said was potentially reportable.

3 A Yes. I believe we were both of the same
4 opinion during the evening before that the computer code
5 situation was representative of a potentially reportable
6 condition, and I believe Dr. Sumpter, from my impression
7 of our discussions, had -- I have the impression he had
8 reached a conclusion that the shielding calculations were
9 in that same category and we were, between the two of us,
10 discussing it further.

11 I know we discussed both of those issues the
12 next morning. And that we, before we -- before noon, we
13 had both concurred with each other in terms of the
14 shielding calculations and computer code case.

15 Q Were there any other findings at that time when
16 you and Dr. Sumpter were meeting that were, for lack of a
17 better term, a close call, but you decided weren't
18 potentially reportable but you seriously considered it?

19 A I don't recall -- Well, I would -- first of
20 all, to fully answer that question, I think I would have
21 to go through a very large number of those discipline
22 findings and refresh my memory somewhat. But two items
23 that we did discuss, I know we discussed, and I can't
24 recall the particulars in great detail, one of which was
25 the common instrument air line, that was, as I recall, a

1 very brief. And another one, which was more substantial
2 had to do with what I call the entire nuclear analysis
3 area.

4 Q By that do you mean the Quadrex section which
5 is nuclear analysis where all those questions are?

6 A That is correct.

7 Q You had a more substantial discussion about
8 that area of findings?

9 A Yes. It was somewhat general as well as
10 particular about certain things. I cannot recall at this
11 point what the particulars were except I know they
12 referred directly to the findings and the questions and
13 answers that supported those findings.

14 I would also -- I must say, that the evening
15 before we also had discussion between the two of us of
16 some of these same matters and it's no longer clear in my
17 head just which ones got discussed at what point in time
18 and to what extent.

19 Q The evening before was during the Brown & Root
20 review?

21 A Yes.

22 Q Between the time that you and Dr. Sumpter met
23 on the morning of the 8th and the convening of the review
24 team around noon on the 8th, did you have any further
25 discussions or meetings with anyone about Quadrex?

1 A Not that I can recall. I'm sure there were no
2 meetings. Whether or not I discussed anything further
3 with other members of the licensing staff, I can't
4 recall. Excuse me, I do recall something.

5 Q Okay.

6 A During that morning, I received information
7 from the licensing staff having to do with matters that
8 had been previously reported to the NRC under 50.55(e).
9 I can't remember when I asked them to start looking at
10 that but I did get the feedback from them that morning
11 relative to things that had previously been reported to
12 NRC.

13 Q Did they give you a printout, a document on
14 that?

15 A No. There was no printout or document. It
16 was, as I recall, a telephone conversation. And some
17 items were mentioned and I don't remember the complete
18 list. But as I recall, there was -- there were quite a
19 few items discussed on the phone as to whether or not
20 those were the same things as Quadrex had identified.

21 Q I'm going to ask your council to show you CCANP
22 82. Have you ever seen this document before, that you
23 recall?

24 A I have seen this one or something very similar
25 to it. At least with the same items that I see on here.

1 Q And when did you see that document?

2 A I don't recall when I might have seen this
3 particular one or if I've seen this exact one. But this
4 is a standard type of -- you know, this one, this is not
5 one of our standards. This is devoted strictly to
6 Quadrex issues. And would have been -- had to have been
7 prepared well after May the 8th. That's all I can tell
8 you about it.

9 Q What is it that tells you this was prepared
10 well after May the 8th?

11 A Because it would not have been possible, I
12 don't believe, for these items enumerated per the Quadrex
13 findings to have been put together in that time frame. I
14 didn't ask for such a thing in this form until, or a
15 particular printout of this, until well after May the
16 8th. There wasn't time to prepare this type of thing.

17 Q But during the morning of May the 8th, the
18 licensing staff did inform you about items in the Quadrex
19 report previously reported to the NRC. Is that correct?

20 A I had asked -- I gave them some particular
21 matters that had -- I had identified in reviewing the
22 Quadrex report that I wanted to know if we had reported
23 those previously.

24 Some of those matters were brought to my
25 attention by Dr. Sumpter who was much more familiar with

1 the list of previously reported matters than I was at
2 that time. And I wanted to confirm exactly what we had
3 reported to NRC relative to some of these issues.

4 Q Can you tell me which items in 82, CCANP 82,
5 you had asked your licensing staff to respond to?

6 A I can't attest to that. I asked them to
7 respond to this particular item, however I can recall
8 that they did inform me that the auxiliary feedwater pump
9 motors, the environmental qualification had been
10 previously reported, and that the second item on here
11 having to do with the MAB dead loads had been reported.

12 The item, I think it's on page 2, Incident
13 Review Committee report 71, I believe, if I have it
14 right, we had made a previous report to the NRC about a
15 breakdown in the QA program relative to vendor
16 surveillances, and I believe this is the one that refers
17 to that.

18 Number 78, cooling of primary shield
19 penetrations had been previously reported, and I was
20 aware of that one; or made aware of it. And No. 81,
21 "Cable tray support design," I believe, was, I believe
22 was one.

23 I can't be absolutely sure.

24 JUDGE LAMB: Excuse me. Mr. Robertson, with
25 respect to that one, reading the Quadrex finding, does

1 that relate to the deficiency that was reported to NRC?

2 THE WITNESS: I haven't read that. I was --
3 excuse me, I was just going down the list of what I
4 thought I recalled having had been -- having been
5 reported. I believe that was one -- I'll have to read
6 the Quadrex finding.

7 In response to your question, sir, I did not
8 regard this particular finding as being a candidate for
9 reportability, because it was discussing
10 over-conservatism and over-design not deficiencies in
11 design. So the correlation between this one and this
12 report 81, to me, does not correlate in a direct fashion.

13 But I was, I believe, aware that we had made an
14 NRC report on cable tray support design previous to the
15 Quadrex report being received.

16 JUDGE LAMB: My reason for asking was that the
17 title of the document is Quadrex findings previously
18 reported. And from what you've just told me, that
19 probably was not my interpretation --

20 THE WITNESS: No, sir, I believe what happened --
21 in fact, I know this is what happened, that a couple of
22 times after we received the Quadrex report, I had the
23 licensing people go through the Quadrex report and
24 correlate any finding to any previous report to NRC and
25 they did that regardless of whether the Quadrex finding

1 would have been representative of a potential reportable.
2 If Quadrex brought it up as a finding and we had made a
3 previous NRC report on -- relative to that issue, I
4 wanted that cross connection. And this is a document
5 that responded to that.

6 So strictly if Quadrex brought it up as an
7 issue, good, bad or indifferent, had we ever made a
8 report about anything related to that subject to NRC, and
9 that's the basis that I believe this document has been
10 prepared.

11 (No hiatus.)
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1 JUDGE LAMB: So, instead of being Quadrex
2 findings that had been reported, this is subjects --
3 you're relating subjects that were reported, Quadrex
4 subjects; is that correct?

5 THE WITNESS: We are talking about -- yes, we
6 are looking -- we are going through surveying the
7 Quadrex report. And if Quadrex had a finding about a
8 certain subject and we could find in our Incident Review
9 Committee files that we had made a report on that
10 subject, then the two got linked. They were really
11 independent of a determination of did the second column
12 really have any meaning to the first column, but except
13 in the sense that the same subject was addressed.

14 JUDGE LAMB: Thank you.

15 Q (By Mr. Sinkin) In terms of Incident Review
16 Committee reports, I'm not sure if you finished. There
17 was one more, the safety injection system.

18 A I can't recall whether that one was brought up
19 to me at that point in time or not.

20 Q Okay. In discussing the cable tray support
21 design, what was the 50.55(e) report made concerning
22 that support design?

23 A I don't know at this point. I don't recall.

24 Q In looking at the actual Quadrex finding on
25 that point, does the last sentence suggest to you

1 something that's non-conservative?

2 A No, it suggests to me that it's
3 over-conservative.

4 Q Let me just be sure I understand that sentence
5 because as I had read that sentence originally, it
6 seemed to indicate there was too much distance between
7 the supports.

8 MR. GUTTERMAN: Mr. Chairman, I object to the
9 question because we don't have a finding at issue that's
10 related to over -- well, to finding 4.1.2.3 whatever it
11 is, (i) or (l). It's just a waste of time to go into
12 it.

13 MR. SINKIN: Well, the Board has asked on more
14 than one occasion about this particular finding in light
15 of the fact that it seemed to be only about
16 over-conservatism. I'm trying to just clarify that last
17 sentence if that's indeed all that this finding's
18 about.

19 JUDGE BECHHOEFER: I think we'll overrule the
20 objection.

21 Q (By Mr. Sinkin) Do you remember the
22 question? We're focusing on that last sentence.

23 Let me ask another question.

24 A Yes.

25 Q As I had read that originally, it seemed to be

1 saying that the distance between supports was excessive.

2 A Well, I did not interpret it that way and I
3 did not interpret it as representative of any type of
4 deficiency.

5 Q Okay. Was Mr. Powell in charge of preparing
6 this analysis for you?

7 MR. GUTTERMAN: Objection. Since he -- well,
8 I'm not sure which analysis we're talking about. Are we
9 talking about this document? Are we talking about --

10 Q (By Mr. Sinkin) The analysis that compared
11 Quadrex findings with IRC reports.

12 MR. GUTTERMAN: I'm still confused. Are we
13 talking about discussing on the morning of May 8th or
14 are we talking about this document which the witness has
15 prepared subsequently.

16 Q (By Mr. Sinkin) Let's try in terms of the
17 analysis on the morning of May 8th that was provided to
18 you, who did you talk to?

19 A As I recall, I asked Mr. Jacobi to undertake
20 that and I am sure that to do that he utilized Mr.
21 Powell to help him out since Mr. Powell kept the files.
22 So, I cannot understand how I could have got the
23 information without Mr. Powell having been involved.

24 Q And then the process continued beyond May the
25 8th. You had the licensing staff continue to try and

1 correlate reportable -- correlate Quadrex findings with
2 previous reports to the NRC?

3 MR. GUTTERMAN: Objection. If we are talking
4 about why things were or were not reportable on May 8th
5 in this hearing, subsequent reviews by the licensing
6 staff seem irrelevant to me.

7 MR. SINKIN: I assume you apply that to all
8 the subsequent reviews?

9 No, Mr. Chairman. This is the licensing staff
10 continuing to decide whether further items should be
11 reported. Not really. This is the licensing staff
12 providing information to Mr. Robertson upon which he can
13 decide whether items have previously been reported and I
14 think it is relevant to the continuing views of this
15 report by Mr. Robertson and HL&P management.

16 MR. GUTTERMAN: Well, we have Mr. Sinkin's
17 testimony on that. I don't think Mr. Robertson has
18 explained the purpose for the subsequent document.

19 MR. SINKIN: I would be willing to ask that
20 question, Mr. Chairman, just to get the ball rolling.

21 JUDGE BECHHOEFER: We'll overrule that
22 objection.

23 Q (By Mr. Sinkin) The question, Mr. Robertson,
24 was whether after May the 8th the process continued of
25 the licensing staff attempting to correlate Quadrex

1 findings with previous notifications to the NRC by HL&P.

2 A Well, I can answer it this way. The licensing
3 staff did correlate those matters. They did it on more
4 than one occasion. I can't remember exactly how many
5 times we went through the process of review.

6 One of those times was relatively soon after
7 May the 8th. And, as I recall, I received from Mr.
8 Powell just two or three pages of handwritten notes that
9 made that initial correlation. On other occasions later
10 that was also rereviewed. One of those times was as
11 late as 1983 -- excuse me, I believe it was 1983 as we
12 were looking over the status of the Quadrex issues.

13 But there were more than -- there was more
14 than one such look and relook at these issues.

15 Q Was this particular document ever presented to
16 you?

17 A I can't attest to this particular one. I've
18 seen some that were very similar to this, if not this
19 one.

20 Q What was your purpose in requesting the
21 licensing staff to correlate these two items?

22 A After May the 8th, I continued periodically to
23 further review the issues raised in the Quadrex report
24 and from time to time I would have a question. I would
25 start looking for answers to that question, what other

1 information did we have about that issue. And among
2 those questions occasionally would be have we reported
3 this or something similar to this to the NRC already.

4 So, this was just one of several sources of
5 information that I reached out for to understand a
6 particular Quadrex issue in more detail.

7 Q But I believe you testified that the first
8 discussion was actually on May the 8th, so you had --

9 A Yes.

10 Q -- been assigned this task on May the 7th?

11 A Yes. Because one of the things that
12 registered with me when I read the Quadrex report was a
13 matter dealing with the aux feedwater pump. And if we
14 had not previously reported that, the way it was stated
15 in Quadrex my first inclination would have been this is
16 a reportable matter or potentially reportable. However,
17 as I recall, Dr. Sumpter made me aware very early on
18 that this matter had already been reported. So, that
19 keyed me to looking to see just what had we reported
20 that related to Quadrex, the Quadrex report.

21 I would also note that Mr. Jacobi, senior
22 licensing engineer in the group, supervising engineer,
23 senior in terms of time in the licensing group, was also
24 well aware of previous 55(e) reports. He also looked
25 over the Quadrex report on his own and I'm sure that he

1 provided me information about some of these matters that
2 had been previously reported, as well as Dr. Sumpter.

3 Q So, Mr. Jacobi had a copy of the Quadrex
4 report?

5 A He either had one or had access to one, yes.

6 Q And Mr. Powell had a copy of the Quadrex
7 report?

8 MR. GUTTERMAN: Could we get a time frame
9 involved in this?

10 Q (By Mr. Sinkin) I'm talking about May the
11 8th, 9th, 10th, that time frame.

12 A I don't know whether Mr. Powell had one at
13 that point or not.

14 Q You said you assigned this task on May the 7th
15 to try and correlate these two items.

16 A I started inquiries on May the 7th within the
17 licensing staff to provide me information relative to
18 matters we might have reported to NRC previously that
19 were also subjects of findings in the Quadrex report. I
20 don't believe I made any blanket assignment of go review
21 the Quadrex report against the 55(e) file and see which
22 ones correlate. I don't believe I made that kind of an
23 assignment at that point in time.

24 Q More of a see what's familiar to you kind of
25 assignment?

1 A It was more here are some issues that we think
2 have been previously reported, confirm it for me and
3 tell me anything else that you see that looks like it
4 could be.

5 Q Was the meeting the evening of May the 7th at
6 Brown & Root, was that the first time you actually --
7 no, you said you got the three volumes the morning of
8 May the 7th and started your review then.

9 A That's correct.

10 Q Was it between that point and the beginning of
11 the Brown & Root meeting that you initiated this task at
12 the licensing division?

13 A Yes.

14 Q And was it Mr. Jacobi who called there?

15 MR. REIS: Asked and answered.

16 MR. SINKIN: The only trouble I have, Mr.
17 Chairman, is my notes reflect that originally he thought
18 it was May the 8th and that he assigned the task to Mr.
19 Jacobi on May the 8th is what my notes say. I just want
20 to be sure that we're talking about May the 7th and that
21 he assigned it to Mr. Jacobi on May the 7th.

22 JUDGE BECHHOEFER: I suppose you can answer.
23 You probably have, but --

24 A I know that I discussed these issues with Mr.
25 Jacobi on May the 7th and the 8th and I am reasonably

1 certain that I also directly talked to Mr. Powell
2 perhaps on both of those days about the same matters.
3 As a follow up he could have called me to give me
4 information. I know that he called me on one occasion
5 to give me information.

6 So, there was a continuum of communication
7 going on. I can't pinpoint exactly to whom and when
8 during those two days. Both of the gentlemen were
9 deeply involved in it.

10 Q (By Mr. Sinkin) On May the 7th did you
11 provide either Mr. Jacobi or Mr. Powell with a copy of
12 the Quadrex report?

13 A No, I did not. In a direct fashion. Mr.
14 Jacobi may have used mine. I mean, his desk was right
15 across the hall.

16 Q I see.

17 A And he may have used mine for part of the time
18 or part of my report. There were other copies made
19 available so it would not have been necessary for him to
20 do that.

21 Q Were you present when I think it's Mr. Stanley
22 actually delivered the copies to HL&P or did you get
23 your copy from someone at HL&P?

24 MR. REIS: Mr. Chairman, I'm going to object
25 to this line and the last six questions have not been

1 material at all. Going to it in this fine detail, we
2 don't have any question here apparently right now of
3 credibility that I see on these matters, and going into
4 this fine detail just adds nothing to the record and
5 just takes up time. It's just not material. It's not
6 probative of any issues who got one within which hour or
7 which day.

8 It's plain that they had the document then
9 and, you know, all these people that have been -- and
10 that they worked with them, they had them or they were
11 available to them. Whether it was at 9:00 a.m. or 10:00
12 a.m. or whether he was present when Mr. Stanley
13 delivered them, it's just not material to any issue that
14 this Board has to decide.

15 And I wouldn't make this objection if this was
16 the first question asked this way, but as I think back
17 the last six questions, they've all been not material.

18 MR. SINKIN: I'll withdraw the question, Mr.
19 Chairman.

20 Q (By Mr. Sinkin) I do have one more question
21 in this line, though. Was Mr. Powell also across the
22 hall from you with Mr. Jacobi?

23 A No, he was physically located at Clinton Drive
24 at the Brown & Root offices.

25 Q On May the 8th the Houston Lighting & Power

1 review team convened around noon; is that correct?

2 A Yes. As I recall it, somewhere in the
3 vicinity of 1:00 o'clock, 12:30, something on that
4 order.

5 Q And was that the first time at that meeting
6 that you had had an opportunity to discuss the final
7 Quadrex report with Mr. Goldberg?

8 A I don't know that that was the first
9 opportunity, but it was the first time it occurred.

10 Q At the May 8th meeting of the review team, did
11 Mr. Goldberg say that he had no idea Brown & Root was
12 performing as badly as the Quadrex report indicated?

13 A I don't recall those words. He may have, but
14 I don't recall those words in that form. There was
15 discussion about what these various things meant and
16 what they implied about Brown & Root's performance in
17 many different areas, but I don't recall that specific
18 statement as such. He may have made it.

19 Q Setting aside whether he used those particular
20 words, did Mr. Goldberg express the sentiment to you and
21 Dr. Sumpter that he had no idea Brown & Root was
22 performing as badly as the Quadrex report indicated?

23 A It seems to me that I heard Mr. Goldberg say,
24 and I don't know what the words were, something about,
25 well, this is a real problem for Brown & Root in terms

1 of their engineering activities, some words to that
2 effect. And Dr. Sumpter and I both at that point said,
3 hey, slow down, what's in the Quadrex report is not as
4 bad as some of the words might make it sound, nor is it
5 as big an indictment of Brown & Root engineering as
6 those words might make it sound.

7 There was, as I recall, some front end
8 discussion where we were suggesting to him things
9 weren't as bad in Brown & Root engineering as he might
10 have supposed based on just reading the Quadrex report
11 cold.

12 Q Which aspects of the Quadrex report was he
13 most disturbed by?

14 MR. GUTTERMAN: Again, I assume the question
15 is what did he say he was most disturbed by?

16 Q (By Mr. Sinkin) Which aspects of the Quadrex
17 report did Mr. Goldberg say he was most disturbed by?

18 A I don't recall him singling anything in
19 particular out in that sense. I gathered he was as
20 upset in terms of the progress of the project as I was
21 in reading the Quadrex report and getting the impression
22 that engineering overall was not nearly as far along as
23 it should be based on our understanding of where
24 construction was, the amount of time that Brown & Root
25 engineering had been working on the design, what the

1 schedule was calling for in terms of future construction
2 activities.

3 As I recall, we were both displeased with
4 seeing the status of Brown & Root engineering activities
5 that would go to support the continuation of
6 construction in a rapid fashion, meaning on their
7 schedule. It didn't look like they were where we could
8 reasonably expect them to be.

9 Q You expressed your reaction or your and Dr.
10 Sumpter's reaction to Mr. Goldberg as saying slow down.
11 Was Mr. Goldberg fairly upset over what he had read as
12 you perceived him?

13 A I wouldn't describe him as being -- having a
14 physical appearance of being upset, no. That he was not
15 pleased about the status of engineering I would say was
16 fairly clear. He, as I recall, didn't use any angry
17 words or any words that are impolite in conversation.
18 But clearly he was displeased with what he perceived to
19 be the status of engineering design, particularly in
20 terms of what he perceived as progress that needed to be
21 made and where design should be relative to where it
22 looked like it might be.

23 Q And he expressed this as a real problem for
24 Brown & Root in terms of engineering work. I believe
25 the substance -- you said you couldn't quote the words,

1 but that he had said something like this is a real
2 problem for Brown & Root in terms of engineering?

3 A He was referring, as I took it, to the Brown &
4 Root engineering organization was just not making the
5 progress it should, didn't have the work done that it
6 should have had done at this point in time. And the
7 Quadrex report also emphasized that there were
8 weaknesses in the Brown & Root technical areas that
9 showed up in terms of again lack of progress.

10 Lack of progress can many times be correlated
11 very directly to the organization and the capabilities
12 of the people, the experience of those people. All
13 those things correlate together in experienced nuclear
14 engineers' views and those correlations were clearly
15 there, from my perception and from my impression they
16 were there for him.

17 Q On May the 8th at this Houston review team
18 meeting, how did you set up to go about doing your
19 review? Did each of you have copies of the Quadrex
20 report?

21 A I had a copy. I can't recall exactly whether
22 Dr. Sumpter had one, but I am sure he did. Dr. Sumpter
23 and I were sitting in chairs out in front of Mr.
24 Goldberg's desk. He sat behind his desk and had, as I
25 recall, the Quadrex report and the Brown & Root

1 assessment sheets on his desk in front of him. As I
2 recall, I did not have a copy of the Brown & Root
3 assessment sheet, only the Quadrex report. However, we
4 were in such a proximity that we could read the Brown &
5 Root assessment sheets that he had if we needed to.

6 Q Other than the Quadrex report and the Brown &
7 Root assessment, did you have any other documents as
8 part of your review process?

9 A Not that I recall.

10 Q Did you start with the discipline findings and
11 go finding by finding and discuss each one?

12 A We started with the discipline findings, yes.
13 We went through them one by one. Some were discussed at
14 some length, some were discussed very quickly. Some
15 were is there any question about this one? No and go
16 on.

17 So, the consideration of the various findings
18 was not uniform in the amount of attention devoted to
19 each one, nor the amount of discussion. It was go down
20 the list and if we all saw it the same way and it was
21 not a potentially reportable item, we went on. The ones
22 that somebody had a question about, we stopped and
23 discussed it.

24 Q Which items provoked the most discussion among
25 the group?

1 A I can't recall which ones provoked the most
2 discussion. I do recall there was some discussion of
3 the shielding calculations. There was very little about
4 the computer code. None really about HVAC in the sense
5 of it being potentially reportable.

6 A A number of other areas I know were discussed,
7 particularly in the area of pipe stress, pipe supports
8 where Mr. Goldberg's expertise in those matters was
9 needed because they really fell outside the expertise of
10 myself and Dr. Sumpter and his expertise was very high
11 in those particular areas. I know I relied on his
12 judgments in those areas quite extensively.

13 Q Other than the shielding and computer codes
14 and HVAC and pipe stress, pipe supports, what items in
15 the Quadrex discipline findings produced the most
16 discussion?

17 A I can't recall which ones were the particular
18 subjects of extensive discussion at this point, I just
19 know that there were some that were discussed at more
20 length than others. I can't recall which ones.

21 JUDGE BECHHOEFER: Mr. Robertson, do you
22 remember any subject where any of the review group
23 members started out suggesting that it be reported, then
24 after discussion it was determined that it wasn't
25 reportable?

1 THE WITNESS: Sir, I can't recall a particular
2 case that would fit what you just described. It seems
3 to me that there were a number of areas that Mr.
4 Goldberg discussed in the pipe stress and other areas to
5 make sure that that work on the basis that it was
6 described either represented future work or work that
7 was not yet done because he had some concern about the
8 technical adequacy of their approach and the basis they
9 were using in some of those areas. I believe he asked
10 some questions about where Brown & Root was at in those
11 areas, what was the status of that design activity with
12 those kind of things in mind.

13 From my own perspective, I started out having
14 read the Quadrex report through and particularly looking
15 at the nuclear analysis section, I started out with the
16 idea that that group as a group represented a
17 potentially reportable, and almost reluctantly worked my
18 way through the Quadrex findings.

19 I say almost reluctantly because when I first
20 read it the impression was so direct, it took me some
21 time in reviewing details and understanding what they
22 said to come to the conclusion that instead of a group
23 being out of control, which was my first impression, it
24 was a group that for whatever reason wasn't producing a
25 product. What they produced and what they had on file

1 was not that bad, they simply hadn't been able to do the
2 work that I would have expected them to do at that stage
3 in the project.

4 JUDGE BECHHOEFER: Do you think in that
5 limited period of time you were able to come to a
6 conclusion, a definite conclusion in that regard?
7 Definite enough so that you could not report it to the
8 NRC as a potentially reportable item?

9 THE WITNESS: Yes, sir. Yes, sir.

10 JUDGE SHON: And you say that was a conclusion
11 you reached simply by reading it to yourself, no one
12 talked you into this notion?

13 THE WITNESS: I don't think anybody could have
14 talked me into that in that sense, sir. But I read it
15 and my first impression -- and I read through the
16 generic findings first on my way to reading into the
17 discipline findings. And my first impression was that
18 there was a serious question of the -- this group's
19 capability in terms of what they were doing, controls
20 that might or might not be there. My first impression
21 was they were producing defective product and then I
22 started reading the details.

23 I listened to the status of the activities the
24 evening of the 7th. I talked to Dr. Sumpter. I talked
25 to Mr. Jacobi who was also familiar with many of these

1 aspects. And, as I say, almost reluctantly, in a sense,
2 came to the conclusion that the group was not producing
3 and putting out on the street defective product, but
4 instead were struggling unsuccessfully to produce a
5 product.

6 It seems like they would start an analysis,
7 they would get either part way through it or they would
8 get it even preliminarily done, someone else would take
9 a look at it and say, hey, this isn't going to work, we
10 can't live with that, go back and do it again and they
11 would void that one out and start again. And they just
12 weren't being able to generate in a timely fashion this
13 analysis work that needed to be done.

14 MR. GUTTERMAN: I wonder if this would be a
15 reasonable time for a break?

16 JUDGE BECHHOEFER: Why don't we take a
17 fifteen-minute break.

18 MR. SINKIN: That's fine.

19 (Brief recess taken.)

20 (No hiatus.)
21
22
23
24
25

1 JUDGE BECHHOEFER: Back on the record.

2 Q (By Mr. Sinkin) Just to pick up a little bit
3 from the questions asked by the Board, Mr. Robertson, if
4 you would turn to the Quadrex report, Page 4-74, when you
5 said that you relied on Mr. Goldberg's expertise in
6 primarily pipe stress and pipe supports, is finding
7 4.7.2 one of the areas you were referring to?

8 MR. GUTTERMAN: Talking about a finding, Mr.
9 Sinkin, or a section?

10 MR. SINKIN: Section 4.7.2 well, let's just say
11 4.7.2.1, the most serious finding in this section.

12 A Excuse me, can you repeat your question. I'm
13 not sure I'm focusing on exactly the section that you're
14 referring to.

15 Q (By Mr. Sinkin) I'm looking at Page 4-74, and
16 it has the most serious findings under piping and
17 supports, technical adequacy assessment. You had made
18 the remark to the Board in questioning just before the
19 break that in the area of pipe stress and pipe supports,
20 you relied on Mr. Goldberg's expertise.
21 My question is: Are these findings under 4.7.2.1
22 one of the areas where you relied on Mr. Goldberg's
23 expertise?

24 A Yes, in the sense of the detail technical
25 matters; for example, on page 4-75, item D, would have

1 represented one of those.

2 Q Do you remember if there was discussion of that
3 item at the May 8th meeting?

4 A I don't recall.

5 Q On page 4-59, actually starting at the bottom
6 of Page 4-58 are the most serious findings in the nuclear
7 analysis section. If I remember what you said before the
8 break, you had actually read the generic finding in this
9 area first in your considerations and that had raised a
10 concern and then moved to the discipline findings. Is
11 that correct?

12 A When I started, I read through the entire
13 generic section, and then I read through the discipline
14 findings sections, to really read the entire report in
15 those areas, particularly with the most serious.

16 And then I went back and started a what I would
17 call an evaluation process, based on a detailed review of
18 the most serious discipline findings. When I got to
19 computer codes and nuclear analysis, I didn't stop with
20 the most serious, but read and looked at all of the
21 findings in those two areas in particular. I can't
22 recall whether I did that with any other sections or not
23 but I did with those two.

24 Q Did you reference back to the volumes that
25 contained the questions in those sections, too?

1 A Yes. In those two sections.

2 Q Looking at the bottom of Page 4-59, wherein
3 finding 4.6.2.1(b), the paragraph at the bottom of Page
4 4-59 and over to 4-60, part of what Quadrex is saying is
5 that the analyses that were in place among those, at
6 least in some areas, they could find none that were
7 sufficient, correct and current.

8 Did you do any research on May the 8th or read
9 anything on May the 8th that would have indicated to you
10 that analyses in those areas were sufficient, correct and
11 current, that the Quadrex report was wrong on this point?

12 MR. GUTTERMAN: This question is now limited to
13 what happened on May the 8th and is excluding what
14 happened on May the 7th?

15 MR. SINKIN: I guess it should include May the
16 7th.

17 Q (By Mr. Sinkin) Did you learn on May the 7th
18 or do any research on May the 8th that indicated to you
19 that the analyses in the areas that Quadrex could find
20 none that were sufficient correct and current, were
21 indeed sufficient, correct and current?

22 A I don't -- I wouldn't want to characterize it
23 in quite that fashion, in terms of what I found. This
24 section, I believe, that you referred me to, 4-59, came
25 out of the generic section, did it not? No, I'm sorry,

1 4-62, yeah, that is. Okay.

2 When I read this and then proceeded to look at
3 the questions and answers and the support for these
4 statements as well as take advantage of the information
5 Brown & Root presented on the evening of the 7th, and
6 with discussions with some of the HL&P people,
7 particularly Dr. Sumpster and Mr. Jacobi, when I got
8 through with that, I came to the conclusion that -- I'll
9 try to pick up their own words here if I can -- that in
10 fact there was some of the analyses that were sufficient
11 for the purpose, that some of those that could have been
12 characterized, and it wasn't clear which ones Quadrex put
13 into this category, as where Quadrex said they were
14 incorrect, I disagreed, that there was -- those were
15 correct, and to some extent the currency; in terms of
16 total sufficiency to support the ongoing design
17 activities, they were not what I expected to see as
18 interim types of analyses that would provide the support
19 to ongoing design work that would not cause very
20 substantial conservatisms to continue to have to be
21 carried in the design if you did not, in the end, expect
22 to find yourself in difficulty.

23 What I mean by that is this: When you first
24 start a project, you complete a set of analyses that are
25 very conservative and they act as an upper bound and they

1 provide the basis for the issuance of a construction
2 permit. And designers go to work designing structures
3 and internal walls and support ledges out of concrete and
4 steel; as and as time goes on, the nuclear analysis
5 group, one would expect, to perform almost a continuum
6 but not a -- I think of it as a three-stage process,
7 where they redo those analyses and they take advantage of
8 more detailed lay outs that have been developed and they
9 refine their calculations that in turn provides a better
10 and less conservative basis for the design to continue.

11 For example, they might now have a more
12 detailed layout associated with the reactor cavity and
13 the support structures, and be able to perform another
14 iteration of the compartmental pressurization,
15 differential pressurization curves, or values, and be
16 able to predict again what the pressure against the
17 structural walls must be, and hopefully reduce some
18 conservatism and reduce the amount of thickness and steel
19 that would otherwise be put in.

20 This process continues and you expect during
21 the life of the project that these kind of interim
22 analyses that are solely picking up more definitive data
23 as input, might be done or redone to or three times
24 before the final analysis is completed.

25 Not having that interim set of analyses, would

1 simply mean that the conservatisms that were started
2 originally would have to be continued; you couldn't
3 refine them in any meaningful way. And then you are also
4 at the same time raising the risk that the end product,
5 when you finally get to the final analysis, that you will
6 find a problem with that end product, the hardware that's
7 been installed; it was built with preliminary data,
8 perfectly proper procedure to go through, and when the
9 final data comes in, you do a final analysis and you find
10 out something doesn't meet its criteria.

11 You now have not only a matter to be reported
12 to the NRC, you have a very substantial matter internally
13 of costly backfit to fix something up. That's not a very
14 good way to design a plant. So this whole iteration
15 scheme is an important element to have occur as an
16 orderly design process. You don't have to do it, but you
17 increase your risks if you don't perform those interim
18 analyses. And in the end you'll find something wrong;
19 you also have the very real potential to increase your
20 costs as you carry conservative assumptions far down the
21 construction path.

22 I don't know whether that fully answers your
23 question in the way you asked it or not, but that's the
24 best I can do in a general sense.

25 Q That's very helpful, thank you.

1 In terms of the May 8th meeting, the review
2 team meeting, how specifically did you deal with the
3 generic finding? Let me ask a preliminary question,
4 excuse me.

5 Was the general approach on the discipline
6 findings to look only at the most serious but in certain
7 areas, you went beyond that because you had particular
8 concerns?

9 A No, I think we perhaps slightly misunderstood
10 each other. During my part of the review process, on the
11 7th and the morning of the 8th, I personally did go in to
12 other than the most serious findings, in at least two
13 areas, the computer code area and the nuclear analysis
14 area. But on the afternoon of the 8th, I do not recall
15 that the review team looked at other than the discipline
16 findings as a group.

17 Q Other than the most serious?

18 A That's right. I'm sorry, that's not what I
19 said. I'm not aware that we looked at anything other
20 than the most serious findings as a group. Now, in terms
21 of the generics, we did not specifically focus on any of
22 the generics that I recall; however, I had reviewed the
23 generics in the sense of reading through them and what
24 struck me in reading through them initially was that
25 different generic findings were using the same item with

1 a slight twist of words and it would show up the same
2 item, what I would look at as being the same basic item
3 might show up in two or three different of the generic
4 findings or two or three different ways of expressing the
5 same thing.

6 And then when I look at the discipline
7 findings, then I saw the same words showing up in the
8 discipline findings as individual items. So by the time
9 I had finished with the computer codes and nuclear
10 analysis in particular, I was pretty well satisfied that
11 there wasn't anything in the generics that I hadn't also
12 looked at in the discipline findings; I'd seen those same
13 words, even in the discipline findings, I found
14 repetition, where different set of words in terms of
15 different findings really came back to the same item.

16 Q In the May 8th review team meeting, did you
17 record the determinations on notifiability that you were
18 making as you went along?

19 A No, I don't recall recording them. I believe
20 Mr. Goldberg was making some marks in his copy of the
21 Brown & Root assessment sheets that he was using like a
22 checklist. There were only three items; it wasn't all
23 that difficult to retain those mentally. So I don't
24 recall making any notes.

25 Q I thought there might have been notes made of

1 decisions not to report as well as decisions to report.

2 A Not that I recall.

3 Q Did the review team seek assistance from anyone
4 else during the period of the review?

5 A I don't recall any request for outside a
6 assistance relative to reviewing the findings for
7 reportability. We did request Mr. Powell to come over to
8 the office and be prepared to notify NRC later on, as
9 soon as we had finished the review, that is we called him
10 earlier in the afternoon and asked him to come over and
11 stand by.

12 Q But he did not actually participate in the
13 review?

14 A I don't recall that he did. Once he was there,
15 if there was some question about had something be
16 reported before, I'm sure we would have asked him and I'm
17 sure he would have responded. But I don't recall
18 specifically that this occurred.

19 Q During the review, did the review team contact
20 Brown & Root?

21 A We did not make contact that I recall with
22 Brown & Root until after we had completed our review.
23 And at that time, Mr. Goldberg called Mr. Saltarelli and
24 discussed with Mr. Saltarelli the -- well, how do I
25 phrase it. He discussed with him what we had done, asked

1 Mr. Saltarelli some questions about his views on, in
2 particular, the shielding calculations, I remember, and I
3 believe in summary, informed Mr. Saltarelli that we were
4 reporting three items to the NRC.

5 Q Did Mr. Goldberg report to you and Dr. Sumpter
6 what the reactions of Mr. Saltarelli had been during the
7 conversation?

8 A No. I was there during the conversation; there
9 wasn't any necessity for him to report. It was on a
10 voice box.

11 Q It was on a voice box, you were listening?

12 A I could hear very clearly what his reaction
13 was.

14 Q Okay. That's fine.

15 MR. SINKIN: I would ask Applicants to show you
16 a document, it's attached to the Applicants May 3rd, 1985
17 response, and I think it's Document No. 1.

18 MR. AXELRAD: '85 response to what?

19 MR. SINKIN: These were the documents released
20 from under the protective order of the court.

21 THE WITNESS: Excuse me, Judge Bechhoefer,
22 would it possible for is it permissible for me to have a
23 cup of water or a glass of water up here?

24 JUDGE BECHHOEFER: Sure.

25 MR. SINKIN: I've got a cup over here.

1 THE WITNESS: That's all right, we will take
2 care of it.

3 JUDGE BECHHOEFER: You can finish my coffee, if
4 you would like.

5 THE WITNESS: You have the convenience, sir, of
6 a podium to set your coffee behind.

7 MR. SINKIN: The one I'm looking for is dated
8 May 11, 1981, it's from Saltarelli to Hawks.

9 MR. GUTTERMAN: Okay. I have it, if you've got
10 it, I'd just as soon you show the witness yours because
11 I'd like to be able to look along, and what we would be
12 doing is depriving me of the opportunity to look at my
13 copy.

14 JUDGE BECHHOEFER: I've got one but I haven't
15 got it out yet.

16 MR. SINKIN: May 3rd, it's the cover letter,
17 and it's a document dated May, 11th 1981.

18 MR. GUTTERMAN: You are talking about a May
19 11th memorandum from Saltarelli to Hawks, subject Quadrex
20 design review?

21 MR. SINKIN: Right.

22 MR. GUTTERMAN: I'll look over Mr. Robertson's
23 shoulder.

24 Q (By Mr. Sinkin) Let me ask you to just review
25 that document for a moment, Mr. Robertson.

1 JUDGE BECHHOEFER: I'm having trouble finding
2 my copy.

3 JUDGE SHON: I don't have mine with me.

4 JUDGE BECHHOEFER: What group was this in.

5 MR. SINKIN: The cover letter is dated May 3rd,
6 1985. On this package of documents --

7 MR. PIRFO: The cover letter is attached to
8 about an half an inch document, or half an inch of
9 papers, which are various documents.

10 MR. GUTTERMAN: I will be right back. I will
11 show you which document we're talking about so you can --
12 these were the documents that were subject to the court
13 protective order and we had to wait until we got the
14 court order released.

15 MR. PIRFO: Judge Bechhoefer, do you want to
16 see the cover letter it came in under? I could show you
17 that if that would help --

18 JUDGE BECHHOEFER: NO, I was looking at the
19 wrong group.

20 MR. SINKIN: May 3rd.

21 JUDGE BECHHOEFER: May 3rd?

22 MR. GUTTERMAN: Would it be faster if we had
23 somebody make a copy or --

24 JUDGE BECHHOEFER: We have got it. We were
25 just reading it.

11 Q (By Mr. Sinkin) Mr. Robertson, what I've asked
12 you to review is a Brown & Root interoffice memorandum
13 dated May 11th 1981, from E.S Saltarelli to J.L. Hawks,
14 subject: Quadrex Design Review. Does this document
15 refresh your memory that Mr. Knox Broom and Mr.
16 Saltarelli participated in the discussion on May the 8th
17 over the voice box?

18 A I don't recall Mr. Broom being a part of it.
19 He could have been. I do recall distinctly that we were
20 discussing matters with Mr. Saltarelli.

21 Q And when it says that Mr. Goldberg had no
22 problem with our assessment of items 4.4.2.1(a)/(b).
23 That's a reference to the fact that Brown & Root had
24 identified that as a potentially reportable item and
25 Houston Lighting & Power agreed. Is that correct?

26 A Well, it's not quite -- the thrust is correct,
27 but my -- the way that occurred, I believe, was that
28 Brown & Root recommended to us that that was reportable,
29 not potentially reportable, they went directly to the end
30 product. They also elected to file this matter as a Part
31 21, with the NRC. So in both of those cases, we did not
32 disagree with their assessment and their activity.

33 We did not -- we agreed with them that it was
34 reportable, their conclusion; we didn't disagree with
35 that conclusion. We also did no -- had no concern in

11 that sense that they were reporting it as a Part 21. We
12 still elected to call it potentially reportable on our
13 call in. But as far as I could see at that point, the
14 evaluation to determine whether it was reportable versus
15 potentially reportable was not going to take very long to
16 complete.

17 Q Well, if Applicants would show you Applicants'
18 Exhibit 62. Do you have that? If you would refer to --
19 well, they have a series of sheets addressing each
20 discipline findings. And under the 4.4.2.1(a)/(b)
21 finding, it says: Addressed in Enclosure (2).

22 And I want to direct your attention to
23 Enclosure (2), which
24 on its cover says: Summary of Brown & Root
25 Findings on South Texas Project, Quadrex Engineering
26 Review, (May 1981), Item .4.4.2.1(a)/(b), and on the
27 second page of the actual response under "Status of
28 Proposed Resolution," the second paragraph states that
29 "This problem is potentially reportable under 10 CFR 50
30 55(e) and is currently being investigated as a potential
31 10 CFR Part 21."

32 Does that refresh your recollection as to the
33 actual status of the Brown & Root response on May 8?

34 A Point to again where you are.

35 Q Status of proposed resolution is the heading on

11 the page and the second paragraph.

12 A No. In response to your question, this -- I
13 don't think it -- if I understood you correctly, does
14 this change what I -- might this change what I said a few
15 minutes ago and the answer is no.

16 Q So you're saying -- go ahead.

17 A The evening of the 7th, at the discussion where
18 this matter was brought up, was very quickly done on the
19 part of Brown & Root, where the discipline individuals
20 speaking on behalf of this issue simply said this is
21 reportable. And he gave two or three reasons why that
22 was so.

23 And somebody, I don't recall who, that was up
24 at the administrative end of it says does anybody
25 disagree with this? And the answer was silence. And he
26 said okay, fine. Let's go on.

27 We were also informed the next day by telephone
28 that Brown & Root was making a Part 21 report on this
29 matter. So as far as I was concerned, Brown & Root had
30 made the determination and I thought properly so, that
31 this matter was reportable and were filing the Part 21.

32 Q When you said you were informed the next day,
33 are you referring to the phone call with Mr. Saltarelli?

34 A I don't recall now whether the first bit of
35 information came to my attention that they were filing a

11 part 21. But I believe it was before our discussion with
12 Mr. Saltarelli.

13 (No hiatus.)
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1 Q And then returning to the May 11th, 1981
2 document, the Brown & Root document. It records Mr.
3 Goldberg as telling Mr. Saltarelli that two other items,
4 verification of computer codes and verification of
5 shielding codes, had also been determined by HL&P to be
6 potentially reportable. Does that conform to your
7 memory of what Mr. Goldberg you?

8 A Yes.

9 Q And then it says, "In his opinion," referring
10 to Mr. Goldberg, "all shielding is safety-related." Was
11 that Mr. Goldberg's opinion expressed to Brown & Root as
12 of May the 8th, 1981?

13 A I don't recall Mr. Goldberg holding forth that
14 all shielding was safety-related, no. I do recall
15 distinctly discussing certain areas of shielding that we
16 had agreed did represent a safety-related design item,
17 particularly the shielding around the control room. In
18 our mind at least that clearly represented a
19 safety-related item or at least it had to be handled as
20 if it were. We at that point were simply saying it's
21 safety-related and we're treating it that way.

22 Q And Mr. Saltarelli is recorded here as saying
23 he had disagreed with the position on the shielding
24 codes. Do you remember that disagreement?

25 A Yes.

1 Q What was it that Mr. Saltarelli said about
2 shielding codes that was in disagreement with your
3 review of the review team?

4 MR. REIS: Mr. Chairman, again we're going on
5 in a matter that is not material. The shielding was
6 reported, there is no question in the record it was
7 reported. Whether Brown & Root had a disagreement or
8 not I just don't think is germane.

9 We're going on on things and taking up hearing
10 time with matters that aren't material to any
11 determination at this point. This was reported. The
12 fact that Brown & Root might have not had the same
13 perception that HL&P has is just not material to what
14 this Board has to decide.

15 MR. SINKIN: Well, there's an extensive amount
16 in the record so far on what HL&P's views of shielding
17 were and what I'm trying to highlight was where Brown &
18 Root disagreed with them and what that disagreement was
19 to clarify what HL&P's views were more than anything.

20 MR. GUTTERMAN: I can't see how that relates
21 to any of the issues in this proceeding. It really
22 doesn't even matter what HL&P's views were. The
23 question was did they decide that it was potentially
24 reportable and did they fulfill the reporting
25 obligations of reportability having decided that. The

1 record's clear that they did that.

2 MR. SINKIN: They reported one particular
3 shielding item, that's not to say they reported
4 everything in the Quadrex report related to shielding
5 that might have been potentially reportable.

6 MR. GUTTERMAN: Mr. Chairman, I don't know of
7 any issues in this proceeding related to shielding
8 calculations. The Board has identified 26 findings in
9 the Quadrex report for issue in this proceeding and I
10 don't think any of them relate to shielding.

11 JUDGE BECHHOEFER: We will sustain that
12 objection.

13 Q (By Mr. Sinkin) The memorandum goes on to
14 recount three items which HL&P did not take the position
15 were reportable, but did differ with Brown & Root's
16 assessment of those items or at least Brown & Root's
17 approach.

18 In the section titled item 4.4.2.1(g), Mr.
19 Saltarelli records that "Although our design
20 verification process meets the NRC requirements, he,"
21 meaning Goldberg, "wants to see a complete list of
22 criteria which qualifies verifiers in each specific
23 discipline."

24 Did Mr. Goldberg make that request of Brown &
25 Root to see a list of criteria which qualifies verifiers

1 in each specific discipline?

2 A I don't recall this item being mentioned at
3 that point. I have to speculate even that this might
4 even have occurred in a different conversation
5 subsequent to the one that I was present at. I don't
6 know.

7 But I don't recall anything, any discussion of
8 this particular item with Mr. Saltarelli as part of that
9 review team, review team process. It might have
10 occurred, I just don't recall it.

11 Q How about the next item 4.5.5.1(a) which says,
12 "There is a question whether the standard review plan
13 allows analysis in lieu of testing to determine
14 operability of active components." Do you remember a
15 discussion on whether the standard review plan allowed
16 analysis in lieu of testing?

17 A No.

18 MR. REIS: Mr. Chairman -- the question is
19 answered. I had an objection, but it's answered.

20 Q (By Mr. Sinkin) Turning to the next page,
21 item 4.5.2.1(c), it says, "Mr. Goldberg does not agree
22 to our response and believes secondary events from the
23 pipe rupture event should be considered."

24 The first question is is the -- you might want
25 to look at 4.5.2.1(c). You might want to look at the

1 Brown & Root response as well as the actual Quadrex
2 report.

3 MR. REIS: Mr. Chairman, in that the preface
4 is so long to this question, I'd like to object now,
5 although it isn't formulated. I object to any questions
6 on this item. It's not listed in your prehearing order,
7 sixth prehearing order of May 17th, 1985, on page 12
8 where you indicate the most serious ones that may be
9 gone into, most serious findings that may be gone into
10 and this is not one of them.

11 JUDGE BECHHOEFER: Has this one been linked up
12 with a generic?

13 MR. REIS: We haven't had that. I don't
14 know. That was my objection to the last question, too,
15 but the answer was there before I could object.

16 MR. GUTTERMAN: I would join in that
17 objection, Mr. Chairman.

18 JUDGE BECHHOEFER: Has it been linked up to a
19 generic or not?

20 MR. SINKIN: I don't think in testimony to
21 date it's been linked up to a generic. It hasn't come
22 up. Let's see if we can do that.

23 MR. REIS: Mr. Chairman, I object to that
24 procedure, "let's see if we can do that." Either he
25 knows now and can get on with questioning or he can't.

1 To look at it and say, gee whiz, there's an objection
2 now to this question and then see whether it falls in
3 the scope of this hearing is impermissible.

4 We have to move forward. And I don't
5 understand this bit, "well, let's see if we can get at
6 it another way," and we'll spend three hours seeing
7 whether we can get at it another way.

8 It's not one of them listed. There is no
9 connection made. He should have made the thing before,
10 he should have made the connection before.

11 MR. SINKIN: I do have a response to that, Mr.
12 Chairman.

13 JUDGE BECHHOEFER: Based on the current record
14 at least as we understand it, we will sustain the
15 objection.

16 MR. SINKIN: I do --

17 JUDGE BECHHOEFER: We aren't necessarily
18 stopping you from linking it up.

19 MR. SINKIN: I understand, Mr. Chairman, but I
20 think I should have the opportunity to respond to
21 objections before you rule. I think Mr. Reis' objection
22 I could have explained quite adequately, but let me try
23 it this way.

24 Q (By Mr. Sinkin) Mr. Robertson, in looking at
25 item 4.5.2.1(c), if you will turn in the Quadrex report

1 to page 3-11, it's the 3.1(i) nuclear related analysis.

2 A I'm sorry, can you give me the page number
3 again? Three --

4 Q Well, 3-11 is where the finding starts.

5 A Okay.

6 Q At the bottom the areas of greatest concern
7 have been with nuclear analysis, piping and support,
8 special stress and HVAC. Would you say that 4.5.2.1(c)
9 falls into any of those categories?

10 A Yes.

11 Q And if you turn the page they have at the
12 middle "A few examples pertinent to nuclear related
13 analysis are as follows," and item number 4 states, "In
14 other instances, inappropriate methods have been
15 selected." And it says, "Specific details regarding
16 these concerns are provided in various sections listed
17 there."

18 MR. REIS: Mr. --

19 Q (By Mr. Sinkin) Would you say that the --
20 would you say that the Quadrex finding in 4.5.2.1(c)
21 that secondary effects from a pipe rupture event were
22 not adequately investigated would fall into
23 inappropriate methods of nuclear analysis found in
24 section 4.5?

25 MR. REIS: Mr. Chairman, I object to the

1 question. By no stretch of the imagination could it be
2 concluded that in saying you could go into the generic
3 matters you are opening everything in 4.4 through 4.7 to
4 review in this proceeding and that's exactly what's
5 happening at this point.

6 MR. SINKIN: Mr. Chairman --

7 MR. REIS: What he has is an overbroad
8 reference and he says that because you said you could go
9 into the generic matters, you can go into every one of
10 these matters in there. There are innumerable ones.
11 The purpose of the sixth prehearing order was to narrow
12 issues, not to expand them.

13 MR. SINKIN: Mr. Chairman, first of all, I
14 went to page 3-11 to tie it to the particular area of
15 nuclear analysis we're concerned about.

16 Secondly, there was absolutely nothing in the
17 order that would in any way restrict the use of finding
18 3.1(i)(4) as to how you could link that up through
19 generics to this particular -- through discipline
20 findings to this particular generic.

21 Mr. Reis is raising an objection that just
22 doesn't appear in the Board's order in any way that this
23 couldn't be done. I think I've adequately demonstrated
24 through the witness that this finding relates to this
25 generic.

1 JUDGE BECHHOEFER: The Board will sustain the
2 objection.

3 We think this reference is so general that we
4 did not intend to include all of the findings which were
5 not -- all the discipline findings which were not
6 specifically identified. These are just sort of a broad
7 catch-all listing. We did not intend to include that.

8 So, we will sustain the objection.

9 MR. SINKIN: Mr. Chairman, if I might, this is
10 essentially a reversal of various rulings as far as I'm
11 concerned because we have at various times in this
12 proceeding had findings that were not specifically
13 identified in the generic or in your order linked
14 nonetheless to generic findings by testimony that were
15 most serious findings that supported a given generic
16 that we intended to rely on in our findings on the
17 question of whether the generic findings should have
18 been reported.

19 If you are now ruling that only the discipline
20 findings specifically referenced in the generics are at
21 issue here or are specifically referenced in your order
22 are at issue and no other discipline findings that
23 support a generic are at issue, that's, one, in
24 contradiction of the order which was issued which this
25 proceeding began with, and, two, substantially undercuts

1 evidence already in the record.

2 Now, I want to be sure that if that's what
3 you're ruling, we're quite aware that that's what you're
4 doing.

5 JUDGE BECHHOEFER: We certainly aren't ruling
6 with respect to anything that's already in the record.
7 We're ruling only that this particular phrase, this
8 catch-all is a little too broad. It includes numerous
9 findings not specifically identified, just almost as a
10 cross reference and the reference is so general that we
11 are disallowing this one. It has nothing to do with our
12 earlier rulings.

13 Q (By Mr. Sinkin) Mr. Robertson, when you were
14 testifying regarding your concerns in the area of
15 nuclear related analysis and you said that in that area
16 you read more than just the most serious findings, you
17 read all the findings to see if your concerns were
18 satisfied, looking at page 3-12, item 4, did you go
19 through each of those sections to see if there were
20 nuclear analysis problems that were of concern to you or
21 did you go only to the discipline section titled nuclear
22 analysis which is 4.6?

23 A In the context that you're asking the
24 question, it would just be 4.6.

25 Q Thank you.

1 After you completed your discussions on May
2 the 8th as to which findings --

3 MR. SINKIN: We're finished with those
4 documents, counsel.

5 Q (By Mr. Sinkin) After you completed your
6 discussions on May the 8th as to which findings were
7 potentially reportable, who called Mr. Powell to come to
8 the meeting?

9 MR. GUTTERMAN: I'll object to the question
10 because I don't think the testimony Mr. Robertson has
11 given said that the call was after they were finished.

12 MR. SINKIN: I'm almost sure he did, but --

13 JUDGE BECHHOEFER: It was to the contrary,
14 there was a discussion of a standby status where he was
15 present while the meeting was still going on.

16 MR. GUTTERMAN: That's the basis for my
17 objection.

18 JUDGE BECHHOEFER: If you want to --

19 Q (By Mr. Sinkin) In Mr. Powell's standby
20 status, was he present in the meeting?

21 A As I recall it, he was in the room at least
22 for a portion of the time after he arrived. I can't
23 recall that he was there from the time he arrived onward
24 without a break or leaving the room. He was there for
25 part of the time.

1 Q And Mr. Powell's responsibility was going to
2 be to notify the NRC of the potentially reportable
3 findings; is that correct?

4 A That is correct.

5 Q When you reached that point in the meeting
6 where you were discussing with Mr. Powell which findings
7 were going to be reported, did Mr. Powell have a copy of
8 the Quadrex report that he was reviewing at the same
9 time?

10 A I don't recall. Certainly he had access to
11 one. There were at least three copies, if not more,
12 available right there among the three of us. Whether or
13 not he had one separately than that, I don't recall. He
14 certainly had access to one.

15 Q Was there discussion at that point as to how
16 Mr. Powell would word his notification to Region IV?

17 A Yes, there was discussion related to the
18 wording to be used in his notification.

19 Q Was there discussion about whether he would
20 actually mention the Quadrex report or not?

21 A I don't recall whether that was explicitly or
22 to what extent. The only thing that I can in any way
23 recall about that, somebody, and I don't know who it
24 was, asked a question do we inform the NRC of the source
25 of our 55(e)'s. That question was asked and the answer

1 was no. And I don't remember who asked it and who
2 answered it. I don't recall any discussion more than
3 that.

4 Q Was the actual specific wording that Mr.
5 Powell would use in talking to the NRC written out prior
6 to his leaving the room?

7 A Yes.

8 Let me qualify that last statement in the
9 following sense. He had three different items to report
10 and the statement he was going to make about those three
11 items had been written out. Other words that he might
12 use to make a complete statement, whatever that was,
13 were not written out, just those three specific items.

14 JUDGE SHON: The wording of the items was
15 written out, is that what you mean?

16 THE WITNESS: Yes. This is typically done.
17 He will sit down and prepare the words that he's going
18 to read to the NRC at the other end. He will write
19 those down and then when he gets to the point of what he
20 is reporting, he simply reads those words off.

21 He does that as an orderly process of being an
22 engineer. He wants to make sure he knows what he's
23 going to say and that he says it all and completely and
24 that he has a record to create his minutes from later.

25 So, this was not an abnormal item, thing for

1 him to do.

2 Q (By Mr. Sinkin) Turning to page 4-31 of the
3 Quadrex report, finding 4.4.2.1.

4 MR. REIS: Can I have that again, Mr. Sinkin,
5 please?

6 MR. SINKIN: It's page 4-31.

7 Q (By Mr. Sinkin) My question to you, Mr.
8 Robertson, is which of the lettered findings within that
9 finding was Mr. Powell's report to NRC supposed to
10 cover?

11 MR. GUTTERMAN: I object to the
12 characterization of this section as if it's one
13 finding. It says findings on it. I don't see why we
14 can't just call it what it says it is.

15 Q (By Mr. Sinkin) Which lettered findings among
16 the most serious findings 4.2.2.1 was Mr. Powell's
17 notification to the NRC supposed to cover?

18 A Within the list of items (a) through (g), it
19 would cover (a) and (b).

20 Q Thank you.

21 Turning to page 4-14 of the Quadrex report,
22 the most serious findings 4.2.2.1, which of the lettered
23 findings in that section was Mr. Powell's report to NRC
24 supposed to cover?

25 A It covers in particular item (c) in a rather

1 direct fashion. It also touches (a) and (b). And it
2 touches what we reported very simply stated was that it
3 wasn't possible in cases for a user, that is an
4 engineer, using a code to know the particular status of
5 his code. And we had the findings that related to
6 options, which codes were and were not verified so that
7 our statement of what we thought the potential
8 reportable item was was really a statement simply said
9 that the user couldn't tell the status of the
10 verification of the codes that he was using.

11 So, to that extent, it touches all three of
12 those items, even though it comes very directly out of
13 item (c).

14 Q Turning to page 4-86 of the Quadrex report,
15 the most serious findings 4.8.2.1, which of the lettered
16 findings within this section was Mr. Powell's report to
17 NRC supposed to cover?

18 A That would be item (d) on page 4-86.

19 Q At the time Mr. Powell actually called Region
20 IV -- let me start before he leaves the room. Before he
21 leaves the room to make his notifications, if indeed he
22 left the room, before he makes his notifications, was
23 Mr. Powell instructed to notify the resident reactor
24 inspector as well of the three findings or was there
25 discussion one way or another about that?

1 A I don't recall any discussion of the resident
2 inspector. It was a routine thing to do, so I don't --
3 there would have been no reason to discuss it.

4 Q Was there any discussion about whether the
5 resident reactor inspector would be provided a copy of
6 the Quadrex report?

7 A Not that I can recall.

8 Q Mr. Robertson, I'm going to hand you a copy of
9 what I ask be marked as CCANP 128 and ask if you
10 recognize this document.

11 (CCANP Exhibit No. 128 marked for
12 identification.)

13 A Yes, I have seen that.

14 Q (By Mr. Sinkin) And are these the what are
15 known as telephone minutes in which Mr. Powell records
16 the actual words he spoke to Mr. Crossman in notifying
17 Mr. Crossman of the three potentially reportable
18 findings?

19 A Yes. In fact, this is typical of the
20 telephone minutes he would prepare for such.

21 MR. SINKIN: Mr. Chairman, I would move CCANP
22 128 into evidence.

23 MR. GUTTERMAN: No objection.

24 MR. REIS: No objection.

25 JUDGE BECHHOEFER: CCANP 128 is admitted.

1 (CCANP Exhibit No. 128 admitted in
2 evidence.)

3 MR. SINKIN: And this would be a good time to
4 break for lunch, if you would like.

5 MR. REIS: Mr. Chairman, just so the Staff can
6 plan, can Mr. Sinkin give us an estimate of how long --

7 JUDGE BECHHOEFER: We don't have to do this on
8 the record.

9 (Luncheon recess taken.)

10 (No hiatus.)

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1 JUDGE BECHHOEFER: Back on the record.

2 I would like to note for the record that during
3 the lunch break, I changed the date on the subpoena for
4 Dr. Broom to Tuesday, did theh at 9:30 a.m. Dr. Broom
5 apparently is not in town at the present, and will not be
6 back until late Friday. So we changed the date on his
7 subpoena until 9:30 a.m., Tuesday the 13th.

8 MR. SINKIN: We are discussing, Mr. Chairman,
9 whether there's a way to avoid calling Mr. Broom and
10 maybe at the next break, we'll have some thoughts about
11 that.

12 JUDGE BECHHOEFER: I guess you may -- any
13 further preliminary type matters? Other than that, Mr.
14 Sinkin can resume.

15 Q (By Mr. Sinkin) Mr. Robertson, after the NRC
16 was notified by Mr. Powell of the various findings from
17 the Quadrex report, did the incident review committee
18 meet to evaluate the items notified to the NRC?

19 A Yes.

20 Q I'm going to show you what I ask be marked as
21 CCANP 129.

22 (CCANP 129 marked for identification.)

23 Q (By Mr. Sinkin) This is a document dated May
24 12, 1981, a memorandum from Mr. Powell to Mr. Jacobi,
25 entitled Incident Review Committee, (IRC), Meeting

1 Minutes Concerning Computer Program Verification (Item
2 No. 96), May 11, 1981.

3 Do you recognize these minutes?

4 A Yes.

5 Q At the third paragraph, beginning "On the
6 evening of May 8th," do you see that paragraph?

7 A Yes.

8 Q The last line states: This concern is
9 potentially reportable pursuant to 10 CFR 50 55(e). Is
10 this an instance where an item has been notified to the
11 NRC, but the IRC nonetheless makes its own independent
12 determination of whether that item should have been
13 notified?

14 A No. In this particular case, IRC is completing
15 its own obligations to fulfill its own procedures. And
16 the chairman of IRC had been informed that this matter
17 was potentially reportable, he had made that report, but
18 in terms of compliance with internal project procedures,
19 the incident review committee had never met.

20 So in this particular case, this was a meeting
21 to complete that procedural activity and document that
22 the IRC had completed its obligation of following its own
23 procedures.

24 Q Under the procedures in place at this time,
25 keeping that sentence in mind that I called your

1 attention to, could the IRC have decided that the item
2 had been erroneously notified and withdrawn the
3 notification?

4 A They could have met and come to a conclusion
5 differently than what we had and then would have brought
6 that to my attention, as to their difference of
7 conclusion. They could have done that, yes. They could
8 not at that point -- well, I don't know -- I guess -- I
9 don't know quite how to answer that. They could have
10 come to a conclusion that was different as a result of
11 their meeting.

12 I don't know how to answer the part of it could
13 they have withdrawn it, because that's, in my mind,
14 speculation. I haven't faced that in that form. I don't
15 know -- I don't know to answer that question.

16 Q I was really looking for what their authority
17 was. Let me give you a hypothetical, and maybe that will
18 help illustrate. Let's say your review committee met,
19 determined that the computer code item was notifiable
20 because a given document didn't exist. The IRC meets,
21 there's a discipline representative says that says to the
22 IRC, "Here is the documents, it does exist."

23 And they say, "Oh, there was no reason to
24 notify NRC," and they withdraw the notification as
25 opposed to following through with a 30 day report.

1 Does the IRC have that kind of authority to
2 withdraw a notification that had already been made.

3 MR. REIS: Mr. Chairman, I object on the
4 grounds of lack of materiality. We know, and there's no
5 dispute in the record, that this was reviewed, the
6 Quadrex was reviewed by a special committee. Whether or
7 not this IRC could have taken action over the head of Mr.
8 Goldberg and a special committee, I just don't think is
9 material to this proceeding. I just don't understand
10 where we're going with this very long question. And
11 therefore I don't think it's material to this proceeding,
12 I object to the question.

13 MR. SINKIN: Mr. Chairman, I have a response.

14 JUDGE BECHHOEFER: I see, Mr. Sinkin?

15 MR. SINKIN: There has been testimony in the
16 proceeding that the IRC did not review the decision to
17 report, they simply responded to the fact items had been
18 reported. What I am trying to elucidate is this sentence
19 here where the IRC is saying, in fact, this concern is
20 potentially reportable.

21 As I read that sentence, the IRC made their own
22 independent determination that in fact the item was
23 potentially reportable. And if they have the authority
24 to say no it's not reportable in this time frame, that
25 would tend to support that understanding of that

1 sentence.

2 MR. REIS: Mr. Chairman, where would we be if
3 we understood that sentence to mean what Mr. Sinkin says.
4 Would we be any further to determining any even subissue
5 in this case, whether -- and I take it the subissue is
6 whether the IRC was wrongfully relieved of their duties
7 to consider the Quadrex report because it was considered
8 by Messr. Goldberg et al. I don't think that -- it's
9 just not probative of that at all, no matter how you
10 interpret that sentence.

11 JUDGE BECHHOEFER: The Board will sustain this
12 objection but we will note that Mr. Reis' comment or
13 statement that nothing the IRC would do to overrule Mr.
14 Goldberg et al is -- nothing of that sort is relevant, we
15 will not agree with that.

16 If the IRC could have overruled Goldberg et al
17 on a non-reportability decision, that is, in our view,
18 quite relevant.

19 MR. REIS: I would not dispute the point --

20 JUDGE BECHHOEFER: And we are limiting our
21 agreement and our sustaining the objection to the
22 circumstances that this is a review of an item that was
23 reported. I'm not sure you even meant that, but your
24 words could be construed that way.

25 MR. REIS: I'm sorry I overspoke.

1 Q (By Mr. Sinkin) Well, okay. That was my next
2 question. At this time the IRC did have the authority to
3 overrule a decision of the review team that a particular
4 item was not reportable. Is that correct?

5 A I wouldn't want to characterize it that way.
6 The IRC would meet and assess matters brought before it.
7 If they came to a conclusion that this was not
8 reportable, then the next step in that process would have
9 been to bring that to me for concurrence. That didn't
10 occur, so I don't know -- I think I'm answering your
11 question as I understood it.

12 Q Actually that was the previous line of
13 questioning. This line of questioning changes the
14 situation. The review team has decided something is not
15 reportable.

16 A Okay.

17 Q The IRC had the authority to find that it was
18 reportable despite that determination by the review team.
19 At this time at HL&P, the IRC could do that. That is
20 correct?

21 A They could have looked at any matter and come
22 to their own independent conclusion as to whether it was
23 reportable, potentially reportable, or not reportable;
24 and would have brought, again, would have brought that
25 matter to my attention first and we would have reasoned

1 together as to what the situation was, if there had been
2 a different of opinion between myself and the IRC
3 committee.

4 If resolution had not been reached, then there
5 would probably have been further discussions with Mr.
6 Goldberg and so on until we can reach a consensus as to
7 whether something was or was not potentially reportable.

8 Q When you say and so on, is there anybody beyond
9 Mr. Goldberg to go?

10 A It never, to my knowledge, never had any such
11 matter get to him. We're in hypothetical ground here.

12 Q I understand.

13 A Certainly if I had had a disagreements with the
14 IRC and we could not mutually resolve that, it would have
15 been taken to Mr. Goldberg.

16 Q You were aware of what the procedure was in May
17 of 1981 for determining whether a finding was potentially
18 reportable were you not?

19 A Yes.

20 Q PEP-11 I think is the reference to that?

21 A Yes.

22 MR. SINKIN: Mr. Chairman, I would move CCANP
23 129 into evidence.

24 MR. PIRFO: Mr. Chairman, maybe I can get a
25 clarification. This document, it's unclear to me from

1 the notes I made on the original, was not originally
2 marked as 99?

3 MR. GUTTERMAN: No.

4 MR. SINKIN: No, it was suggested to be marked
5 as 99 and we decided it wouldn't be marked at all.

6 MR. PIRFO: Okay.

7 MR. PIRFO: The staff has no objections.

8 MR. GUTTERMAN: Well, I don't see any
9 materiality to it but I would just as soon not object and
10 have an extended argument about it.

11 JUDGE BECHHOEFER: Okay, CCANP 129 will be
12 admitted.

13 (CCANP Exhibit No. 129
14 received in evidence.

15 Q (By Mr. Sinkin) Returning to CCANP 129 for a
16 moment, Mr. Robertson, on the second page, it lists the
17 attendees at this IRC meeting. Can you identify for me
18 who the people are other than Mr. Powell?

19 MR. GUTTERMAN: I object to that because I
20 don't see the materiality of the identification of all
21 these people, just a waste of time to go through a half
22 dozen names and explain their position.

23 MR. SINKIN: Mr. Chairman, we are illustrating
24 how the incident review committee actually worked at the
25 time the Quadrex report was delivered. How they made

1 their decisions, who sat in on their proceedings, what
2 their deliberations were, that's what they documents
3 show. I think so that's very relevant and material to
4 this proceeding.

5 MR. REIS: Mr. Chairman, I think it's not
6 material. It is far removed from a material issue that
7 this Board has to decide. We know that there was a
8 regular incident review committee, we know that the
9 Quadrex wasn't referred to them; we have the procedures
10 by which they operate. To go into this in excruciating
11 detail just serves no purpose except to eat up time. And
12 I don't know what the -- why we are going into it and
13 wasting time on this. --

14 MR. SINKIN: Mr. Chairman --

15 MR. REIS: We have certain things established
16 and if it would help in allowing the Board to reach a
17 conclusion on the ultimate issues before it, that would
18 be fine. But it won't.

19 MR. SINKIN: I would just like to take
20 exception as to one Mr. Reis' remarks and he's made it
21 over and over again, as if I am deliberately trying to
22 waste time. I've been working overtime to try and get a
23 stipulation together with the NRC staff so that we could
24 cut out a great deal of time in these hearings. I'm not
25 here to delay these hearings. I happen to think this is

1 important or I wouldn't do it.

2 MR. GUTTERMAN: Mr. Chairman, this document
3 clearly does not represent what the IRC normally did in
4 its initial decisions about whether something was or was
5 not potentially reportable. This is a document
6 reflecting a follow up meeting to determine action items
7 after the thing had already been called in to the NRC.
8 You know, identifying of all the people on this list and
9 what their positions were and what they ate for dinner
10 today has just nothing to do with with this hearing. And
11 I think we are just wasting time; I don't want to
12 attribute any motives to Mr. Sinkin about it; I'm just
13 dealing with what is suggested that we do.

14 MR. REIS: I apologize if Mr. Sinkin got any
15 idea that I was making an ad hominem comment.

16 JUDGE BECHHOEFER: We will sustain the
17 objection but we will note that there's re individual
18 out of this list who we are going to want to know more
19 about later, that's Mr. Blau. And we will ask those
20 questions if they're not asked previously, and Mr. Blau's
21 relationship to the IRC.

22 MR. SINKIN: Are you telling me I can who ask
23 who Mr. Blau is? But not the others?

24 JUDGE BECHHOEFER: Well, we have a particular
25 reason for asking it. We're going to follow -- but

1 you're welcome to ask the question. I will need it as a
2 foundation for some questions I'm going to ask. But
3 you're welcome to ask the questions if you want on Mr.
4 Blau. I'm just saying if you don't, I will.

5 MR. SINKIN: I got you.

6 Q (By Mr. Sinkin) Mr. Robertson, I'll show you
7 what I ask be marked as CCANP 130.

8 (CCANP Exhibit No. 130 marked
9 for identification.)

10 Q (By Mr. Sinkin) This is a document entitled Houston
11 Lighting & Power office memorandum, dated May 13, 1981,
12 from Mr. Powell to Mr. Jacobi, incident review committee
13 meeting minutes concerning HVAC. Do you recognize this
14 document?

15 A Yes.

16 JUDGE SHON: I got -- this is identical to that
17 as far as I can see, down to the number.

18 MR. SINKIN: Wait a minute, which one did I
19 just hand you. How wierd.

20 Can we go off the record for just a second.

21 (Discussion off the record.)

22 Q (By Mr. Sinkin) Can you tell me, Mr.
23 Robertson, on this CCANP 130, at the bottom, item two,
24 what B&R Special Problem No. 16 was?

25 A I have only limited knowledge of it, but it's

1 my understanding that it represented a special activity
2 that had been previously set in motion by Brown & Root
3 engineering to re-evaluate and re-look and if
4 appropriate, redesign the HVAC system based on certain
5 recognized inadequacies of the HVAC system that had been
6 brought to the attention of Brown & Root.

7 Q To the extent of your limited knowledge, were
8 the problems identified by Quadrex the problems being
9 addressed by B&R in that Special Problem 16?

10 A As far as I am aware, Special Problem 16 did
11 cover those items that Quadrex identified in its report.

12 Q Were you aware of Special Problem No. 16 on May
13 the 8th when you made your reportability determinations?

14 A I don't believe so. I may have been, as a
15 result of it being mentioned the evening before by Brown
16 & Root. Since they did cover a number of items in their
17 presentation having to do with their own work progress,
18 where they were at and what they were doing and various
19 matters, they may have mentioned that this activity was a
20 part of Special Problem 16 concerns. They could very
21 well have done that.

22 Q But you don't remember that?

23 A I don't specifically remember it.

24 MR. SINKIN: Mr. Chairman, I would move CCANP
25 130 into evidence.

1 MR. GUTTERMAN: I have the same attitude
2 towards this one as I did towards 129, Mr. Chairman. I
3 don't see that is material but I'm not going to object.

4 MR. REIS: The staff feels similarly.

5 JUDGE BECHHOEFER: CCANP 130 will be admitted.

6 (CCANP Exhibit No. 130 received in evidence.

7 CCANP Exhibit No. 131 marked for identification.)

8 Q Let me show you what I ask be marked as CCANP 131
9 which is a document headed a HL&P memorandum, May 19,
10 1981, from Mr. Powell to Mr. Jacobi, incident review
11 committee meeting minutes concerning verification of
12 shielding analysis calculations. Do you recognize this
13 document, Mr. Robertson?

14 A Yes, I do.

15 Q The first paragraph of this document states
16 that the IRC was convened to evaluate a concern with
17 B&R's position that shielding calculations are not safety
18 related and therefore need not be design verified.
19 Was the concern that originally led you to make a
20 notification to the NRC that B&R would not go verifying
21 their shielding calculations because they hadn't
22 classified them as safety related?

23 MR. GUTTERMAN: I'm sorry, I couldn't follow
24 the whole question. Could I get it read back.

25 JUDGE BECHHOEFER: I'm not sure it doesn't omit

1 one word.

2 MR. SINKIN: Perhaps.

3 JUDGE BECHHOEFER: Shouldn't there be a "not"
4 in there someplace.

5 (The last-above question was read back
6 by the reporter.)

7 MR. GUTTERMAN: Okay, I guess I have an
8 objection to the question on the grounds that it
9 characterizes the first paragraph of the memorandum by
10 quoting part of a sentence out of context. Seems to me
11 that the question ought to take into account the entirety
12 of the sentence we just referred to but not take a part
13 of it out of context.

14 Q (By Mr. Sinkin) Fine, I didn't mean do do
15 that. If you would just tell me if the first paragraph
16 accurately captures the concern that led you to notify
17 the NRC regarding this item.

18 A I think I can best answer that by simply saying
19 that when we reviewed Quadrex report and looked at a
20 particular finding related to shielding calculations, our
21 initial impression in our review and discussion and
22 decision was that it looked to us like shielding
23 calculations, particularly certain ones such as those
24 associated with control room and perhaps others, should
25 very well be classified as safety related calculations.

1 And Quadrex had said they were not so classified and we
2 decided that that represented a condition that we felt
3 warranted notification of NRC. I think that's as
4 simplist as I can say it.

5 (No hiatus.)
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1 Q I understand. Is the root of the concern that
2 because the calculation is not classified as
3 safety-related, it will not be verified consistent with
4 requirements of verification for safety-related
5 calculations?

6 A The concern has several meanings, I think.
7 One, we had certain process commitments to meet under
8 Appendix B dealing with verification of safety-related
9 calculations. To find that a class of calculations were
10 not being verified that would appear to require that is
11 a very serious matter. It's not something to be skipped
12 over lightly.

13 So, that made it -- that automatically made it
14 a serious matter to look at. The fact -- whether or not
15 they had made a mistake in how they classified it, that
16 might have been the root cause of why it didn't get
17 verified. But what we were simply faced with was a
18 condition where a certain class of calculations had not
19 been verified and it was our preliminary opinion that
20 they should have been and that represented a breakdown
21 in the control process from the standpoint of
22 verification of analyses.

23 MR. SINKIN: I would move CCANP 131 into
24 evidence, Mr. Chairman.

25 MR. REIS: No objection.

1 MR. GUTTERMAN: I have my same lack of
2 objection, I guess.

3 JUDGE BECHHOEFER: CCANP 131 will be
4 admitted.

5 (CCANP Exhibit No. 131 admitted in
6 evidence.)

7 Q (By Mr. Sinkin) Mr. Robertson, I hand you
8 what I ask be marked as CCANP 132.

9 (CCANP Exhibit No. 132 marked for
10 identification.)

11 Q (By Mr. Sinkin) This is a document titled
12 Houston Lighting & Power Company Office Memorandum,
13 dated June 4th, 1981, from Mr. Powell to Mr. Jacobi,
14 Subject: Incident Review Committee meeting minutes
15 concerning verification of shielding analysis
16 calculations.

17 Do you recognize this document, Mr. Robertson?

18 A Yes, I do.

19 Q On page 2 of this document in the numbered
20 paragraph 5 about the middle there is a statement that
21 "Brown & Root's shielding calculations are checked and
22 approved by two engineers other than the originator,
23 i.e. a checker and the discipline project engineer."
24 And at the end of that paragraph it says, "In addition
25 to these procedures, additional internal procedures have

1 been implemented that include a simplified 'hand
2 calculation by the checker.'"

3 Now, the final paragraph of this document is
4 the IRC's conclusion regarding whether this item is, in
5 fact, reportable under 50.55(e). As I read their
6 conclusion, the fact that Brown & Root did have a
7 several tier review system for shielding calculations
8 meant that whether or not they classified it as
9 safety-related did not raise a safety-related concern in
10 this context because the process for checking the
11 calculations was the same as if they were being
12 verified. Is that how you understand the IRC disposed
13 of this item?

14 MR. GUTTERMAN: Well, I'll object to the
15 question to the extent that Mr. Robertson's being asked
16 what the IRC had in mind. If you're asking him to
17 interpret that paragraph and what his view of it is, I
18 don't have any objection to that.

19 MR. SINKIN: Fine.

20 Q (By Mr. Sinkin) I assume this report, like
21 other IRC reports, came to you for review; is that
22 correct?

23 A No, it was issued -- the first time I saw it
24 it was issued. The matter was discussed with me
25 verbally before this report was written. What's in here

1 did not come as a surprise, but I did not review the
2 document.

3 Q No, I meant that the document once written is
4 sent to you.

5 A Yes.

6 Q And you're part of the review process for
7 whether what's documented there is correct, is the
8 correct analysis of the problem. That kind of analysis
9 is what you do?

10 A If I received this and had an objection to
11 what was in it, I certainly would let that be known,
12 yes.

13 Q Right. Okay.

14 Well, let me ask you how you understood, based
15 on the conversations you had and the document itself,
16 how you understood the last paragraph of this document?

17 A It was my understanding that regardless of
18 what words were used to describe the process, that, in
19 fact, the calculations in question received a thorough
20 review, check and, in essence, quote, verification,
21 unquote, as part of their being processed so that in
22 terms of distinction between the handling of these
23 calculations and a regular safety-related calculation,
24 you would not really find any distinction. It would go
25 through the same rigor of process as any safety-related

1 calculation would.

2 Q And you considered that an adequate basis for
3 deciding that it was not a reportable finding?

4 A That was part of the basis.

5 Q What was --

6 A That answered the question of the potential
7 for a defective set of calculations being processed and
8 resulting in a defective shielding design arriving. It
9 did show that the process was properly controlled and
10 that the appropriate checks on the adequacy of the
11 calculation were in place and that they could be relied
12 upon without additional review. That did not settle the
13 issue itself as to whether or not the calculation set
14 should or should not be officially classified as
15 safety-related.

16 Q So, that was a second issue that has to be
17 resolved before you decide on the ultimate
18 reportability?

19 A Yes. It would certainly be a part of that
20 decision, yes.

21 Q When the HL&P review team met on May the 8th,
22 were they aware of this several tier checking process by
23 Brown & Root?

24 A I can only speak for myself. I was not.

25 Q Was there any --

1 A I was under the impression at that point in
2 time that the calculations were generated and I was not
3 aware that it received any type of check at that point
4 in time.

5 Q Was there any discussion about that particular
6 point of verification and what Brown & Root had in place
7 during the meeting?

8 A I don't recall that that kind of a detail on
9 this particular issue was discussed at the meeting.

10 MR. SINKIN: Mr. Chairman, I would move CCANP
11 132 into evidence.

12 MR. GUTTERMAN: No objection.

13 MR. REIS: No objection.

14 JUDGE BECHHOEFER: CCANP 132 will be
15 admitted.

16 (CCANP Exhibit No. 132 admitted in
17 evidence.)

18 Q (By Mr. Sinkin) Are you familiar with the
19 subsequent Bechtel review of the Quadrex findings that
20 produced two different reports, one was a Bechtel task
21 force report, one was a report called EN-619. Are you
22 familiar with those reports?

23 A Yes, I am.

24 Q Are you familiar with Bechtel having
25 identified a component that Brown & Root classified as

1 non-safety-related which Bechtel considered as possibly
2 safety-related?

3 A Just those words doesn't trigger anything in
4 my mind. If you can point me to a specific item, I can
5 perhaps respond better.

6 Q This is report EN-619. I'll show you some
7 references. It doesn't have page numbers, so it's a
8 little bit difficult to reference this document, but I
9 am in the generic findings section and it's the response
10 on generic finding 3.1(d).

11 MR. GUTTERMAN: Where exactly in that response
12 are we looking?

13 Q (By Mr. Sinkin) Under additional comments
14 there is a sentence that says, "The project team in the
15 development of work package EN-613 has noted one case
16 where B&R apparently may not have properly identified a
17 safety-related component."

18 Does that refresh you at all as to what that
19 component could have been?

20 A No, I do not know what the component is. I
21 have seen that particular description before, but I
22 don't recall right now what that component was.

23 Q In the back of EN-619 is a letter to Mr. Dew
24 at Houston Lighting & Power from Bechtel dated August
25 the 3rd, 1982. And in that letter under item 3.1(d) it

1 says, "The Bechtel transition team in the development of
2 work package EN-615 has noted one case where B&R
3 apparently did not properly identify a safety-related
4 component. This has been identified as IRC item 123."

5 Does that at all refresh you?

6 A No, I don't mentally keep track of these
7 things by IRC item number. I'm sure if I saw the item
8 number, I would know -- or saw the subject, I would
9 probably know more about it than just a number
10 associated with the report.

11 Q If I'm correct, you said yesterday that
12 Bechtel doesn't have an IRC; is that right?

13 MR. GUTTERMAN: I don't believe that was Mr.
14 Robertson's testimony. I believe it was Mr. Wisenburg's
15 testimony.

16 MR. SINKIN: Oh, I think it was Mr.
17 Wisenburg's testimony.

18 Q (By Mr. Sinkin) To the best of your
19 knowledge, if there's an IRC reference in EN-619, is
20 that to the HL&P IRC?

21 MR. GUTTERMAN: I wonder why we're talking
22 about EN-619 when CCANP strenuously and successfully
23 argued to keep it out?

24 MR. SINKIN: Well, we don't need the entire
25 document for one small item.

1 Q (By Mr. Sinkin) Were you familiar with --

2 MR. PIRFO: Having argued EN-619, this seems
3 anomalous, to say the least, that Mr. Sinkin would be
4 going into it after what Mr. Gutterman has said. Now
5 he's saying we don't need the entire document.

6 I don't understand. He opposed it. He moved
7 to strike it. He was successful on that score. Now
8 he's going into 619 again. I mean, this is strange, to
9 say the least.

10 MR. SINKIN: It's qualitatively quite
11 different. If there's a single finding in one huge
12 document that indeed something that Quadrex pointed to
13 as a safety concern might have propagated itself through
14 the project in some way, that that's qualitatively quite
15 different than someone going back and saying we agree
16 that something wasn't reportable because we've looked at
17 three thousand other documents and they don't indicate
18 its reportable either. It's qualitatively quite
19 different.

20 MR. REIS: Mr. Chairman, the Staff in addition
21 has another objection. It's obvious Mr. Sinkin doesn't
22 know what that item is either and he's fishing. A trial
23 is not a place to conduct discovery and he's fishing
24 around to find something. The Staff also objects on
25 that ground. The last few questions show it.

1 MR. SINKIN: Actually, Mr. Chairman, I'm not
2 sure the last question really needs to even be tied to
3 EN-619. The last question was simply whether Bechtel
4 had an IRC, if that's what he was aware of, too.

5 MR. GUTTERMAN: That's immaterial.

6 JUDGE BECHHOEFER: We will sustain the
7 objection to the particular question asked.

8 Q (By Mr. Sinkin) Going back to the Quadrex
9 report, Mr. Robertson, if you would turn to page 3-5,
10 generic finding 3.1(d). This finding is headed
11 safety-related versus non-safety-related distinctions.
12 And on the next page, 3-6, it has a list of cases where
13 Quadrex says, "The Brown & Root position was felt to be
14 either inaccurate or questionable," and there are seven
15 of those. Do you see those?

16 A Yes.

17 Q Do you remember testifying yesterday that
18 Quadrex told HL&P on April 13th at the meeting that the
19 people in Brown & Root Quadrex talked to about pipe
20 break outside containment did not seem to understand the
21 necessity to do this analysis?

22 A Yes.

23 Q Is item 1 on page 3-6 a similar observation?

24 A As far as I know, it's the same one.

25 Q And item 2 is an item that the HL&P review

1 team reported to the NRC; is that correct?

2 A Well, to the extent that it would relate to
3 shielding certainly. I'd have to look at the others,
4 N-23 and N-25, to see if they also were a part of that,
5 but --

6 Q But as far as --

7 A -- in terms of shielding, the answer is yes.

8 Q And item 3 is an item that the HL&P review
9 team reported to the NRC also, is it not?

10 A That is correct.

11 Q And item 4 as well?

12 A Yes. In the sense that we did report that
13 matter.

14 I'm not so sure that the way this is said it
15 necessarily totally relates to the distinction between
16 safety-related and non-safety-related. But, yes, we did
17 report that not all the computer codes appeared to have
18 been qualified based on the users being able to, A, know
19 they were being done, or even the broader question, were
20 all the computer codes used in safety-related work, had
21 they actually been qualified. We couldn't answer those
22 questions. Those were part of the bases for making the
23 report.

24 Q By qualified you mean the same as verified?

25 A Thank you for correcting me. No, I do not.

1 Computer code -- to have a proper computer
2 code you have to have two things, something called
3 verification and something called qualification. In
4 common terminology we simply use verification usually to
5 mean both things. But verification is the process of
6 checking the actual computer language statements to
7 ascertain that they are correct and that the product
8 they put out is consistent and that the work they do is
9 as expected that you have a validity of ranges for which
10 options are good, what the limitations are on the code.
11 The verification that the work that comes out is correct
12 based on the input going in, that's verification.

13 Qualification is the process that looks at the
14 computer code equations, the basic process and says,
15 yes, the technical approach used to put this particular
16 software package together is the right one to solve this
17 particular problem set or it is the right set of
18 equations to have used. It wasn't just an accident that
19 you got the right answer, but somebody actually selected
20 heat transfer type equations to go in heat transfer type
21 places. That's what I call qualification.

22 You have to put both of those two things
23 together to complete the package of verification process
24 which says the code is now set and ready for use.

25 Q Given just the information we've been over

1 about these four items, that Quadrex had told you about
2 item number 1, that you had filed 50.55(e) notifications
3 coming out of the next three items, why would the HL&P
4 review team on May 8 not also report to the NRC a
5 generic finding that Brown & Root did not take a
6 technically adequate approach to safety-related versus
7 non-safety-related design activities?

8 A Because, as I remember this, the shielding
9 classification of codes was really the only one that
10 represented a failure as we saw it to properly classify
11 something. The others did not relate to the correct
12 classification of something, but it rather related to
13 things not done or things not completed, but didn't
14 relate to improper classification.

15 Now, I must say I would have to review all
16 those different questions to make certain that my answer
17 is fully correct. But my recollection is that with the
18 exception of the classification of shielding, there were
19 no other misclassifications.

20 Q So, as you read 3.1(d), the only question
21 raised by Quadrex under the heading safety-related
22 versus non-safety-related distinctions is, in fact, the
23 question of whether systems were classified
24 appropriately as safety-related or non-safety-related?

25 A That is correct. Within the sense of

1 50.55(e), that would be -- that was the review process
2 we were undertaking, that would be the meaningful item
3 of that statement.

4 Q But under 50.55(e) you reported three other
5 items -- two other items --

6 A Yes.

7 Q -- that you are now saying were not
8 classification questions?

9 A They were not a case of misclassification,
10 they were a case of in the computer codes not completing
11 the work of a code that was to be used or might be used
12 for safety-related work, not doing the work necessary to
13 make it safety-related. But they didn't misclassify the
14 code.

15 In the case of the HVAC systems, they had
16 failed, as I understood it, to account for all the heat
17 loads in all the different places and they were coming
18 up short on the capability to provide proper cooling in
19 all the right places.

20 Q Is the common thread to the three
21 notifications that Brown & Root was not taking a
22 technically adequate approach to safety-related as
23 opposed to non-safety-related design activities?

24 MR. REIS: Mr. Chairman, I object to the
25 question in that I don't know what the word "approach"

1 means in that sentence.

2 I'll withdraw the objection. It's vague, but
3 I'll withdraw it.

4 A I don't see the common thread as you described
5 it. There was not a commonality. In the sense as I
6 understood your question, I did not see a common
7 thread.

8 Q (By Mr. Sinkin) Mr. Robertson, I am handing
9 you what I ask be marked as CCANP 133 and ask if this is
10 the statement you gave to the Nuclear Regulatory
11 Commission.

12 (CCANP Exhibit No. 133 marked for
13 identification.)

14 A Well, without reading it word for word, it
15 certainly looks like it. And I see some of my
16 corrections in there with initials, so I certainly would
17 agree that this seems to be a copy of my statement.

18 Q (By Mr. Sinkin) Turning to page 4 of the
19 statement, in the second paragraph you state that you
20 received a telephone call from Dave Barker who advised
21 that Shannon Phillips had requested a copy of the
22 Quadrex report from someone in the HL&P quality
23 assurance department and been told no. And in the
24 parentheses you say either Frazar or Geiger.

25 Have you since that time been able to

1 reconstruct exactly who interacted with the NRC staff on
2 that particular day?

3 A This process has been discussed among myself,
4 Mr. Barker and Mr. Frazar and we believe we have sorted
5 out how it might have occurred. However, the statement
6 I have made I stand on. This is what happened as far as
7 I knew on the day that this occurred.

8 But apparently, based on our discussions, Mr.
9 Frazar went several different paths in attempting to get
10 resolution of this request by Mr. Phillips and had
11 called Mr. Goldberg, couldn't get him, called Mr. Barker
12 and called Mr. Oprea, I believe. He received, as I
13 understand it, from Mr. Oprea go ahead and provide the
14 Quadrex report.

15 Meanwhile, Mr. Barker must have called me and
16 I told him to go ahead and give the report to Mr.
17 Phillips and I understood it -- at that point I
18 understood that Mr. Phillips was down at the site, most
19 unfortunate since it turned out he was in the building
20 where I was at. If I had known that, he would have
21 gotten the report a little quicker than it turned out he
22 did, but that's beside the point.

23 In any event, I told Mr. Barker to go ahead
24 and give Mr. Phillips -- make a copy available for him.
25 And apparently at the same time that Mr. Barker was

1 talking to me, Mr. Frazar was on the phone to Mr. Oprea,
2 he was trying to get his problem fixed and he went
3 several different paths.

4 So, it was a matter of several different
5 people winding up getting called in a very quick time
6 frame by Mr. Frazar and that's how I got into the
7 process. As best we can reconstruct it.

8 Q I understand.

9 MR. SINKIN: Mr. Chairman, I would move CCANP
10 133 into evidence.

11 MR. GUTTERMAN: No objection.

12 MR. REIS: No objection.

13 JUDGE BECHHOEFER: CCANP 133 will be
14 admitted.

15 (CCANP Exhibit No. 133 admitted in
16 evidence.)

17 MR. SINKIN: That concludes my
18 cross-examination, Mr. Chairman.

19 JUDGE BECHHOEFER: I guess the Applicant
20 should go next since the Staff usually goes last.

21 MR. GUTTERMAN: The Applicants have the burden
22 of proof, so I would expect the Applicants should have
23 the right to go last.

24 MR. SINKIN: Wait a minute.

25 MR. PIRFO: He goes last.

1 MR. SINKIN: It's my direct case. I think I
2 go last.

3 MR. AXELRAD: On direct you go last, but in
4 terms of --

5 MR. SINKIN: In terms of this round, yeah.

6 MR. REIS: I don't have any problems either
7 way. It doesn't matter to me.

8 JUDGE BECHHOEFER: If the Staff doesn't care,
9 then the Staff can lead off.

10

11

CROSS-EXAMINATION

12

BY MR. REIS:

13

Q Mr. Robertson, first, maybe I didn't catch,
14 what is your present title with HL&P?

15

A I am general manager of nuclear engineering.

16

Q Now, going first to CCANP Exhibit 127, there
17 is a reference there in this document to some material
18 delivered under the table.

19

A Yes. Excuse me, I no longer have a copy of
20 that in front of me that I'm aware of. I may have and
21 not know where it is.

22

Okay. Go ahead, sir.

23

Q There is a reference to some material
24 delivered under table at the bottom of page -- it's page
25 two of the document, but it's stamped number 3 on top.

1 A Yes.

2 Q Was that material that you referred to, did
3 that material tend to show that Brown & Root's
4 engineering was deficient or that they were doing their
5 job or was it of both categories?

6 A I can't I don't think definitively answer that
7 it was one or the other or could have been both. There
8 was a point made, as I remember it, that the Brown &
9 Root engineers were really trying to provide information
10 to Quadrex and that they had received some of their
11 material from other than an official transmittal. And I
12 can't characterize it any further than that.

13 Q Mr. Robertson, before you talked about certain
14 matters being in the Quadrex report that had been
15 subject to former 50.55(e) reports, in other words,
16 before May 1981 -- '81?

17 MR. GUTTERMAN: Yes.

18 Q (By Mr. Reis) -- can you quantify that in any
19 way? Can you give me an estimate of the number of items
20 that were included in the Quadrex report, give me an
21 estimate of the number of systems included in the
22 Quadrex report that had been subject to former 50.55(e)
23 reports.

24 A It seems to me that there was something on the
25 order of a half a dozen items that Quadrex mentioned in

1 some form or fashion as part of their findings that had
2 also been previously reported by HL&P to the Regulatory
3 Commission.

4 (No hiatus.)

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1 Q You also testified that a great deal of the
2 Quadrex report dealt with what you -- I think you
3 characterized as over-conservatisms; in other words,
4 where they were concerned about the project being over
5 designed from a safety point of view. Can you quantify
6 in any sense the number of most serious findings in the
7 Quadrex report that dealt with over-conservatisms?

8 A Well, I can't off the top of my head do that.
9 I could go through of course and enumerate them out over
10 a period of time. I don't know whether it's -- if you
11 wish me to do that I'd be happy to do it.

12 Q No.

13 A But there were a considerable number; I would
14 not suggest that those were a majority number, but a
15 considerable number out of a total of some three hundred
16 findings overall, 310, I believe it is, I would estimate
17 that there's probably ten percent of those, if one looks
18 at them, turn out to be suggestions of overkill or
19 over-conservatisms on the part of Brown & Root
20 engineering that relate to, in Quadrex's mind, more
21 costly way of doing business than they thought might be
22 appropriate.

23 One example that jumps out at me was the
24 Quadrex concern, not concern, finding, that Brown & Root
25 had chose to provide seismic supports for pipes

1 everywhere. And that in Quadrex's opinion, this was not
2 a very cost effective way of doing it. Others would look
3 at it differently and say that not having to complete a
4 very large amount of complex analysis might actually
5 represent a cost savings. I'm not so sure which way the
6 outcome of that one is, but clearly providing a seismic
7 support for all the pipes is a conservative thing to do.

8 Q Mr. Robertson, in Exhibit 6 2, which is the
9 Brown & Root assessment that came to you on May 8th of
10 the Quadrex items, and particularly in appendix,
11 Enclosure (2), not appendix two, but Enclosure (2), you
12 were asked some questions about the status of proposed
13 resolution that appears on page two of that enclosure,
14 were you not?

15 A Yes, sir.

16 Q And there's reference in the first paragraph
17 there to both the HVAC capacity and to breaks outside
18 containment, pipe breaks outside containment.

19 A HVAC there -- yes, okay. Yes.

20 Q Can you tell us what the relationship between
21 those matters are if there is any relationship?

22 A I'm not aware of any direct relationship
23 between the HVAC area and the pipe break outside
24 containment, in a direct fashion. There is an incorrect
25 relationship that's always possible to find, and that is

1 that you have not done a pipe break analysis and have
2 designed your HVAC system without considering that you
3 may have to accommodate some pipe break effects in HVAC,
4 then later on you do a pipe break analysis, and find out
5 you're short on HVAC, it can have that kind of interplay
6 in the design area.

7 But just reading it on its surface, I do not
8 see that being what is expressed here.

9 Q It wasn't a case of a possible loss of coolant
10 outside of containment, requiring a larger HVAC capacity
11 within containment?

12 A No, not that I'm aware of.

13 Q Okay. In CCANP Exhibit 128, there's a lifting,
14 three numbers that appear on the face of it, three
15 numbered items, is that the wording you agreed upon to
16 inform the NRC of these matters at the meeting with Mr.
17 Goldberg?

18 A I didn't mark it. I believe you're referring
19 to the telephone minutes.

20 Q That's right.

21 A Yes, those are -- that does represent the words
22 go that was put together to be called in to NRC.

23 MR. REIS: That's all I have.

24 JUDGE BECHHOEFER: We were discussing whether
25 we want to take a break now. Didn't you tell us you had

1 about 45 minutes?

2 MR. GUTTERMAN: I don't think it would be that
3 long but I think it would be appropriate to take a break
4 right now.

5 JUDGE BECHHOEFER: All right. Why don't we
6 take a fifteen minute break.

7 (Brief recss taken.)

8 JUDGE BECHHOEFER: Mr. Gutterman are you
9 handling it?

10 MR. GUTTERMAN: Yes.

11 It turns out I only have a few questions, Mr.
12 Chairman.

13 CROSS-EXAMINATION

14 By Mr. Gutterman:

15 Q The first thing, Mr. Robertson, I'd like to
16 make sure the record is clear on one point regarding your
17 testimony. Concerning your personal review of the
18 nuclear analysis area, and I believe you testified about
19 your consideration of whether there was a reportable
20 deficiency regarding the Brown & Root nuclear analysis
21 group. Had you reached a conclusion regarding whether
22 you felt that there was a reportable deficiency regarding
23 the nuclear analysis group at the time you entered the
24 meeting on May 8th with Mr. Goldberg and Dr. Sumpter to
25 discuss which findings would be reportable?

1 A Yes. I had reached a conclusion. That
2 conclusion at that point in time, by the time we entered
3 the meeting, was that the group as a whole did not
4 represent a reportable condition, that is a group out of
5 control or a group producing a bad product.

6 I can't recall exactly when I reached that
7 determination, but as a result of my own review, I had
8 indeed reached the conclusion that there was nothing
9 within the nuclear analysis group that warranted a report
10 to NRC at that point in time.

11 Q I believe you also testified about
12 participating with Mr. Goldberg in discussions regarding
13 the process by which Houston Lighting & Power Company
14 would review the Quadrex report for reportability; you
15 had those discussions I believe you testified sometime
16 before May 7th. Could you explain to us why it was
17 decided that the review would be conducted by yourself,
18 Mr. Goldberg and Dr. Sumpter?

19 A Yes. We had reason to believe, based on the
20 preliminary presentations that had been made by Quadrex,
21 that their report was going to cover a very broad range
22 of subject matter, was going to cover a broad range of
23 what I would call engineering design processes, and a
24 very large range of technical design issues, meaning the
25 specific technical methodology being applied.

1 And it was based on that consideration of the
2 broad spectrum of items that needed to be reviewed that
3 we jointly agreed that it would be best if the most
4 experienced engineers in engineering design that we
5 could, that we had, acted as the primary reviewers of
6 this report.

7 And in that consideration, Mr. Goldberg,
8 myself, Dr. Sumpter, represented a very broad and rather
9 extensive background and experience base in the design of
10 plants. Mr. Goldberg had had very great deal of
11 experience in the mechanical design area, piping, pipe
12 stress supports, and in construction areas, and in other
13 related areas; I had a large experience base in nuclear
14 analysis, in computer codes, and in the overall process
15 of engineering design, itself, and Dr. Sumpter had
16 extensive experience in areas such as health physics,
17 radiology and in addition, was the most familiar
18 individual that we could identify in terms of the status
19 of Brown & Root engineering.

20 We put all those things together, we were
21 looking at the background and experience that essentially
22 covered the entire plant design basis. And we could not
23 identify a more experienced group of individuals to
24 utilize, therefore we elected to do it that way.

25 Additionally, as I perhaps secondary

1 consideration, was the very proceduralized nature of the
2 IRC would mean a time consuming process on their part to
3 administratively hold a whole series of meetings,
4 bringing in many different individuals to represent the
5 different aspects of design that would be brought before
6 it. We looked at that as being of such time consuming
7 nature that we were not satisfied that we could have a
8 good review of that report and what we considered to be a
9 timely way. So for those basic reasons, we elected to
10 proceed with the review as has been stated here.

11 Q Let's see. Describe for us your personal
12 educational background, professional experience?

13 A I received a Bachelor of Science from the
14 United States Military Academy in 1958; and served five
15 years on active duty at which time I entered MIT Nuclear
16 Engineering Department and in 1965, received a Master of
17 Science in nuclear engineering; in 1967, a nuclear
18 engineer degree from MIT in nuclear engineering; in
19 mid-1966, I joined Nolls Atomic Power Laboratories and
20 worked in core thermal hydraulics, and then safety system
21 analysis, protection, protective system analyses,
22 combination, plant analyses, for about a total of about
23 four years plus a little bit more.

24 And there I had the responsibility to perform
25 those kind of analyses for the USS Nimitz class carrier

1 and we undertook to cause the design of that reactor
2 system to meet the requirements of the AEC safety
3 regulations. Even though that was not a something that
4 was required by law or anything of that type, it was a
5 decision made by the Navy that we would attempt to bring
6 the Nimitz class reactors in the safety sense into
7 compliance with AEC requirements, we which did.

8 Then from 1973 to 1977, I worked in New York
9 State, for New York State, as initially part of the
10 Atomic Energy Counsel where I reviewed safety reviews and
11 performed safety reviews of commercial power plants
12 located in New York State, and then in 1974, along about
13 April or May, something along that time, I joined the
14 state authority as manager of siting and was responsible
15 for the environmental assessment and planning of sites in
16 New York State that would be later used as electric
17 generating stations.

18 And in that regard, we performed the
19 environmental type analyses, planning and basic safety
20 consideration analyses, that would show a site was
21 suitable for use by coal, oil, although oil was beginning
22 to disappear, and for nuclear plants.

23 In 1977, I joined Stone & Webster as senior
24 licensing engineer and initially was responsible for the
25 preparation of that department's licensing procedures,

1 and personally as part of that, wrote the Stone & Webster
2 separation criteria procedure and the Stone & Webster
3 single failure criteria procedure, and quite a few
4 others; helped develop a basic program, procedure and
5 training program, for Part 21 reporting by Stone &
6 Webster, and of course that is those considerations very
7 directly related to 55(e), since we do, Stone & Webster
8 did have to advise clients when they found a matter that
9 looked like it was pertinent to 55(e).

10 In January of 1978, I was appointed supervisor
11 of safety system design and analysis, and in that
12 position, was responsible for the specification of safety
13 system design requirements and criteria, and the analysis
14 of those safety systems for all Stone & Webster plants.
15 And remained in that position until I came to Houston
16 Lighting & Power. I think that sort of covers the
17 ballpark.

18 Q The other thing I wanted to ask you about is if
19 you could give us a little bit more detailed description
20 of the meeting that you testified you attended on May
21 7th, 1981 with Brown & Root that considered the Quadrex
22 report.

23 A Yes. The meeting was held in a large
24 auditorium and I have -- I keep mentally thinking of that
25 night as being like a Navy court of inquiry, headed up by

1 a Mr. Steve Dew who was prosecuting attorney, so to
2 speak; and he and Mr. Saltarelli and some other senior
3 people sat in a board of review and called before them
4 the various discipline chiefs who came to present their
5 rationale for why the matters of the discipline findings
6 in the most serious category that belonged to them were
7 or were not reportable, and what their basis for those
8 decisions were.

9 The meeting lasted from about 5:00 o'clock
10 until something in the order of 11:00 o'clock that night.
11 And it, again, was a varying amount of time spent on each
12 discipline. And some cases, the statements were very
13 simple on the part of the discipline chief as to why this
14 matter was or was not reportable, in other cases, there
15 were questions asked by somebody of the -- in that senior
16 group and either the discipline chief or one of his other
17 supervisors who were present would respond to that
18 question and provide additional information.

19 That continued throughout that period of time
20 until they had covered all discipline findings and that's
21 when the meeting broke up.

22 Q You mentioned Mr. Saltarelli and Mr. Dew. Can
23 you recall any of the other senior level people who were
24 there?

25 A I can't be absolutely sure but it seems to me

1 that Mr. Hawks and Mr. Pinto were there, and I'm sure
2 there were some others. I believe -- I just don't recall
3 all the names. But it struck me that the senior
4 management in engineering of Brown & Root were present in --
5 at that meeting.

6 MR. GUTTERMAN: That's all I have.

7 BOARD EXAMINATION

8 By Judge Lamb:

9 Q Mr. Robertson, I'd like to make certain that we
10 understand accurately how the IRC functioned and what
11 their authority was at that time.

12 When a matter was brought before the IRC, they
13 met on it, reached a decision, at that point, did they
14 have the authority to report directly to the NRC?

15 A Yes, they did. They also had instructions when
16 they reached a conclusion about some matter, that they
17 were to immediately call myself; if I wasn't around, Mr.
18 Goldberg, and discuss what their findings were with us,
19 particularly if they had reached a conclusion that
20 something should be called in.

21 They also had those same instructions if they
22 had a meeting and there was a serious matter in their
23 view, and they decided it was not reportable, they were
24 still to make that phone call and discuss it. And they
25 did so. If they could not reach either one of us, they

1 were to go ahead and call it in without reaching us.

2 Q I had understood and I wanted to check to see
3 whether this was correct, that normally before calling
4 they would get your concurrence or Mr. Goldberg's
5 concurrence?

6 A I wouldn't want to call it --

7 Q Or was that necessary?

8 A No, sir, I don't think so -- we didn't look at
9 it as concurrence as much as we did what was their basic --
10 what was their basis for reaching this decision, and was
11 there anything that in our experience needed to be added
12 to that decisional process before they completed it.

13 I can't recall that we ever had a disagreement
14 in the end; I can recall times when I sent them back to
15 do more, in both cases, where they had reached a
16 conclusion of yes and in cases where they'd reached a
17 conclusion of no, I sent them back to do more work. I
18 said, "You haven't got to the bottom of this. You don't
19 have the right answer in the sense you haven't considered
20 all the factors in this."

21 And whether the answer was no, "Go look at it
22 and call me back after you checked it out."

23 I was more concerned with the ones when they
24 were coming up negatively than I was with with the ones
25 positively. But in terms of absolute authority, they had --

1 they did have the authority to go ahead and call.

2 I can't recall whether there was ever a clearly --
3 I know there was no case were they wanted to call and
4 they were overruled, in that sense and told not to.
5 There were some times when they came to a conclusion it
6 wasn't reported and they were told, "Well, either you
7 call or one of us is going to," you know, words not quite
8 that strong but the same meaning.

9 Q So then actually, you didn't -- you did or
10 didn't have veto power over the IRC?

11 A In essence, we had logic veto power. When I
12 say logic veto power, as I say, I don't recall ever
13 overruling them, I don't recall that ever occurred.

14 But there were many times when they were told,
15 "You haven't looked at this whole thing in the right way.
16 We disagree or I disagree, this is a matter that should
17 be called to NRC. Have you looked at this particular
18 aspect of it?"

19 Most of the time when they re-looked at it,
20 they would come back with a different conclusion. There
21 were a few occasions were a simple statement was made,
22 "Well, that may be all well and good, but I think this is
23 a matter that warrants NRC's attention, therefore we're
24 going to call it in. Would you please go ahead and do
25 so."

1 Q Were there any instances in which they felt
2 that something should be reported and you or Mr. Goldberg
3 countermanded that?

4 A Not in that sense, sir. There were, I believe
5 there were a few occasions where they'd reached a
6 conclusion and I may have raised some issues and asked
7 them, "Have you considered this part of it?" And when the
8 answer was no, I would say, "Well go do it. And then
9 tell me if you're still -- if you've still got the same
10 observation."

11 But I can't recall ever having vetoed them in a
12 direct fashion. That's -- that doesn't register as the
13 way of doing it. But frequently, we would point out
14 things that they had maybe not considered yet and asked
15 them to go back and look at those in addition to what
16 they had already done. We didn't have any -- we had no
17 program or any intention of curtailing their freedom to
18 make whatever recommendations they felt appropriate.

19 Q Did I understand correctly that there were
20 occasions in which they came up with a recommendation
21 something should be reported but then when sent back to
22 re-study it they changed their minds?

23 A I think there may have been an occasion of
24 that, but it doesn't register that there was more than
25 one or two times that that occurred. It was in all cases

1 as far as I know, it was a very clear case of some basic
2 element of that matter that they had not considered and
3 once they did, the conclusion was straightforward.

4 Q This was not a result of being told not to
5 report it?

6 A No. No. That -- we didn't operate in that
7 way. It was more a matter of they had gone through their
8 process and we were trying to provide or I was, providing
9 them with my best judgment as to making that process
10 complete, and make sure they'd considered all factors
11 before they ceased their activity.

12 Q Now, looking at the operation of the special
13 team, you and Mr. Goldberg and Dr. Sumpter, and with
14 respect to which parts of the Quadrex report should or
15 should not have been reported under 50.55(e), who made
16 the ultimate decision on those matters?

17 A I don't know that there was -- that there is an
18 answer to that. At noon on the 8th, I had reached the
19 conclusion there were three matters to be reported, and I
20 believe, if my memory is right, Dr. Sumpter also agreed
21 we had three matters to report, and at the end of that
22 day, we reported those same three matters.

23 Q Were they the same three?

24 A Same three, sir.

25 Q Was Mr. Goldberg in agreement with those?

1 A At the end of the day, yes.

2 Q In other words, this was a consensus among the
3 three of you?

4 A That's correct. There was no dissenting vote
5 on any one of the three matters.

6 Q Do you still agree with those decisions in
7 retrospect knowing what you've learned since then?

8 A Yes, sir.

9 Q That those three should have been reported and
10 that no others should have been reported?

11 A Given the information that we had available on
12 the 8th of May, I believe those three decisions were
13 correct.

14 Q How about given information since then, what
15 that change your conclusion?

16 A Given information 30 days later, probably would
17 not have reported the shielding calculations.

18 A Probably would have only made two reports.

19 Q Were there any that you did not report that you
20 would have reported, based on what you've learned since
21 then?

22 A No, sir, I'm not aware of any that -- I'm not
23 aware of any items that have arisen since then that came
24 directly out of the Quadrex report that would have been
25 reported at that time, knowing what we know now.

1 Q Now, with respect to the matters that were
2 reported, HL&P deferred actions on those matters by the
3 special team until the final Quadrex report had been
4 received?

5 A Yes, sir.

6 Q They did receive briefings prior to that time;
7 you had clues that some of these were forthcoming, that
8 there were matters that might be reportable. Would it
9 have been appropriate for HL&P to have proceeded with its
10 own IRC investigations before receiving the final Quadrex
11 report?

12 A Well, difficult to answer that well, sir.
13 After receipt of the Quadrex report, I became aware of
14 the activities that had been going on for some time
15 relative to HVAC. And in my view, that matter should
16 well have been reported to NRC earlier than it was. I
17 was not aware of that information until after May the
18 8th, however.

19 But there were other people within our
20 organization that were and they should have been more
21 sensitive to that, I think, than what they perhaps were.
22 They seemed to be best I can tell, they were interested
23 in solving the problem and they just overlooked the
24 necessity to enter that into the 55(e) process.

25 In terms of computer codes, it's difficult to

1 say. I did not have enough information personally to
2 reach a definitive conclusion. I understand that there
3 was an audit performed in late 1980, something of that
4 time, that raised the question -- raised a question with
5 about the status of computer codes. It might be that as
6 a result of that, some other evaluation of computer codes
7 should have been undertaken. But based on what I heard
8 of the one briefing I attended, I did not receive enough
9 information to tell me that there was a meaningful
10 problem that could be evaluated and come to a reasonable
11 conclusion that there was a matter serious enough to be
12 reported.

13 There were enough matters raised just as issues
14 that if one had undertaken to evaluate each and every one
15 of them, I don't know -- I wouldn't have known how to
16 separate which ones to look at and which ones not to the
17 way Quadrex presented them, I guess. It would have been
18 almost impossible to start tracking down each one given
19 the rather broad brushed quick simple way Quadrex
20 presented their or made their presentation.

21 They simply didn't provide us enough
22 information at the briefing I attended that triggered to
23 me that we had enough to start an evaluation. If they
24 had just simply walked in the door and said, "We think
25 there's something wrong with your computer codes

1 verification program at Brown & Root," would I have
2 followed it up, the answer is yes. I would have.

3 I would have wanted to know what it was that
4 caused somebody to make that that kind of a statement.
5 But since we did have a forthcoming report that was to be
6 organized and have the factual basis, it did not seem to
7 me that it was necessary to suddenly run out and start
8 creating a group of task forces to look at a very large
9 number of matters that Quadrex made a statement about
10 that there was something wrong in that area or there's
11 some problem here or there's some better way of doing it,
12 or there's some missing document here.

13 There just wasn't enough information to take
14 definitive action at that point in time.

15 Q With respect to the item that you feel should
16 have been reported earlier, you view that as a serious
17 oversight?

18 A Serious, yes. Any time you don't do an
19 evaluation of something of this type, that's a serious
20 matter. However, I would also say in perspective, given
21 the many thousands of different design activities that
22 occur on a project, a very large number of interactions
23 that can you remember among groups, that it's not totally
24 to be unexpected that occasionally one will slip through
25 the crack for awhile and not get caught until late. I'm

1 not surprised at that. I don't like it.

2 Q Did the special review team, the three of you,
3 consider reporting the entire Quadrex report, submitting
4 this entire report to the NRC under 50.55(e)?

5 A I don't think we discussed directly that day
6 whether or not the entire report represented something
7 that should be reported as a report. I think without
8 question, though, that if there had been a substantial
9 number of different reportable items show up, I think
10 without question we would have said, "Okay, that's it,
11 the whole report goes."

12 But we didn't find that. We found three,
13 isolated case itself and they didn't seem to have a
14 'common thread, they didn't seem to relate to each other,
15 so we did not present the entire report. We discussed it --
16 we've discussed -- we have discussed it since that time
17 as to what were our feelings on that day even though we
18 didn't express them, I think we all had the same type of
19 feelings that if there had been very many of them, what's
20 the number, eight, ten, twelve, something on that order,
21 if we had had that many reportable things or potentially
22 reportable findings, that probably would have been a
23 solid clue that the entire report warranted notice to
24 NRC.

25 Q Did the NRC staff indicate at any time as far

1 as you know that the whole report should be submitted to
2 them under 50.55(e)?

3 A I'm not personally aware of that view on the
4 part of the staff. I can recall reading the minutes of a
5 document wherein I believe somebody on the Region IV
6 staff asked a question. I wasn' at that meeting. But I
7 was reading the minutes of it afterwards.

8 Where he had asked that question had we
9 considered that. And I believe the response was that we
10 didn't believe that submitting the entire report as a
11 notification package was warranted, we didn't believe it
12 was necessary.

13 Q Did that report in part or in to the to
14 represent a QA breakdown in your view?

15 A No, sir. In fact what it told me was perhaps
16 the opposite, because one of the things that seemed to
17 strike me was that the disciplines within Brown & Root
18 had a tremendous in place control process, their
19 activities were very rigorously controlled under --
20 speaking under design criterion three of Appendix B.
21 Their activities were so rigorously controlled that that
22 it was almost a hinderance to getting work done.

23 They did not have the what I call the
24 management coordination that would cause the various
25 disciplines to interact with each other on a rather

1 informal basis, they would follow their procedures that
2 said do this, they would do this. Then they would go
3 talk about it formly with another discipline, per
4 procedure; the other discipline would have objections.
5 They'd go back and start again, or make a modification.
6 And they followed that rather rigorous procedure, this is
7 what I was getting out of the report, they were following
8 this rather rigorous procedure or set of procedures, so
9 they were they were very well controlled.

10 What I detected as a problem was that the Brown
11 & Root upper engineering management had not put in place
12 the management techniques that cause disciplines to
13 interact with each other on an informal basis and caused
14 resolution of concerns among disciplines to be recognized
15 very early, very informally, and not show up as
16 differences later on.

17 I was used to seeing things where it was almost
18 unheard of, to issue a formal document and find out there
19 was something wrong with that document from the
20 perspective of another discipline. I'm used to seeing
21 that coordination occur at the very ground level. And
22 that a system design description or whatever it is, is
23 informally worked amongst all the discipline engineers.
24 And when it's finished and sent around for review and
25 approval, and officially reviewed, not very many comments

1 show up.

2 They've already long sense been ironed out by
3 the coordination of the various disciplines that occurs
4 on a more informal basis.

5 (No hiatus.)

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1 Q What would you have been looking for in order
2 for it to look like a QA breakdown to you that was
3 different from what you actually saw?

4 A Okay. I would have been looking to see or
5 find the following -- well, I shouldn't say the
6 following types, certain symptoms. Symptoms of the
7 process turning out defective product is a symptom that
8 tells you that there's something wrong somewhere, of
9 course. To find out that certain processes that are
10 required, aren't being followed or there's processes
11 missing for work that is going on. Those types of
12 things would be indicative of a QA breakdown where the
13 process is found to be deficient.

14 A A symptom of it is when you start getting a
15 lot of defective product. Here I didn't detect a lot of
16 defective product. It was a lack of product more than a
17 defective product.

18 Q In other words, your feeling is that the
19 Quadrex report did not turn up so many defects as an
20 indication that there was not enough production?

21 A It was telling us that there was a problem in
22 production. And if you looked at it, you came to the
23 conclusion that they hadn't done the preplanning
24 necessary at the top levels of engineering management to
25 put in place what I call the smooth planned, scheduled,

1 organized set of activities that's going to carry from
2 day one until it is finished.

3 For example, I participated in a new plant
4 proposal at Stone & Webster. Came in one day, we
5 started work the next day on a schedule. One month
6 later we turned out a milestone schedule in detail that
7 specified every major engineering milestone and activity
8 that was going to occur over the next seven years. Now,
9 that was done with a team of people that came together
10 at the front end, experienced people. We put the whole
11 program together and that plant when it started its
*12 design process would never have a question about when
13 was something due, when was a certain analysis due and
14 who was going to do it. It was there. It was defined
15 up front.

16 Here Quadrex seemed to tell me that Brown &
17 Root management didn't have that preplanned process in
18 place. When they got ready to do an activity, when
19 somebody reminded them that a certain item was going to
20 have to be done shortly, whether that was construction,
21 whatever the source of it was, that's when they sat down
22 and did their procedural work and their schedule work.
23 They did it just at the time they were getting ready to
24 start. That was my impression.

25 They didn't preplan it. They didn't do it

1 back in 1973. And that's symptomatic of the way AE's
2 did business in their first few plants. After they had
3 done a few, they began to catch on that it made a lot of
4 sense to plan this stuff out in great detail up front so
5 that you had a smooth design activity going on.

6 Q The Quadrex report -- of the large number of
7 items discussed in the Quadrex report, didn't a lot of
8 those relate to deficiencies in design?

9 A Not as I recall, sir. The only deficiencies
10 in design that I recall were HVAC, there were true
11 deficiencies in design there. But I don't recall others
12 that related to deficiencies in design.

13 Quadrex frequently called to our attention
14 that certain activities that were yet to be done didn't
15 look like the Brown & Root process was yet ready to do
16 it. They didn't perhaps have all the TRD's prepared yet
17 to undertake that work. They didn't seem to know quite
18 how they were going to attack that problem. And those
19 areas were in large part those areas of nuclear plant
20 design that has in the past typically been the hardest
21 for AE's to deal with, the nuclear analysis sections.
22 Piping, piping supports, radiological activities, those
23 kind of things. Those kind of analyses that have been
24 hard spots in all the AE's over a period of time were
25 showing up here on Brown & Root as being hard spots

1 here, too.

2 Q Am I paraphrasing you properly, characterizing
3 what you said accurately if I say that your feeling was
4 that what Brown & Root did was in general acceptable in
5 quality, they just didn't do enough of it?

6 A That's right, sir.

7 Q And they weren't far enough along in their
8 planning for it?

9 A They were not -- it did not appear that they
10 were yet ready to undertake some of the activities that
11 were going to be very urgently needed if they continued
12 the current construction schedule.

13 I was surprised, frankly, to take a tour of
14 the South Texas Project and see the buildings, huge
15 massive buildings all up, standing there and very little
16 equipment inside. I just wasn't used to seeing this
17 kind of construction activity. I'm used to seeing a lot
18 of equipment go in as the building goes up. As you
19 complete a portion of the building, you start putting
20 equipment in. And it just wasn't there.

21 There was no cable tray to speak of,
22 essentially zero cable tray, essentially zero piping.
23 You'd find a piece every thirty feet, a piece of pipe
24 hanging on a temporary hanger. Major pieces of
25 equipment, you'd find pumps set, no piping connecting it

1 to anything. Smaller pieces of equipment wouldn't even
2 be there.

3 I just wasn't used to seeing a plant with that
4 much civil work done and that little equipment inside
5 it. And that was -- that occurred before the Quadrex
6 report. When I saw the Quadrex report I began to think,
7 well, maybe I know why I saw that picture.

8 Q Did you either with or without the rest of the
9 review team consider submitting the Quadrex report to
10 this Board, that is before it was actually submitted?

11 A I can't say that I consciously thought about
12 that, sir. I was well aware of what this Board was
13 looking at at that point in time in 1981 and I was well
14 aware of what Quadrex was addressing and it simply did
15 not occur to me that the two were directly related.

16 I understood the issues before this Board to
17 be basically construction related activities and the QA
18 program as associated with construction. And this
19 report dealt with the engineering and the capabilities
20 of Brown & Root to perform that engineering and the
21 technical basis and process they were going to use to
22 solve engineering problems and were using.

23 I didn't see this report, among other things,
24 as even being a QA report that related directly to the
25 QA program in a direct fashion. It was an engineering

1 review. So, I didn't correlate the two in terms of
2 those issues. And maybe I should have, but I didn't.

3 Q Was this discussed at all?

4 A Not that I'm aware of. I don't recall
5 discussing it at all, sir.

6 Q Do you feel that the problems which were
7 reported in the Quadrex report could reflect on the
8 competence of HL&P which was under evaluation at that
9 time insofar as its ability to control its contractor
10 who was doing design work?

11 A Well, I may have a biased view here, sir. I
12 believe the Quadrex report really represented a positive
13 step forward in HL&P's increasing its responsibilities.
14 We elected to go out and have an engineering review
15 performed. At that point in time, I'm not aware of any
16 other project that had commissioned this kind of
17 report. They had commissioned reports on isolated parts
18 of project work, but I'm not aware of anybody who had
19 initiated a report on looking at the basic engineering,
20 what are these people doing, what techniques are they
21 using, do they understand what they're supposed to be
22 doing. That's really what the thrust of the Quadrex
23 report was about. So, I think that was a very positive
24 step.

25 Once we got it, and even before, we were

1 taking very positive actions at HL&P to increase the
2 experience level of HL&P, to become I don't want to say
3 more involved, but better involved in the engineering
4 process. We wanted people better able to help resolve
5 the engineering process and get it moving than what we
6 seemed to have. And we looked at that, I think all of
7 us came to HL&P in the early 1980's, as being
8 essentially needing more experience, people who actually
9 had had hands-on work in designing these plants, we
10 needed more of that so that they could better understand
11 what the problems were within Brown & Root and better
12 understand how to fix them.

13 So, in my view, Quadrex represented a step
14 forward. And I believe personally our review that we
15 performed in that rather short period of time speaks
16 rather highly of the competence of the individuals that
17 performed the review. That was a lot of material to
18 absorb in a matter of a couple of days total time and
19 come to a conclusion that, as far as I know, the NRC
20 staff agrees that we reported those things that needed
21 to be reported out of that rather massive list of items
22 that were candidates.

23 Q To your knowledge, did the NRC's staff request
24 or suggest that the report be submitted to this Board
25 before it was?

1 A I'm not aware of any suggestion or request by
2 the staff to provide it to the Board any earlier than
3 mid September. It was a matter of two or three days
4 thereafter. As far as I know, that was the first time
5 it was suggested.

6 Q Did you or anybody else as far as you know
7 indicate or even suggest that the report should be kept
8 as confidential, secret or proprietary?

9 A Not in the sense of I think you mean that,
10 sir. We made a conscious decision that we would not
11 send it out of house. But within Brown & Root and
12 within HL&P, I have no idea how many were floating
13 around. There were no special markings on it saying
14 don't reproduce. Nobody that I'm aware of had any
15 hesitation to reproduce it. There were plenty of copies
16 available. Anybody who had a need for one could get
17 one, so --

18 Q Was there any discussion of withholding it
19 from the NRC or from this Board?

20 A No, sir, not in the sense of not making it
21 available. We told Mr. Sells that we did not plan on
22 sending it officially to New York, but it's there if you
23 want to see it, you're welcome to it, we'll make it
24 available to you to review or anybody -- it's available
25 for NRC review, period. There was never any

1 contradiction to that view.

2 Q Did you indicate earlier that when deciding
3 what would be reported to the NRC, the question came up
4 as to whether they should be informed that these arose
5 from the Quadrex report?

6 A All I recall, sir, was there was a question
7 asked is do we quote the Quadrex report as part of our
8 call in to NRC. As I recall, the question was do we
9 identify -- something like do we identify the source
10 when we make these calls. And the answer, no, we don't
11 do that type -- you know, we typically don't identify
12 where it comes from. Okay, go ahead, finish it up.
13 That was -- as I recall it, that was like the extent of
14 the discussion. It was not a big issue, it was a
15 question of, well, when you call these things in, do you
16 identify what the source of your information is?

17 Q Is that done normally?

18 A As far as I am aware, we do not identify where
19 we acquire the basic information that goes into a 55(e)
20 potential reportable call to this date.

21 Q What I'm exploring, of course, is the question
22 of whether there was some reason that is not yet clear
23 to us as to why the Quadrex report would not have
24 been -- in other words, again, was there any effort to
25 keep the Quadrex report in low profile or withhold it to

1 some degree from the NRC?

2 A I don't think it was being looked at in that
3 form or fashion. We were well aware, of course, that
4 any document we sent to NRC is going to ultimately wind
5 up in the public document room. And from that
6 standpoint I'm sure we all were reluctant to even -- at
7 that point to even think about what the misconception
8 would be if somebody reads this Quadrex report without
9 understanding what's in it. It's just filled with
10 things that are inflammatory just because of the way the
11 words were put together.

12 There was a considerable number of items that
13 were really not well said, things that were presented by
14 Quadrex as recommendations of how to improve the
15 efficiency of the process. But several places their
16 words made it sound like there was some deficiency
17 existing in that regard. And it was this -- of course,
18 there were some of the things that Quadrex said we flat
19 disagreed with.

20 But it was all of these things together that
21 made us reluctant to just freely put this document out
22 in public because we were -- we're sensitive to what the
23 reactions would be and how difficult it would be to take
24 a report this big and properly get people to understand
25 what it was really saying. It's just almost impossible

1 to do that. There's just too much material there to
2 properly explain it to everybody, to everybody's
3 satisfaction.

4 Q To your knowledge, to what degree was Mr.
5 Oprea involved in decisions about reporting under
6 50.55(e) or submitting the report to NRC or this Board?

7 A My understanding of how the process worked was
8 that Mr. Oprea did not really have any or want to have
9 any direct input into the decisional process of was
10 something reportable or not reportable. However, he did
11 sign at that point all letters going to Region IV. That
12 was procedurally how we handled it.

13 So, he did want to know anytime we made a call
14 to Region IV, made a notification, he wanted a call from
15 somebody informing him what the subject matter was, what
16 it was about so that if he in return got a call from
17 Region IV, he could have an intelligent conversation.
18 So, that was his only requirement. If you call one in,
19 tell re about it and that was it. Other than that he
20 really had no involvement in the process.

21 Q Thank you.

22 JUDGE LAMB: That's all I have.

23 Q (By Judge Shon) I have one or two questions.

24 In the course of discussing with Dr. Lamb why
25 it was that you decided to keep this report inhouse and

1 eventually decided to tell the NRC you may look at it
2 here but we're not sending it to you, you mentioned a
3 number of things that you thought might happen to cause
4 you public difficulties of one sort or another. After
5 the report indeed did get wider circulation, did these
6 things all happen?

7 A Yes, sir.

8 Q I think I'll leave it at that.

9 Q (By Judge Bechhoefer) To continue for a
10 moment the line that Dr. Lamb, Mr. Shown just discussed
11 with you. After the telephone notification, say, of the
12 three items, there is normally, is there not, a
13 thirty-day follow-up report?

14 A Yes, sir.

15 Q Do you recall having any discussions with
16 anyone about whether those thirty-day follow-up reports
17 should mention, among other things, the source of the
18 information which gave rise to the deficiency?

19 A I don't recall any discussion of that, sir.
20 If the source of the information were pertinent to
21 understanding it, we would include it.

22 For example, if you make a report that is
23 based on a difficulty in some vendor's shop, you would
24 one way or another make NRC aware of where that
25 difficulty came from because that might have

1 ramifications for other nuclear projects. That might
2 even fit into a Part 21 type condition.

3 But in any event, what you want to give NRC is
4 enough information that they can understand the issue
5 and understand its scope. And by scope I mean is this
6 something just associated with your project or is it
7 something that reaches out to other projects. Clearly
8 we want to keep NRC advised if we think there's any
9 potential for a reach out of one of our activities into
10 another nuclear plant.

11 We have in the past informed Region IV of
12 certain matters that we thought would be of concern to
13 them because they might want to ask questions or look at
14 this activity in another plant. In one case I recall
15 didn't even fit a 55(e) condition, but we elected to
16 make Region IV aware of it because they might have an
17 interest in pursuing it somewhere else.

18 We're very sensitive -- the point I'm trying
19 to get at is we're very sensitive of what we perceive to
20 be the NRC's concerns that problems in one plant that
21 may be common to another plant, that they become known,
22 that the NRC is aware of them so that they can take
23 whatever action is appropriate with respect to those
24 problems. We're very sensitive of that.

25 In this particular case, this was an

1 engineering report dealing with the engineering
2 activities of Brown & Root and we were well aware they
3 did not have design responsibilities for any other
4 nuclear plant so there just didn't seem to be a reason
5 to go into the source. It wasn't pertinent to
6 understanding the issues in that sense.

7 Q Would the source -- would a reference to the
8 source have helped Region IV understand the scope of the
9 particular deficiency or problem being reported?

10 A I don't think so, sir. In our follow-up
11 report we start expanding to make sure we bound the
12 problem, whatever that boundary turns out to be.
13 Frequently we make a 55(e) report by telephone and we
14 don't know at that point in time the full scope of that
15 difficulty. But as part of our follow-up and
16 resolution, one of our objectives that we strive for and
17 I believe attain is to bound that problem and make sure
18 that we have covered all aspects of it.

19 And in that regard, computer codes, for
20 example, grew quite a lot bigger in terms of scope of
21 the review process after we made our initial report than
22 we thought it really had at the time we made it. HVAC
23 also I think really grew, although we had the idea at
24 the time that it was probably a pretty complete redesign
25 effort that was going to have to occur. It turned out I

1 believe to be a total redesign review when we got into
2 it. Everything in HVAC had to be reviewed.

3 But it wasn't necessary -- Quadrex was a small
4 part. What Quadrex said about those two matters was a
5 small part of what ultimately turned out to be the
6 actions necessary to resolve those issues.

7 Q So, you don't think that if the Quadrex
8 findings related to the particular subjects reported had
9 been provided to Region IV, they would have had an
10 easier job of understanding what was involved with the
11 particular findings?

12 A Well, I.--

13 Q Or particular reported items I should say.

14 A Well, I can't speak for the NRC staff. I
15 wouldn't attempt to. But from my perspective, I don't
16 believe it would have materially helped them to have
17 received the references to the Quadrex report in
18 understanding the issue. No, I don't see that. But I
19 can't speak for the staff.

20 Q I recognize that.

21 Mr. Robertson, could you describe -- I believe
22 the record probably shows who Mr. Blau is, but could you
23 describe perhaps again what his position was around May
24 and June of 1981?

25 A Mr. Blau --

1 Q And his relationship in particular to the IRC
2 review process.

3 A Okay. Mr. Blau was our senior individual in
4 the project engineering organization of HL&P. He was
5 manager of engineering and that's -- I don't know
6 whether that's the exact title, but that's its meaning.
7 And, as such, he reported to Mr. Barker, I believe, on
8 matters and was responsible for the engineering area.

9 In terms of IRC, a member of his organization,
10 himself if he wanted to or somebody else he designated
11 or more than one were required members at each meeting
12 of the IRC, an engineering member, a member from the
13 project engineering organization. But I believe his
14 title at that point was manager of engineering. I
15 believe that's his title, but if it's not -- if that
16 wasn't his title, that was the meaning of the title.

17 Q I notice that Mr. Blau is listed as attending
18 the meetings which are reflected by -- well, the
19 meetings reflected by CCANP Exhibits 129, 130, 131, 132,
20 just as examples. He's present at all of those
21 meetings. Would he personally attend most meetings of
22 that sort do you know?

23 A I don't know, sir. I would not be surprised
24 at his attendance at one of those meetings, any one that
25 the IRC held. If it dealt with a matter of substantial

1 interest to engineering, I wouldn't be surprised at his
2 attendance. As to whether or not he attended a lot of
3 those meetings routinely, I don't know. Clearly he was
4 here at these three that we're looking at. That doesn't
5 surprise me, as such.

6 Q Was Mr. Blau present at the meeting on May 7
7 at Brown & Root that you mentioned you attended?

8 A I don't recall, sir, who was in attendance.
9 There were forty to fifty people in that room when it
10 started. There were a considerable number of HL&P
11 people present.

12 By 11:00 o'clock --

13 Q More than you and Dr. Sumpter?

14 A Yes.

15 By 11:00 o'clock, however, the HL&P attendance
16 had dwindled considerably. If my memory is right, it
17 was down to one because I think Dr. Sumpter left a few
18 minutes before it ended. But at one point he and I were
19 the only two left. But there were -- it seems to me,
20 I'm under the impression there was like a dozen people
21 from HL&P present when that meeting started and I can't
22 recall whether Mr. Blau was one of them or not. He in
23 all probability was.

24 Q Do you recall whether you had any discussions
25 with other members of the review team around the May 7

1 or May 8 dates concerning documentation of
2 non-reportable Quadrex findings, findings which your
3 team would determine to be non-reportable?

4 A I don't recall any discussions about that,
5 sir.

6 Q Particularly do you recall any discussions in
7 which Mr. Blau might have been involved?

8 A I know -- I'm reasonably certain I did not
9 talk to Mr. Blau on either the 7th or 8th. I certainly
10 don't recall it if it occurred.

11 Q Could someone show Mr. Robertson the document
12 that's numbered 17 which are some of Mr. Blau's notes.

13 Mr. Robertson, could you look at the last two
14 items which are numbered either 9 and 10 or 5:00 o'clock
15 and 6:00 o'clock, depending on what series of -- what
16 columns you follow. Would these items refresh your
17 recollection in any way of any discussions that you're
18 aware of at least involving the documentation of
19 non-reportable Quadrex items, items determined by your
20 group to be non-reportable?

21 A Are we talking about the last two items on
22 this page, sir?

23 Q Yes.

24 A Okay. That does not refresh me in terms of
25 any personal involvement with Mr. Blau in that sense.

1 I'm well aware that we had either told Brown &
2 Root in writing or were in the process of telling them
3 that they were going to have to respond and find an
4 appropriate way of resolving all the issues raised by
5 the Quadrex report. And that did not relate directly to
6 reportability, that was a matter of engineering activity
7 that Brown & Root must review the Quadrex report and
8 present to us a resolution program to resolve each and
9 every one of those issues that is meaningful to be
10 resolved.

11 There's a few of them that there is no
12 resolution for. They dealt with past events that were
13 over and done and there wasn't anything more to be
14 done. But for all of those future activities or ongoing
15 activities that would appear to require some response,
16 they were going to have to respond to it and either
17 indicate an action to be taken or justify why there was
18 no action to be taken.

19 Now, in terms of the last one, I really can't
20 elaborate on that. I don't relate that particularly to
21 anything that I'm aware of.

22 Q I take it you've never seen these notes
23 before?

24 A Not that I'm aware of, sir.

25 Q Did your review group discuss at all whether

1 every item should have been referred to the IRC for
2 further review after your group got done?

3 A No, I don't believe we discussed it in that
4 way.

5 Q Well, how did you discuss it?

6 A That's what I'm just trying to recollect,
7 sir. I cannot remember at that point in time or
8 afterwards any formal instruction or program that would
9 have caused IRC, and I'm talking about the near term of
10 May 1981, that would have caused IRC to review the
11 Quadrex report in great detail to see if there was
12 anything else there that they should evaluate. I don't
13 recall that.

14 I know it was also clear in our minds that as
15 part of the Brown & Root resolution and as part of our
16 own activities, it was conceivable that something else
17 would pop up that would be -- that would meet the
18 requirements for reportability and there was -- that was
19 a recognized condition that might occur. If it did, it
20 would be reviewed by the IRC and a determination made.
21 If it was deemed to be potentially reportable, it was
22 going to be called in.

23 We believed we had made the solid well-founded
24 review effort that was appropriate for us to make in
25 terms of an immediate review of that report through the

1 use of Brown & Root and our own independent assessment.
2 And that wasn't the end of it, but in terms of
3 reportability, we felt we had probably completed that.
4 And indeed that seems to be what has happened.

5 But we were still going through a much more
6 comprehensive review with Brown & Root to resolve all of
7 the issues. It was very conceivable that something else
8 would show up as requiring a report to NRC. If it did,
9 it would be handled in routine fashion, normal fashion.

10 (No hiatus.)

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1 Q (By Judge Bechhoefer) Did the review group on
2 May 8 consider or discuss whether there would be adequate
3 documentation of the items which were determined to be
4 not reportable?

5 A Well, I don't believe that was discussed in
6 that fashion.

7 Q Did you ever consider sending the report to the
8 IRC for purposes of -- the Quadrex report to the IRC for
9 purposes of documenting the non-reported items?

10 A I don't think -- I can't recall doing it
11 formally. I can recall talking to Mr. Jacobi and Mr.
12 Powell and quite possibly others, and pointing out to
13 them that, "Hey, if you see anything else in there that
14 looks like it needs to be brought before IRC, make sure
15 you do it."

16 But I can't recall formally asking them to
17 review the report. To go to your other question, that you
18 just asked, I think, I'm not aware -- maybe I'm missing
19 something, but I'm not aware of a reason why we would
20 document the items that were found not reportable.

21 There are reasons why we would document those
22 that are found to be reportable or potentially
23 reportable.

24 Q Right. Well, I was at least under the
25 impression that if an item were referred to the IRC, it

1 would be documented whether it was reported or not?

2 A That is correct, sir, by their procedure, they
3 would document something yea or nay. That's right.

4 Q Did you ever consider, did your group consider
5 following a comparable procedure for the non-reported
6 items?

7 A No, sir, not in that sense, no, sir. Not that
8 I recall.

9 Q (By Judge Shon) As I understand the process
10 that Mr. Wisenburg described in some detail yesterday,
11 there is a step in effect before the IRC that is the step
12 at which someone decides to make out or not make out a
13 DEF. I take it that when you got through, the three of
14 you who considered these things, in effect, you deemed
15 that all items that were not the items you referred to
16 the IRC, not the reported items, all those other items of
17 any kind were simply not even worth making out a DEF for.
18 Is that the level at which they existed?

19 A That's -- you are correct in that that's the
20 effect. At the point in time that we're talking about of
21 May 7th and 8th of 1981, the DEF process had not been
22 instituted within the procedure.

23 Q I recognize that. But --

24 A But in essence, your perception is correct. We
25 did what the DEF process would cause to occur within

1 engineering today, the three of us did that process, and
2 you're correct. We made the assessment that it, in that
3 terminology, it was not necessary to process that
4 imaginary DEF any further to IRC.

5 JUDGE SHON: Thank you, that's what I wanted to
6 establish.

7 Q (By Judge Bechhoefer) To carry that one step
8 further, take a specific example, your review of the
9 nuclear analysis findings, do you believe that those
10 findings either individually or collectively were not
11 sufficiently -- I don't know if the word significant is
12 correct, but sufficiently significant to start the IRC
13 referral process? This is assuming you would not have
14 reviewed them through the review group. Assume away for
15 a moment your review group, if the review group hadn't
16 been there, would you have referred those particular
17 findings to the IRC for disposition?

18 A Assuming that I had the benefit of Quadrex
19 report and hearing the Brown & Root presentation of the
20 evening before and that information that I had developed
21 up until noon of May 8th, I would not have -- I don't
22 believe I would have felt obligated to send it on to IRC.

23 I can't identify why I would have felt it had
24 to go on to IRC. However, I must add that independent of
25 that, as an engineer responsible for licensing activities

1 at that point, that certainly wouldn't have been the end
2 of my looking at nuclear analysis. It wasn't in May 8th,
3 1981, it was not the end of it and even if as you say,
4 there had been nothing else, that wouldn't have ended it.

5 There were questions that were raised there
6 that needed to be resolved. They were not safety
7 questions as such. An example being very simply why
8 weren't they making progress? Why weren't they making
9 progress? What did they lack in terms of people, if
10 that's what it was? I didn't know. What was it they
11 lacked? I just didn't know.

12 And I did follow that up later on to find out
13 why couldn't they make progress. I got some of those
14 answers. I didn't find a safety hazard.

15 Q Turn, for instance, just as an example, to
16 question N-17, I guess that's in Volume III of the
17 Quadrex report.

18 A Okay.

19 Q If you had read, I assume you did read, but
20 given the Quadrex assessment, would that not in itself
21 have been sufficient to at least fill out one of those,
22 if you had a DEF form, fill it out and start the process?

23 A If all I read was N-17 and knew nothing more, I
24 probably would have come to the conclusion that I had to
25 notify NRC. I don't think -- it wouldn't have occurred

1 to me about the DEF. If all I knew was read this, and I
2 and I knew knowing more than than just reading N-17,
3 probably my reaction is "I've got a problem that warrants
4 calling to the attention of NRC."

5 I don't know whether that's the answer to your
6 question, sir, but that's what I understood you to be
7 asking.

8 Q Well, my question is: Wouldn't at the very
9 least, this have called for some documentation, whether
10 or not it eventually?

11 A I'm sorry --

12 Q I'm trying to see whether there was enough
13 documentation of this item and others.

14 A Yes. If the DEF --

15 Q I'm using this as an example.

16 A If the DEF system were in effect in May 1981,
17 and there was going to be an orderly assessment of this
18 matter, clearly this would have been a candidate to go on
19 the DEF list. Yes.

20 The assessment was actually conducted during
21 that two-day time frame to get additional information
22 about this, the same thing that might have occurred on a
23 DEF system over a four or five or six, seven day time
24 period, in a formal way.

25 Q Do you think you ended up, the system which you

1 used, ended up with the equivalent documentation to what
2 would have resulted if you had gone through the IRC type
3 process?

4 A Not assuming the DEF process was present, no,
5 sir, because there's no equivalent to the DEF, there was
6 no equivalent of the DEF generated that would identify
7 what any one of the three of us might have thought were a
8 significant matter on its face. And that's really were a
9 DEF starts, some individual, at whatever level, says,
10 "Here's something that doesn't look right."
11 His instructions are: If you think that has any
12 connection to a safety hazards, safety
13 condition, write up a DEF and start the process.

14 So there's, I'm sure, a considerable number
15 here, depending on the individual who would look at it,
16 what his background is, what his understanding of it is,
17 what his understanding of where Brown & Root was at, that
18 very large number of DEF's would have been generated out
19 of the Quadrex report, if that system had been in place
20 and that type of review had been undertaken.

21 Q Was there not an equivalent system in place in
22 in May and June of 1981 under which some documentation
23 would have resulted?

24 A No, sir, not that I'm aware of. The only
25 documentation that I'm aware of that was put in place at

1 that time was the formal process conducted by IRC, their
2 minutes of their meetings. They did publish minutes of
3 their meetings and those minutes would reflect items
4 found to be potentially reportable or items considered
5 and found not to be potentially reportable or reportable.
6 Those would have been documented in the IRC minutes. But
7 not necessarily would there be anything else.

8 Now, an IRC meeting could be triggered by an
9 NCR somewhere; there's many different pieces of paper
10 that could have made its way to IRC during that time
11 frame that would have triggered an IRC review. That
12 piece of paper would be a part of the IRC files.

13 But the specific instructions at the time among
14 other things were if any individual could identify
15 something that he thought warranted a review, he could
16 call me personally. My phone number was published
17 throughout the area, throughout the project; he could
18 call other people. There were more than more than just
19 myself. An individual was identified at the site so the
20 people at the site could call locally. They could call
21 and just transmit their concern to us and we would in
22 turn take those on to IRC if they were appropriate or
23 discuss it with them and resolve their concern.

24 And what we had in mind was or what I had in
25 mind when I put that out was make sure everybody is aware

1 that if they've got a safety concern, get it in front of
2 us so that we can get it in front of the IRC and get it
3 evaluated.

4 And that was part of the memo that went out
5 that identified to people, you know, where to call.
6 Separately from this, were other things signed by Mr.
7 Jordan, I believe, and Mr. Oprea, giving their phone
8 numbers and telling anybody "Hey, if you've got any
9 concern call us, or call the NRC; my concern was
10 identifying to project people who they could call
11 directly and get something going through the 55(e)
12 process, the evaluation process. That was separate than
13 Mr. Oprea's broader concern of "Anything you want to
14 bring to the goes of HL&P that relates to safety, here's
15 my number, give me a call."

16 Q Well, if your review group hadn't been in
17 existence, do you think this, just for example, item in
18 question N-17, this item, would that have been entered
19 into that process?

20 A Oh, yes, yes. Yes.

21 Q So that at the very least, you would have an
22 IRC memorandum on it?

23 A Well, yes. If this matter had been brought up
24 by somebody on project in this fashion, it would
25 undoubtedly have gone on to IRC and they would have

1 undoubtedly have performed a review of that matter;
2 whether it was telephoned to me or whatever form it
3 appeared on.

4 Q Turning to another matter, you answered a
5 number of questions about the document which is marked
6 CCANP 82 for identification, that's the Quadrex findings
7 previously reported.

8 Did you expect that the review that you
9 generated when you talked to Mr. Jacobi or Powell as the
10 case may be, on this subject, did you expect that there
11 would be be information, supplementary reports provided
12 to NRC or information generated that would give rise to
13 supplementary reports, supplementary to the reports that
14 had already gone in?

15 A I'm sorry, but I don't quite understand your
16 question here.

17 Q Did you have in mind when you asked Mr., as I
18 say, Jacobi or Powell, I don't remember, to see whether
19 certain items had been previously reported, did you have
20 in mind that you were going to file, or that HL&P would
21 file supplementary reports to NRC on those items stating
22 that some additional information had been developed
23 through the Quadrex report or --

24 A I didn't have that in particular in mind,
25 neither was it precluded. I was seeking knowledge. What

1 had we already reported, what matters had we reported,
2 what did it cover. I wanted to make sure that if we had
3 had reported something, yes indeed, there wasn't
4 something more that would be additive to that report. It
5 had already been made to NRC.

6 On the other hand, I didn't want to
7 unnecessarily report something twice; that didn't seem to
8 make useful use of resources to cause NRC to have two
9 items to close out then in fact they were really the same
10 thing.

11 So I had understanding issues; yes if there was
12 something that needed to be expanded, that would have
13 been -- it would show up as a result of looking at that.
14 But I can't say that I had that as a primary purpose, no.
15 Basically it was I was looking for information, what had
16 we already done, what did it cover. And then whatever
17 fell out of that, would fall out of it. If we needed to
18 supplement, we'd supplement.

19 Q Do you know --

20 A That wasn't the predetermination.

21 Q Do you know if any supplements were in fact
22 filed as a result of this review?

23 A I'm not aware of any, sir. I don't believe
24 there were. I'm just not aware of any if there were.

25 Q Based on your knowledge of the Quadrex report

1 on May 8, '81, did you then believe that the generic
2 findings did not extend beyond their underlying
3 discipline findings?

4 A That is correct, sir. I could not find or did
5 not find or did not see that there were issues in the
6 generic findings that were broader than what was stated
7 in the discipline findings.

8 The wording used in the generic findings was --
9 I thought it was rather unusual; I have never seen what I
10 looked at and thought of as so many of the same items
11 stated and restated in so many different ways and so many
12 different places and that if I stripped all that away, I
13 didn't have very much left. If I stripped all those
14 duplications of statements away and I consolidated them
15 into the same common element as to where they came from,
16 didn't have much left. Sort of the skeleton wasn't very
17 big.

18 And in looking at that, there wasn't -- I
19 couldn't find any big story to tell in terms of what it
20 was trying to tell me.

21 Q So if you added the duplicated items -- if you
22 added the duplicated items or combined them as the
23 generic findings, did you -- you do not perceive any
24 additional safety significance or reportability
25 significance?

1 A No, sir. I didn't see -- outside of the items
2 that we did report, the HVAC system, the HVAC design
3 process, the computer code program, the shielding
4 calculations, if you take those and set them aside and
5 pull out what they mean to generics and then look and say
6 are there programming deficiencies showing up here, is
7 there a systematic breakdown being described here, you
8 ask those kinds of questions, and my answer was no. I
9 didn't see those kind of things left.

10 I saw Quadrex stating as generic items a number
11 of things that were at best recommendations for more
12 efficient ways of doing business. And I also saw some
13 things stated, the way they stated it, that were totally
14 at odds with my whole experience of how to handle the
15 engineering design process.

16 Their statements, for example, about Brown &
17 Root doing design verification of other people's work,
18 other organizations' work, that just struck me as
19 meaningless in one sense. I didn't understand, that's
20 not the way engineers do business; it's not the way A/E's
21 do business. Just struck me as being something so unique
22 that I couldn't understand it in the generic, in the way
23 they expressed it in the generics.

24 It became a little clearer after -- not on the
25 7th of May by any means, but later on it did become

1 clearer what they were trying to say, as I had a chance
2 to read more of the answers and questions, and they
3 weren't really trying to say what their words perhaps
4 could be interpreted to say.

5 Q Is that still your view today?

6 A Yes.

7 MR. GUTTERMAN: Mr. Chairman, I don't know how
8 much more you have.

9 JUDGE BECHHOEFER: One question.

10 MR. GUTTERMAN: Just thinking it might be
11 appropriate to take one more break before the close of
12 the day.

13 JUDGE BECHHOEFER: I just have one question.

14 Q (By Judge Bechhoefer) Could you be shown
15 Applicants' Exhibit 57.

16 These are I believe Mr. Goldberg's notes of a
17 meeting which you attended.

18 A Yes, sir.

19 Q Would you -- will you look just in general, are
20 you familiar with the items that Mr. Goldberg has starred
21 on --

22 A In general, yes, sir.

23 Q Was there any discussion at that particular
24 meeting that those particular items, the ones that Mr.
25 Goldberg has starred, should be reported as of at least

1 as of that time or should be deemed potentially
2 reportable as of that point in time which was April 13?

3 A No, sir, I don't recall any discussion of any
4 item in terms of should it, should it not be, is it
5 potentially reportable. I do recall that we started at
6 that meeting to suggest to Quadrex that they should
7 organize their ultimate report in such a way that we
8 could focus quickly on those items that they thought
9 would be candidates for the reportability.

10 And I think, I can't be sure, but I believe it
11 was suggested that they put those that they thought might
12 be potentially reportable in a single category. I know
13 that's not the way I came out, but I think that that was
14 the initial suggestion that was made verbally. But there
15 was no discussion of these individual items as being
16 reportable. I think there's a number of them that I
17 recognized or when Quadrex went over them, as being items
18 that might very well have some significance when we found
19 out enough about them to know.

20 Q Well, if you turn -- just to use one, an area
21 that you seem to be quite familiar with, turn to Page 3,
22 the -- under nuclear analysis, item three, item three
23 there, does that -- do you recollect whether there was
24 any discussion, particularly discussion of that item?

25 A No, sir, I do not. I recall only that when Mr.

1 Stanley started to discuss nuclear analysis, he was, I
2 thought, rather blunt in his opening statement and he
3 said -- words to the effect that "I don't understand what
4 this group is doing, if anything. They don't seem to
5 know what they're supposed to do."

6 It's those kinds of words that he used to
7 introduce the nuclear analysis activity. From that time
8 on, he just mentioned very rapidly what I would classify
9 as items that raised in his mind this type of concern.

10 He went over this, as I recall it, he just went
11 down this list very rapidly, this type of list; I don't
12 know if this is inclusive, just listing things that
13 concerned him.

14 One that I remember was at some point, and I
15 believe it was in the nuclear analysis group, he
16 mentioned specifically that they were, they had not
17 performed pipe break outside containment yet and they
18 were way late in doing so. But there was no discussion
19 of these matters being reportable or should they be
20 reported on that day.

21 In fact as far as I was concerned there wasn't
22 enough information for me to know. One of the things
23 that that concerned me was hearing Quadrex say that it
24 was -- using words that it was necessary that Brown &
25 Root have a top level document defining separation and

1 single failure criteria. And I just flat disagreed with
2 that statement, it wasn't necessary. Nice maybe. Maybe
3 more efficient. But there are other ways of doing of
4 doing that than just having those two documents
5 available. It wasn't a necessary condition, as far as I
6 could see.

7 And it bothered me to hear Quadrex make that
8 kind of statement that I could disagree with right off
9 the bat, that maybe their word selection isn't too good;
10 how they're trying to explain things.

11 But it doesn't make sense, it doesn't make
12 sense to me some of the things that they said, as I
13 mentioned earlier, about design verification
14 requirements. Their perception of, I think they used the
15 statement about generating groups checking to see how
16 their output was used, that didn't make sense to me. I
17 wasn't used to that kind of a process, I didn't
18 understand how you could do it. Generating group puts
19 out a memo says, "Here's a temperature good for so and
20 so." They send it out; they knew who they sent it to,
21 but they don't know who else gets a hold of it and they
22 don't know who else may be using it.

23 I don't know how -- I couldn't conceive of what
24 Quadrex was trying to tell me at that point. I didn't
25 understand it. And that was common throughout their

1 whole presentation. I didn't have enough information to
2 understand some of their concerns.

3 In fact, I didn't have enough really to
4 understand all of it, except I began to get the idea they
5 were not pleased with what they were finding.

6 MR. GUTTERMAN: Mr. Chairman, it's been a
7 couple of hours since we started this session. I wonder
8 if it's --

9 JUDGE BECHHOEFER: That's the end of -- that's
10 the end of the Board's questions. Why don't we take a --
11 well, five or ten minute break anyway.

12 MR. SINKIN: Mr. Chairman, just a moment.
13 It's, I think, back to me now for redirect.

14 JUDGE BECHHOEFER: That's correct.

15 MR. SINKIN: I would appreciate a little bit
16 more extended break to get ready for redirect. If we
17 could make it to 5:30, 20 minutes break, I would
18 appreciate it.

19 MR. REIS: I don't see --

20 JUDGE BECHHOEFER: Yeah, 5:30 is okay.

21 (Recess.)

22 (No hiatus.)

23

24

25

1 JUDGE BECHHOEFER: Back on the record.

2 Mr. Sinkin?

3 MR. SINKIN: Mr. Chairman, I'm just going to
4 make an observation at this point. This is my direct
5 case. It is the end of my case, so my observation won't
6 be necessarily carried on any further. But it seems to
7 me that since it's my direct case, that after the other
8 parties have cross-examined, if I need time to prepare
9 for my cross-examination, that should be a matter of
10 right and that instead a situation was set up where I
11 seemed to have been pressured to prepare my redirect as
12 quickly as possible; whereas, the Applicants on their
13 redirect can take as long as they like and I don't think
14 that was quite fair. I do feel prepared. I don't feel
15 I need any more time, but the circumstances were less
16 than ideal.

17 JUDGE BECHHOEFER: I might add that we did
18 discuss with you whether we should adjourn and allow you
19 to prepare overnight.

20 MR. SINKIN: The Board did and the decision
21 was let's try and finish Mr. Robertson to let him go,
22 which was very much my sentiment, too.

23 MR. GUTTERMAN: I don't want to get into a
24 long discussion about this, but I think when we broke
25 CCANP asked that they have till 5:30. It's now 5:35. I

1 think CCANP got what they asked for.

2 MR. REIS: I think we could just go ahead.

3

4

REDIRECT EXAMINATION

5

BY MR. SINKIN:

6

Q Mr. Robertson, are you aware that the Incident
7 Review Committee did review a Quadrex item prior to the
8 final report being delivered?

9

A Not -- no, I am not aware that it was -- that
10 they reviewed something that directly arose out of the
11 Quadrex report. I'm not surprised to know that they
12 didn't review something that Quadrex might have also
13 identified. And I may have known earlier more about it,
14 but it doesn't register right now in particulars.

15

Q If I said it was an error that dealt with the
16 upset condition values, an error from the code that was
17 used by Brown & Root, would that refresh your memory at
18 all?

19

A Not really, not from just that amount of
20 information.

21

Q If Applicants could show you CCANP Exhibit 94
22 and 95.

23

MR. GUTTERMAN: Mr. Chairman, I'm a little
24 perplexed about why this is within the scope of the
25 cross-examination or the Board examination.

1 JUDGE BECHHOEFER: Mr. Sinkin, can you
2 explain?

3 MR. SINKIN: In the cross-examination by other
4 parties the question came up about reviews for
5 notification in relation to various meetings that were
6 held by Quadrex and the witness' statement was that
7 action on notifiability was deferred until the final
8 Quadrex report was received.

9 I'm asking him if he's familiar with a
10 particular event where action was not deferred until the
11 final report was received. Since CCANP Exhibit 95
12 demonstrates that Mr. C. G. Robertson received a copy of
13 an IRC report on April 27th, 1981, specifically
14 identifying that the Quadrex audit had identified a
15 matter that was then reviewed by the IRC, I'm trying to
16 refresh his memory.

17 MR. GUTTERMAN: I can't see the relationship
18 between that and Mr. Robertson's testimony about what he
19 heard at a meeting on April 13th.

20 MR. SINKIN: Mr. Chairman? In reviewing my
21 notes further, it indicates that the question was asked
22 briefings, plural, prior to that time and then it was
23 also asked whether it was appropriate for the IRC to
24 proceed with its own investigation before receiving the
25 Quadrex review. The witness said that there was no

1 review for reportability on any matter, actions were
2 deferred until the final Quadrex review was received.

3 JUDGE BECHHOEFER: I guess we'll overrule the
4 objection.

5 Q (By Mr. Sinkin) Have you had a chance to
6 review CCANP 94 and 95, Mr. Robertson?

7 A Okay.

8 Q Does that refresh your recollection that the
9 IRC did review an item prior to the receipt of the final
10 Quadrex report that resulted from the Quadrex study?

11 A Frankly, I don't remember that this occurred,
12 but I don't doubt that it did. I have no idea in what
13 form it got brought before the IRC from that standpoint
14 either.

15 I remember the discussion relative to this
16 particular issue when we received the Quadrex report,
17 yes, but I don't recall that I was aware that the IRC --
18 I may have been, but I don't recall it, that the IRC had
19 already met on it. And neither do I know nor at this
20 point do I recall even if I knew what the source of the
21 IRC's input was to cause them to hold this meeting.
22 Whether it came from Brown & Root, whether it came from
23 one of our engineers, I wouldn't know.

24 Q Do you know --

25 A But apparently from reading it, refreshing my

1 memory, they did indeed look at a particular item that
2 Quadrex also put in their final report.

3 MR. REIS: Mr. Chairman, I move to strike
4 everything after he said "it doesn't refresh my
5 recollection." It is not responsive to the question.
6 The question is does this document refresh your memory.
7 Everything after that was conjecture and I move to
8 strike everything after that as conjecture.

9 MR. SINKIN: To some extent, I think that's
10 true, Mr. Chairman.

11 JUDGE BECHHOEFER: I think it's true. You may
12 have to reask the question.

13 MR. SINKIN: Yeah, I may have to try again.

14 JUDGE BECHHOEFER: But we will strike the part
15 referenced by Mr. Reis.

16 Q (By Mr. Sinkin) Well, let's start with CCANP
17 94, Mr. Robertson. Do you know who Mr. A. D. Poole is?

18 MR. REIS: Mr. Chairman, I object. There is
19 no showing of materiality as to who A. D. Poole may be.

20 MR. SINKIN: I beg your pardon?

21 MR. REIS: There's no showing that it may be
22 material to the ultimate determination in this case.

23 MR. SINKIN: We're attempting to refresh the
24 witness' recollection of the event. We're doing it by
25 calling specific attention to specific parts of the

1 event. That's normally how one refreshes the witness'
2 recollection.

3 MR. REIS: Mr. Chairman, he's trying to
4 impeach the witness on the answers he's elicited from
5 the witness before. The witness said he had no
6 recollection of this document. That's it. He's now
7 trying to impeach the witness --

8 MR. SINKIN: No, I'm not.

9 MR. REIS: -- on that point. He said he had
10 no recollection of this document. I think that ends
11 it.

12 MR. SINKIN: At that point he had no
13 recollection. If you call his attention to particular
14 parts of the document, he may then have a recollection.
15 That's the normal process.

16 MR. GUTTERMAN: Mr. Chairman, it seems like
17 we're in the middle of a deposition here or some kind of
18 discovery. The witness reviewed both documents. He
19 said having reviewed them, it did not refresh his
20 recollection, he didn't remember it at all. These
21 documents are already proved up and we're just wasting
22 time on this.

23 JUDGE BECHHOEFER: I think since the witness
24 does not remember these documents, we will sustain the
25 objection.

1 Q (By Mr. Sinkin) Mr. Robertson, when we were
2 reviewing the document that had Quadrex findings in one
3 column and HL&P IRC reports in the other column, do you
4 remember that document?

5 A Yes.

6 Q In the period May 7-May 8, you had some
7 reports from licensing that there were certain IRC
8 reports that related to Quadrex findings, if I remember
9 correctly; is that correct?

10 A There were -- I had asked our IRC chairman
11 either directly or indirectly through Mr. Jacobi to
12 inform me of what items IRC might have previously
13 reported to the NRC that would also in essence be the
14 same thing as Quadrex had brought up as an issue in its
15 report, yes.

16 Q And some of those items were a direct
17 relationship. For example, Quadrex found something and
18 the IRC had reported something quite similar, like the
19 auxiliary feedwater pump I think you used as an example.

20 A Yes.

21 Q Others were much more indirect where the
22 Quadrex finding might even say it's over-conservative
23 and there might be reporting in that area, but there
24 wasn't a direct relationship; is that correct?

25 A There were some that could be considered

1 indirect, yes.

2 Q Now, you stated in response to
3 cross-examination that the number of reportable items in
4 the report was part of your basis for reaching a
5 decision on whether there had been a quality assurance
6 breakdown. Do you remember that?

7 A Yes.

8 Q Given the fact that Quadrex was reporting
9 things that had already been notified to the NRC in the
10 direct relationship category and the fact that other new
11 reports were coming out of the Quadrex report to the
12 NRC, did that not indicate to you the possibility of an
13 engineering breakdown?

14 A No. There had been 55(e) reports made for the
15 previous three or four years. Sometimes there was a
16 long period of time between some, I believe, and other
17 times they happened relatively frequently. And to find
18 that an engineering review had identified something that
19 had already been brought forth and addressed to NRC,
20 that's not surprising. And it is not -- it's not
21 indicative of a breakdown.

22 Quite the contrary, it's indicative of a
23 control process that identifies these things. It would
24 have been much more indicative of a breakdown if these
25 items had not previously been reported to NRC, if they

1 had gone undetected. But something in the process had
2 detected these things earlier and brought them to the
3 attention of HL&P. So, from my perspective, the items
4 that were previously reported simply reflected a control
5 process.

6 Q What about indicating a breakdown in the
7 control of engineering activities, a criterion 7 type
8 breakdown?

9 A Excuse me, I've got to look at criterion 7.

10 Q That's fine.

11 A Okay. Excuse me. Can you repeat your
12 question, please?

13 Q Whether the fact that in the Quadrex report
14 there were both items notified to the NRC previously and
15 new 50.55(e) items being notified to the NRC would
16 indicate to you a breakdown under criterion 7 in the
17 control of engineering services?

18 A No. I don't interpret it quite in that
19 fashion. Criterion 7 to me I don't normally associate
20 with the performance of your major AE or perhaps in
21 large part with your NSSS vendor. The design activities
22 that are performed by those two in particular I usually
23 think of as falling under criterion 3.

24 I look at criterion 7 as covering things that
25 those two entities might send out of their shop for

1 fabrication, for purchase or for services they might
2 contract for, but I don't associate criterion 7 in the
3 same fashion that your question implied.

4 Q Between the time you joined HL&P March 21st,
5 1981, I think it was?

6 A 20th, I believe.

7 Q 20th, all right, and May 8 of 1981, did you
8 review the quality assurance audits performed by HL&P of
9 Brown & Root's engineering program?

10 A No. I may have seen some, but I cannot recall
11 any particulars and I know I did not have any program of
12 such review.

13 Q If you would look at CCANP 125. In
14 particular, if you would turn to the second page of that
15 document dated October 24 and read the third paragraph.

16 JUDGE BECHHOEFER: We were trying to figure
17 out what this is related to in terms of either our
18 questions or the Applicants' or Staff's questions.

19 MR. SINKIN: I think the question I will ask
20 will demonstrate whether it's related or not.

21 Q (By Mr. Sinkin) Okay?

22 If you had had this document, if you had
23 reviewed this document, been familiar with this document
24 prior to May the 8th and then received the Quadrex
25 report -- or May the 7th and then received the Quadrex

1 report, would that change your opinion on whether you
2 would report the Quadrex report to the Nuclear
3 Regulatory Commission as an engineering breakdown under
4 criterion 3 or 7, whichever one?

5 MR. REIS: Mr. Chairman, I still don't see the
6 relevance or material -- I mean, I don't see how it's
7 based on my questions, Applicants' questions or the
8 Board's questions. It certainly isn't demonstrative of
9 that.

10 MR. SINKIN: Mr. Chairman, I am in part
11 following up. The line of questioning was what would it
12 have taken for you to believe there had been a quality
13 assurance breakdown. The witness' answer was eight,
14 ten, twelve potentially reportable findings, maybe that
15 would have been a solid clue. I'm asking in that same
16 context would this have been a solid clue.

17 JUDGE LAMB: Mr. Sinkin, the question I
18 believe was mine and it was in the context of the
19 Quadrex report.

20 MR. GUTTERMAN: The question was what would
21 have to have been different about the Quadrex report to
22 have made it reportable.

23 JUDGE LAMB: As a QA breakdown.

24 MR. GUTTERMAN: As a QA breakdown.

25 JUDGE BECHHOEFER: We'll sustain the

1 objection. I think it's beyond the scope of Dr. Lamb's
2 question.

3 Q (By Mr. Sinkin) You were asked if the
4 problems identified in the Quadrex report reflected on
5 HL&P's ability to control design work and you answered
6 that Quadrex represented a positive step forward. You
7 then said that no other project had commissioned a
8 report like this and that what was going on in Quadrex
9 was they were asking what are these people doing, do
10 they really understand what they are doing. Do you
11 remember that?

12 A Yes, with one minor correction. I believe I
13 said that this was the first of this type of review
14 process that I was aware of.

15 Q Aware of, fine.

16 My question is, given the questions you
17 thought Quadrex was answering, what are these people
18 doing, do they really understand what they are doing,
19 how do you think Quadrex answered that question?

20 A They answered the questions I think, however,
21 I'm not so sure that the way they answered it didn't
22 lead to misinterpretations of what they were saying,
23 just the words and the way they put them together, but I
24 believe they answered the question in the sense that
25 Brown & Root was having great difficulty in those areas

1 of design activities that are typically associated with
2 the heart of nuclear engineering activities, pipe
3 stress, piping, nuclear analysis, computer codes which
4 had been a common industry problem for a while.

5 In these areas Brown & Root was struggling to
6 put in place the right technical resources, put in place
7 the processes that would allow them to continue into
8 those areas. They seemed to have done a rather large
9 part of the civil structural work and actually gotten it
10 built, but they couldn't or it didn't seem to be
11 producing the other parts of the nuclear engineering
12 design activities needed to fill those buildings. And
13 Quadrex identified that, if you understand what they
14 said, they identified that they were having great
15 difficulty turning out a product.

16 I think they also said something else, that
17 the methods chosen by Brown & Root were, with a few
18 exceptions, I don't think there were very many of those,
19 but the methods chosen were technically adequate. They
20 hadn't in some cases been able to produce any work with
21 those methods.

22 But I'm not aware of more than one or two
23 places where Quadrex identified a technically inadequate
24 method that Brown & Root was pursuing or trying to
25 pursue or going to pursue.

1 Q In response to questions from Chairman
2 Bechhoefer about your post-notification reports, the
3 thirty-day reports, he asked about the sources of
4 information, whether they were pertinent to an
5 understanding of those reports. Was it common at HL&P
6 when they did their follow-up reports in 50.55(e) to
7 identify how the deficiency was originally found?

8 A No, I don't believe it was common, neither was
9 it something that was not done either. I mean, I think
10 you'll find cases of both where the source of
11 information was not identified and other cases where the
12 source was. As I said, particularly with respect to
13 items where we thought NRC would have a reason to want
14 to know what the source of that was, what the source of
15 the information was. But it was not common practice, as
16 I understood it, to quote from internal reports or
17 things like this as being the source of information.

18 Q You stated that after the initial reports were
19 made in the computer code area and to some extent in the
20 HVAC area, the scope of the matters to be addressed grew
21 substantially. Do you remember that?

22 A Yes.

23 Q Why in that case were there not additional
24 50.55(e) reports filed to cover the items that were
25 beyond the scope of the initial notification?

1 A They were covered in the thirty-day and
2 follow-up reports. The scope of the process necessary
3 to resolve that issue was clearly identified in those
4 reports. So, NRC was informed as to the scope change
5 and what was going on.

6 Q You stated that at the meeting on May the 7th
7 at Brown & Root there were forty or fifty people present
8 and that there were HL&P personnel present. Can you
9 tell me how many HL&P people were there?

10 MR. GUTTERMAN: He also answered that in the
11 same description. He said there were about a dozen.

12 MR. SINKIN: I'm sorry. I missed that.

13 JUDGE BECHHOEFER: He said it went down to
14 two.

15 MR. SINKIN: And it went down to one.

16 Q (By Mr. Sinkin) Among those dozen, did they
17 represent the spectrum of HL&P engineering disciplines?

18 A It seems to me that that was so, that the
19 individuals from HL&P did indeed represent a pretty
20 broad spectrum.

21 Q You were asked a question whether the HL&P
22 review group, the three people, discussed referring the
23 Quadrex report to the IRC for further review. In your
24 answer you said you could not remember any formal
25 instruction or program that would have caused the IRC to

1 review.

2 I'd like to go back to the actual question
3 that was asked. In the review group itself, was there
4 any discussion about furthering the Quadrex report on to
5 the IRC?

6 MR. GUTTERMAN: Do you mean forwarding?

7 MR. SINKIN: Excuse me?

8 MR. GUTTERMAN: I thought you said
9 furthering.

10 MR. SINKIN: Forwarded over to the IRC.

11 A I don't recall that there was any discussion
12 by three team members of having the IRC formally or
13 informally, for that matter, review the Quadrex report.
14 I don't recall any discussion on that day of the Quadrex
15 report being reviewed by IRC other than the three items
16 that were.

17 Q (By Mr. Sinkin) You engaged in a fairly
18 lengthy dialogue comparing the current DEF process with
19 the May 7th-May 8th process and how they were similar
20 and not similar. I only had one clarification
21 question.

22 In the DEF process, if you decide a DEF is not
23 necessary, is any further analysis conducted on that
24 item?

25 A Well, I assume by that you mean if the

1 individual decides a DEF is not necessary, he doesn't
2 prepare one. So, in that case, unless he does something
3 else, the answer would be no.

4 Q I guess the question was more if he decides a
5 DEF is not necessary, would he do anything else
6 normally?

7 MR. GUTTERMAN: That's so speculative and
8 vague and --

9 MR. SINKIN: I don't think so at all. I think
10 the answer is fairly clear.

11 MR. GUTTERMAN: I don't see how it's a
12 meaningful question.

13 JUDGE BECHHOEFER: Am I not correct if an
14 individual or an engineer is walking through the site
15 and sees something, he could prepare a DEF, sees
16 something that might warrant further study?

17 THE WITNESS: Our instructions to our people
18 are to prepare a DEF anytime they become aware of
19 something that they believe would represent something of
20 safety significance that could or should possibly be
21 reviewed for reportability, prepare it.

22 JUDGE BECHHOEFER: I take it if he were
23 walking through the site in the same way and didn't see
24 something he would not document the fact that he didn't
25 see anything?

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THE WITNESS: That's correct, sir.

Q (By Mr. Sinkin) But in this instance we're dealing with in a sense things that have already been seen. You have the Quadrex report. You're looking at the findings. The questions were related to how the DEF process would compare to that. You look at a Quadrex finding, you don't prepare a DEF about it. Normally would anything else be done about that finding?

A Well, with respect to reportability, if an issue doesn't warrant the DEF process, then nothing more would be done in the system with respect to that matter.

Now, just because something doesn't warrant reportability or review for reportability in no way would mean that there does not need to be or probably should be and there would be some action taken by engineering to resolve any issue that's brought up. There are many many things that come to the attention of engineering that do not represent something that falls into the 55(e) category. And they don't ignore those things, they take action to resolve them, whatever that might be.

(No hiatus.)

1 Q So those would be non-safety related items and
2 they would take action outside the DEF process?

3 A Not necessarily non-safety related. They could
4 be safety related or non-safety related.

5 Q In response to questioning about Quadrex
6 question N-17, you stated that if all you had read was
7 N-17, it probably would have been notified to the NRC.
8 What else did you read or learn that led you not to
9 notify the NRC of what was in question N-17?

10 MR. REIS: I would like Mr. Sinkin to indicate
11 at what period was no notification made of N-17.

12 MR. SINKIN: We're talking about on May 8th.

13 MR. REIS: As contrasted to later times.

14 Q (By Mr. Sinkin) As opposed to later time, on
15 May 8th, what did you know on May 8, that led you not to
16 report what was found in N-17.

17 A I had, in addition to what is just stated
18 there, I had the presentation the evening before by Brown
19 & Root where they had covered one or more, and I don't
20 recall right now how many of the findings that came out
21 of that particular assessment. And the status of
22 engineering activities was described at that meeting.

23 I can't recall the exact words that were used
24 and so forth. In addition, I had opportunity to discuss
25 that with Dr. Sumpter and as I indicated earlier, I'm

1 sure with Mr. Jacobi since both of those individuals had
2 prior knowledge of nuclear analysis activities.

3 I also, that evening before, had some direct
4 conversations with the supervisor of nuclear analysis at
5 Brown & Root. I can't tell you what all of those were
6 because I don't remember, who said what to whom. But out
7 of that conglomeration of conversations, I did indeed
8 obtain more information, enough to satisfy me, that
9 I did not need to report that particular item as it was
10 reflected in a discipline finding on to NRC.

11 Q Looking at question N-17, can you recall what
12 information specifically you received that made it no
13 longer notifiable in your view?

14 A Well, I don't know that this is a complete
15 answer to what I knew at that point, but I was aware that
16 among other things, Brown & Root had initiated a new
17 re-analysis of this area with NUS, and if my memory is
18 correct, that was in fact the discipline finding most
19 directly related to this assessment.

20 There were some other, I may have known some
21 other things at that point in time, be aware of them. I
22 do remember that particular -- that one particular item.
23 I know you I did read very carefully the B&R response to
24 sort out, in my own mind, what those temperatures were --
25 different temperatures were setting up, what the basis

1 was being set up. And I'm sorry to be so vague in that
2 sense but I just don't remember the details of it, to the
3 extent that I think your question is asking.

4 Q Would the fact, just using the first fact
5 alone, would the fact that Brown & Root had initiated a
6 new re-analysis of this particular problem with NUS that
7 was going to cover this problem, would that fact alone be
8 enough to change an item from potentially reportable to
9 not potentially reportable?

10 A Well, it seems to me that we're talking about
11 an entire analysis basis. And excuse me, I'm not being
12 responsive.

13 Q It's late in the day for all of us.

14 A Yes.

15 Q So just take your time.

16 A Reminded me of something else and I was going
17 down the wrong path. Would you please restate your
18 question again.

19 Q Just taking the first fact that you mentioned
20 that Brown & Root had initiated a new re-analysis of this
21 question with NUS, a re-analysis that would cover the
22 observation made by Quadrex. Does the existence of that
23 analysis change a potentially notifiable finding to a
24 non-potentially notifiable finding?

25 A Okay. As I said, I believe the discipline

1 finding, one of them, at least, that came from here, had
2 to do with a recommendation that the analysis of the ECP
3 be re-done. And in the sense that NUS was already doing
4 that, that would have been an appropriate response.

5 But just a recommendation to re-do an analysis
6 is not of itself something that meets the criteria for
7 reportability. So I don't know that that question can be
8 answered in that way.

9 What I had started to say was related to basic
10 question, I believe, and that is the analyses that had
11 been performed here were preliminary, they had not been
12 finished; particularly the EPC -- the ECP design had not
13 been finished, it was still carried as using preliminary
14 data, even though the pond had been built, I believe.

15 Therefore, on that basis, one would want to
16 find a particular deficiency in the calculation such that
17 it would show that the pond as built would be deficient;
18 that would be one of those tests that would lead you to a
19 reportability.

20 If they had not completed the analysis, then it
21 is a case of having built an item, a structure, using
22 preliminary data with the analyses yet to be confirmed.
23 And I believe this fits in that category of preliminary
24 set of analyses that had not yet been finished. We're
25 talking about an interim set. On that basis, they would

1 not be reportable unless you had a reason to believe that
2 the as-built structure was indeed not going to be
3 satisfactory. And reading this, I didn't find that.

4 I found questions about the analysis but not
5 really something that told me the ECP was going to be
6 deficient, not based on my experience as to temperatures
7 and the affects of temperatures in the operation of
8 equipment related to the ECP in terms of chilled water,
9 component cooling water effects.

10 Q Let me go back to the fundamental question
11 then. What did you see when you read this that led you
12 to conclude this was a potentially reportable finding
13 absent further information?

14 A Well, when I -- I am used to seeing a facility
15 such as the ECP that is built, if it is built and built
16 with preliminary data, built to such conservative
17 standards that there's never really a question about it
18 meeting the preliminary analysis numbers.

19 And here apparently there was some questions
20 about the adequacy of the analyses. The analyses were
21 not clearly showing an as built ECP that was
22 satisfactory. That's not something I'm used to seeing,
23 I'm not used to seeing analyses in the interim, even
24 preliminary, that don't clearly show that it's working
25 satisfactory. So if you see that, you start generating

1 mental questions, hey what's wrong.

2 Q Then maybe the question I should have asked was
3 if you -- if those kinds of questions are raised about a
4 preliminary analysis but you know that it's a preliminary
5 analysis and there's going to be a final analysis, does
6 that change your mind about whether there's a notifiable
7 finding or not?

8 A Now you're -- okay, now you're into the area of
9 engineering judgment. Things don't always come out nice
10 and clean and clear. And one has to in such cases, look
11 at what is really there in the terms of hardware,
12 analysis, many times make a judgment. This happens to be
13 an area that I felt very comfortable making such
14 judgments. And I wouldn't try to tell you that
15 everything about this about this is black and white. I
16 don't believe it is. I made certain judgments about the
17 effects of temperature and what the real temperature
18 would have to be. Mother nature sets certain limits on
19 temperature. Typical equipment that uses that as a
20 source have certain temperature rises.

21 Typically the heat loads in a power plant that
22 come into this, they're not all that different one from
23 another.

24 So I felt comfortable in making this kind of
25 judgment, as to what the impacts of these temperatures as

1 presented, what would they really mean to the safe
2 operation of the plant. And I made those judgments.

3 Q In observing -- in giving your observations
4 about the Quadrex report, you noted that there were
5 things that they would say that weren't clear, that you
6 felt didn't really say what they wanted to say was one
7 thing I noticed. And one of those you pointed out was
8 the design verification of one discipline of the work of
9 another discipline. And I think if you turn to page 3-3
10 of the Quadrex report, we may be looking at the generic
11 finding that you found was not -- did not say what
12 Quadrex was trying to say.

13 You further testified that you, after looking
14 into what the basis for the finding was, you understood
15 what they were trying to say and it wasn't as they had
16 worded it. My question is: What did you understand
17 they were trying to say?

18 3.1(b)(i), I think, is the one that captures
19 what we're talking about, it may not be.

20 A I may have mentioned part of that. I don't
21 believe that is the one I was referring to, as you quoted
22 it. I believe I was referring to one that used words
23 like verification. Whether it's in the generic or
24 whether it's in the discipline findings, I frankly don't
25 know. There were findings, most serious category,

1 related to the verification of work by others, by Brown &
2 Root, or lack thereof. As a matter of fact, it's down --
3 I see some of those words down at the bottom of that same
4 page, 3-3. I think you had pointed me to Item No. 1.

5 Q Maybe it's -- right, I think that probably that
6 first sentence in that paragraph at the bottom?

7 A Yes, I believe I was referring explicitly to
8 those words.

9 Q When you did further analysis of what Quadrex
10 based this on, what did you determine was in fact what
11 Quadrex was trying to say?

12 A They were simply -- well, they were saying that
13 Brown & Root needed to increase its review of inputs
14 received from these other agencies. And I'm not -- I'm
15 not sure that that's all they meant.

16 But that seemed to be the basic thrust when I
17 went back and read the questions, that had to do with
18 what Brown & Root was doing relative to input that was
19 received from other vendors. Instead of always using the
20 word design verified, you find them starting to use words
21 back there like "reviewed" or "checked for consistency,"
22 those kind of words. There's a big difference between
23 those words and "design verified."

24 JUDGE BECHHOEFER: Mr. Sinkin, do you have a
25 lot more?

1 MR. SINKIN: I have about two more and then
2 I'll be done.

3 JUDGE BECHHOEFER: It's getting awfully late
4 and I'm --

5 MR. SINKIN: I know it is.

6 Q (By Mr. Sinkin) Based on something you said,
7 the impression I got was you did not read all of the
8 questions and answers prior to May 7th and 8th; is that
9 correct?

10 A That's correct.

11 Q How did you select which ones you did read?

12 A I looked at those that I considered myself
13 representing the most expertise within the three members
14 on those particular issues. Also, I happen to be those
15 that -- for want of another reason, perhaps I took the
16 most interest in personally, too. The nuclear analysis
17 and computer code area clearly fell into that category,
18 and I thought they represented some of the more important
19 elements of the Quadrex report.

20 Q My final question is about the necessity of
21 having a top level document defining such things as
22 separation and single failure; you said it's not
23 necessary to have often such a document, there are other
24 ways to do it. If you -- let's do a hypothetical which I
25 think parallels what Quadrex was doing, but let's just use

1 it as a hypothetical. If you go into an assessment of
2 the technical adequacy of the work of an engineering
3 group and in discipline after discipline, you find that
4 they either cannot produce the list of items that they
5 consider for single failure or they cannot produce clear
6 guidance for another discipline as to what's there for
7 single failure, or separation, would not one approach to
8 curing that problem be to say to the project you must
9 have a top level document that tells all these
10 disciplines what it is they're supposed to be doing?

11 A That could be an approach. I doubt it would be
12 sufficient under the circumstances you described, because
13 putting a top level document out on something as complex
14 as single failure that would cover all the disciplines'
15 application of that in their area is mind boggling to me
16 to try to think about how to do it. If you put out
17 certain general guidance, you would still have to rely on
18 each of the disciplines or areas of design to further
19 supplement that in much more detail in some fashion to
20 have a complete documentation of that particular matter.

21 On the other hand, plants have been designed
22 without any such documentation of that type, top level or
23 middle level very satisfactorily. I'm not suggesting
24 that's necessarily the best practice but it has occurred.

25 (No hiatus.)

1 Q What if you already know that what you're
2 dealing with is a design engineering group that lacks
3 experience? Nuclear doesn't seem to demonstrate an
4 understanding of some fundamental nuclear principles,
5 and that when you asked them, they've said, well, this
6 is what we've got and what they're showing you is
7 totally inadequate. How do you cure that problem?

8 A It may take some rather dramatic activities
9 the way you've described it, I guess.

10 I think what you're suggesting is that, yes,
11 indeed, if you had a group of inexperienced engineers,
12 either in terms of total engineering experience or
13 experience in the area that they're now concerned about,
14 it might very well be necessary to have some very
15 specific and detailed guidance for them to be successful
16 in their activities. Could very well be.

17 MR. SINKIN: That's all I have, Mr. Chairman.

18 JUDGE BECHHOEFER: Mr. Reis?

19 MR. REIS: I have about two questions.

20

21 RE CROSS EXAMINATION

22 BY MR. REIS:

23 Q Who was Steve Dew and how do you spell his
24 name?

25 A Mr. Dew at that time was one of the senior

1 individuals and I don't recall exactly his title,
2 although I was reminded of it recently. He worked for
3 Brown & Root. He was in the engineering organization,
4 relatively new to it, had not been there a long period
5 of time. And I want to say assistant engineering
6 manager or something of that type. He was -- in my
7 mental viewing it, he was four or five people down from
8 Mr. Saltarelli or maybe it was only three people, but
9 something on that order. He worked for Brown & Root and
10 subsequently joined HL&P.

11 Q Okay.

12 A You spell it D E W.

13 Q After May 8th, 1981, were additional matters
14 or findings in the Quadrex report sent to the NRC
15 pursuant to 50.55(e) as a result of Bechtel's task force
16 review?

17 A Yes. When we were presented with the task
18 force review, I believe it was March of 1982, sometime
19 March or early April, they had recommended one
20 additional item be considered potentially reportable
21 that had to do with a common instrument air line that's
22 located in the fuel handling building.

23 Q Thank you.

24 A Since they had recommended it, we made the
25 notification.

1 MR. REIS: That's all I have.

2 JUDGE BECHHOEFER: Mr. Gutterman? Mr.

3 Axelrad?

4 MR. GUTTERMAN: We have no further questions.

5 JUDGE BECHHOEFER: The Board has no further
6 questions.

7 Do you have any follow-up on the last --

8 MR. SINKIN: One follow-up question.

9 MR. PIRFO: It's got to be about Mr. Dew.

10

11

REDIRECT EXAMINATION (Cont'd)

12

BY MR. SINKIN:

13

Q Mr. Dew went to HL&P you said?

14

A Yes.

15

Q And what position did he take there?

16

A He was -- he joined us as engineering manager,
17 I believe.

18

MR. SINKIN: That's all I have, Mr. Chairman.

19

MR. PIRFO: We don't have any more questions
20 about Mr. Dew.

21

JUDGE BECHHOEFER: Mr. Robertson, I guess
22 you're excused. We appreciate your attendance.

23

MR. GUTTERMAN: I assume his sequestration is
24 over?

25

JUDGE BECHHOEFER: Yes. You can read the

1 newspapers. You can read the transcripts. Maybe you
2 won't want to, but you may.

3 THE WITNESS: Well, I did take the
4 opportunity -- I assume we can go off the record on
5 this.

6 JUDGE BECHHOEFER: Off the record.

7 (Discussion off the record.)

8 JUDGE BECHHOEFER: Back on the record for a
9 minute.

10 Mr. Axelrad?

11 MR. AXELRAD: Yes. In one of the recesses
12 this afternoon the parties have discussed CCANP Exhibit
13 121 and CCANP's subpoena of Dr. Broom. And we have
14 reached a stipulation that it would not be necessary for
15 Dr. Broom to appear. We will stipulate to the
16 authenticity of CCANP number 121 and then we would argue
17 before the Board the materiality or any other arguments
18 that may be available as to whether or not that exhibit
19 should be accepted into evidence. And in view of the
20 lateness of the hour, I would suggest we do that
21 tomorrow morning.

22 MR. SINKIN: That's fine.

23 MR. PIRFO: The Staff was party to that
24 agreement as well, with the caveat I'll bring up in the
25 morning.

1 JUDGE BECHHOEFER: We'll consider it first
2 thing in the morning.

3 MR. AXELRAD: Thank you, Mr. Chairman.

4 JUDGE BECHHOEFER: We'll adjourn till 9:00
5 o'clock.

6 (Hearing recessed at 6:37 p.m.)
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CERTIFICATE OF OFFICIAL REPORTERS

This is to certify that the attached proceedings before
the UNITED STATES NUCLEAR COMMISSION in the matter of:

NAME OF PROCEEDING: EVIDENTIARY HEARING
HOUSTON LIGHTING AND POWER COMPANY,
ET AL (SOUTH TEXAS PROJECT, UNITS 1
AND 2)

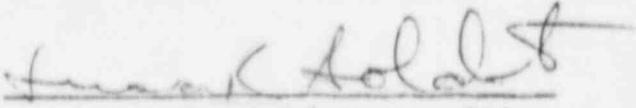
DOCKET NO.: STN 50-498-OL
STN 50-499-OL

PLACE: HOUSTON, TX

DATE: Wednesday, August 7, 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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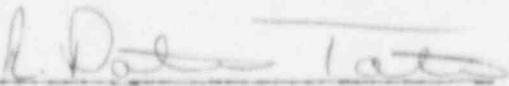
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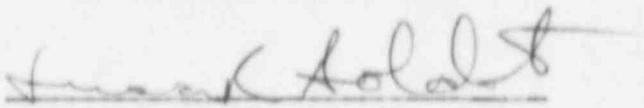
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