

UNITED STATES OF AMERICA

BEFORE THE  
NUCLEAR REGULATORY COMMISSION

In the Matter of:	)	
	)	
HOUSTON LIGHTING & POWER	)	Docket Nos. 50-498 OL
COMPANY, ET AL.	)	50-499 OL
	)	
South Texas Nuclear Project	)	
Units 1 and 2	)	

Green Auditorium  
South Texas College of Law  
1303 San Jacinto Street  
Houston, Texas

Tuesday  
June 16, 1981

PURSUANT TO ADJOURNMENT, the above-entitled  
matter came on for further hearing at 9:00 a.m.

APPEARANCES:

Board Members:

CHARLES BECHHOEFER, Esq., Chairman  
Administrative Judge  
Atomic Safety & Licensing Board  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

ERNEST E. HILL, Nuclear Engineer  
Administrative Judge  
Atomic Safety & Licensing Board  
University of California  
Lawrence Livermore Laboratory, L-46  
Livermore, California 94550

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

## 1 APPEARANCES: (Continued)

2 DR. JAMES C. LAMB, III, Environmental Engineer  
3 Administrative Judge  
4 Atomic Safety & Licensing Board  
5 313 Woodhaven Road  
6 Chapel Hill, North Carolina 27514

7 For the NRC Staff:

8 EDWIN REIS, Esq.  
9 JAY M. GUTIERREZ, esq.  
10 Office of the Executive Legal Director  
11 U. S. Nuclear Regulatory Commission  
12 Washington, D.C. 20555

13 DONALD E. SELLS, Project Manager  
14 Office of Nuclear Reactor Regulations  
15 U. S. Nuclear Regulatory Commission  
16 Washington, D.C. 20555

17 WILLIAM HUBACEK  
18 Office of Inspection and Enforcement  
19 Region IV  
20 Arlington, Texas 76011

21 For the Applicant, Houston Lighting & Power Company:

22 JACK R. NEWMAN, Esq.  
23 MAURICE AXELRAD, Esq.  
24 Lowenstein, Newman, Reis & Axelrad  
25 1025 Connecticut Avenue, N.W.  
Washington, D.C. 20036

FINIS COWAN, Esq.  
Baker & Botts  
3000 One Shell Plaza  
Houston, Texas 77002

26 For the Intervenor, Citizens for Equitable Utilities, Inc.:

27 WILLIAM S. JORDAN, III, Esq.  
28 Harmon & Weiss  
29 1725 "I" Street, N.W., Suite 506  
30 Washington, D.C. 20006

1 APPEARANCES: (Continued)

2 For the Intervenor, Citizens Concerned About Nuclear Power:

3 LANNY SINKIN  
4 838 East Magnolia Avenue  
5 San antonio, Texas 78212

6 MICHELLE FRAWLEY, Attorney  
7 5106 Casa Oro  
8 San ANTONIO, Texas 78233

9 - - -  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

I N D E X

<u>WITNESSES:</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>REXCROSS</u>	<u>BOARD EXAM.</u>
KNOX M. BROOM, JR. RAYMOND J. VURPILLAT (Resumed)					
By Judge Lamb					4209
By Judge Hill					4287
By Judge Lamb					4291
By Judge Bechhoefer					4296
By Judge Lamb					4305
By Judge Bechhoefer					4309
STEPHEN H. GROTE (Joining Panel)					
By Mr. Axelrad	4341				
By Judge Hill					4357
By Judge Lamb					4378
By Judge Bechhoefer					4385
By Mr. Jordan				4398	

EXHIBITS

<u>NUMBER:</u>	<u>FOR IDENTIFICATION IN EVIDENCE</u>			
<u>Applicants':</u>				
No. 32(a)		--		4356
<u>CEJ's:</u>				
No. 3		4416		4428

P R O C E E D I N G S

1  
2 JUDGE BECHHOEFER: Good morning, ladies and  
3 gentlemen.

4 The Board has considered the request concerning  
5 the protective order.

6 With respect to the three persons whose names  
7 were requested, the Board has voted to drop the protective  
8 order on all of them; but on two of them, Nos. 2 and 13,  
9 the vote was unanimous. On No. 11, I dissented from that.

10 I would have kept the protective order on  
11 the individual who is still currently employed.

12 Are there any other preliminary matters before  
13 we resume the cross-examination of this panel?

14 Particularly, has the Staff done any further  
15 inquiry about the names, the identification of letters,  
16 shall we say?

17 MR. REIS: Your Honor, at this time the Staff  
18 is going to pass the panel and doesn't feel it has to  
19 inquire into those matters at this time.

20 We are seeking clarification as to two individuals  
21 in particular who we feel might be further identified  
22 in the record, and would do so through other witnesses  
23 and other panels at other times, perhaps in the Staff's  
24 own case.

25 We feel that no further questions are necessary

-2  
1 at this time, after reviewing our notes last night and  
2 having time to think about it. We feel we have concluded  
3 with the cross-examination of Mr. Vurpillat and Mr. Broom.

4 JUDGE BECHHOEFER: Thank you.

5 With respect to the Board's questioning of  
6 this panel, we would like Mr. Grote to join them now.

7 We also think that you may wish to -- I don't  
8 know whether you want to sponsor any direct testimony,  
9 but we think that at least his qualifications --

10 MR. NEWMAN: May we have just a moment, because  
11 I hadn't anticipated putting the witness on this quickly,  
12 and I'm not sure whether the further direct is ready yet  
13 or not.

14 May I just check?

15 JUDGE BECHHOEFER: Yes. Let's go off the  
16 record.

17 (Discussion off the record.)

18 JUDGE BECHHOEFER: Back on the record.

19 Let the record reflect that the Board will  
20 begin its questioning of the panel without Mr. Grote,  
21 and Mr. Grote will join the panel later on during our  
22 questioning.

23 //

24

25 //

1 Whereupon,

2 KNOX M. BRGGM. JR.

3 RAYMOND J. VURPILLAT

4 the witnesses on the stand at the time of adjournment,  
5 having been previously duly sworn to tell the truth, the  
6 whole truth and nothing but the truth, resumed the stand  
7 as witnesses herein, and were examined and testified further  
8 as follows:

9 BOARD EXAMINATION

10 BY JUDGE LAMB:

11 Q Good morning, gentlemen.

12 Mr. Vurpillat, I'd like to get a few additional  
13 items in the record relative to your background and qualifications.

14 You are a member, I believe -- it indicates  
15 in your testimony or in previous cross-examination --  
16 I believe you are a member of the ASQC?

17 BY WITNESS VURPILLAT:

18 A That's correct.

19 Q Are you a senior member of that organization?

20 BY WITNESS VURPILLAT:

21 A No, sir, I'm a regular member.

22 Q Are you certified as a reliability engineer?

23 BY WITNESS VURPILLAT:

24 A No, sir.

25 Q Do you have any licenses, either with respect

1 to QA/QC work or engineering?

2 BY WITNESS VURPILLAT:

3 A Yes, I'm a Registered Professional Engineer in the  
4 State of Indiana and the State of California, and I hold  
5 a certification related to the American Society of Mechanical  
6 Engineers, Section III, Division 2, which is concrete  
7 containments and pressure vessels, as a Level 3 concrete  
8 engineer.

9 Q You mentioned somewhere, I believe, of service  
10 on committees of ACI and ASME?

11 BY WITNESS VURPILLAT:

12 A Yes, sir.

13 Q What committees are those, or were those?

14 BY WITNESS VURPILLAT:

15 A Well, I'm a member of the committee or working  
16 group on personnel certification related to ASME Section  
17 III, Division 2. Appendix 7 is the document or the portion  
18 of that document relating to personnel certifications,  
19 and I'm a member of the working group responsible for  
20 that particular appendix.

21 I'm also a member of Committee 311, which  
22 is the committee on inspection of the ACI, American Concrete  
23 Institute.

24 Q Have you been members of those committees  
25 for an extended period?



1 BY WITNESS VURPILLAT:

2 A. A matter of seven or eight years, yes.

3 Q. How about publications in connection with  
4 QA/QC matters?

5 BY WITNESS VURPILLAT:

6 A. Nothing published as an individual. Contributor,  
7 there was an article in the ACI Journal related to personnel  
8 qualifications for concrete inspection personnel, of which  
9 I was -- there were several authors and I was one of those.

10 I've written and delivered several speeches  
11 and presentations at various Society meetings and what  
12 have you, both for myself and for other people, that have  
13 been published in transactions.

14 Q. Right. Have you presented papers?

15 BY WITNESS VURPILLAT:

16 A. Yes, sir.

17 Q. What areas?

18 BY WITNESS VURPILLAT:

19 A. Primarily in the areas where I've served on  
20 committees, and this is concrete inspection, and quality  
21 assurance and quality control generally.

22 Q. This is in connection with committee work?

23 BY WITNESS VURPILLAT:

24 A. No, not directly in connection with committee  
25 work, but related to the same subjects that the committee

1 work deals with, yes; in addition to general quality assurance  
2 and quality control applications and philosophy.

3 Q As a member of the committees, have you participated  
4 in preparation of committee reports?

5 BY WITNESS VURPILLAT:

6 A Yes.

7 Q What types of reports were they?

8 BY WITNESS VURPILLAT:

9 A Well, primarily related to the document that  
10 I described, the ASME Section III, Division 2, personnel  
11 qualifications and also some testing aspects of concrete  
12 containments and concrete pressure vessels, but that particular  
13 code.

14 Q Have you been chairman of any of the committees  
15 or subcommittees?

16 BY WITNESS VURPILLAT:

17 A Not of the committees. I was chairman of  
18 the Energy Division.

19 At the time I was chairman it was called the  
20 Nuclear Division of ASQC.

21 Q Do you attend national meetings of that or  
22 other organizations, ASQC or other organizations, regularly?

23 BY WITNESS VURPILLAT:

24 A Yes, sir.

25 Q Which organizations?

1 BY WITNESS VURPILLAT:

2 A I attend three, four, five meetings of ASQC,  
3 the principal meetings and conferences, plus committee  
4 meetings of the ASQC, and particularly the Energy Division,  
5 each year; and there are usually two committee meetings  
6 related to the personnel qualification working group that  
7 I work on.

8 I attend those regularly. There are probably  
9 four or five other smaller meetings or groups that meet  
10 related to those subjects each year.

11 Q Where is your office located, Mr. Vurpillat?

12 BY WITNESS VURPILLAT:

13 A My office is located in Houston.

14 Q Where is your office located, Dr. Broom?

15 BY WITNESS BROOM:

16 A I'm in Houston.

17 Q Who is currently the senior Brown & Root official  
18 at the site?

19 BY WITNESS BROOM:

20 A In quality assurance/quality control?

21 Q No. The senior Brown & Root official in connection  
22 with the construction activities.

23 BY WITNESS BROOM:

24 A Well, we have two that are at least separate  
25 and independent from each other.

1 The project quality assurance manager is located  
2 at the site. That's Mr. Al Smith.

3 We have a project construction manager, or  
4 deputy general project manager, Mr. Jim Thompson. He's  
5 located at the site.

6 Both of those, I believe I'm correct, are  
7 what we call Manager 4's. They are the same managerial  
8 level in our organization, but they do not report to one  
9 another.

10 That's why I have to give you two names instead  
11 of one.

12 Q Right. Now, they both report to whom?

13 BY WITNESS BROOM:

14 A Mr. Smith reports to Mr. Vurpillat.

15 Mr. Thompson reports to the project management  
16 organization, the project manager currently being  
17 Mr. Gene Saltarelli. As I described earlier in my testimony,  
18 he's serving in an interim capacity.

19 Q Mr. Saltarelli is located in Houston?

20 BY WITNESS BROOM:

21 A Yes, sir.

22 Q Could you go back -- I beg your pardon. Go  
23 ahead.

24 BY WITNESS BROOM:

25 A I said these people report in our organization.

1           There is another reporting chain that Mr.  
2 Smith communicates directly with the client's project  
3 quality assurance manager, Mr. Frazer, who is located  
4 at the site.

5           I think you understand the dual reporting  
6 to the client and within our own organization. I neglected  
7 to mention that.

8           Q       Yes. I was referring to your organization.

9                    Could you indicate to me -- I guess it would  
10 be Dr. Broom, although either would be fine.

11                    Could we go back to -- move backwards in time  
12 as we did before in connection with project manager type  
13 of activities, and talk in terms of who has been QA managers  
14 and for what periods?

15 BY WITNESS BROOM:

16           A       Yes, sir. I think I have the same set of  
17 notes I referred to earlier.

18           Q       Either forwards or backwards; it makes no  
19 difference.

20                    I'd like to go back perhaps five years.

21 BY WITNESS BROOM:

22           A       I believe that I can remember those. Let  
23 me talk while I'm looking.

24                    The present quality assurance manager for  
25 the project -- that's the position that you are interested

1 in; is that correct, sir?

2 Q That's correct. That is the senior QA individual  
3 located at the site?

4 BY WITNESS BROOM:

5 A Yes, sir. That's Mr. Al Smith.

6 Mr. Smith assumed his responsibilities recently;  
7 as I recall, in May.

8 BY WITNESS VURPILLAT:

9 A Yes, early May.

10  
11 - - -  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

1 BY WITNESS BROOM:

2 A Prior to that, we had had a gentleman from  
3 the MAC organization, M-A-C, Management Analysis Company,  
4 as our project quality assurance manager.

5 His name was Mr. Bill Freidrich, William Freidrich.

6 He assumed that position in July of 1980.

7 Prior to that, in May of 1980, Mr. Zwissler,  
8 also of MAC, had been put in as an interim QA project  
9 manager before Mr. Freidrich was freed up from his duties  
10 and was able to join.

11 Q So he was in until July of 1980?

12 BY WITNESS BROOM:

13 A Yes, from May until July of 1980.

14 Mr. Freidrich had been identified to us, but  
15 he was unable to drop his present assignment and come  
16 immediately. So there were a couple of months there when  
17 Mr. Zwissler was serving in that capacity.

18 Q I see. So both of those were from MAC?

19 BY WITNESS BROOM:

20 A Yes, sir.

21 Q Is this the same Mr. Zwissler who has been  
22 involved in the HL&P --

23 BY WITNESS BROOM:

24 A Yes, sir. When Mr. Freidrich joined our  
25 organization, Mr. Zwissler moved over to the client's

1 organization and began serving in his capacity of advising  
2 or assisting Mr. Frazar, I believe as he has testified.

3 Q Yes.

4 BY WITNESS BROOM:

5 A Prior to that Mr. Chuck Vincent, Charles Vincent,  
6 was ---

7 Q V-i-n-s-o-n.

8 BY WITNESS BROOM:

9 A V-i-n-c-e-n-t. I beg your pardon.

10 Q Thank you.

11 BY WITNESS BROOM.

12 A -- had been the project QA manager since April  
13 of 1978.

14 Prior to that time, we had a site QA project  
15 manager and a Houston QA coordinator. We didn't have  
16 a single head as an over-all project QA manager.

17 Q Well, let's go with the site manager.

18 BY WITNESS BROOM:

19 A The site manager was Mr. Terry Gardner,  
20 G-a-r-d-n-e-r, and he had been in that capacity since  
21 the work at the site began in 1975.

22 Q Could you look at Applicants' Exhibit No.  
23 8, please. That is the quality assurance program, the  
24 revised quality assurance program for the design and construction  
25 phase.



1 BY WITNESS BROOM:

2 A Yes, sir, I have that in front of me.

3 Q Now, the second half of that program -- of  
4 that document is Attachment 1, Part B. It deals with  
5 "Brown & Root, Inc., Quality Assurance Description During  
6 Design and Construction."

7 BY WITNESS BROOM:

8 A Yes, sir.

9 Q Who prepared this document?

10 BY WITNESS BROOM:

11 A Brown & Root prepared this document. I can't  
12 identify the individual who had the primary responsibility.

13 Mr. Freidrich had a lot to do with it.

14 Mr. Gordon Purdy, I believe, was one of the principal  
15 authors.

16 Perhaps Mr. Vurpillat can correct me or assist  
17 me in the individuals who did the writing.

18 BY WITNESS VURPILLAT:

19 A It was an effort in which a number of people  
20 participated. Mr. Purdy and Mr. Freidrich. I did some  
21 of it.

22 Our licensing people did some of it, and it  
23 was subject to, during its drafting and the various drafts  
24 that went through, that we went through to draft this  
25 particular revision and its predecessor, there was ongoing

1 review as it was being drafted between a number of people,  
2 including the client, including Houston Lighting & Power.

3 Q Now, look at pages 4 and 5 of that document,  
4 page 4 mainly to identify the fact that we're discussing  
5 the QA manager of the Power Group, what that individual  
6 does.

7 Then on page 5 is a paragraph about a third  
8 of the way down the page, just under No. 7 item, dealing  
9 with minimum qualifications for the person holding that  
10 position.

11 Now, that position, I believe, is the position  
12 you hold, isn't it, Mr. Vurpillat?

13 BY WITNESS VURPILLAT:

14 A Yes, sir, that's correct.

15 Q I wanted to ask whether you agree with those  
16 qualifications as identified there for the person in that  
17 position.

18 First, let's say, with respect to the six  
19 years' experience?

20 BY WITNESS VURPILLAT:

21 A Those are identified as minimum qualifications  
22 for a quality assurance manager, and as a matter of fact,  
23 I believe that they are if not exactly very close to the  
24 requirements that are spelled out in the Standard Review  
25 Plan of the Nuclear Regulatory Commission and ANSI 3.1,

1 Standard 3.1.

2 They are minimum qualification requirements  
3 for a quality assurance manager.

4 I would think that someone coming into the  
5 situation like we're talking about right now, that probably  
6 you would expect, perhaps, more than that.

7 So much depends on the individual and the  
8 situation at hand, if that answers your question.

9 Q Yes. I was also concerned with the statement  
10 that, "One year of the six years of experience must be  
11 in a nuclear powerplant," which seems -- well, certainly  
12 minimal or below.

13 BY WITNESS VURPILLAT:

14 A I would think that would be minimal, yes.

15 Q Do you think it's even adequate?

16 BY WITNESS VURPILLAT:

17 A I don't think that that would be adequate  
18 for someone taking over the position that I hold, with  
19 the situation as it exists within Brown & Root with the  
20 amount of work that Brown & Root has at this particular  
21 time.

22 Again, I would state that these are minimum  
23 requirements and not necessarily those which we use to  
24 select the individuals.

25 Q Also, I notice the last sentence in that paragraph

-16  
1 indicates that, "A maximum of four years of this six years'  
2 experience can be fulfilled by related technical academic  
3 training."

4 Does that mean that this person according  
5 to this description would only have to have two years  
6 of experience outside of school?

7 BY WITNESS VURPILLAT:

8 A I believe that that's what that means.

9 Q Does that appear realistic?

10 BY WITNESS BROOM:

11 A Judge Lamb, could I chime in here?

12 Q Yes.

13 BY WITNESS BROOM:

14 A Is your question are these the qualifications  
15 that we use in seeking to fill this particular role, this  
16 particular position?

17 Q No. Obviously, these are not the qualifications  
18 that Mr. Vurpillat has. He has substantially more.

19 What I was concerned about is that this is  
20 a document which defines the qualifications for the position,  
21 as I understand it.

22 BY WITNESS BROOM:

23 A It's my understanding and I stand to be corrected,  
24 but I believe that these are the minimum qualifications  
25 that are recommended (I guess is the word) from the Standard

1 Review Plan from the NRC. I'm not certain of that, but  
2 certainly, Brown & Root would not be comfortable having  
3 its Power Group QA manager meet only these minimum qualifications.

4 I think I can be a little stronger than that  
5 and say that if I had anything to do with it, I wouldn't  
6 fill that position with someone with only these minimum  
7 requirements, although I suppose -- I don't want to indict  
8 some other company or other organization that may find  
9 a situation in which their needs could be satisfied by  
10 a QA Department manager that has these qualifications,  
11 someone with a very small scope, limited involvement in  
12 the industry.

13 It might be appropriate in some other situation.

14 Q Do you concur with that, Mr. Vurpillat?

15 BY WITNESS VURPILLAT:

16 A Yes, I concur with it. It's very difficult  
17 to establish minimum qualifications.

18 Where do you go? Do you say you need someone  
19 with 20 years of experience and 10 years of nuclear experience;  
20 and then someone comes down the road and has got 15 and  
21 8, and you can't use him, even though he might be just  
22 the individual that you're looking for.

23 It's difficult. So what we have done here  
24 is gone with what essentially is the stated industry minimum  
25 requirements.

1 Q Thank you.

2 On page 22 of your testimony, this is in the  
3 context of responding to Question 23 concerning training  
4 activities.

5 The statements made here are very general  
6 statements. In trying to determine how much weight to  
7 give to these statements, I wonder if you could help us  
8 out with providing a little more basis for judgment with  
9 respect to the training activities.

10 For example, do you have any quantitative  
11 data which substantiates the extent of training which  
12 is being offered or has been offered?

13 BY WITNESS BROOM:

14 A Judge Lamb, I do have quantitative data. I  
15 may not have it immediately in front of me.

16 I might have to look through my files at the  
17 break and provide you data, specific data, later.

18 Our training activities at South Texas have  
19 been extensive.

20

21

22

23

24

25

STP  
2-  
1e

1 I don't believe I have the data with me here at the  
2 table, but I think we've referred to the fact that every  
3 procedure, when it's issued at the site, we have a formal  
4 training session, and the attendance at those training sessions  
5 is documented.

6 I believe early in the project we were not quite so  
7 formal. We provided training sessions on occasion which were  
8 voluntary, but an employee could read the procedure and if he  
9 felt he understood it, it was not mandatory that he attend a  
10 session at which someone described the contents or the changes  
11 in a procedure. We don't permit that now. They are all  
12 mandatory training sessions and people must attend.

13 We have a variety of technical training sessions  
14 from the outside.

15 Mr. Vurpillat may be more familiar with --

16 BY JUDGE LAMB:

17 Q Excuse me. Before you go into that, I'm not sure  
18 I understand what you meant by procedures, before you leave  
19 that phase of it.

20 BY WITNESS BROOM:

21 A Any quality assurance procedure or inspection  
22 procedure, any of the many procedures we have on the jobsite,  
23 we require that any employee who is --

24 Q Is it written job specifications, or are these  
25 design specifications?

2-2  
1 BY WITNESS BROOM:

2 A No, sir. These are procedures that are developed  
3 from those specifications that must be implemented by our QC  
4 personnel, and QA personnel.

5 Quality Engineering, for example, has the  
6 responsibility for ensuring that for an engineering specifi-  
7 cation there are QC procedures developed that the inspector  
8 can utilize to implement the intent or the requirements of  
9 that specification.

10 Those procedures are what I'm referring to.

11 Anyone who uses those procedures, or is involved  
12 in those procedures, we require a formal training session,  
13 documented that the individuals did attend, the dates, and  
14 so on.

15 Q Those are conducted by whom?

16 BY WITNESS BROOM:

17 A They're conducted by members of our QA management  
18 team. We have a whole training department at the jobsite that  
19 is responsible for the facilities and development of course  
20 materials and coordinating space, and they have audio-visual  
21 presentations. There are some presentations made on television,  
22 videotape systems, a variety of training aids.

23 I think I referred to also the fact that since the  
24 beginning of the job there has been a QA orientation program  
25 required for all employees that are hired at the jobsite.



300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 564-2346

1                    Again, in 1975, I'm sure it was more rudimentary  
 2 and fundamental than it is today, and that is reviewed from  
 3 time to time, and I'm sure we have a more broad-based and more  
 4 extensive program today than we did in 1975, but --

5                    Q        Excuse me. You say all employees. Does that mean  
 6 all QA employees, QC or --

7 BY WITNESS BROOM:

8                    A        No, sir.

9                    Q        -- or every construction worker as well?

10 BY WITNESS BROOM:

11                    A        That is correct. All people at the site.

12                    Q        The intent of that is to do what?

13 BY WITNESS BROOM:

14                    A        The intent of that is to ensure that the employee  
 15 recognizes that this is a nuclear project, that requirements  
 16 are different if, for instance, they came from other type  
 17 construction work, that documentation requirements, adherence  
 18 to procedures, the federal rules and regulations that apply to  
 19 this kind of work, that it is a different type of job than non-  
 20 nuclear construction.

21                    Q        How extensive is this type of training activity?

22 BY WITNESS BROOM:

23                    A        I'm sorry, I don't know the length of time  
 24 that it runs. I would guess it's a 15-minute to 30-minute  
 25 program on videotape. I believe it's videotape today. As a

2-4  
1 matter of fact, there are several such presentations ranging  
2 from a very brief summary of the kinds of items that I just  
3 indicated.

4 Then there's another one that is more extensive  
5 concerning the documentation requirements. I'm not sure a  
6 craftsman would receive that, but for instance, any clerical  
7 people that would be hired that would be expected to handle  
8 documentation and file documentation, and that kind of thing,  
9 there's another portion of that program that they view.

10 I think there's one on codes and standards. I'm  
11 not sure, but there are two or three of those programs that  
12 most of the employees see. I'm not sure all of them see all  
13 of them because of their different areas of responsibility  
14 when coming onto the site.

15 Construction, of course, has a similar requirement  
16 for people being trained in procedures that they must implement.  
17 They must show that all of the people implementing their  
18 construction procedures have been trained and have read and  
19 understood, or attended a lecture or some type of familiari-  
20 zation with any change to their procedures.

21 That's all formalized now and documented.

22 I guess the missing part that I haven't described  
23 are the outside training activities, and I'm sure Ray is more  
24 familiar with the details of this than I am, but there are  
25 technical training programs put on from time to time by a

2-5  
1 variety of the technical societies.

2 I remember specifically there is an ACI course.  
3 I'm not familiar with the details, but our people at the  
4 jobsite sure are, they're quite interested in attending that,  
5 and I think you get frequent applications to attend that  
6 session.

7 I believe we've had that course presented in  
8 Houston once, perhaps more than once, but around the country  
9 as they present it I believe we send several people each year  
10 to that course.

11 Ray may want to comment on the contents and the  
12 significance of that course to the people that work in the  
13 civil concrete areas, when I finish. I'm not familiar with the  
14 details of that.

15 We have had, as an example, just instances that  
16 come to mind, within the last few months we've had three  
17 members of the AWS Code Committees put on training seminars  
18 at the jobsite as refresher training for our people; what does  
19 the AWS Welding Code really mean, how should it be interpreted,  
20 practical examples, go out in the field and look at the welds  
21 with the AWS Committee members, as well as some classroom  
22 lectures.

23 We've also had -- I'm sorry, I don't remember the  
24 name of the firm, but another organization present, as I recall  
25 it, it was a two-day training session. It may have been two

2-6  
1 half days, I don't recall, but on the subject of AWS welding.  
2 That's within the last few months.

3 We've had, over the years, another example that  
4 comes to mind is the ASME Section 3. We've had consultants  
5 come in and discuss the contents of that code, any changes  
6 that are made periodically in that code.

7 I don't remember whether we've done that every year  
8 or every two years, or whether it's a fluctuating frequency,  
9 but I do remember that we've had those type sessions.

10 - - -  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

2-7  
1 BY JUDGE LAMB:

2 Q Who attends those sessions? Are they for QA/QC  
3 people, or are they for people involved in the various crafts?

4 BY WITNESS BROOM:

5 A The ASME course that I remember specifically, a  
6 session that we had here in Houston, at which some QA/QC  
7 personnel attended as well as engineering people attended.  
8 We may have had that particular session at the site, too. I  
9 don't recall.

10 The others that I was referring to were sessions  
11 that I remember being held at the jobsite, and those -- for  
12 instance, the AWS welding program was specifically for the  
13 quality control personnel, although some construction people,  
14 I believe, did attend and were invited to attend; welding  
15 engineering people, for example. But I believe the bulk of  
16 the people were inspection personnel and inspection supervision,  
17 people directly involved in the inspection of the welding.

18 The ACI course that I referred to, I don't know if  
19 anyone has attended that offsite course, other than QA/QC people  
20 or not. I wouldn't be surprised if there hadn't been a few,  
21 but I would say the bulk of the interest in that program would  
22 probably be from quality engineering and quality control  
23 personnel.

24 Maybe Ray wants to expand on what I've said.

25 / / /

1 BY WITNESS VURPILLAT:

2 A The paragraph that you cited that we started  
3 talking about I think refers primarily to the outside training.

4 I believe that right now all of the mandatory  
5 training, as Dr. Broom mentioned, the training for procedures  
6 and the training for qualification of individuals to perform  
7 certain tasks, including welder training, for instance, as well  
8 as inspector training and auditor training, and this sort of  
9 thing, are all internal, and by that I mean are conducted  
10 within the Brown & Root organization by Brown & Root people.

11 The other outside courses are supplemental, and  
12 we use those sometimes as part of the qualification, satisfying  
13 part of the qualification requirements of individuals for  
14 certification.

15 The ACI course that was mentioned is a concrete  
16 inspection course. It's put on by ACI. It's also put on by  
17 the Portland Cement Association related to the, again the  
18 Section 3, Division 2, dealing with concrete containments and  
19 pressure vessels, but it is a basic -- they offer several  
20 courses.

21 One is a basic inspection course dealing with how  
22 to inspect concrete, how to read the drawings, how to interpret  
23 the drawings, how to relate that to the work at hand, how to  
24 perform certain concrete, basis concrete tests, what's the  
25 meaning of the test.

2-9  
1           They have a course at the next level which is the  
2 supervision, and the planning of that particular activity  
3 which gets into some more detailed, subjective kind of things,  
4 whereas the first one is a very objective kind of a thing.

5           We have individuals trained in nondestructive  
6 testing, from the outside, from outside, the very similar  
7 things related to radiography and liquid pentrant and magnetic  
8 particle inspection, and these type of things.

9           As far as the amount of training that goes on, as  
10 I recall, the numbers are rather staggering just when you look  
11 at the numbers; well in excess of a hundred thousand man-hours  
12 of training in just the craft people in construction procedures  
13 and related quality control procedures.

14           The quality assurance people at the site, as I  
15 recall, had 15,000 or so hours of training, and of course, the  
16 difference there is many fewer QA/QC people, and the same with  
17 the people in Houston Engineering in QA/QC, the same kind of  
18 numbers as related to that, and now that's just the internal.  
19 The training that's required and implemented by Brown & Root  
20 does not include, for instance, what we call the reading list  
21 kind of training.

22           If there are revisions made to procedures that are --  
23 that don't affect the actual work, if they're just editorial  
24 changes, we still require that the individuals become familiar  
25 with those changes, and they often are done just by reading the

2-10 1 procedure, but that has to be documented. That's not included  
2 in the hours that are counted in -- that I just cited.

3 Q Does this activity, or the extent of this activity  
4 represent a change from what was occurring perhaps in mid-'79?

5 BY WITNESS BROOM:

6 A Yes, sir.

7 As a result of the response to show cause, we  
8 revised or rewrote quite a number of procedures, and there is  
9 a direct correlation between the number of man-hours expended  
10 in training and the frequency or number of procedural changes.

11 So those two go hand in hand.

12 I don't think there is a change in our philosophy  
13 about training: I don't believe any of the activities we  
14 mentioned here were different from the kinds of training we've  
15 provided in the past.

16 I stated a moment ago that there were some less  
17 formal methods of training or documentation of training in  
18 the early stages of the project, but I believe that we had  
19 switched over to a formal documented list of everybody in the  
20 classroom and the subject and the outline of the course to  
21 document all of our training.

22 I believe we had made that transition well before  
23 1979.

24 Q With respect to professionals attending seminars,  
25 technical conferences, national meetings, does the company send



1 some of these individuals, and if so, do you have some feel,  
2 Mr. Vurpillat, for numbers, frequency, who gets to go to these  
3 types of meetings?

4 BY WITNESS VURPILLAT:

5 A Yes, I think I have a feel for that. Again, this  
6 is not mandatory in any way, but it is a philosophy that I  
7 encourage, and Dr. Broom and the management of the power group  
8 encourages. We encourage participation in seminars, as you  
9 described, and industry groups.

10 - - -

1 BY WITNESS BROOM:

2 A I can tell you what our philosophy on that subject  
3 is, Dr. Lamb. I'm not sure that I have statistical data at  
4 my fingertips, but I'm involved in the preparation or the  
5 supervision of the preparation of our power group budgets each  
6 year, wherein each manager, such as Mr. Vurpillat, is provided  
7 instructions of various types to assist him in preparing his --  
8 I'm talking about overhead budgets now, where we're spending  
9 internal funds.

10 We instruct each manager to identify any and all  
11 meetings, technical meetings related to his subject area that  
12 are of importance, and plan to send, oh, typically two to five  
13 people to meetings, depending upon their significance and the  
14 range of subjects and parallel sessions and that type of thing  
15 that might be involved.

16 That is not a fixed guide or rule. Basically, we  
17 provide that as guidance to the manager to say that is about  
18 the level at which we would like for you to budget your money  
19 and time of your personnel.

20 The administration of those funds is entirely at  
21 the discretion of the department manager, so that he doesn't  
22 have to -- Mr. Vurpillat, for instance, does not have to come  
23 to me and argue about whether he needs to send three people if  
24 he's budgeted two people to go to the ASQC, or six instead of  
25 five.

2-13 1 Q These numbers refer to each major meeting or are  
2 these annual figures?

3 BY WITNESS BROOM:

4 A No, sir, these are each meeting that he identifies  
5 of a topical nature, quarterly meetings and national meetings,  
6 or whatever.

7 Q So your number of two to five refers to each major  
8 meeting and not to the total budget for the year for  
9 Mr. Vurpillat's group?

10 BY WITNESS BROOM:

11 A No, sir. That's number of people for each senior  
12 manager for each meeting that he feels is significant to his  
13 part of the business.

14 There might be a case wherein a single meeting,  
15 such as maybe the annual American Nuclear Society meeting, or  
16 Atomic Industrial Forum, or something like that, where everyone  
17 has an interest in.

18 The only time we would -- "we" being executive  
19 management of the group, might exert any influence over that  
20 is if we got a suggestion that we send 20 people, we wonder  
21 maybe we need more people at home running the store than  
22 attending the meeting and we might reduce that number somewhat,  
23 but it's only in that regard that we try to control those  
24 activities.

25 We have confidence in our senior managers and

1 that they're mature individuals and that they, much better than  
2 we, can recognize the needs and the significance of such  
3 activities to the conduct of their business, and we try to  
4 give them a free rein in planning and administering those  
5 activities.

6 BY WITNESS VURPILLAT:

7 A The forum that we find most helpful with our  
8 management people and supervisory people primarily are the ---  
9 those activities related to ASQC.

10 I believe Mr. Frazar testified earlier that we  
11 have -- "we" meaning the South Texas Project, was very  
12 influential in starting a local ASQC chapter in Bay City, and  
13 as I recall seeing the attendance figures from their first  
14 few meetings, I suspect that most everybody at the South Texas  
15 Project, at least in QA/QC, attended at least one of those  
16 meetings and probably several.

17 My people here in Houston are active in the South  
18 Texas Chapter of ASQC, which is the local chapter here. Many  
19 of them, I would say ten is probably an accurate number, or  
20 close to an accurate number of people that are very active in  
21 that particular group.

22 I don't have any figures as to exactly how many  
23 people attended how many industry conferences around the  
24 country at this time, although it has been substantial. We  
25 spend a good deal of man-hours in preparation for these meetings,

2-15 1 and committee work and time attending the sessions. We feel  
2 it's very valuable. Exchange of information is one of the  
3 primary benefits from associations like that.

4 Q Based on your experience in connection with other  
5 projects, Mr. Vurpillat, how does this level of effort that  
6 you have at STP compare with other projects?

7 BY WITNESS VURPILLAT:

8 A I have more capability to send more people to more  
9 meetings now in my current position than I have had in the  
10 past. The situation is a little different, but it's most  
11 generous.

12 Q Across the board, would you rate training  
13 activities here as effective more so or less so than in other  
14 facilities?

15 BY WITNESS VURPILLAT:

16 A I would rate them as certainly being more extensive  
17 here than I have been used to in the past, not to say that  
18 what I've been used to in the past wasn't sufficient. It  
19 certainly met all the requirements, the certification require-  
20 ments and training requirements.

21 It has been my experience, at least recently, since  
22 I've been here, that the individuals, both the craft people and  
23 the QA/QC people are very, very knowledgeable about the  
24 requirements related to the work and are most adequately  
25 trained.

2-16

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

Q How do expenditures for this purpose here compare with the other facilities, in your judgment?

BY WITNESS VURPILLAT:

A I think they're higher here, both in the amount of time and the number of individuals that are involved in the training.

Dr. Broom mentioned this. Recently we had these three individuals; from the American Welding Society come to the site. Actually, they came on two different occasions, two or three different occasions, and the sign-up list to attend those -- we had certain people that we insisted attend, that it was mandatory to attend the instructions that these people gave, but the sign-up list for other people from the crafts and from site engineering, and what have you, was such that we had to have an extra session and we still didn't get everybody in that wanted to attend, just from an observation standpoint, so I think that is indicative of the concern of the people about training and the desire to want to find out everything that they can.

- - -

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

2-17 1 BY JUDGE LAMB:

2 Q On Page 41 of your testimony, the paragraph  
3 beginning at Line 10, extending to Line 20 --

4 BY WITNESS VURPILLAT:

5 A Yes.

6 Q -- how did you evaluate the stature of QC super-  
7 visory personnel in comparison with the construction counter-  
8 parts?

9 BY WITNESS BROOM:

10 A Judge Lamb, maybe those words are a little fancier  
11 than what I actually did.

12 Let me tell you what went on.

13 Basically, it means talking to the people, looking  
14 at the organization on the site in QA/QC and in construction,  
15 hearing comments from the people that they would like to be  
16 called superintendents, like the craft superintendents were  
17 in construction, to make it more apparently or certainly obvious  
18 to everyone on the jobsite that they were peers.

19 They wanted pickup trucks like the superintendents  
20 in construction, that they could drive at home at night, gold  
21 hats.

22 Perhaps more significant, though, they liked the  
23 idea of having a fixed, across-the-board salary level, like  
24 construction, and discussing with the QA project management  
25 and the construction management as to what their philosophy was

1 behind that kind of an arrangement, and talking to some of the  
2 individuals involved that were saying they liked that kind of  
3 arrangement, it made sense to me, and that's some of the  
4 principal things that occurred during this time with regard to  
5 setting up the superintendents as exact peers of the con-  
6 struction superintendents.

7 - - -  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25



3-1  
jed  
1 Q Of course, what I was concerned about was  
2 trying to evaluate your means for comparison of the two  
3 types of people and how one -- this has been discussed  
4 earlier in your testimony, and I got the impression from  
5 your earlier testimony that this was very difficult to  
6 do.

7 This says flatly that you provided equal stature,  
8 and I'm curious to know what type of documentation you  
9 might have had, if any, to indicate that that was being  
10 accomplished?

11 BY WITNESS BROOM:

12 A Well, perhaps I should expand a little bit  
13 further.

14 If you look at the man who is responsible  
15 for all of the civil structural inspection activity, and  
16 we made him equal to the man who is responsible for all  
17 of the construction work in the civil structural area.

18 Q That means in position, in pay in requisites  
19 or in all those?

20 BY WITNESS BROOM:

21 A In position and in pay and in requisites down  
22 to the color of his hat he wore on the job.

23 Q So then the intent was to try to place the  
24 QA/QC people on a par with the supervisory person in the  
25 area in which they were performing their function; is

3-2 1 that correct?

2 BY WITNESS BROOM:

3 A Yes, sir, that's part of it.

4 Let me go on just a moment more, though.

5 Prior to this time, I believe I've testified  
6 that we had a Wage and Salary Administration Program whereby  
7 these people, as well as all of the inspection personnel,  
8 where the salaries were administered on the basis of performance,  
9 and that's a very complex thing to do with a large number  
10 of people.

11 It's especially difficult to do in the work  
12 environment of a construction site with people going and  
13 coming and transferring and supervisors being responsible  
14 for different people from time to time.

15 We decided that in the QC inspection arm of  
16 the organization, from those people that I just referred  
17 to as the superintendents all the way down to the lowest  
18 level of inspector, to set up a system of classifications  
19 whereby the people occupying a slot in the organization  
20 would be paid exactly the same amount of money with his  
21 peer.

22 Now, I also testified that in establishing  
23 that structure, we looked at those classifications compared  
24 to the construction classification, and we tried to, and  
25 I'm confident that we did, make the comparable position

3-3 1 slightly higher, certainly equal and slightly higher paying  
2 on the QC side of the house than the construction side.

3 That prevailed up to the level of the superintendent,  
4 but in the case of the superintendent we made their salaries  
5 identical.

6 Does that answer your question?

7 Q HL&P, as I recall -- someone in HL&P, Mr.  
8 Frazar perhaps, testified that there was a differential,  
9 slight differential between the two.

10 Do you have such a differential or do you  
11 shoot for parity?

12 BY WITNESS BROOM:

13 A Judge Lamb, I believe I testified that for  
14 an inspector there is a differential between the inspector  
15 and his organizational counterpart in the construction  
16 organization, and I believe I characterized that as about  
17 25 cents an hour.

18 Q I guess I was mistaken. I recall that as  
19 being someone else that said that.

20 BY WITNESS BROOM:

21 A I clarified that to say that I was trying  
22 to quote a figure that applied to a number of ranges,  
23 but I believe that's a fair characterization.

24 So what I'm trying to say -- Let me be very  
25 clear on this.

3-4  
1 We tried -- we didn't try; we in fact made  
2 this a policy. All inspectors of a certain level across  
3 the board within the QC organization get the same pay.

4 There is not two Inspector B grades where  
5 one makes more money than the other. They are all paid  
6 the same amount of money until they achieve the requirements  
7 to move to A, or from C to B or whatever.

8 Those are step changes and when you fulfill  
9 those requirements, then you receive an automatic adjustment  
10 to your pay.

11 So that's administered uniformly across the  
12 QC organization.

13 But if you look at one of those levels in  
14 comparison with the construction organization, as best  
15 you can define the peer level, we tried to have the inspection  
16 personnel paid slightly higher; and I think a good rule  
17 of thumb is about 25 cents an hour higher.

18 That is true across the board.

19 Then as I said, as you got up to the superintendent  
20 level, there is not differential. A superintendent in  
21 QC makes the same salary as the superintendent in construction,  
22 and all of the superintendents are paid the same in either  
23 organization.

24 You could make an argument that the QC superintendent  
25 supervises a much smaller number of people, that his total

1 responsibility is somewhat less than the superintendent  
2 of a big group of pressmen on the job site, and that is  
3 a fair argument.

4 But we elected to make their pay equivalent.

5 Q Mr. Vurpillat, do you feel that this equality  
6 of stature has been attained between your people and the  
7 construction people?

8 BY WITNESS VURPILLAT:

9 A Yes. I think that -- I can't testify to how  
10 the re-evaluation was made, but the result of that re-  
11 evaluation and the way things stand right now, I feel  
12 that our people are paid, certainly, in comparison to  
13 the construction people, but generally, also, well.

14 They are paid well in relation to the commensurate  
15 responsibility and authority that they have, and those  
16 two things are considerable on this job or on any nuclear  
17 job.

18 Q Dr. Broom, you indicated this upgraded  
19 classification to equal stature. This suggested before  
20 that they were not equal; is that correct?

21 BY WITNESS BROOM:

22 A In some cases that is true. As I indicated,  
23 all of these salaries were administered on a merit evaluation,  
24 subjective evaluation by supervision; and you could very  
25 well have a case where as compared to construction peer

13-6 1 groups, inspectors or supervisors would be making more  
2 or less.

3 We tried to sort all of that out, even out  
4 the qualifications, and then as I think I described earlier,  
5 we applied dollars to those.

6 I believe it's fair to say that with respect  
7 to pay, we upgraded all of them. Certainly, we upgraded  
8 them as opposed to downgrading them, and I don't believe  
9 anybody was disappointed in the adjustments that were  
10 made.

11 Q I notice that you indicate this was done in  
12 January or February 1980.

13 Was this in response to the show-cause order --  
14 the upcoming show-cause order, or was this something that  
15 had been initiated before the NRC began its meetings?

16 BY WITNESS BROOM:

17 A I'm afraid I'll have to answer yes to both  
18 of those.

19 Let me describe what happened. This is something  
20 that I got personally involved in.

21 I found -- I think I described earlier that  
22 I was moved back into a position of being responsible  
23 for QA in January of 1980.

24 I studied a number of activities that were  
25 underway at the time. I tried to get up to speed on the

13-7  
1 NRC meetings, of course, and familiarize myself with what  
2 we knew about 79-19.

3 In the process of doing this, of course, I  
4 spoke to the QA management, QA project management, and  
5 determined what the status of their group, of their organization,  
6 what was happening.

7 I found that there was a study underway of  
8 restructuring or re-evaluation of the wage and salary  
9 program.

10 I read some correspondence, I believe, on  
11 that subject dated back about October or November of 1979.

12 I believe I referred to the survey that I  
13 had performed by Time Lapse, and that occurred in January  
14 of 1980.

15 As soon as I began to get the results of that,  
16 which was in response to -- one of the first things that  
17 I did in response to the findings about harassment or  
18 intimidation or morale problems or however you want to  
19 characterize that item of the findings of 79-19.

20 One of the messages that came through loud  
21 and clear was that the inspection personnel weren't happy  
22 about the way they were being paid.

23 Some of them didn't think they were getting  
24 enough money, but a more common complaint was that, "Joe  
25 is making more than I am. We're doing the same work;

13-8 1 we're not being treated in the same fashion."

2 So it was in response to all of that information  
3 and, certainly, a willingness on the part of the QA management  
4 and supervision that had already begun looking into this  
5 area, that we finalized that study.

6 We expedited the completion of those decisions,  
7 and I think we put the program into effect finally on  
8 March 30th or April 1st; but it was about the end of March.

9  
10 - - -  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25



13-9

1 Q Have both of you gentlemen read the Bechtel  
2 Report?

3 BY WITNESS VURPILLAT:

4 A Yes.

5 BY WITNESS BROOM:

6 A Yes, sir.

7 Q In that, Dr. Amaral discussed several aspects  
8 of the QA/QC Program for HL&P and also for B&R.

9 With respect to the B&R Program, do you agree  
10 with his conclusions, his diagnosis of the problem and  
11 his conclusions about what should be done to correct the  
12 problems that he perceived?

13 BY WITNESS BROOM:

14 A I don't have a copy of that report in front  
15 of me. I don't remember any areas in the Bechtel Report  
16 that I took any violent exception to.

17 I believe that I judged all of his recommendations  
18 as things that would improve our operation.

19 I believe that I might have placed a different  
20 emphasis on one or two, but certainly the root causes  
21 that were identified were things that we adopted and acknowledged  
22 as areas that we needed to do additional work on, make  
23 improvements in, and set about trying to do that.

24 Q Mr. Vurpillat, can you reach any judgment  
25 on that, since this predated you a little bit?

L3-10

1 BY WITNESS VURPILLAT:

2 A Yes, I think I can make a judgment on Mr.  
3 Amaral's recommendations and the root causes.

4 I feel that there certainly were -- based  
5 on what I've heard and what I've seen since then, that  
6 there were problems in the areas that he identified, and  
7 that these were areas that need looking into.

8 I think the -- I don't agree 100 percent  
9 with the emphasis placed on some of them and some of the  
10 specific recommendations that he made in all cases; but  
11 generally, I agree that the areas that were identified  
12 certainly needed attention.

13 Q Can you share with us any areas of major disagreement?

14 BY WITNESS VURPILLAT:

15 A Well, I wouldn't consider them major disagreement.

16 I believe, for instance, that Mr. Amaral made  
17 some rather specific recommendations related to personnel  
18 qualifications and the qualifications of certain individuals,  
19 and I don't recall whether this was part of the report --  
20 all of it was part of the report -- but I felt that perhaps  
21 he might have overstated the minimum qualification requirements  
22 for some of the positions.

23 I think he also recommended that there be  
24 a six-month hiatus once you revise all the procedures,  
25 and I think that's an awfully good idea.

3-11 1 I have never seen any project where one was  
2 capable of doing that, where things happen so that you  
3 could do that.

4 Maybe Mr. Amaral was; I've not been associated  
5 with -- It's just almost impossible, in my experience  
6 anyway, to have a six-month hiatus.

7 So to plan for something like that, knowing  
8 you don't have very much chance for success, is often  
9 not a good thing to do.

10 So it's a good idea, but I don't think you  
11 can achieve it.

12 The ratios of quality engineering people to  
13 quality control people, I think, is very precise, and  
14 I don't know that you can be that precise.

15 But these are matters of degree and not matters  
16 of substance.

17 Q Am I reading you correctly then that you agree  
18 with the fundamental thrust of the report and his recommendations,  
19 his diagnosis and recommendations, although you might  
20 not agree with some of the details such as you've been  
21 itemizing?

22 BY WITNESS VURPILLAT:

23 A Yes, I think that's a fair assessment of my  
24 feeling.

25 Q He indicated that the key problem, as he

13-12  
1 saw it, was one of communications breakdown, or at least  
2 this was a very important part of the problem.

3 Do you have any thoughts on that, Dr. Broom,  
4 as to whether you agree with that or not; and if so, how  
5 that came about?

6 BY WITNESS BROOM:

7 A. Yes, sir. In addition to that, and I guess  
8 to supplement that, I think that was one of the findings  
9 that most concerned me in the Time Lapse Report that was  
10 based on interviews with our personnel.

11 I believe the NRC detected this, also, a feeling  
12 among QC inspectors that they were not receiving adequate  
13 support from their supervision and management.

14 As I dug into that, that was absolutely strictly  
15 a communications problem. The support was there, but  
16 it was not being effectively communicated.

17 That's why, I think, as I referred to in my  
18 testimony, we took a number of actions which, in summary,  
19 are very simple; and that is, to get the supervision to  
20 recognize responsibility for both upward and downward  
21 communications on a very frequent basis with the people  
22 they supervised.

23 That involves meetings, weekly meetings and  
24 frequent contact and out on the job site, as well as more  
25 formal published policy statements, and me going down

1 to the job site and walking around, as well as the QA  
2 manager and others.

3 Q One of the things which he indicated in his  
4 testimony here was that he thought that HL&P, and I believe  
5 he included B&R QA organizations, also, were short on  
6 experience in this type of construction activity.

7 Mr. Vurpillat, do you have any thoughts on  
8 that, or do you feel you are in a position where you can  
9 judge that?

10 BY WITNESS VURPILLAT:

11 A I feel that the experience level of the people  
12 on board right now, for instance, many of whom were on  
13 board at the time of the original Bechtel audit, are most  
14 adequate.

15 They are extremely qualified people and very  
16 good people. They do a good job, which is most important.

17 Q Is that in B&R or both organizations?

18 BY WITNESS VURPILLAT:

19 A I am, of course, most familiar with the Brown  
20 & Root organization and feel very strongly that way in  
21 the Brown & Root organization.

22 My association with Mr. Frazar and his staff,  
23 I have an indication that certainly as far as the South  
24 Texas Project is concerned, that their experience and  
25 qualification is most adequate.

13-14

1 Q Dr. Broom, do you have any thoughts on it?

2 BY WITNESS BROOM:

3 A Yes. I suspect that's one area that I would  
4 choose to differ in detail with Mr. Amaral's report.

5 In general, I think you always want a higher  
6 level of experience, better qualified people, to the maximum  
7 extent.

8 I believe that Mr. Amaral -- and this is quite  
9 understandable, you understand, based most of those comments  
10 on a review of the paper qualifications, resumes and that  
11 type of information of individuals; and I think that before  
12 you reach a judgment as to the true qualifications of  
13 someone, you really owe it to that person to sit down  
14 and talk to them and observe them in their work and see  
15 whether they are capable of doing an adequate job.

16 So based on my knowledge of some of these  
17 people and obviously their lack of knowledge to the same  
18 depth, simply because they were there for an auditing  
19 purpose and they could not be expected to sit down and  
20 get to know every person; it's from that different point  
21 of view that I would have had some differences in some  
22 of the statements made in the report about qualifications  
23 of people in specifics.

24 I don't know that I would differ with the  
25 general statement that we needed to try to get more experienced

3-15 ✓  
1 people.

2 We certainly wanted to do that all along and  
3 have been trying to attract the highest qualified people  
4 that we can since the job started.

5 JUDGE BECHHOEFER: I think at this point we  
6 will take a 15-minute break.

7 (Recess taken.)  
8  
9 - - -  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

1 JUDGE BECHHOEFER: Back on the record.

2 BY JUDGE LAMB:

3 Q. Dr. Broom, did you obtain some information during  
4 the break on your training?

5 BY WITNESS BROOM:

6 A. Yes, sir. Mr. Vurpillat located some summary  
7 statistics about our training activities and levels, I believe,  
8 for the year 1980, if he might make a comment.

9 BY WITNESS VURPILLAT:

10 A. I think I can give you a little closer to the exact  
11 numbers for craft and QA training for the year 1980. We have it,  
12 and I also have some numbers of 1981 through the 1st of May.

13 The QA/QC related training for the craft people,  
14 the construction people, in 1980 there were 17,000 participants,  
15 and obviously several people went more than once, and the total  
16 time expenditure of 140,000 man-hours.

17 For the QA/QC site personnel, those numbers were,  
18 we had 1,400 participants and 5,200 man-hours of time expended.

19 For the Houston quality assurance people and  
20 engineering people combined, we had 3,260 participants and  
21 12,700 man-hours time expended in QA/QC related training.

22 The numbers for 1981 through the 1st of May, we  
23 had 4,000 craft people participating in a total of 14,000 man-  
24 hours.

25 Site QA/QC people, 550 people participating,



4-2  
1 expending a total of 1,800 man-hours.

2 Houston home office engineering and quality  
3 assurance people, we had 1,200 participants and 3,600 man-hours  
4 expended.

5 I might mention that included in all of this  
6 training, and as a requirement that we have on the South Texas  
7 Project, every calendar quarter everybody on the site that  
8 does safety related QA/QC related work undergoes refresher  
9 training. In other words, there is the refresher training  
10 related to the procedures that they implement or are  
11 responsible for implementation, including those procedures  
12 that they may not be directly be involved with but would be  
13 indirectly affected by.

14 This includes not only the quality control  
15 procedural aspects, the inspection and testing, but also the  
16 craft aspects; for instance, the concrete vibrator personnel  
17 undergo refresher training every quarter on how to do that task,  
18 that sort of thing.

19 I might also mention -- you asked me a question  
20 earlier and I'd like to add, if I could, about how I felt the  
21 training compared with other experiences that I might have had.

22 I think it's important to understand that the  
23 industry requirements, including the NRC requirements, are --  
24 certianly require that training take place, and a certain amount  
25 of training precede certification and qualification of

4-3  
1 individuals to perform certain tasks, but the extent of the  
2 training is not well defined. In most cases it is left up to  
3 the individual companies to determine, and generally the amount  
4 of procedural training, and especially the training on revision  
5 to the procedures that we require on the South Texas Project is  
6 significantly more than is normally done for that sort of thing.

7 Not that people aren't -- on other jobs that I've  
8 been associated with aren't familiar with revisions, but the  
9 formality and the mandatory nature and the timing particularly,  
10 on South Texas before a procedure revision is issued and that  
11 revision is instituted we must hold training sessions for all  
12 the people that are involved, will be involved in utilizing  
13 that procedure or affected by that procedure, and they must  
14 undergo that training or the revision is not issued until that  
15 happens.

16 If there are individuals that will be involved that  
17 can't make the scheduled training session, then they are not  
18 permitted to participate in the work in that procedure until  
19 they are trained.

20 These are the requirements that perhaps go beyond,  
21 as far as the mandatory nature, and particularly the timing,  
22 that perhaps go beyond what I've been used to in the past.

23 Q You indicate that when you put in new procedures  
24 that there must be training. Is this the result of an NRC  
25 requirement, or is this a policy requirement within the company?

4-4  
1 BY WITNESS VURPILLAT:

2 A No, this is a policy that Brown & Root and HL&P  
3 have instituted on the South Texas Project that is a means  
4 of implementing the training requirements.

5 Q That's above and beyond the requirements, isn't it,  
6 placed on you?

7 BY WITNESS VURPILLAT:

8 A Well, there is a requirement that the training be  
9 held, the method of training, the timing of the training, the  
10 mandatory nature of the training, the people involved, is  
11 left up to the individual companies, for the most part, and  
12 that, I think, is what is perhaps somewhat extraordinary.

13 Q Thank you. Looking at the QA/QC activities at the  
14 South Texas site before the Show Cause Order, I'd like to get  
15 the view of either or both of you gentlemen with respect to  
16 whether this was adequate in all respects, and if not, in what  
17 respects was it not adequate?

18 For example, with respect to numbers of personnel,  
19 types of personnel, experience, the things which go into making  
20 up a good QA/QC program.

21 Mr. Vurpillat, you might be in a position to judge  
22 this, except that you weren't here. Do you think, in  
23 retrospect, looking back over the documentation, that you could  
24 arrive at a judgment on that?

25 / / /

4-5 1 BY WITNESS VURPILLAT:

2 A I think I can make a judgment, and I'd ask  
3 Dr. Broom if I miss some specifics or misstate some specifics  
4 about what occurred before I arrived with Brown & Root.

5 The mandatory training requirements, as I have  
6 been able to determine, prior to early 1980 were met. In  
7 other words, we trained. When procedures were issued we  
8 trained the people, and the people were trained the requisite  
9 training for certification for individuals to perform certain  
10 tasks.

11 That training was accomplished. The committed  
12 training had been performed. I can't comment on how effective  
13 it was or how much it went beyond the requirements that we had  
14 stated in the training procedure.

15 I do recall that this quarterly refresher training,  
16 which is a very effective tool, we have found it that way, but  
17 is an extraordinary amount of training or piece of training  
18 that certainly is not an absolute requirement. That was  
19 instituted after the early 1980 period.

20 I think the people's perception of the value of  
21 training has changed significantly. It's changed since I've  
22 been here. As the additional training has gone on, more and  
23 more people are asking to be trained, or want to be informed.

24 I mentioned about the AWS courses that we've held,  
25 and that, I think, is an indication of the interest of the

4-6 1 people in training, which I think is very important.

2 Recently it was reported, and we've been able to  
3 verify at least generally, one of the local community colleges  
4 in the area, I think it's Brazosport Community College, is  
5 offering a course in welding inspection training, and they  
6 indicated that they would hold that course if they could get  
7 12 participants.

8 Brown & Root indicated that if there would be 12  
9 people sign off for the course we'd offer transportation. The  
10 people do it on Saturdays on their own time, but we'd certainly  
11 be glad to provide the transportation for the people. 70 people  
12 signed up. Welding QC people, obviously they signed up. Other  
13 QC people, and a number of crafts and site engineering and  
14 construction people signed up for that; 70 in all.

15 I think that's indicative of the attention, and  
16 this is -- admittedly, I think this has increased significantly  
17 since the 1980 period.

18 My indication is that the training that took place  
19 prior to early 1980 was certainly sufficient to meet the  
20 requirements that we had committed to and that the Regulatory  
21 Commission requires, and that the codes and -- other codes and  
22 standards require.

23 The details of that training, I would just as soon --  
24 I wouldn't be comfortable commenting on them.

25 Q Looking at the QA/QC program well beyond training,

4-7 1 I mean the program as a whole, how about the adequacy of the  
2 program as a whole?

3 BY WITNESS VURPILLAT:

4 A The program, as I see it now, and the implementation  
5 of that program, as I see it now, is most effective.

6 - - -  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

4-8  
1 BY JUDGE LAMB:

2 Q How about prior to the Show Cause episodes, looking  
3 at things such as numbers of personnel, qualifications, types,  
4 who were involved in the QA/QC activities?

5 BY WITNESS VURPILLAT:

6 A Judge Lamb, I've been through an awful lot of paper  
7 of the individual qualifications and what happened prior to  
8 Show Cause, and the incidents of Show Cause, and it's difficult  
9 to comment as to -- and put those things in perspective because  
10 I wasn't there.

11 I can say this, that the qualifications of the  
12 individuals that I found in place when I arrived on the scene  
13 and in going back through resumes of individuals that were in  
14 place before, they certainly compared favorably with individuals  
15 in similar positions in other projects that I've been involved  
16 with.

17 The NRC findings, since the beginning of the job,  
18 and I've been through most of the NRC reports. I haven't  
19 studied them, but I've certainly read them. I didn't find any  
20 of the findings that were new to me, you know, I wasn't  
21 surprised by anything. I had seen instances of all of that.

22 But it's difficult to put in perspective because  
23 not having been there, I don't know how things added up and as  
24 to points in time it's difficult to recognize as the attitude  
25 of people, it's almost impossible to judge, not having been there

1 and not having seen it.

2           Again, like we talked about earlier in the  
3 testimony last night, I believe, you can read words on paper  
4 and depending on how things are said they may be different,  
5 and that's the perspective that I talk about.

6           But I was not -- I didn't see any findings, NRC  
7 findings, particularly, and I've been through most of the old  
8 nonconformance reports, and what have you, too, I didn't see  
9 anything different as far as types of findings than I had been --  
10 than I'd seen on other projects.

11           Beyond that, it's difficult for me to comment.

12           Q     How about the organizational structure?

13 BY WITNESS VURPILLAT:

14           A     The organizational structure is different from what --  
15 somewhat different from what I've been used to, but not in  
16 substance. I've been used to the -- all of QA/QC, for instance,  
17 the inspection part, the quality engineering part, as well as  
18 the auditing and the surveillance part, what I call the pure QA  
19 part, reporting to the same organization.

20           Some companies have inspection reporting through  
21 the construction organization, and engineering QA reporting  
22 through engineering. I wasn't involved in anything like that,  
23 so from that standpoint the organization and the independence,  
24 the total independence and the reporting type structure was  
25 the same.



4-10

1           The reporting levels are about the same, perhaps  
2 one level higher in Brown & Root than what I was accustomed to --  
3 or that what I was involved in before.

4           The function of what Brown & Root calls the quality  
5 engineering group is somewhat different than what I've been  
6 used to, and that's a very important group within the quality  
7 assurance program on the South Texas Project, and those functions  
8 occurred. I'm familiar with all those functions. However, in  
9 jobs that I was previously familiar with, or involved with,  
10 that function was contained within the quality control  
11 organization, the inspection organization, if you will, that  
12 level of expertise was there as opposed to being a separate  
13 functional organization within the QA department, which  
14 Brown & Root calls quality engineering.

15           For the most part, generally it's a very familiar  
16 type set-up, and specifically there are some differences.

17 BY WITNESS BROOM:

18           A       Judge Lamb, I'd like to comment on that same  
19 question, if I may.

20           Q       Yes.

21 BY WITNESS BROOM:

22           A       Prior to the NRC inspection that began in November  
23 of 1979, I think we had an effective QA program on the project.

24                   I think we were finding problems. We certainly had  
25 found problems and we certainly had problems. I'm not saying

4-11 1 that we were finding problems quickly enough. We are never  
2 satisfied with that, but I think in general we had an  
3 effective program.

4 We've had some extended discussion during these  
5 hearings about whether the program was in compliance with  
6 Appendix B, and I don't really want to get into that because  
7 any deficiency that we had we were concerned about, it's a  
8 shortcoming of the program, and our attitude is that we don't  
9 want any deficiencies or any shortcomings, and so wherever we  
10 have them we've got to fix it, do something about it and try to  
11 figure out what cause it and try to keep it from reoccurring.

12 We have a situation in 79-19 where I think after the  
13 fact there is no serious question about the integrity of the  
14 structures or the work that was done prior to that, but a  
15 question of a somewhat subjective judgment that were problems  
16 building or were indications that if things were to continue  
17 would it tend to get out of control or would it have gotten  
18 out of control or would unsatisfactory work have occurred, and  
19 that is a subjective question and I suppose different people  
20 arrive at different answers.

21 I did not feel that that was the situation. I did  
22 not feel it would have -- I didn't think we were in danger of  
23 that kind of situation developing.

24 But again that's based on my personal perception of  
25 the situation and my knowledge of various things that had been

4-12 1 identified, the concerns we had that things -- that we were  
2 doing corrective actions that were being implemented and I was  
3 confident that those things would have prevented anything from  
4 going out of control. I'm using that term that's been used in  
5 these hearings.

6 But the program we have today, after 79-19, is --  
7 I don't think there's any question but what is more -- that it  
8 is a more effective program than we had prior to 79-19.

9 I think the findings in 79-19 focused our attention  
10 on problem areas, focused our attention on a number of problem  
11 areas at the same time and got us concerned that we make  
12 absolutely sure that situations would not develop so that  
13 things could get out of control, or so that work could be done  
14 in the field that would not be in compliance with the  
15 requirement.

16 I think I've stated earlier that my primary  
17 concern in this whole time period was the performance of -- in  
18 terms of our implementation of the QA program. This was not  
19 our only shortcoming, but my primary concern was the implemen-  
20 tation of our welding inspection program.

21 I was disappointed that our welding inspectors had  
22 not picked up indications that were not allowable by the codes  
23 or standards that they were inspecting to sufficiently.

24 Missing an indication here and there, a close call,  
25 a subjective judgment, those things are understandable, but I

1 think we've gone beyond that and I believe it was traceable to  
2 the fact that our inspectors were not properly interpreting the  
3 requirements or had not been sufficiently trained, or the  
4 requirements sufficiently or satisfactorily explained to them.

5 That was of a great deal of concern to me.

6 And of course, our response to the Show Cause and  
7 the actions that we've taken since that time I think fully  
8 document all the things that we did to correct that situation  
9 and prevent its recurrence, but I guess I'm saying that prior  
10 to 79-19 I thought we had a large number of people who were  
11 qualified to do their job, perhaps not as qualified as we would  
12 like to have them. We'd always like higher and higher  
13 qualifications and more experienced people.

14 I think they were working very hard to do their jobs.  
15 I don't think there's been any indication, except one, where  
16 someone has said they failed to do inspections, that they turned  
17 their back on inspections, and that was the case of Mr. Swayze,  
18 after his termination from the job, had made those allegations.

19 I don't believe that I have any indication of a  
20 single case where someone deliberately -- I take that back.

21 There's two cases, I believe, where an inspection  
22 was not done, but I don't think they have any significance in  
23 terms of the over-all project, the results. I think by and large  
24 our people were dedicated and working very hard to make sure we  
25 met all the requirements.

4-14 1 We had problems. We didn't like any of the problems  
2 we had. We needed to fix them, and that's what we've been trying  
3 to set out to do since 79-19.

4 Q If I'm reading you correctly, Dr. Broom, you feel  
5 that you had adequate numbers of people and that they were  
6 reasonably qualified, and that you had a viable organizational  
7 structure.

8 Where did things go wrong? What was the problem  
9 that brought about the occurrences of 1979, early 1980?

10 BY WITNESS BROOM:

11 A First of all, Judge Lamb, the -- let me focus on  
12 one comment in your question.

13 I believe you said that I was satisfied with our  
14 organization. I think generally I agree with that statement.

15 Let me use that, though, to illustrate the fact  
16 that I wasn't entirely satisfied with our organization,  
17 specifically with regard to quality engineering. I think we  
18 had made a mistake. We had had quality engineers assigned to  
19 the jobsite in years past.

20 We had taken the quality engineers, by and large,  
21 off of the project and moved them back to Houston, and in  
22 retrospect I think that was a mistake. We felt that they  
23 could provide their support from Houston by frequent travel to  
24 the job, and I believe in retrospect that was a mistake.

25 We would have had a more effective organization

1 had we not made that move.

2 Second, the staffing level of our organization,  
3 I believe we had in general an adequate number of people on  
4 the job, not at all times in all areas in the past, but say in  
5 November of 1979 I think we had pretty much a satisfactory  
6 complement of personnel.

7 I don't think we had enough quality engineers. We  
8 may have had too many inspectors in a certain area. So I'm not  
9 saying when you look into the details of the organization that  
10 I was satisfied in all respects with staffing.

11 I think we needed some more people here, and perhaps  
12 fewer people in other areas.

13 Specifically, what led to the problems in 79-19,  
14 there are a number of causes. Some of the items are pretty much  
15 unrelated to each other. There may be some connection in general,  
16 but I think you have to consider the items independently if you  
17 try to understand the basis or the causes that resulted in an  
18 individual finding.

19 We've discussed the finding regarding audit. I  
20 think there very clearly you can call it an oversight or you  
21 could call it a misunderstanding or a misinterpretation, or you  
22 could call it a feeling that the program as written was  
23 accomplishing the intent of the code or standards we were to  
24 comply with.

25 When viewed by others, they had a different opinion.

4-16  
1 That's an entirely different causative factor than the fact  
2 that weld inspections were not being done in strict accordance  
3 with all of the code requirements. The reasons for that lie  
4 in the details of the procedures that were written and the  
5 manner in which the training was done, and checking or  
6 examination or surveillance over those personnel.

7 And I think that kind of thing would be necessary,  
8 that kind of thing being looking at each of the major areas  
9 addressed to determine what the causative factors were.

10 Each of these areas represent weaknesses in our  
11 program, as I've said. We needed to make improvements. We  
12 needed to improve procedures. We needed additional qualified  
13 people in some areas. We needed more effective training in  
14 some areas, and on through the report, but I think there were  
15 a number of causes of these problems, and that's what we set  
16 out to correct.

17 - - -  
18  
19  
20  
21  
22  
23  
24  
25

1 BY JUDGE LAMB:

2 Q Looking at the Show Cause Order --

3 BY WITNESS BROOM:

4 A Yes, sir.

5 Q -- do you think that was valid?

6 BY WITNESS BROOM:

7 A Do I --

8 Q Do you feel that the Show Cause Order was valid?

9 I'm trying to explore your reaction to this. Was it correct?

10 BY WITNESS BROOM:

11 A Judge Lamb, I believe in my prepared testimony and  
12 also in discussions with Mr. Reis in my earlier cross-examination  
13 what I tried to say was that the 79-19 Report, and each of the  
14 findings made by the NRC, I do not take issue with.

15 I think that each one of these items is an item that  
16 indicated some problem areas and things that we should focus  
17 our attention on and correct.

18 My statement in my testimony was that I was surprised,  
19 I think is the word that I used, when the Show Cause Order in the  
20 Civil Penalty was imposed. And I tried to explain what I meant  
21 by that, and that was that I was familiar with the findings as  
22 they were made available to me starting in December, and we had  
23 responded to the NRC through meetings and through Mr. Oprea's  
24 nine-point program, and through his thirteen-point program, I  
25 believe, to most of the findings, with regard to our recognition



1 of the items and in general what we plan to do about them to  
2 correct the situation and to prevent its recurrence, and I think  
3 in some, if not most of the cases, we had given some pretty  
4 specific detail as to what we had done and were planning to do,  
5 and at that point in time my surprise came from the fact I  
6 thought we had a pretty good understanding of the problem with  
7 the NRC and we would probably have considerable amount of  
8 discussion with them about this, perhaps why did this happen  
9 or that happen, and how effective our programs were, our  
10 corrective actions were, but I did not expect a civil penalty  
11 and a show cause.

12 Now, your question is was that warranted? I guess  
13 I can't answer that. I am not in the business of imposing or  
14 performing those kinds of actions, and to do that you have to  
15 put yourself in the shoes of the NRC inspection personnel and  
16 look at the situation that they were familiar with, all of the  
17 statements that they had taken from our employees, some of which  
18 were summarized in the report. I don't believe all of them are  
19 in that report. And the findings of each of the auditors or  
20 inspection personnel that participated in that report,  
21 providing that collection of information to the NRC management.  
22 And the judgment as to whether that action would be taken or  
23 not, or what action would be taken has to be made in that  
24 environment, and I don't know how to put myself into that  
25 situation, because I don't really know exactly what they were

1 reviewing and how they were reviewing it at the time.

2 Q When I first read your statement on Page 36, the  
3 one section that you were referring to, I got the impression  
4 that you may have felt that the NRC action was unfair to B&R.  
5 Did you or not?

6 BY WITNESS BROOM:

7 A Well, from my standpoint looking at the problems,  
8 I think that is what I am trying to say. I personally would  
9 not have placed the severity associated with those findings  
10 that I would guess has to be placed on such matters in the  
11 minds of the NRC management to result in the issuance of a  
12 Show Cause Order and imposition of a heavy civil penalty.

13 Q In response to that should in your view HL&P in  
14 essence admitted to a shortcoming?

15 BY WITNESS BROOM:

16 A I'm not sure that they should have responded any  
17 differently than they did. I think the posture of HL&P, and I  
18 guess that question really should be directed toward them, but  
19 in my opinion I think that's what you asked for; in my opinion  
20 I believe they looked at the situation and said the most  
21 important thing, irrespective of any other aspect of this, is  
22 to address the NRC findings, the deficiencies and correct them,  
23 and make the indicated improvements necessary that resulted from  
24 that inspection, as well as the Bechtel audit, the root causes  
25 identified there, as well as things that I had determined about

1 employee morale, and so on, through Time Lapse, the whole body  
2 of knowledge that we had assembled, that it was far more  
3 important that we get on with making the indicated improvement  
4 that we felt the NRC expected of us and that we fully realized  
5 ourselves were significant and needed addressing and needed  
6 doing.

7 I don't know that I can answer the question of  
8 whether they should have responded in exactly that way, but I  
9 certainly agree that that is the most significant consideration  
10 in this whole context, that we should make the improvements  
11 that we set out to do. Whether they should have responded  
12 precisely in the way they did, I'm not sure all the matters that  
13 they had to weigh in their mind in formulating that judgment.

14 Q Were you part of the process by which that  
15 decision -- Did you participate in making that decision? Were  
16 you consulted by them --

17 BY WITNESS BROOM:

18 A No, sir.

19 Q -- in doing so, or part of the decision-making  
20 process?

21 BY WITNESS BROOM:

22 A No, sir.

23 Q You were not?

24 BY WITNESS BROOM:

25 A No. The civil penalty and the Order to Show Cause

1 was issued to the client, and the client determined the fashion  
2 in which our response would be structured, and the general nature  
3 of how we would go about addressing the subject. I think that  
4 is as it should be.

5 Q . Was management of B&R adequately informed before  
6 the Show Cause Order about conditions at the STP site?

7 BY WITNESS BROOM:

8 A Are you talking about prior to --

9 Q Prior to November 1979.

10 A -- November 1979?

11 Q Yes.

12 BY WITNESS BROOM:

13 A I certainly think so. We had an enormous amount  
14 of management involvement in the project and attention to and  
15 concern about various activities or actions from time to time  
16 at the site.

17 I think we have testified the various types of  
18 management involvement at various times throughout the project.  
19 I think it was extensive and I believe that management in  
20 general was pretty much informed of anything of significance  
21 that was going on at the jobsite.

22 Q How does it happen that NRC found these problems  
23 before B&R management?

24 A Judge Lamb, I'm not sure that that's a fair  
25 characterization of the situation. I don't believe that in the

1 areas, the 22 items of non-compliance, I don't believe that  
2 79-19 was the first time in which Brown & Root realized there  
3 were problems in those areas, or set out trying to do things  
4 about them.

5 Q So you feel that you already knew a substantial  
6 amount of that; is that correct?

7 BY WITNESS BROOM:

8 A Yes, sir.

9 Q Had you initiated steps to correct those situations?

10 BY WITNESS BROOM:

11 A I think I discussed a little earlier today one  
12 specific example where we had done that. I think we had --  
13 during the course of these hearings we have talked  
14 considerable about our concern about employee morale, how that  
15 cycles from time to time on the jobsite. Immediately preceding  
16 this inspection the QA management on the job was concerned about  
17 the morale of inspection personnel specifically of their  
18 complaint about the wage-and-salary program, and were discussing  
19 that program and were in the midst of reviewing that overall  
20 subject when I got involved in January.

21 Now, I had been -- of course, the initial findings  
22 from the NRC had further identified the inspection morale or  
23 concern of supervisory support about a week or ten days prior  
24 to that.

25 So I don't mean that the information obtained from

1 the NRC in that specific example wasn't useful, but it was not  
2 the first indication, and it did not start our concern in that  
3 area.

4 Q Looking at the question of what we have heard  
5 several times referred to as dual responsibility, should  
6 construction the same organization be responsible for both --  
7 for all three, construction, design, and inspection, which is  
8 basically the arrangement you have here, I believe.

9 BY WITNESS BROOM:

10 A Is your question should that be the case?

11 Q Yes.

12  
13 ///

14  
15 ///

16  
17 ///

18

19

20

21

22

23

24

25

1 BY WITNESS BROOM:

2 A Judge Lamb, I don't believe that there is any one  
3 organizational arrangement that is the only one that will work.  
4 I'm not even sure that there is an organizational arrangement  
5 that you can say is the best arrangement, because the situations  
6 on every project are different and unique. The people involved  
7 are different and unique. And I'm not sure there is a best  
8 organizational arrangement.

9 Q Do you feel this represents any conflict of  
10 interest?

11 BY WITNESS BROOM:

12 A No, sir. I believe that the arrangement we have  
13 on this project is similar to a large number, if not most of  
14 all the nuclear power plant projects.

15 In my previous experience we have one, two, three  
16 projects with my prior employer where had exactly this same  
17 arrangement, design, construction and QA/QC were all under the  
18 scope of one contracting organization, one architect engineering  
19 company.

20 At Brown & Root I had been familiar with two cases  
21 in which we had the construction and the QA/QC associated with  
22 the site construction activities, and another firm had had  
23 engineering, and the QA associated with the engineering scope,  
24 and in those cases I believe both of those arrangements worked.

25 I don't see anything wrong with either arrangement of

1 those two types, and I think that history has indicated that  
2 certainly those two types of organizations have worked and worked  
3 weell on many occasions.

4 Q Then you feel this is a fundamentally sound  
5 arrangement?

6 BY WITNESS BROOM:

7 A Yes, sir. I do.

8 Q And that it is viable from a point of view of  
9 producing a well-designed and constructed plant?

10 BY WITNESS BROOM:

11 A Yes, sir. I certainly do.

12 Q There is a question that has been raised about the  
13 percent completion of engineering at the time that the agreement  
14 was entered between HL&P and B&R. As I recall, it has to do  
15 with the original understanding that engineering was about 50  
16 percent complete, but ultimately it was determined to be  
17 something in the range of 10 to 15 percent complete.

18 Why was there that discrepancy, Dr. Broom?

19 A I'm glad you asked that question. That's a subject  
20 I have spent a considerable amount of involvement at one point  
21 in my career, and there is two or three very important facts  
22 for us to get on the record.

23 Early in this project, up until recent years, 1978  
24 or thereabouts, engineering at Brown & Root, as well as at all  
25 other architect engineering firms was reported on the basis of



300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

the percent of the budgeted manhours expended.

If I told you that I was 50 percent complete with engineering, that meant that if I had a million manhours I had expended a half million. There was no tracking of the physical completion of engineering products, engineering products being drawings, specifications, and so forth.

In retrospect I think all AE firms realized that they should have been doing things differently, but you understand that projects were smaller. They were smaller in scope, they covered a shorter period of time, historically.

The changes in scope and extensions in schedules were not common to have the magnitude with which we are familiar today.

In 1978 I made a presentation to the owners of the South Texas Nuclear Project, and I stated that using hindsight, using what we know now -- now being the fall of 1978 -- about the job that began in 1974, we can look back in time and see what the status of things was, and I prepared some data showing how many -- what percentage of civil drawings, and other types of engineering products had been completed as a function of time.

Since 1974 the scope of the job had expanded considerably. The base line of the engineering budget had grown considerably so that if you looked at the base number of manhours that we knew at that time, backward into 1975 when the

1 job went into construction we were only 10 to 15 percent  
2 complete.

3 In 1975 in real time when we looked at the job, when  
4 we knew what we knew about the job at that time, what we thought  
5 we had to accomplish, we were 50 percent complete, and that is  
6 the confusion surrounding this issue of why did you go in the  
7 field with 50 percent when you said you were 50, or whatever, and  
8 it turns out that you weren't?

9 When you change the denominator of that equation  
10 at points in time it changes all the historical percent complete  
11 that you go back and refigure, and that's the confusion about  
12 that issue.

13 In 1975 we had expended 50 percent -- or roughly, I  
14 don't know the precise number, but of that order of magnitude --  
15 of the engineering budget, and we were reporting on an expended  
16 versus budgeted curve of 50 or 60 percent, or whatever the  
17 number was, of the budgeted, being the budgeted manhours being  
18 expended.

19 At the time we felt we had adequate engineering  
20 resources finished products, finished to support construction.  
21 We had adequate structural drawings. We knew enough about the  
22 dam, the reservoir, for the impoundment of the water, and so  
23 on, and it was certainly our recommendation that we move into  
24 the field and get that work underway.

25 There is comments in the industry that you hear

1 about you'd like to have engineering 60 percent, 70 percent,  
2 80 percent, or whatever complete before you go into the field  
3 and begin construction work. I don't take any issue with that.  
4 That would be a great way to operate. You would be more assured  
5 that you had the resources necessary to support and maintain  
6 the continuity of construction.

7 That is not reality in the nuclear power business.  
8 Things simply don't work that way. There are significant  
9 changes in a nuclear power plant project that if you required  
10 that 60, 70, 80 percent of the final product from engineering,  
11 specifications, drawings, procured material, and so on, be in  
12 hand before you went to the field, you would never build a  
13 nuclear power plant, because every year that base-line changes  
14 and you go back and historically figure where you are, and I  
15 suspect on that basis it would not be uncommon to find a  
16 nuclear power plant project remaining stagnant at 30, 40, or 50  
17 or some level of percent complete, saw tooting back and forth  
18 over an extended period of time.

19 I know maybe you are tired of hearing me talk about  
20 this subject. It is something that I am concerned about and  
21 familiar with, but let me just give you one specific example  
22 to conclude this discussion.

23 The electrical design at the plant is well along,  
24 the routing of cable trays, the location of control circuit, the  
25 location of equipment. Our electrical department has been

1 working on that for a long period of time.

2 Appendix R has been published this year requiring  
3 a re-look at the whole electrical design, a separation criteria  
4 between circuits to comply with what we now know about the  
5 results and detailed analysis of the Browns Ferry fire. That  
6 has a significant impact on the status of our engineering, and  
7 it is those kind of perturbations that cause a major fluctuation  
8 in where we think we stand as a function of time during the  
9 course of the job.

10 I guess I will get off my soap box on that subject  
11 now. I'll be happy to answer any other specific questions you  
12 might have.

13  
14 ///

15  
16 ///

17  
18 ///

19

20

21

22

23

24

25

1 BY JUDGE HILL:

2 Q Dr. Broom, could you amplify a little bit on your  
3 statement that the scope of the job changes, can you tell us  
4 what that really amounted to?

5 BY WITNESS BROOM:

6 A Yes, sir. If you define scope as two 1250 megawatt  
7 nuclear unit in one lake, no, the scope hasn't changed. We are  
8 trying to build that scope project.

9 I was really talking about detailed changes that have  
10 occurred during the course of the project in terms of what we  
11 knew about the project and what it would be necessary to  
12 satisfy, for instance, site conditions, or to satisfy regulatory  
13 requirements, or any changes in the job.

14 Specifically, when the job first began we judged  
15 the foundation requirements at the project to be of a certain  
16 type. When we got into detailed geotechnical investigations  
17 at the site we found soil conditions were different than what  
18 we had originally anticipated.

19 We have some people who will come on who have  
20 expertise in these areas that you could ask more, but the net  
21 result of that was that we had to make our foundation for the  
22 plant much deeper, much thicker, much heavier, and to offset  
23 the buoyancy equation we had to make them larger in area.

24 The amount of concrete, because of that difference  
25 between what we originally conceived as the project requirement

1 and what we learned a year or so into the job, or whenever,  
2 made a significant difference on the concrete requirements, the  
3 scope of the civil structural design for the plant.

4 I could give you some more examples, if you like.  
5 The Westinghouse dead impingement loads or loads from pipe whip  
6 restraints involving the amount of retained energy in the lines  
7 then undergoing the postulator, a hypothetical pipe break  
8 accident, those data were not available when the project started,  
9 because this was the first of the Westinghouse 3800 megawatt  
10 design. We had not judged them to be too different than what  
11 we had had on experience with on the 3400 megawatt unit.

12 There were some delays in getting information of  
13 this type to our design engineers, as well as some other loading  
14 weights, and other things necessary for the completion of our  
15 design.

16 When the information began to come to us, we found  
17 that Westinghouse was assuming additional conservatism -- at  
18 least that is what we viewed it to be -- of considerable extra  
19 conservatism in this regard, necessitating that since the walls  
20 in many cases had already been sized that we had to add steel  
21 to take these additional forces, and this created some  
22 significant congestion, congested areas in for instance the  
23 internal shield wall inside the containment.

24 I can think of some other areas, but it's problems  
25 like that. They are not unique to South Texas. They happen on

1 every nuclear plant.

2 Oh, I remember another one. I don't know the effect  
3 of it as yet, but when we were going through licensing of the  
4 project we analyzed the seismic parts of the structure and the  
5 design under the tools that were available, the analytical tools.  
6 Since that time I think someone has testified here, perhaps  
7 Mr. Goldberg, I've forgotten, but someone I think mentioned  
8 that there is an interest now among some members of the NRC  
9 staff, and perhaps the technical community, that there is  
10 another analytical method to use to calculate the response of  
11 structures.

12 Well, our structural engineers have to, you know,  
13 meet with the NRC and discuss this and see how that affects  
14 our plan, and try to analyze to see if that makes changes, and  
15 that may have. I don't think we can state today what the  
16 ultimate fall-out of that may be on our design, but, you see,  
17 that even in itself is a change in the engineering scope. It's  
18 man-hours. That whole discipline has to direct itself toward  
19 doing that type of analytical study and those calculations that  
20 of course weren't in the budget or weren't recognized or  
21 realized prior to that issue being raised.

22 And we could go on and on, but it's the whole  
23 variety of things that are constantly brought about by  
24 operating experiences at plants, by improvements in methods  
25 and techniques, by findings on other jobs and experience in

1 the industry. It's been the state of the business as long as  
2 I can remember.

3 - - -

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25



BY JUDGE LAMB:

6-1  
ged  
1 Q So when you talk of a change of scope, you  
2 are not just referring to a change in scope of the project,  
3 STP Project, but a change in scope of the engineering  
4 for that project, some of which may not involve any change  
5 in project scope at all; is that correct?

6 BY WITNESS BROOM:

7 A Yes, sir. It really is all of those. Many  
8 of the items that I mentioned affect the power industry.

9 Many of the items -- or some of the items  
10 that I referred to are unique to the South Texas Project  
11 in that, for example, the foundation conditions at the  
12 site. That might or might not happen on a different job.

13 It happened on this one, and that affected  
14 not only the engineering required, but the construction.

15 If you double the amount of concrete, that  
16 means construction man-hours, the re-steel that goes with  
17 it, the time to take it and put it in.

18 So it can range all the way from an expansion  
19 of the engineering man-hours to do a study that shows  
20 there's no problem, all the way to something that is unique  
21 only to South Texas that increases the engineering budget  
22 and the construction budget, the amount of materials and  
23 inspection, and affects the schedule.

24 It ranges over that full spectrum.

25 Q To what extent has the change in the amount

16-2 1 of engineering required -- the change, let's say, from  
2 the 50 percent to the 10 or 15 percent range.

3 To what extent is some of that change due  
4 to inadequate initial design?

5 BY WITNESS BROOM:

6 A I don't believe it's fair to say that that  
7 change was due to inadequate initial design.

8 My words would be the inability to recognize  
9 at the earliest days of the project the true scope of  
10 the job and the activities that were going to be necessary.

11 If I might say a word about why that occurred.

12 In 1973 and 1974 the purchase order had been  
13 given by HL&P to Westinghouse for this project. We had  
14 done preliminary siting surveys of a number of sites and  
15 we selected the particular site in question.

16 We based estimates at that time primarily  
17 by factoring the industry experience on units that were  
18 under design and construction at the time.

19 This was a larger unit than had been previously  
20 undertaken, not by any factor of two or anything, but  
21 it was a difference from the 1150 to 1250, nominally a  
22 hundred megawatt increase.

23 But there was a very significant change that  
24 was very difficult for us to measure the true impact of  
25 at the time, and that was that Westinghouse proposed a

1 three-train system for all safety circuits.

2 Power controls are divided into three trains  
3 on this job, as opposed to two trains for safety circuits  
4 on normal jobs.

5 That in itself is an obvious change, but it  
6 has many far-reaching effects that are not truly recognized  
7 at the outset.

8 The foundation conditions that I indicated  
9 had a significant impact on just physical size of the  
10 structure, the amount of concrete that had to be poured,  
11 the amount of rebar that had to be ordered and placed,  
12 the whole civil structural aspect of the business.

13 That was a significant increase, 50 to 100  
14 percent, of what our initial estimate was.

15 Now, I don't believe that can be characterized  
16 as inadequate preliminary design.

17 I think that you find the same types of things  
18 on most other nuclear projects. At least, that's been  
19 my experience.

20 Every job that I've been on has been, within  
21 about the first two years, certainly undergone a major  
22 re-look at the scope and the budget and costs, as you  
23 get from this very preliminary conceptualized basis for  
24 an estimate into the beginnings of getting some hard data  
25 about site and environmental conditions and specific

1 equipment and so on and so forth.

2 But certainly, from our 1973, '4 picture of  
3 what the job was to what we know it to be today, there  
4 has been an enormous change.

5 Q Was any effort in connection with this discrepancy  
6 in figures, could any of this be attributed to any attempt  
7 to mislead the company?

8 BY WITNESS BROOM:

9 A No, sir. We did not in any way ever try to  
10 mislead our client.

11 Judge Lamb, there's nothing that we could  
12 gain by doing something like that.

13 We depend on our reputation in the power field  
14 for our continued livelihood and employment of our people  
15 and business.

16 Utilities are a small community. We have  
17 a limited number of places to go to sell our services.

18 Utilities talk to each other. I know; I've  
19 been there.

20 There's nothing proprietary or anything like  
21 that between utilities. They are non-competitive with  
22 each other.

23 If I create a bad reputation or if I were  
24 to in any way try to hide something from a client, it  
25 would take about 15 minutes for that information to get

16-5 1 all over this country and I'll be out of business.

2 We may very well have -- in retrospect, we  
3 may very well have been late recognizing something we  
4 should have recognized earlier.

5 We may have line items in an estimate that  
6 were blown. We blow things in estimates and I'll be the  
7 first to admit that.

8 We may have failed to recognize the impact  
9 of some feature on the site or some change in a purchase  
10 order or some regulatory change.

11 We might be accused of being guilty of any  
12 of those kind of things that, unfortunately, are part  
13 of people trying to do our business; but I will not agree --  
14 or I think it is wrong for somebody to suggest that we  
15 tried in any way to deliberately mislead our client.

16 Q This, of course, has to do with at least the  
17 potential question as to whether that figure might have  
18 been more optimistic about percent completion to encourage  
19 awarding the design and construction contract to B&R.

20 BY WITNESS BROOM:

21 A You are talking about the initial estimate  
22 for cost or man-hours or whatever?

23 Q Percentage completion of design.

24 BY WITNESS BROOM:

25 A You are going back to 1972 or early 1973.

16-6

1           No, sir. I believe that the data that we  
2 used at that time to provide a very, very rough estimate  
3 as to what plant costs were and man-hour estimates would  
4 be was in line with what the industry was experiencing  
5 at that time.

6           That's all we or anybody else had to base  
7 such an estimate on.

8           You understand that we didn't know where the  
9 site was or we didn't know -- we didn't have any of the  
10 details of the project.

11           These are very conceptual estimates that we  
12 are asked to make. They are factored estimates, basically,  
13 from other industry experience.

14           (Bench conference.)

15 BY JUDGE BECHHOEFER:

16           Q       One or two followup questions on this latest  
17 line.

18           When you did -- by "you," I mean Brown & Root  
19 now -- say back in '75, you would or did render reports  
20 of percentage completion to your client, Houston, did  
21 you not?

22 BY WITNESS BROOM:

23           A       Yes, sir. If you're talking about engineering  
24 completion, I believe at that time there was a curve that  
25 was shown in every month's progress report that showed

16-7  
1 man-hours expended versus budgeted. It was a typical  
2 S-shaped curve and it had the actual expenditures tracked  
3 against that budget.

4 That is the way in which we were forecasting  
5 the expenditure of man-hours and that was equated to engineering  
6 completion.

7 I think from the first of the job there were,  
8 from time to time, recognition of problems that would  
9 arise, of something that wouldn't get done on schedule,  
10 or we'd have to do something differently than we had originally  
11 thought of or conceived.

12 HL&P personnel were involved in and were familiar  
13 with those type activities that occurred day-to-day on  
14 the job.

15 I don't think we were sitting down on a monthly  
16 or quarterly or whatever frequent basis and judging what  
17 the impact of those type occurrences, realization, were  
18 on the total scope of the job.

19 We had planned, I believe, an annual update  
20 of the budget and cost schedule estimate. I think that  
21 was done most years during the job.

22 I can't cite you where that specific requirement  
23 is in writing, but I can remember '75 and '6 and '7 and  
24 '8 and '9, and we didn't do one in '80, obviously, during  
25 the hiatus, and we have one scheduled for this year.

1 I think for most years it was an annual updating  
2 of our estimate at the time for cost and schedule of the  
3 project.

4 There are various ways to do that, to revise  
5 a cost schedule update.

6 Some of them are based on going through detailed  
7 take-off of feet of cable, feet of pipe, so on and so  
8 forth, representing a huge undertaking for a job of this  
9 magnitude.

10 Others can be an updating of, say, last year's  
11 budget, just focusing on what you know has changed since  
12 that time.

13 Typically, we don't do a detailed estimate --  
14 when I say "detailed," I mean go into the engineering  
15 disciplines and have each drawing looked at and estimated  
16 and feet of cable and feet of pipe and so on estimated  
17 until we get far enough into the job so that there's sufficient  
18 detail to make that a meaningful estimate.

19 Mr. Grote is more familiar with the details  
20 of how this estimating is done. As a matter of fact,  
21 I think that's one of his strongest suits, and he may  
22 be able to expand on this.

23 But what I'm trying to say is you don't expect  
24 in the early phases of a job that type of high degree  
25 of accuracy and detail in an estimate.



16-9

1 I'm not certain of this, but I believe the  
2 first one of those type estimates was done '75 or '6,  
3 sometime in that.

4 He probably can tell us when the first one,  
5 if you are interested in that, and then periodically --  
6 We would not go back and do -- I guess what I'm really  
7 saying -- is zero-based budgeting.

8 We wouldn't do that every year, but we have  
9 done it since that time.

10 Q Would you client here, Houston, be -- or do  
11 you think they were knowledgeable as to the impact, scope  
12 or what your report represented?

13 Do you think they were familiar with what, say,  
14 50 percent -- I pick that arbitrarily because we've  
15 bandied it around a little.

16 Do you think Houston knew what 50 percent  
17 meant and what the implications were for changes in the  
18 various procedures and processes you've been talking about?

19 BY WITNESS BROOM:

20 A Yes, sir, I believe so. Certainly, the people  
21 working for HL&P on the project were familiar in intimate  
22 detail how the progress reports we put together and  
23 how these type things were tracked.

24 I don't know that they had someone at Mr. Oprea's  
25 level that focused his attention on the definition of

16-10 1 that particular aspect of the progress report.

2 I suspect he had, but it would not be inconceivable  
3 to me for at that time him not drawing a distinction between  
4 percentages of drawings issued and percentages of man-  
5 hours expended.

6 As I say, again, you can't look at this from  
7 the timeframe of 1981. You've got to put yourself in  
8 the shoes of someone in the business in 1975.

9 That's the way that engineering was tracked  
10 universally across the industry, and there could be a  
11 difference in engineering scope.

12 Engineering scope had changed. There were  
13 no enormous increases in scope, I don't think, on jobs  
14 historical to that -- up to that point in time.

15 I'm sure Mr. Oprea being in the utility industry  
16 was experienced with cost overruns on projects, and I'm  
17 sure he knows that engineering estimates do exceed initial  
18 estimates for a variety of reasons.

19 I doubt if Mr. Oprea would have expected the  
20 increase in the estimate of engineering or of anything  
21 else on this project that we've experienced in the past.

22 I certainly did not. I don't believe any  
23 of our people did, and I would be surprised if Mr. Oprea  
24 would.

25 Q If he received like a 50 percent estimate,

16-11

1 he would have some idea of what that 50 percent meant?

2 BY WITNESS BROOM:

3 A Yes, sir, I think so.

4 Q As far as you know?

5 BY WITNESS -BROOM:

6 A Yes, sir.

7 Q My own other followup was when did that three-  
8 channel change you were talking about, when did that arrive?  
9 Was that after those initial estimates were made, like  
10 in '75?

11 BY WITNESS BROOM:

12 A No, sir. I'm not certain about this, but  
13 I believe that we were discussing the two-train versus  
14 three-train approach with Westinghouse, as I remember  
15 it, it was starting in '72 and '3, and I believe that  
16 that decision was made prior to our filing the PSAR.

17 So that would have had to have been -- I ought  
18 to remember what that date was. I guess that was in mid-  
19 fall of '74.

20 I don't exactly remember the date on which  
21 we filed the PSAR, but I would guess that that decision  
22 had been made in late '73 or early '74.

23 Q What I wanted to find out is how long it would  
24 take for a change like that to work itself into percentage  
25 completion figures?

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

16-12

1 BY WITNESS BROOM:

2 A I'd like to talk about that for a minute.

3 Q I just wanted to see how it --

4 BY WITNESS BROOM:

5 A It's a good example of what I've been talking  
6 about.

7 If you can put yourself in the shoes of an  
8 electrical engineer responsible for the design layout,  
9 physical layout of electrical circuitry, you've had --  
10 pick a number -- five or ten years of experience in the  
11 nuclear business and maybe been through a couple of plant  
12 designs of the 900, 1100 megawatt two-train system.

13 You hear that the advantages of the three-  
14 train system. You recognize it's going to pose some complexities.

15 Somebody help me remember when the Browns  
16 Ferry fire occurred. Shortly after what we are talking  
17 about.

18 The electrical designer is familiar with separation  
19 criteria. He realizes that he can't get into the details  
20 of his design until most of the equipment is purchased  
21 and he finds out exactly what the total requirements are;  
22 but he's got a conceptual idea, notion, in mind.

23 He knows that he's got to get those three  
24 trains into one, probably two, and as it turned out later,  
25 three cable splitting rooms around a control room.

6-13  
1           Based on that, very little detail beyond that,  
2 he's got to make an estimate at the beginning of the job  
3 how many man-hours it's going to take him to perform the  
4 electrical design.

5           I certainly would expect that original estimate  
6 would come from his experience, his basis, background,  
7 what he's done before, and try to take those kind of things  
8 into consideration.

9           Now he's involved in writing the PSAR and  
10 describing -- learning more about the details of the three-  
11 train system as he goes, and the Browns Ferry fire occurs  
12 in 1976.

13           Now he goes back and says, "What is that going  
14 to do to me," and he may very well rethink his whole system,  
15 and he's been doing that until 1981 when he finally --  
16 well, he's seen some drafts in the meantime, but now he  
17 sees Appendix R.

18           In that particular case, I think the full  
19 impact of the three-train system is probably not recognized  
20 in detail on the job today.

21           I would hope we're 99 percent or 95 percent  
22 or certainly most of the impact is understood today.

23           But what I'm trying to do is to say that some  
24 of these changes are synergistic. You know, one change  
25 might do one thing; another experience or occurrence or

6-14

1 criteria change over here may affect that first chain  
2 and the engineer has a difficult time in truly determining  
3 the detailed scope and the detail requirements that are  
4 ultimately going to be required for that job to be finished  
5 and operating license issued.

6           Nothing is overlooked. They are all incorporated,  
7 but designing a nuclear powerplant is not like designing  
8 a refinery.

9           It's like designing a refinery when the client  
10 comes in every 12 months and makes a major change in what  
11 his product is going to be or what his requirements for  
12 that refinery -- and that's just not a common experience  
13 in those industries.

14           It is a common experience in the nuclear industry.  
15 I don't think anybody likes that.

16           I don't think anybody does that intentionally.  
17 It's just the nature of the industry.

18           Q       I take it there is some updating of these  
19 estimates as you go along, your best estimate currently.

20 BY WITNESS BROOM:

21           A       Yes, sir.

22           Q       You wouldn't keep out the three-train system  
23 until you got a final resolution of it? In other words,  
24 you've done something since '74 or '75?

25 //

16-15 1 BY WITNESS BROOM:

2 A No, sir. We do the best we can to estimate  
3 the impact of changes when they occur.

4 But I don't want to say that in all cases  
5 we did a very good job of it, because some of them we  
6 certainly did not realize the full impact when we first  
7 heard about the requirement initially.

8 JUDGE BECHHOEFER: All right. Thank you.

9 BY JUDGE LAMB:

10 Q Mr. Vurpillat, on page 54, right at the end  
11 of your testimony, you make several statements there which  
12 indicate certain types of improvement in the program relative  
13 to employee reactions and knowledge and manner of dealing  
14 with them.

15 These are very general statements. Are they  
16 based on a study or the subjective observations by yourself?

17 BY WITNESS VURPILLAT:

18 A They are based on conversations that I've  
19 had with people, QA management on the job, QA supervision  
20 on the job and with the inspection personnel on the job.

21 I think it's maybe a question of more frequently;  
22 you know, how do you define "more," more than what?

23 They certainly are asking questions. They  
24 are expressing interest. That's as far as the employees  
25 generally.

16-16

1 Based on what I've heard about what happened  
2 before, what's happening now is a more frequent occurrence.

3 The supervisors and the management personnel,  
4 I know, are being much more careful about explaining the  
5 decisions that are made.

6 I think there was some conversation in earlier  
7 testimony and earlier cross-examination about one of the  
8 problems that the inspectors expressed was that when they  
9 wrote a nonconformance report, they never heard what happened  
10 after that.

11 We are being very careful that that information  
12 is gotten back to them and the decisions are explained,  
13 particularly if it's a decision that is to use a nonconforming  
14 condition as is; engineering decides that it's an acceptable  
15 way for it to be.

16 That sort of thing is explained.

17 We try to keep an ear to the ground as far  
18 as disagreements between QA/QC people and other QA/QC  
19 people, management or supervision and the inspectors or  
20 QA management and the quality engineers on a job, and  
21 especially between construction.

22 We try to get at those things as soon as we  
23 perceive that there is any particular problem. That's  
24 an attempt that we have made, and successfully so, I think,  
25 and particularly in the last six or eight months, in my



16-17 1 experience on the project.

2 Q Were some of these the outgrowth of your consultant  
3 evaluation that you refer to here?

4 BY WITNESS VURPILLAT:

5 A Yes, I think that his perception and in his  
6 report that the employees were concerned about these items  
7 and that they meant a great deal to them, yes, I think  
8 we had to treat that as quickly as possible and as completely  
9 as possible, and that's why we're doing that.

10 Certainly, that perception --

11 Q What I mean, does followup evaluation include  
12 improvement in these areas of the type you've described?

13 BY WITNESS BROOM:

14 A Yes, sir.

15 BY WITNESS VURPILLAT:

16 A Yes, that's right.

17 BY WITNESS BROOM:

18 A On two different occasions.

19 BY WITNESS VURPILLAT:

20 A Not only from the consultant, but the Time  
21 Lapse consultant that came in on several different occasions.

22 His most recent evaluation indicated there  
23 had been considerable improvement.

24 I think the re-audit, the 1981 audit by Bechtel,  
25 the report -- any information that we received indicated

16-18 1 that they felt that there had been significant improvement  
2 in these areas, also.

3 So it's not simply our view of things, although  
4 we feel that things are improving significantly in these  
5 areas.

6 Q Thank you.

7 JUDGE LAMB: That's all I have.

8 (Bench conference.)

9 JUDGE BECHHOEFER: I think we will break for  
10 lunch now, an hour and fifteen minutes.

11 (Whereupon, at 12:17 p.m., the hearing was  
12 recessed, to reconvene at 1:30 p.m., the same day.)

13  
14 - - -  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

## AFTERNOON SESSION

1:45 p.m.

JUDGE BECHHOEFER: Back on the record.

I have a few questions I will ask of the panel, and then before we get to Judge Hill's questions, Judge Hill will ask for Mr. Grote to join the panel.

## BOARD EXAMINATION

BY JUDGE BECHHOEFER:

Q Dr. Broom, turn to Page 10 of your testimony.

BY WITNESS BROOM:

A Yes, sir.

Q You mentioned -- you may have testified to this already, but just to clarify the record, you mentioned the experience of Brown & Root, first with respect to the Brunswick plant, and second with respect to Comanche Peak.

Am I correct that for Brunswick did not do architect engineering?

BY WITNESS BROOM:

A That's correct. We had construction and QA services over the construction scope of field activities.

United Engineers did the design engineering for that project.

Q And with respect to Comanche Peak what does the word "similar" mean? I guess it's Line 23. Is that similar to Brunswick or similar to South Texas?

1 BY WITNESS BROOM:

2 A Oh, I'm sorry. What I'm trying to say is our scope  
3 was the same as for Brunswick. Gibbs & Hill did the design  
4 engineering for the project, and Brown & Root was awarded the  
5 construction, and of course, the QA to cover the field scope  
6 of services.

7 Q Now, I think one of the witnesses testified that  
8 there might have been a change in the scope of services for  
9 Comanche Peak. Is that correct, during the course of that  
10 project?

11 BY WITNESS BROOM:

12 A I believe the statement concerned the assumption  
13 of the management of the field QA/QC program by Texas Utilities.

14 When we started the project, this was Texas  
15 Utilities' first nuclear project, but we had a QA manager in  
16 the field who was responsible for all of our scope on that  
17 project.

18 The TUSC, Texas Utilities Service Company,  
19 representative had a -- was in the reporting line much the  
20 same as with South Texas Project, our reporting line to HL&P's  
21 project QA manager.

22 Since that time they have assumed more of the direct  
23 management of the day-to-day operations of the QA/QC organi-  
24 zation, which we still staff at the project in the field, than  
25 is the case on the South Texas Project; or, in other words,

7-3  
1 their man has assumed the technical direction on a day-to-day  
2 basis of the personnel from Brown & Root that are conducting  
3 the QA/QC activities on the site.

4 It's more of an integrated field organization there.

5 Q Does Texas Utilities, would you say, have a greater  
6 role than Houston Lighting & Power does on this project?

7 BY WITNESS BROOM:

8 A I don't think I'd describe it as a greater role.  
9 Actually, their role is very similar in nature. It would be  
10 about like, let's see, if you split our project QA manager, if  
11 you split his responsibilities into two pieces, one being that  
12 which is covered by the ASME N stamp and the other activities  
13 it would be like having HL&P assume the non-ASME related  
14 activities at that one-person level, that project QA manager  
15 level, to put their man's responsibilities to include that  
16 direction -- the direction of activities below that level.

17 That's analogous to the situation that we have at  
18 Comanche Peak today.

19 Q If you were to compare the two systems, do you see  
20 any advantages or disadvantages to either one?

21 BY WITNESS BROOM:

22 A Oh, I suppose, Judge Bechloefer, we could talk  
23 about a number of pro's and con's of what I'll call a secondary  
24 level of any items that have any real significance; no. I don't  
25 think there's any distinct advantage or disadvantage one over

-4  
1 another.

2 We have on mild concern in that when someone takes  
3 on the -- from outside the Brown & Root organization, takes on  
4 a direct supervisory function over our people, it tends, or it  
5 can tend to create a feeling of isolation, as it were, among  
6 those people. They're not directly under the Brown & Root  
7 supervision, and so they may not have as close a feeling to  
8 the organization, to the parent company; is the parent company  
9 truly concerned about their welfare, their future, their career.

10 In the case at Comanche Peak I think we've avoided  
11 that situation because we still have the full scope of  
12 responsibility for the ASME activities, and as I say, it's  
13 only a portion, it's a piece of the responsibilities of that  
14 project QA manager that have been split off.

15 Q What stage of construction is Comanche Peak in,  
16 do you know, approximately?

17 BY WITNESS VURPILLAT:

18 A I believe that Unit 1 at Comanche Peak is about  
19 maybe 70, 75 percent complete; Unit 2, perhaps 50 percent.

20 Q All right. Do you know whether there have been  
21 any significant QA problems arising at Comanche Peak, say,  
22 similar or comparable or of the same nature as some of those  
23 that may have arisen at South Texas?

24 BY WITNESS BROOM:

25 A Judge Bechhoefer, we have not had a 79-19 type

1 investigation. We've not had a Show Cause Order, or anything  
2 of that nature.

3 We've had a number of findings by, you know,  
4 ourselves and the client and the NRC inspection reports from  
5 time to time on the job.

6 The types of findings there are similar in nature  
7 to the types of findings we have here.

8 Q Are there more of them here, relatively, I mean?  
9 BY WITNESS VURPILLAT:

10 A No. I think if you're just talking numbers for  
11 instance, we've had approximately, in the order of magnitude  
12 the same number of nonconformance reports written, the same  
13 number of stop-work orders issued and cleared on that job, as  
14 we have on South Texas.

15 BY WITNESS BROOM:

16 A I may be wrong, perhaps the NRC staff could clarify  
17 this, but I think if you're looking for a difference on the job,  
18 I think that there have been far less -- and that's only  
19 numbers -- I mean the only way I can express it. I don't have  
20 any data, but I think there have been a substantially smaller  
21 number of telephone calls to the NRC concerning harassment,  
22 intimidation, interpersonal conflicts, that kind of subject,  
23 on that project as opposed to this project.

24 Q Could that in any way be attributed to the fact that  
25 the utility there may have somewhat more involvement on the site?

1 BY WITNESS BROOM:

2 A I don't think so. That change did not occur for  
3 some considerable time after the start of construction, and  
4 the situation was not any different before or after that, to  
5 my knowledge.

6 Based on my knowledge of the people there, I don't  
7 think that's a significant difference. I don't believe it  
8 would be important in explaining why the difference that I  
9 pointed out to exist.

10 Q I'd like to turn to both your testimony concerning  
11 harassment and your testimony concerning falsification of pour  
12 cards, and what I'd like to explore is the systems for  
13 uncovering incidents of this sort when they occur, and I'm not  
14 talking now about adequate training of personnel or the  
15 attitude of the people, but what system is there for uncovering  
16 whether this type of thing occurs, if any?

17 BY WITNESS BROOM:

18 A Let me make sure that I understand your question.  
19 You're talking about what system do we have directed toward  
20 finding out if pour cards have been falsified?

21 Q Right. Right.

22 BY WITNESS BROOM:

23 A In general, Judge Bechhoefer, we don't have, and to  
24 my knowledge no project has, some type of police force, I guess,  
25 or investigative force that sets out to try to determine



7-7  
1 specifically if falsification is occurring.

2 We rely on all of the people involved in the chain  
3 of command and involved in performing the work to provide checks  
4 and balances of that nature.

5 For instance, on a pour card there are many  
6 signatures. There are many people involved in the inspection  
7 work surrounding a pour, and in general I would say several  
8 people are involved and have knowledge of who signed that pour  
9 card and was the area satisfactory.

10 I don't believe we have a case where there's one  
11 individual by himself. I suppose it's possible if it were some  
12 very small isolated area involving a very simple pour. That  
13 might occur.

14 The quality engineers, of course, reivev the whole  
15 pour packet, and they are to remain knowledgeable of what's  
16 going on in the field and what people are involved and what  
17 the circumstances are. They don't go stand and look over the  
18 shoulder of every QC supervisor at every pour, but they have a  
19 responsibility to stay abreast of conditions in the field and  
20 what's happening.

21 We rely on a knowledge of the activities on the site  
22 and the interpersonal relationships within the chain of command  
23 to provide the checks and balances we need.

24 Q Now, for instance, a situation where an area wasn't  
25 clean enough fo: concrete to be poured, how would that be

1 picked up? How would it be detected?

2 BY WITNESS BROOM:

3 A Well, an inspector responsible for signing a pour  
4 card will not sign the card unless the area is clean. He's  
5 supposed to know that by performing the inspection, by looking  
6 and seeing if the pour area is sufficiently clean.

7 There very well may be more than one inspector  
8 assigned to a pour, and so they'll have a joint discussion of,  
9 you know, I've looked at this area, you look at this area, or  
10 whatever.

11 Q You don't always send out teams of more than one,  
12 though? Or would they be in teams?

13 BY WITNESS VURPILLAT:

14 A I think it would depend on the complexity of the  
15 item under inspection. In the case of a pour, if we had a  
16 rather large complex pour there would be more than one  
17 inspector assigned to check out all of the items on the pour.

18 If it were a relatively simple pour, a small size,  
19 one inspector could easily do it. Everybody is supervised, and  
20 the supervisor would normally, on any of these items, at least  
21 make a check, a supervisory check of the work that his people  
22 were doing, so there's that check.

23 Q Is that a spot check, or what?

24 BY WITNESS VURPILLAT:

25 A Well, I call it a supervisory check. He walks by

7-9  
1 to make sure that his man is doing the job -- is on the job and  
2 is doing it, and while he's there obviously he'll check and make  
3 sure that he's doing it well.

4 It's not a check list item where he absolutely has  
5 to do this, but it's just a supervisory task that's normally  
6 carried out. The larger the pour, the more supervisory  
7 involvement.

8 Q Would there be any requirement -- I mean would it be  
9 on a fairly routine basis, or would it be one of every ten pours?

10 BY WITNESS VURPILLAT:

11 A No. I think it would be fairly routine. It would  
12 be almost unanimous if we're talking about safety related pours  
13 and particularly safety related complex pours, yes, it would  
14 be routine. It would be almost unanimous.

15 Q So it is likely, then, that more than one person  
16 would observe?

17 BY WITNESS VURPILLAT:

18 A Yes, and not just the Brown & Root people, but I  
19 think Mr. Frazar and Mr. Goldberg, for that matter, Mr. Amaral  
20 to a certain extent commented on the HL&P involvement in this  
21 area, and that is more or less a regular kind of a situation.

22 - - -

18-1  
ged  
1 Q Now, in terms of harassment, how would you  
2 normally find out from a QC inspector that he has been  
3 harassed or thinks he has been harassed?

4 Would that inspector it to, like, you,  
5 Mr. Vurpillat, or how would that be --

6 BY WITNESS VURPILLAT:

7 A He certainly could report it to me. The more  
8 likely occurrence, I think, would be that he would report  
9 it to his supervisor and it would come up through the  
10 project quality assurance manager.

11 If we are talking about one specific instant --  
12 if we're talking about something that someone perceived  
13 to be a general happening, the communication would be  
14 verbal from the individuals to someone in supervision  
15 or management or both.

16 We hold not regular, but occasional meetings  
17 with the QC people and the QA people on the site where  
18 we just talk about things that are bothering them, and  
19 what we perceive to be going on.

20 It's an exchange of information on a very  
21 informal basis, and often things like we were talking  
22 about before, the morale situation, how they are identified  
23 to us.

24 Q How does the procedure STP/PGM-02, and that  
25 appears on page 41 of the testimony. How does that come

18-2

1 into play?

2 BY WITNESS VURPILLAT:

3 A That procedure is designed to handle any situation,  
4 Judge Bechhoefer, where someone in QA/QC and someone else  
5 in another part of the organization have a dispute or  
6 disagreement over requirements at the job or whatever.

7 That procedure basically says don't lose your  
8 temper and don't let things get out of hand. If you have  
9 a situation where you differ in opinion and you can't  
10 resolve the matter in a professional fashion, escalate  
11 it through your supervision.

12 Q Is that a step-by-step process, that each  
13 would go to his supervisor?

14 BY WITNESS VURPILLAT:

15 A Yes, sir, that's the way that that procedure  
16 for resolution of disputes is supposed to be handled.

17 If it's a case where an individual inspector  
18 were to feel that he were harassed by somebody's actions  
19 or something, I'm not sure that falls in the case necessarily  
20 of a dispute, and I'm not sure this procedure, per se,  
21 would be implemented; but after all, what we're talking  
22 about is just having the people report to their supervisors  
23 of conditions on the job site and things that they may  
24 not be happy or satisfied with.

25 Beyond that, we certainly expect our supervisors

1 to be aware of the relationships and working conditions  
2 on the job.

3 We don't expect a supervisor to overhear every  
4 word that's said to every one of their employees; but  
5 if it were a situation that were happening with any frequency,  
6 that supervisor is supposed to be in the work area, he's  
7 supposed to know where his inspectors are, he's supposed  
8 to be overseeing them and observing; and we would certainly  
9 expect him to be aware of any kind of pervasive problem  
10 or repetitive problem of such nature.

11 Q In terms of that procedure, what does the  
12 "Revision 0" refer to? Is that the current --

13 BY WITNESS VURPILLAT:

14 A Revision 0 is always the first issue of the  
15 procedure. In other words, it has not been revised. It  
16 is as it originally stood.

17 Q All right, so the January 7, 1980, was the  
18 first time you had had a procedure of this sort?

19 BY WITNESS VURPILLAT:

20 A Yes, sir, I think that's right.

21 BY WITNESS BROOM:

22 A Yes, sir. I think I testified yesterday that  
23 we formalized this procedure and put it in writing at  
24 this point in time; but in fact, this procedure verbally,  
25 it existed. It's the basic policy of the company for

18-4 1 a long, long time.

2 But we felt it necessary in this case to just  
3 make absolutely sure that people had no misconceptions  
4 that management would not tolerate any tussling or fighting  
5 or unprofessional conduct on the job, to put it down in  
6 black and white and give a copy to each employee.

7 We had said it verbally. I don't think there's  
8 any supervisor on the job that hadn't known for a long  
9 time that that's how we expect such matters to be handled.

10 This was simply a step of formalizing that  
11 by making it a formal procedure.

12 Q Is Revision 0 still current?

13 BY WITNESS BROOM:

14 A Yes, sir.

15 Q In terms of your testimony on what you consider  
16 proper management attitudes toward QA, would you turn  
17 to page 13.

18 I'd like to know what the word "generally"  
19 means on page 12.

20 BY WITNESS BROOM:

21 A On page 12?

22 Q I'm sorry, line 12, page 13. Does that mean  
23 not entirely?

24 BY WITNESS BROOM:

25 A I haven't stopped to read the whole passage,

18-5 1 but yes, I'm sure that's what I had in mind.

2 We had instances where project personnel did  
3 not reflect the proper attitude, but I think generally  
4 they did.

5 Q Now, when they didn't, I take it those are  
6 the situations you've talked about where the company has  
7 tried to take some action?

8 BY WITNESS BROOM:

9 A Yes, sir. I don't believe that even in those  
10 instances there was evidence that someone was deliberately  
11 trying to violate QA requirements.

12 I think even in a case where record falsification --  
13 you know, a fellow admitted that he Brilabbed a report  
14 or something, I don't believe he felt that he was trying  
15 to deliberately violate -- let something go by that would  
16 be unsafe.

17 He just you know, was lazy or didn't get  
18 around to it or whatever, and we took actions in those  
19 cases.

20 If someone had a confrontation with a QC inspector,  
21 if he lost his temper or if he drew back his fist, whatever,  
22 that's certainly not the proper attitude; but that does  
23 not necessarily mean that he was trying to violate the  
24 requirements on the project in the sense of doing work  
25 improperly or not meeting all of the technical requirements



8-6

1 that we committed to.

2 But all of those do contribute to an over-  
3 all assessment of the effectiveness of the program and  
4 an assessment of whether people's attitudes are proper;  
5 and people involved in situations like that, we don't  
6 judge to hav the right attitude and simply can't work  
7 on the project.

8 Q I think you mentioned in your testimony, I  
9 guess page 14, the QA Management Review Board.

10 Since its existence, has that Board made any  
11 significant recommendations for changes in the QA program?

12 BY WITNESS BROOM:

13 A Judge Bechhoefer, the primary functioning  
14 of that Board is to provide a forum for the review of  
15 the status of the program and provide a forum for the  
16 QA manager to bring any problems that he may have, to  
17 discuss them, to seek resolution, suggestions, this, that  
18 and the other.

19 There may be cases in which an individual  
20 member of the Board might make a suggestion about the  
21 program.

22 I don't recall offhand cases where that may  
23 have happened, other than myself. Each other member might  
24 be able to recall similar instances.

25 They also administer, or have performed for

1 them, this annual review of the program, and based upon  
2 that, I don't know if you would call it the Board ordering  
3 changes, but certainly, in reviewing the findings of such  
4 a review and in deciding to implement some of the suggestions  
5 made, that might fall in the category that you're referring  
6 to.

7           For instance, I believe it was in 1976, there  
8 was a recommendation as a result of this annual review  
9 that the quality engineering function be strengthened  
10 and additional personnel added, and that was, in effect,  
11 ordered or suggested by the Board, and the QA manager  
12 set about to do that.

13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

18-8

1 Q What does it mean where it says that that  
2 committee makes recommendations for conduct of the project  
3 in a timely fashion?

4 That appears on the bottom of page 15.

5 This is the Operating Committee of B&R. The  
6 last line on the page.

7 BY WITNESS EXROOM:

8 A I'guess I'm just trying to say that I think  
9 all of the activities that I have described here indicate  
10 that Brown & Root management was involved and kept itself  
11 uptodate on the happenings at the project.

12 Specifically, I mentioned there to ensure  
13 that sufficient resources are provided for the conduct  
14 of the project in a timely fashion.

15 I think that's a true statement.

16 I think that the presentations to the Operating  
17 Committee, I think QAMRB monthly reviews, periodic meetings,  
18 monthly meetings, that provides an open and adequate and  
19 ready forum for QA management to voice any concerns they  
20 might have about resources of whatever type, should the  
21 need arise.

22 Q This is not, then, purely related to finishing  
23 the project in a timely fashion, but in terms of resolving  
24 QA problems?

25 //

18-9

1 BY WITNESS BROOM:

2 A Oh, precisely. Yes, I'm sorry, if it's read  
3 in that fashion.

4 I didn't intend it in that fashion.

5 What I meant was that if we need additional  
6 resources in the QA program, that there is ample avenues  
7 of access to management to see that those resources are  
8 provided in a timely fashion; and that's important because  
9 I guess the QA manager could stop the entire program and  
10 not let anything happen until he got the resources he  
11 needs, but we all recognize that that's really not a satisfactory  
12 resolution of a problem.

13 That has impact on morale and it's unnecessary.  
14 Certainly, you want to avoid those kinds of situations.

15 It's much better to provide any resources  
16 you need in a timely fashion and not let a situation like  
17 that develop.

18 Q With respect to the testimony on pages 39  
19 and 40 concerning the famous or infamous meeting of January  
20 4, 1980, you mention that you retracted the presentation,  
21 the one the Staff raised a question about?

22 BY WITNESS BROOM:

23 A Yes, sir.

24 Q What does "retraction" mean? Does it mean  
25 just withdrawing something or does it mean going on television

1 and telling everybody you were wrong?

2 I think there have been some innovative approaches  
3 in recent years. What exactly does "retraction" mean?

4 BY WITNESS BROOM:

5 A In this particular case, it means two or three  
6 things.

7 Number one, recalling all of the printed copies  
8 of the previous presentation that we could get. I can't  
9 say we got every copy from everybody, but we asked for  
10 them back; and having the head of the group, Mr. Rice,  
11 make a statement and say that in the previous presentation  
12 we had mentioned cost and schedule and that was not our  
13 intent, to clear up any confusion in that regard and make  
14 a very strong statement that would not leave any doubt  
15 or any question in anybody's mind that we expected inspectors  
16 to feel any pressure from cost and schedule; and then  
17 document those new words in a handout that was used to  
18 replace the other one that was withdrawn.

19 Q And that was distributed in a similar fashion  
20 to the earlier one?

21 BY WITNESS BROOM:

22 A Yes, sir. The first one was in a little booklet  
23 and the second one was in an eight-and-a-half-by-eleven,  
24 I think.

25 I'm not sure they looked physically exactly

18-11

1 the same, but yes, they were distributed the same way.

2 Q I think Dr. Lamb asked some questions about  
3 the Bechtel Report this morning.

4 I believe Mr. Amaral testified that Bechte  
5 had made certain recommendations, perhaps not in the report  
6 itself, but in associated documents, concerning their  
7 evaluation of particular personnel.

8 Were any such -- Do you know whether any  
9 such evaluations were made of Brown & Root personnel?

10 BY WITNESS BROOM:

11 A Yes, sir, I believe there were.

12 Q Could you tell us what action was taken as  
13 a result of those recommendations?

14 BY WITNESS BROOM:

15 A As I recall, there were only --

16 MR. COWAN: Mr. Chairman, if I may interrupt,  
17 those are contained in the Applicants' exhibit that was  
18 distributed last time to all the parties, including the  
19 Board.

20 It might be useful, if the Board was interested  
21 and refresh the witness' recollection by looking at those  
22 exhibits.

23 JUDGE BECHHOEFER: Is this is?

24 MR. NEWMAN: I think Mr. Axelrad just left  
25 to check on that exhibit and the particular citation from

18-12 1 it.

2 I think we thought we had it in the room.

3 JUDGE BECHHOEFER: I think it's what you've  
4 identified as Exhibit 33, and if so, my question is what  
5 happened to the people on the last page.

6 MR. NEWMAN: Let me just check to see where  
7 we stand on getting a copy of that exhibit.

8 (Pause.)

9 MR. NEWMAN: Mr. Jordan has been good enough  
10 to furnish me a copy of Exhibit 33, and perhaps I could  
11 refer that to the witness.

12 BY JUDGE BECHHOEFER:

13 Q Turn to Attachment 2.

14 My question is what happened to each of the  
15 people mentioned on Attachment 2, subsequent to that letter?

16 BY WITNESS BROOM:

17 A. The first individual is a MAC employee. He  
18 is scheduled, I believe (Mr. Vurpillat informs me), to  
19 be leaving the site in the next week or so -- in the very  
20 near future, being replaced with a Brown & Root employee.

21 The next one --

22 MR. JORDAN: Excuse me. I'm sorry.

23 Since he has my paper, I don't have it.

24 Are the names on there?

25 WITNESS BROOM: Yes.

18-13 1 MR. JORDAN: It would help if you could just  
2 give the names first, and then I can take notes on it.

3 WITNESS BROOM: Sure.

4 Mr. Roof, R-o-o-f, was the first employee.

5 The second name is Mr. Janecke, J-n-e-c-k-e.  
6 After the issuance of this memo, we had a considerable  
7 conversation with Bechtel concerning the duties and  
8 responsibilities of this individual, and explained that  
9 his primary function is a coordinating role.

10 I believe it's fair to say that Bechtel did  
11 not have that clear understanding of the job responsibilities  
12 associated here.

13 I think they would agree that he has sufficient  
14 experience to take on or discharge those type of responsibilities.  
15 We certainly do, and he is still in that role.

16 Mr. Purdy, P-u-r-d-y, is the third name, and  
17 in this particular case, we felt that Mr. Purdy was very  
18 well qualified to perform his responsibilities.

19 We recognized this was somewhat an exception  
20 in the absence of him having a higher education degree  
21 or P.E. registration. We normally would think that that  
22 would be, certainly, a requirement that would be desirable  
23 for someone in his role.

24 But due to Mr. Purdy's extensive experience  
25 in the past and his knowledge of the project and his



8-14  
1 past involvement in the project, we requested of the client  
2 and, I guess, indirectly to Bechtel or MAC -- I believe  
3 the followup judgments about these personnel actions,  
4 the client decided would be made by MAC as opposed to  
5 Bechtel.

6 I'm not real clear about that, but at any  
7 rate we discussed it with the client that we would like  
8 to keep Mr. Purdy on and have him demonstrate for everybody's  
9 satisfaction that he is qualified and capable of performing  
10 his duties.

11 I'm certain that that was done to everyone's  
12 satisfaction.

13 He remains in his role, and I suggest you  
14 ask the client about that. I believe that the consultants  
15 have stated that they are satisfied that Mr. Purdy is  
16 amply qualified and in fact is recommended to retain his  
17 position in that slot.

18  
19 - - -  
20  
21  
22  
23  
24  
25

1           The next name is Mr. Warnick. Mr. Warnick,  
2 following publication of this in June 1980 -- I'm not sure of  
3 the timing, but at any rate Mr. Warnick's responsibilities were  
4 changed from being the QA manager at the stie to responsible  
5 for QC, the inspection portion of the site work only, and I  
6 think as we have testified since then he left the site in  
7 February of this year, I believe, to take employment elsewhere.

8           Mr. Ruud, the last name, R-u-u-d, the last name on  
9 the list is a MAC employee, not a Brown & Root employee, and he  
10 is no longer on the project. I have forgotten exactly when he  
11 left, but he left a few months ago.

12 BY WITNESS VURPILLAT:

13           A       Judge Becnhoefer, I might add in the case of Mr.  
14 Janacke and Mr. Purdy, I am familiar with this letter and had  
15 seen it some short time after I joined the company, and was  
16 most concerned about these individuals, and I didn't know them  
17 well at the time.

18           I watched that very carefully, and both Mr. Janacke  
19 and Mr. Purdy I found doing excellent jobs in the positions they  
20 are in, and particularly Mr. Purdy is probably one of the hardest  
21 workers and the best managers that I have come across both from  
22 getting work from both a quantity and a quality standpoint out  
23 of his people, and also has the facility of working well with  
24 his peers in both the engineering group and construction groups  
25 on the project. I consider Mr. Purdy an extremely valuable

1 employee.

2 And I will also agree that if you look just at his  
3 resume it might well appear marginal.

4 BY WITNESS BROOM:

5 A Yes. I should have added that, that the assessment  
6 of these people was done based upon a review of the resume by  
7 Mr. Amaral or Mr. Amaral's people. This did not involve  
8 interviews with these people.

9 BY JUDGE BECHHOEFER:

10 Q That brings me back to I think a response you gave  
11 to Dr. Lamb concerning minimum qualifications in certain  
12 specified positions.

13 What would you consider about a system which set  
14 higher qualifications than perhaps allowed exceptions for people  
15 like Mr. Purdy and others based on demonstrated confidence, or  
16 some such other factor.

17 BY WITNESS BROOM:

18 A What would I think about such --

19 Q If the specifications for minimum job requirements  
20 were considerably higher, but allowed exceptions for certain  
21 types of individuals, perhaps as Mr. Purdy who demonstrated  
22 competence in certain other ways?

23 BY WITNESS BROOM:

24 A I'm not exactly sure how to answer that, but let me  
25 make this one statement. If we have such a situation where we

1 have minimum job requirement stated in our program, and we do  
2 not meet those requirements, we will have a non-compliance  
3 cited by the NRC. Our auditors will pick that up and state  
4 audit deficiency.

5 HL&P would pick that up in their audits and state  
6 an audit deficiency.

7 I guess what I am trying to say is that it is very  
8 hard to justify in writing sufficiently in the file so that when  
9 an auditor, be it the NRC, our own people, or whoever, come and  
10 review that file, they are satisfied that that represents  
11 sufficient justification for not having the employee come up to  
12 whatever your specification requirements are.

13 The world used to not be that way, but I think it is  
14 today. We used to do that years ago, but I think that is much  
15 more difficult to do today.

16 Q Well, is the answer to set minimum requirements,  
17 which I think you, yourself, testified that you would not like  
18 normally to follow -- you would not normally consider adequate,  
19 I should say, for a particular position. Is it better to do that,  
20 or is it better to set higher requirements, and then put some  
21 specified procedure for exceptions.

22 BY WITNESS LROOM:

23 A Judge Bechnoefer, I'm not sure it matters one way  
24 or another. I think what you have to judge is in practice what  
25 type of people do we attract, and have we attracted, and do we

1 have in place on the project.

2 In our written requirements I think we abide by, so  
3 to speak, the rules and regulations of the industry. I think  
4 Mr. Vurpillat referred to the Standard Review Plan requirements  
5 or recommendations, whichever it is, --

6 Q I think it is recommendations.

7 A -- from the NRC, and I think that is proper for us  
8 to have our written requirements, be what the industry -- and  
9 by "industry" I mean the NRC or the code and standard-setting  
10 organizations -- across the board in the industry recommend or  
11 require, I am not sure this is a good analogy in this particular  
12 case, but in general we have to do what everybody else in the  
13 industry does. We have to make sure that our program is in  
14 general conformance and compliance in the same way that our  
15 competitors in the field are.

16 I don't see any real advantage to us on our part  
17 for setting some arbitrarily higher standards for those people.  
18 I think we can just as well seek those higher standards for the  
19 people we hire. And I think we have demonstrated that we do  
20 that, and I don't see the justification for us changing our  
21 written requirements, I guess is what I am saying.

22 Q Well, would the justification be that in the past  
23 some people at least may not have had adequate experience?

24 BY WITNESS BROOM:

25 A Well, I guess what I am really trying to say is that

1 adequate experience is again one of those subjective judgments.

2 Who determines what adequate experience is?

3 If you look at the Standard Review Plan recommendations  
4 or you look at ASNT requirements, if you look at some other  
5 practices in effect on other projects, or you look at an  
6 individual's assessment of the situation and say in my opinion  
7 what do I think about people's qualifications in this role.

8 I think we have had some of all of that on this  
9 project. I think that what I have tried to say is that since  
10 the outset Brown & Root has tried to establish a policy perhaps  
11 which was not in writing, but we have certainly had a goal and  
12 a policy all along to attract the very best people we can to this  
13 project.

14 I guess what I am really saying is when we have to  
15 replace someone we are always trying to find the very best  
16 candidate we can to fill that slot.

17 If the only candidate for some short period, some  
18 interim period, or for whatever reason, is something that only  
19 marginally satisfies these requirements, I don't see anything  
20 wrong with that. We may very well have to do that on occasion,  
21 but that doesn't mean we stop looking for better and higher-  
22 qualified people.

23 I think that is what is important as opposed to in  
24 a compliance or legalistic sense we state in writing concerning  
25 our minimum requirements for such roles.

1 (Bench Conference.)

2 BY JUDGE BECHHOEFER:

3 Q Turn to Page 5 of the Revised Quality Assurance  
4 Program. That's Applicant's Exhibit 8.

5 BY WITNESS VURPILLAT:

6 A Judge Bechhoefer, are you talking about the  
7 Attachment B to the Brown & Root portion, I presume?

8 Q Yes. Page 5 of Attachment B. Well, it's  
9 Attachment 1 to Part B, to be precisely correct.

10 BY WITNESS VURPILLAT:

11 A Yes.

12 Q The same paragraph that Dr. Lamb asked about, where  
13 there is a six-year requirement, that that would change, for  
14 instance to ten years, arbitrarily.

15 Would that present any great recruitment problems,  
16 or would it change the type of individual whom you expected to  
17 hire?

18 BY WITNESS BROOM:

19 A It would not change the type of individual we  
20 expected to hire. I don't think that particular change would  
21 cause any significant problem in this paragraph.

22 ///

23 ///

24 ///

1 BY WITNESS VURPILLAT:

2 A Judge Bechhoefer, I think the setting of minimum  
3 and maximum, or minimum requirements is not a problem, and no  
4 matter where you set them, as long as there is flexibility in  
5 the program to use some kind of management subjective judgment  
6 in the selection of the people, and the substitution of one  
7 attribute for another.

8 This is in my view, anyway, particularly true the  
9 higher you go in the organization, or the higher the individual  
10 might be in the organization.

11 For instance, we talked previously about Mr. Purdy  
12 and his capabilities. If there were an absolute requirement  
13 that the person holding that position be a college graduate, then  
14 I could not use Mr. Purdy in that position and that would be  
15 most unfortunate, if we were not able to use someone with those  
16 kinds of capabilities in that level of management.

17 So the flexibility -- and I think you mentioned  
18 this in your original question -- as long as the flexibility  
19 is there, then from a management standpoint the ability to  
20 select the best possible person available for the job is still  
21 there, and that is fine.

22 The problem comes in a business like this,  
23 particularly where we are talking about an auditable program,  
24 and whether it be financial audits, or quality assurance audits,  
25 when you have people asking questions about why did you



1 select, here is a man that you say has to have 15 year's  
2 experience and a degree, and this man has a degree but he only  
3 has 12 year's of experience, what basis did you use for the  
4 substitution of the other three?

5 It becomes often extremely difficult to explain to  
6 someone the management interpretation that allowed that to  
7 happen, even though the person might be very well qualified,  
8 and that is why I would tend to put the absolute written  
9 requirements at a reasonably low level with the idea that I as  
10 a manager will select, go out and find and select the best  
11 qualified man for the job.

12 BY JUDGE BECHHOEFER:

13 Q Would a higher requirement though, plus a require-  
14 ment for documentation of any deviations, would that lead to  
15 audit problems?

16 BY WITNESS BROOM:

17 A In my opinion it would.

18 BY WITNESS VURPILLAT:

19 A I believe it would relieve the audit problem, but it  
20 still leaves a subjective decision which is subject to  
21 interpretation, and subject to someone else's interpretation,  
22 and subject to someone else's interpretation of whether it was  
23 a good one or not. Not a matter of whether it was appropriate  
24 or inappropriate, just whether it -- did it absolutely meet the  
25 requirements. It's something that we concern ourself with

1 every day when we are writing procedures, for instance, that  
2 are auditable. We have to be very careful how we word it. We  
3 try very hard not to use the word "all" for instance, because  
4 this is very difficult thing to audit and to prove one way or  
5 the other. It's in that framework.

6 But strictly from a management standpoint, as long  
7 as the flexibility is there the seeking of the best possible  
8 candidate, and the hiring of the best possible candidate to do  
9 the job is possible, and that is what we are really after.

10 JUDGE BECHHOEFER: That's all the questions I have  
11 at the moment.

12 Why don't we take a short break of about 15 minutes,  
13 and then we will call Mr. Grote.

14 (A short recess was taken.)

15 ///

17 ///

19 ///

1 JUDGE BECHHOEFER: Back on the record.

2 Mr. Axelrad, do you wish to present Mr. Grote?

3 MR. AXELRAD: Yes. At this point I would like to  
4 call Mr. Stephen H. Grote to the stand, who has not previously  
5 been sworn.

6 Whereupon,

7 STEPHEN H. GROTE

8 was called as a witness and, after having been cautioned to  
9 tell the truth, the whole truth, and nothing but the truth,  
10 testified on his oath as follows:

11 DIRECT EXAMINATION

12 BY MR. AXELRAD:

13 Q Mr. Grote, please state your name and current  
14 employment.

15 A Stephen H. Grote, Senior Vice President of  
16 Operations for the Brown & Root Power Group.

17 Q Please describe your current responsibilities.

18 A I am a senior office in the Brown & Root Power  
19 Group responsible for project management services, including  
20 cost engineering, scheduling, estimating, material management  
21 and project control, and contract and proposals.

22 I exercise these responsibilities in connection  
23 with all of the projects in the Power Group, including the  
24 South Texas Project and all other nuclear and fossil projects.

25 Q Describe your educational and professional background.

1           A        I received a Bachelor of Science degree in Mechanical  
2 Engineering from the Georgia Institute of Technology in 1964.  
3 I am a registered professional engineer in the State of Texas.

4           Q        Describe the positions that you have held with Brown  
5 & Root.

6           A        Upon graduation from Georgia Tech in 1964, I joined  
7 Brown & Root, Incorporated as a Design Engineer in the  
8 Petroleum and Chemical Engineering.

9                    Beginning in 1968 I was a Project Engineer, and was  
10 responsible for a variety of engineering projects in the  
11 petroleum and chemical field.

12                   Beginning in 1972 I was made a Project Manager,  
13 and was responsible for a number of petro-chemical projects  
14 until 1975, when I was transferred to the Brown & Root Chicago  
15 Division. There I assumed the position of Manager of  
16 Engineering, responsible for all of the design engineering  
17 departments in the Chicago Division.

18                   At that time the work we were performing in  
19 Chicago was related primarily to fossil power plants.

20                   In 1976 I transferred back to Houston and assumed  
21 responsibility for Project Engineering and Project Engineering  
22 Services in the Petroleum and Chemical Group.

23                   In December of 1976 I was made Vice President of  
24 Petroleum and Chemical Engineering, a position I held until  
25 January of 1979 when I transferred to the Power Group. I have

1 been responsible since that time for Power Operations.

2 In January of 1980 I was promoted to the position  
3 of Senior Vice President.

4 Q Describe please the responsibilities you have had  
5 with respect to the South Texas Project.

6 A My responsibilities as the senior Power Group  
7 official responsible for operations at the South Texas Project  
8 have remained essentially the same since I joined the Power  
9 Group in 1979.

10 In addition to these responsibilities, in April of  
11 1979 I was named executive sponsor of the South Texas Project.  
12 Brown & Root assigns an executive sponsor to all major projects.  
13 This position normally functions as the primary point of client  
14 communication and accountability above the project level.

15 In the two years that I was executive sponsor, I  
16 was involved on a continuing basis with all senior level project  
17 personnel, and regularly attended major project meetings.

18 I have never been responsible for the quality  
19 assurance program at STP, which has always maintained a  
20 separate, independent reporting relationship to the head of the  
21 Power Group. However, as executive sponsor I was kept apprised  
22 of significant quality related issues by the Project Manager  
23 and other people associated with the project on a continuing  
24 basis.

25 In my capacity as executive sponsor, I was

1 responsible for keeping HL&P executive level personnel informed  
2 of major issues associated with the project; however, because  
3 of the size and importance of the South Texas Project there  
4 were, in addition, continual client communications with senior  
5 executive management of HL&P by Brown & Root management  
6 officials at levels above my position.

7 In May of this year, Mr. Eugene Saltarelli, Senior  
8 Vice President and Chief Engineer of the Power Group, assumed  
9 the position of executive sponsor of the project, and I have  
10 continued my participation in the project through my position  
11 as head of Operations.

12 MR. AXELRAD: Mr. Chairman, before the panel,  
13 including Mr. Grote become available for questioning by Judge  
14 Hill, and for cross-examination, I would like to ask Mr. Grote  
15 some questions with respect to Applicants' Exhibit 32-A, and to  
16 ultimately move that exhibit into the record.

17 That exhibit, just to make sure we all go forward  
18 in the same fashion, was first identified at the session on  
19 June 3, 1981.

20 The entire exhibit, Applicants' Exhibit 32, was  
21 submitted at that time, and subsequently a portion of that was  
22 split out as Applicants' Exhibit No. 32-A.

23 The index for June 3, 1981, at Page 3636, reflects  
24 that Exhibit 32-A was identified at Page 3651, and that is a  
25 correct citation. It indicates that it was received at Page 3843,

1 but that is an error. I believe 3843 referred to CCANP's  
2 Exhibit No. 16, so at this point I would like to ask Mr. Grote  
3 a couple of questions and move for the exhibit's admission.

4 BY MR. AXELRAD:

5 Q Mr. Grote, do you have before you a copy of the  
6 document which has been identified as Applicants' Exhibit 32-A,  
7 consisting of a letter from Mr. Broom to Mr. Goldberg, dated  
8 May 20, 1981, to which there is an attached memorandum from  
9 Grote to Dr. Broom dated May 20, 1981?

10 A Yes.

11 Q Did you conduct an investigation of allegations of  
12 obstructing of an NRC investigation and intimidation of  
13 employees, which was reported in NRC Investigation Report 81-11?

14 A Yes, I did.

15 Q Does the memorandum dated May 20, 1981, contain a  
16 summary and description of that investigation you conducted?

17 A It does.

18 Q Is that memorandum true and correct to the best of  
19 your knowledge and belief?

20 A It is.

21 MR. AXELRAD: Mr. Chairman, I move that Applicants'  
22 Exhibit 32-A be admitted into the record.

23 JUDGE BECHHOEFER: Any objections?

24 MR. JORDAN: Yes, Your Honor, we object to the  
25 admission of Applicants' Exhibit 32-A on two grounds: First,

1 recognizing that the question before the Board in terms of  
2 admissibility of evidence is whether evidence is -- is  
3 fundamentally whether evidence is reliable, and we turn to  
4 Rules of Evidence in order to find the basis of that  
5 determination.

6 The first basis is that Applicants' Exhibit 32-A  
7 is ripe with rank hearsay. The effort here is to demonstrate  
8 or presume to show the facts of events that occurred in the  
9 past through conversations that Mr. Grote had with others, and  
10 this -- I recognize that hearsay may be at times admissible in  
11 administrative proceedings, indeed as a general proposition it  
12 is admissible.

13 We have here, however, quite a special case. We  
14 have here a case of people whose credibility is at issue, as  
15 you can tell simply from reading the document.

16 We have a case where the facts are coming to us  
17 second-hand. Everything really depends upon Mr. Grote's  
18 evaluation of the facts, and presumably, as well, Mr. Magnuson's  
19 evaluation of fact. I presume he participated in discussion  
20 with Mr. Grote of what happened and what he heard, although  
21 he has not been called, and as we see it the document -- and  
22 indeed in testimony by Mr. Grote to the truth of matters that  
23 he heard, are inadmissible in the grounds that they're not  
24 reliable for the proof of these issues, where credibility is  
25 such a serious issue.



1           The second point I would say is relatively minor,  
2 I guess, and is that it may be admissible for the purpose of  
3 showing that Mr. Grote did an investigation, and for no other  
4 purpose, and particularly if we are to get from him, as I just  
5 said we should not, the facts that are shown in the document;  
6 they should come from him before us on the stand and not from  
7 this document. He is the proper source for the information.

8           JUDGE BECHHOEFER: Mr. Axelrad.

9           MR AXELRAD: Under the Board's new ground rules,  
10 I would assume that if anybody else has anything to say on that  
11 subject -- that objection, they should be heard first and I  
12 would respond and I would have to debate.

13           JUDGE BECHHOEFER: Yes. I guess Mr. Reis or  
14 Mr. Sinkin would be heard first.

15           Mr. Sinkin, do you have --

16           MR. SINKIN: We have no objection, Your Honor.

17           JUDGE BECHHOEFER: No objection to the admission  
18 of the --

19           MR. SINKIN: To the admission of the report, right.

20           MR. REIS: Your Honor, I think from the Staff  
21 essentially has no objection at this point for Mr. Grote here.  
22 I think essentially what Mr. Jordan talked to is the weight of  
23 the document, of the material set out in the document. This is  
24 an administrative proceeding. It's not a court proceeding. I  
25 think with having the author of the memorandum here and not the

1 recipient of the memorandum, can ask questions to determine  
2 what weight should be given. I don't think the matters therein  
3 are established as such. We have to determine what weight is  
4 to be given to them now that we have the author of the  
5 memorandum. There may be some other questions that might be  
6 appropriate for the Board to determine the weight to be given  
7 and how it comes in, and I am looking essentially, as I have  
8 said before, usually in looking at these matters I start with,  
9 as a base, the Rules of Federal Evidence.

10 We are more liberal than the Federal Rules of  
11 Evidence in that this is an administrative procedure and not  
12 a judicial procedure. However, we do have the Federal Rules  
13 of Evidence, records of regularly conducted activities.

14 If I may, I would like to solicit from Mr. Grote  
15 whether this type of report has been prepared formerly on  
16 other NRC investigations. Is this a regular type of function  
17 that he prepares this memorandum regularly, sent and kept by  
18 Brown & Root, and I think we might inquire into that to see  
19 what type of a record this is.

20 MR. BECHHOEFER: Yes. You may ask that question.

21 VOIR DIRE EXAMINATION

22 BY MR. REIS:

23 Q Mr. Grote, how long after the incidents recorded  
24 in this memorandum did you conduct the interviews and the other  
25 investigations you indicate in Applicants' Exhibit 32-A?

10-9

1 A I think I understand your question.

2 The NRC came onto the South Texas Project to  
3 investigate certain allegations that were -- among which were  
4 the subject of this memo, on April the 9th, 1981.

5 On April the 10th, the next day, they conducted a  
6 exit interview at HL&P's downtown Houston offices, which myself  
7 and Dr. Broom attended.

8 As a consequence of the information that they gave  
9 us in that meeting, I made a commitment to them that I would  
10 personally look into the matters that were alleged and  
11 conduct an investigation.

12 April the 10th was a Friday. I contacted Glen  
13 Magnuson, an attorney at our firm, who was out of town that day,  
14 and asked him if he would meet me at the site on Monday  
15 morning, the first thing, so that he could assist me in  
16 beginning to look into these matters. So it was several days  
17 later.

18 Q Now, did you make any notes during the time you  
19 made the investigation that were incorporated into the material  
20 here?

21 A No, I made no notes during my investigation.

22 Q You made no notes and the matters herein are  
23 totally based on your recollection after you completed the  
24 investigation?

25 A That's right. We -- Mr. Magnuson and myself

10-10  
1 discussed the subject of whether or not to take notes while  
2 we were talking to different people, and he advised me, and  
3 I saw merit in what he said, that we were trying to keep the  
4 inquiries with the individuals we talked to on a semi-informal  
5 basis, and therefore the results of the investigation were  
6 developed in the form of this memorandum at the conclusion of  
7 the -- or approximately the time we concluded the investigation.

8 Q And after you talked to these people you made no  
9 notes of what they said after they left the room, either?

10 A No, we did not.

11 Q Now, had you conducted any similar investigations  
12 at any time based on NRC exit interviews?

13 A No. That was the first exit interview I had ever  
14 attended.

15 Q I see. Has Brown & Root, to your knowledge, ever  
16 prepared similar memoranda on NRC investigations?

17 WITNESS BROOM: Would I be permitted to respond  
18 to that?

19 MR. REIS: Yes, Dr. Broom.

20 WITNESS BROOM: Mr. Reis, I don't know that the  
21 form would be a memo exactly like this, but we have performed  
22 follow-up investigations, to NRC investigations before and  
23 there have been documented results of those.

24 We do not do it in all cases. We have done it in  
25 some cases.

0-11  
1 MR. REIS: Mr. Chairman, in this case, again I  
2 think basically the memo can come in, to use the oft-overworked  
3 expression, for what it's worth at this time.

4 However, even looking at hearsay rule -- because  
5 this is an administrative proceeding. However, looking at  
6 Rule 803(6) of the Rules of Evidence we do find that this is  
7 a memorandum made at or near the time of the gather of the  
8 knowledge.

9 However, we do find -- there's problems that there  
10 is a great deal of information in there as to -- that was  
11 apparently just remembered by the people who conducted this  
12 investigation and there were no notes made at the time; therefore,  
13 there's a question within the rule itself of whether there is  
14 an aura of trustworthiness, and in saying trustworthiness it's  
15 no reflection on the person who prepared the memorandum, but  
16 as we are all aware, memories fade rather rapidly, and it is  
17 rather a complex and detailed memorandum.

18 We further find that -- I don't think we could say  
19 this is a memorandum made in the regular course of business.  
20 Certainly it was for a special purpose, a special investigation  
21 and doesn't appear, including what Dr. Broom said, as the type  
22 of record that is regularly prepared.

23 However, although it does not fall within the rule,  
24 as I started out to say, I think, this is an administrative  
25 hearing. There's obviously no jury here. I think the Board

10-12

1 can accept it and evaluate its reliability itself.

2 (Bench conference.)

3 MR. JORDAN: May I follow that voir dire with, I  
4 think, one more question?

5 JUDGE BECHHOEFER: Yes. You may ask one more  
6 question.

7 MR. JORDAN: He got to an area that I hadn't  
8 gotten to.

9 VOIR DIRE EXAMINATION

10 BY MR. JORDAN:

11 Q Mr. Grote, you testified that essentially within  
12 three or four days after the exit interview you would be doing  
13 your investigation. I guess the exit interview was on Friday  
14 and you would be gone on Monday?

15 A Yes, the NRC investigation was Thursday, the exit  
16 interview was Friday, and we started on Monday morning first  
17 thing.

18 Q Right. And can you tell me, when was the -- how  
19 long did the investigation take?

20 A Approximately two weeks.

21 Q You were investigating for two weeks?

22 A Not continuously, but --

23 Q No, I don't mean every minute.

24 So that takes us from April 13th to essentially  
25 the end of the month?

10-13

1 A That would be approximately correct.

2 Q Right. When did you first write down something  
3 about this?

4 A At about the time that we concluded the investi-  
5 gation. The first draft was developed very close to that  
6 period of time, perhaps two weeks after we started the  
7 investigation. I don't recall exactly when the first draft  
8 was put on paper, but I would say it was around the 1st of May,  
9 in that time frame.

10 MR. JORDAN: I would stand on my objection in this  
11 case due to the significance of the credibility issues that  
12 are reflected in the memo, I guess. I don't think that it's  
13 even worth putting in this document in the record. I don't  
14 know what it would be there for. I think it would just  
15 clutter it up. We can get the same information from the  
16 witness. The document itself is subject to an awful lot of  
17 question. And also from the date, at least the final draft,  
18 it seems to be considerably after the investigation itself.

19 JUDGE BECHHOEFER: One question, Mr. Grote.

20 When was the first time you either made a draft or  
21 made notes which you used in this memo?

22 WITNESS GROTE: Approximately the 1st of May.

23 JUDGE BECHHOEFER: So not even on April 13?

24 WITNESS GROTE: I'm sorry. I didn't understand  
25 you.

10-14

1 JUDGE BECHHOEFER: On April 13 did you write any-  
2 thing at that point?

3 WITNESS GROTE: No, I think Mr. Magnuson had a  
4 pad of paper with him on which he wrote down some names that  
5 were given to us by the people that we talked to, and maybe a  
6 few things like that, but as far as taking detailed notes,  
7 there were none taken while we were conducting the investigation.

8 JUDGE BECHHOEFER: Did you use Mr. Magnuson's notes  
9 in writing this memo?

10 WITNESS GROTE: No. Actually, Magnuson developed  
11 the first draft of the memo for me, and it was the subject of  
12 considerable discussion between Mr. Magnuson and myself before  
13 we finalized the memo.

14 MR. JORDAN: On the basis of that, we certainly  
15 must insist that Mr. Magnuson be here if this document is  
16 going to be in the evidence here. This man didn't write it.  
17 The other man who was involved in the investigation wrote it.

18 MR. AXELRAD: Mr. Chairman, if I may be heard at  
19 this time with respect to all the matters that have been raised  
20 by Mr. Jordan.

21 JUDGE BECHHOEFER: Yes.

22 MR. AXELRAD: Taking the last matter first, as to  
23 whether or not Mr. Magnuson needs to be called at this time,  
24 the fact that Mr. Magnuson may have prepared the first draft  
25 is, in our view, wholly irrelevant as to whether or not



10-15

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1 Mr. Magnuson should appear at this point.

2 Mr. Grote has indicate, has testified that the  
3 report is true and correct, it reflects the results of his  
4 investigation of these matters, and certainly the authorship  
5 of the draft which ultimately rinalized in his report is  
6 irrelevant to whether or not he is properly able to submit  
7 this report and to be questioned about it and to attest to  
8 its veracity.

9 With respect to the other matters which have been  
10 raised by Mr. Jordan, I consider them almost frivolous, and it  
11 seems to me that Mr. Reis has made the point very tellingly.  
12 The objection that he has raised goes not to admissibility  
13 but as to weight.

14 Mr. Grote is here, ready to testify as to the  
15 results of an investigation that Brown & Root conducted, he  
16 conducted for Brown & Root into certain matters. He is able  
17 to tell this Board what he did, what he found out, what actio s  
18 Brown & Root took as a result of what he found out in the  
19 course of that investigation.

20 Those are all matters that the Board is interested  
21 in. Those are all matters which have been spread upon the  
22 record. If we took Mr. Jordan literally, he would be more  
23 satisfied if instead of submitting it in the form of a report  
24 we asked Mr. Grote questions one at a time to cover all the  
25 pages of this report as to exactly what he did, to whom he spoke.

10-16

1 what they told him, what the results were and what Brown & Root  
2 did. That would be an utter waste of time of this Board and  
3 of the parties, and it appears to me that there is no basis  
4 whatsoever for denying the admissibility of this report in an  
5 administrative proceeding.

6 MR. REIS: Mr. Chairman, if I may be heard again --  
7 well, you ruled that people only may be heard once.

8 JUDGE BECHHOEFER: Yes. We were about to discuss  
9 this.

10 MR. REIS: And if you're abiding by that ruling  
11 I don't know.

12 I do have something further to say, but it depends  
13 on your pleasure.

14 JUDGE BECHHOEFER: I think we'll stick with what  
15 we said before.

16 Now, the Board has decided we will admit it for  
17 what it's worth. We will reserve judgment on whether or not --  
18 continue to reserve on whether or not Mr. Magnuson must be  
19 called.

20 (Applicants' Exhibit No. 32(a)  
21 was received in evidence.)

22 MR. AXELRAD: At this point, the panel, including  
23 Mr. Grote, are ready for Judge Hill's questions.

24 (Whereupon, Witness Grote joined the panel of  
25 Witnesses Broom and Vurpillat.)

## BOARD EXAMINATION

10-77

1  
2 BY JUDGE HILL:

3 Q Let me say at the outset that I'm not going to  
4 at this time ask questions about 81-11.

5 I'm going to have a series of questions for  
6 Dr. Broom and Mr. Grote, and they all concern Attachment No. 2  
7 of Dr. Broom's testimony.

8 Do you have a copy of that for Mr. Grote also?

9 BY WITNESS GROTE:

10 A The organization chart, Judge Hill?

11 Q Yes, the organization chart.

12 Specifically, I'm going to want to talk about the  
13 top block of the power group vice-president, the operations  
14 block, which is now occupied by Mr. Grote, and then the entire  
15 block of the three positions indicated there under South Texas  
16 Project.

17 BY WITNESS BROOM:

18 A Yes, sir. I'm not sure that Mr. Grote's copy is  
19 marked with the corrections that I gave you.

20 Q Okay. We'll take care of that, because I'm going  
21 to ask you to go back through that, I'm afraid.

22 BY WITNESS BROOM:

23 A Surely.

24 Q Okay. Let me first start with Dr. Broom. You  
25 have been -- I'm interested in the time period of like 1977 to

10-18

1 the present.

2 BY WITNESS BROOM:

3 A Yes, sir.

4 Q You have occupied essentially that same position  
5 since '77?

6 BY WITNESS BROOM:

7 A No, sir, I have not.

8 Q Can you explain that, then?

9 BY WITNESS BROOM:

10 A Yes, sir. I occupied the position shown on this  
11 chart from approximately June of 1979 until the present. I  
12 believe I described the role of being in that same box with  
13 the group vice-president as one of pretty much, splitting up  
14 duties, items and matters that are attended to by that office,  
15 and I believe I indicated that from June until the -- from  
16 June of 1979 until January of 1980 my day-to-day responsi-  
17 bilities had not involved specifically the QA program for  
18 South Texas.

19 In January of 1980, by simple instructions from  
20 the boss, I was instructed to get very much involved in the  
21 direct supervision and looking into the QA program on a  
22 day-to-day basis as a result of 79-19, and the matters that  
23 we had begun to hear about just within the last few days prior  
24 to that time.

25 Q Prior to that time you were involved, though, in

10-19

1 the operations portion of it?

2 BY WITNESS BROOM:

3 A No, sir, I was in the engineering organization --  
4 ch, I'm sorry, you mean between June and December of 1979? Is  
5 that the period of time you're referring to?

6 Q Well, I'm interested in ultimately getting to a  
7 discussion of the people who have occupied these positions in  
8 the South Texas Project, the general manager and the site  
9 manager, and I'm now trying to explore the question of whether  
10 you were involved in that particular block, that operation, for  
11 the period of '77 through '81.

12 BY WITNESS BROOM:

13 A Judge Hill, pardon me if I have to ask one more time.  
14 Are you talking about the box at the top of the chart where I  
15 now reside?

16 Q Yes, and I'm specifically concerned with whether  
17 you were involved with this block, down through this progression  
18 were you involved with this block having to do with the general  
19 manager and the site manager of the South Texas Project.

20 BY WITNESS BROOM:

21 A Let me describe my involvement. In assuming this  
22 position in June of 1979 I was involved in some of the reporting  
23 to the group vice-president, at that time Mr. Munisteri, on  
24 occasion when he was out of the office and something would  
25 come up, I would be called or I would be informed.

1 I don't think it's fair to say that on a day-to-day  
2 basis I was in the direct line of communication for the South  
3 Texas Project specifically between the period of June '79 and  
4 January 1980. I had some knowledge but it was not an everyday  
5 thing, as it has been since January 1980.

6 And prior to that time, prior to June of 1979, going  
7 back as far as you want, I think you said '77, during that  
8 period of time I was in the engineering organization, as shown  
9 on the far right-hand side of the chart, in a position similar  
10 to that occupied by Mr. Owens or by Mr. Bomke.

11 Q All right. Now, let me move down to Mr. Grote.  
12 From your testimony I see that you moved into that position in  
13 January of '79, is that correct?

14 BY WITNESS GROTE:

15 A Yes, sir, that is.

16 Q Can you tell me, who was your predecessor in that  
17 position?

18 BY WITNESS GROTE:

19 A The head of operations before me was H. L. Baker.  
20 At the time I moved into the power group Mr. Baker was a senior  
21 vice-president and head of the operations division.

22 In January of 1979, when I moved to the power group,  
23 I reported through him to Mr. Munisteri. I was a vice-president  
24 under him with essentially the same responsibilities as shown  
25 here, but there was someone above me, and at that time there were

70-10-21  
10-21

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25

some other work that was in what was called the operations  
 division that's not in there any more. Mainly, it was the  
 finance administration and personnel services, that now report  
 directly up to Dr. Broom.

- - -

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1 Q All right. So in that position you were involved  
2 in the supervision of the next block down, the South Texas  
3 Project?

4 BY WITNESS GROTE:

5 A Yes, that's right.

6 Q All right. Let me move to that.

7 Now, the other day, Dr. Broom, you went through --  
8 In answer to another question, you went through the progression  
9 of people in the position which -- let's see.

10 To shorten this up, why don't we talk about  
11 the top position in that block as the general manager,  
12 and the second one as the site manager, and the bottom  
13 one as the home office manager.

14 I just want to be sure that my count is correct,  
15 that the progression you listed for us in reverse order,  
16 I counted six people occupying the general manager's slot  
17 between '77 and the present; is that correct?

18 BY WITNESS BROOM:

19 A Yes, sir, that's correct, although I think  
20 I indicated that you could extend that all the way back  
21 to 1973 and that would still be the same number.

22 Q All right. Then the first person who occupied  
23 it must have been there from '73 to '77?

24 BY WITNESS BROOM:

25 A That is correct. He was the original project



21-2

1 manager.

2 Q Okay. Now --

3 BY WITNESS BROOM:

4 A I think I also indicated that the last person  
5 that I named, Mr. Saltarelli, who occupies it presently,  
6 we do view as a temporary --

7 Q You said he was acting, yes.

8 Now, moving down to the next position, the  
9 site manager, I added that up to seven people in that  
10 position from '77 through the present.

11 BY WITNESS BROOM:

12 A Yes, sir, I agree with that.

13 Q Is that correct? I just wanted to be sure  
14 I had these numbers correct.

15 The last position there, the home office manager,  
16 Mr. Cook, did I get the correct impression that he has  
17 been in that position since '77, and so there's only been  
18 one person there?

19 BY WITNESS BROOM:

20 A No, sir. I indicated that that was a relatively  
21 new position on the chart, and I believe he was moved  
22 into that position last year. Perhaps Mr. --

23 BY WITNESS GROTE:

24 A 1980.

25 Q Then what you are saying is that position

1 didn't exist prior to last year?

2 BY WITNESS BROOM:

3 A That is correct.

4 Q All right. So we can drop that position.

5 Let's go back up and talk about the positions  
6 above, the general manager and the site manager positions.

7 Dr. Broom, can you give me just a general  
8 policy or state -- give me some idea of what you would  
9 expect the longevity of a project manager -- I'm talking  
10 about a position in general.

11 The top person in charge of one of your major  
12 construction projects; what would you expect would be  
13 the typical longevity of a person in that slot?

14 BY WITNESS BROOM:

15 A If in terms of typical you mean average --

16 Q Well, average, typical mean, whatever?

17 BY WITNESS BROOM:

18 A Average is, perhaps, a little bit misleading,  
19 because you have some jobs which I'll call typical, and  
20 then you may have some atypical job where frequent turnover  
21 over a period of time might skew the average.

22 But a typical job that's set up the way we  
23 would like to have a job run is to have the continuity  
24 in management last for a considerable duration.

25 We do not plan nor expect our people to accept

1 a given assignment on a project such as a nuclear powerplant  
2 job that runs 10, 12, 14 years and stay in one slot.

3 Obviously, people get maybe stale. There  
4 are promotions. There are new assignments and so on and  
5 so forth.

6 But certainly, we would prefer to have people  
7 occupy a slot for at least several years.

8 I don't have a number that says between now  
9 and back to the beginning of the South Texas Project how  
10 many general project managers would we have preferred  
11 to have.

12 I don't really have a number in my head, but  
13 I'm sure we would have preferred it to be a couple, maybe  
14 three, instead of six, if that's the thrust of your question.

15 Q As an associated question, what would you  
16 expect would be the time that it would take a person in  
17 this type of a position to come up to speed?

18 BY WITNESS BROOM:

19 A That depends on several things, Judge Hill.  
20 It depends on the status of the project and it depends  
21 on the background of the individual involved.

22 It also depends on whether he has had association  
23 with the project in any capacity in a previous time.

24 If a fellow is coming in cold, how long did  
25 it take him to come up to speed; several months. You

21-5  
1 know, how far is up to speed? Three months, six months,  
2 something like that, to really get his arms around the  
3 job.

4 Mr. Grote may have a different opinion.

5 If someone is promoted from within or from  
6 some associated position to the project, he may be able  
7 to, in effect, come up to speed or be at speed much quicker  
8 than that.

9 Q My arithmetic on this, I get an average for  
10 the general manager's position of about one every eight  
11 months, and on the site manager I get an average of about  
12 one every seven months.

13 BY WITNESS BROOM:

14 Yes, sir, but I think you have to look at  
15 the dates and you see that our first team stayed on the  
16 job for an extended period of time, and then we had a  
17 series of changes; and we have not --

18 Q Well, let me ask you to do this, since we're  
19 down to this point.

20 Could you start and go chronologically, starting  
21 with the incumbent in each of these positions in 1977,  
22 and could you start with the incumbent for the site manager  
23 and come forward and give us this list; and now I would  
24 like to hear why was the change made for each of the changes.

25 //

21-6

1 BY WITNESS BROOM:

2 A Yes, sir, I'll attempt to do that.

3 I did not make all those decisions. I'll  
4 tell you what I believe were the reasons surrounding those  
5 changes.

6 Q Yes. That's why I was exploring initially  
7 whether both you and Mr. Grote were on this during this  
8 four-year period.

9 If you can reconstruct the progression of  
10 the six people through the general manager's position,  
11 and the seven people through the site manager, and give  
12 us some rationale for why the change was made in each  
13 case.

14 BY WITNESS BROOM:

15 A Yes, sir, I'll attempt to do that.

16 Mr. Bierman was the general project manager  
17 in 1977.

18 He had been the general project manager since  
19 the project began in 1973.

20 I believe it was in March or April of 1978  
21 that Mr. Bierman was relieved of those responsibilities  
22 and replaced by Mr. Carl Crane.

23 The reason for that is, I believe, the project  
24 was behind schedule and it was considerably over budget,  
25 and I believe our client was disappointed in that regard,

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

21-7  
1 and I think that we, Brown & Root management, were disappointed  
2 in that regard; and in looking at the organization, we  
3 decided that Mr. Bierman, who had had some considerable  
4 nuclear background, but had been on the job for an extended  
5 period of time, might be, I guess, burned out or had been  
6 there perhaps too long, and it's for some combination  
7 of reasons like that that I believe Mr. Bierman was relieved  
8 of his responsibilities.

9 I think if you have to point a finger at some  
10 element of the job that there was concern about, it would  
11 have been more in the failure to make progress on the  
12 job and cost and schedule area, as opposed to concerns  
13 that we would have had about quality or any violations  
14 of requirements.

15 There was none of that kind of concern that  
16 I was aware of, that we questioned his dedication to meeting  
17 requirements or fulfilling all of the commitments we had  
18 made, but rather a concern in the area of ability to maintain  
19 cost and schedule requirements.

20 Mr. Crare had been the construction manager  
21 on the project, essentially since it began.

22 The reason I remind you of some of these type  
23 changes is that in making one change, we may create another  
24 change and so our number of changes in some respect are  
25 because of that reason.

21-8

1 We felt that Mr. Crane, who had 20 years --  
2 many, many years of experience in the nuclear business,  
3 would be the logical candidate to replace Mr. Bierman.

4 We moved Mr. Crane into that job in April  
5 of 1978, and as you know, in September of 1978, I believe,  
6 we published a revised cost and schedule estimate for  
7 the project.

8 Mr. Crane, although he had not been there  
9 for the full duration of the efforts in preparing such  
10 a revised estimate, had been there in that job since April,  
11 and Mr. Grote may choose to comment on this more specifically;  
12 but the revised cost and schedule discussed in the fall  
13 of 1978 was a significant increase over those in the past.

14  
15 - - -  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

303 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

21-9

1 I think it's fair to say that the client was  
2 disturbed about that and had been discussing with us the  
3 need to replace some of our key people, specifically the  
4 project manager, with someone of substantial experience  
5 in project management experience.

6 We moved Jim Pepin onto the job in November  
7 of 1978 for that reason, and in 1979, about seven months  
8 later, we were able to free up Mr. Kirkland from Comanche  
9 Peak responsibilities and moved him into that capacity  
10 on an interim basis.

11 I believe we described that to the client  
12 at the time. We certainly recognized that Mr. Kirkland  
13 was not a permanent assignee as a project manager, but  
14 I believe Mr. Grote can tell you that Mr. Kirkland agreed  
15 to sit in that chair during his final negotiations with  
16 Mr. Geurts, who was a project manager of some considerable  
17 experience in the nuclear industry, that he had been talking  
18 with over some period of time and who eventually joined  
19 us in September of 1979.

20 Mr. Geurts resided as the project general  
21 manager until May of this year, when of his own doing,  
22 of his own volition, he determined that he had been made  
23 an offer that he couldn't refuse, a significant opportunity  
24 elsewhere, and decided to leave our company.

25 Q Pardon me. When was that? He left when?



21-10

1 BY WITNESS BROOM:

2 A In may of 1981.

3 Q All right.

4 BY WITNESS BROOM:

5 A As I've described that move -- I think I've  
6 mentioned this on a couple of occasions -- we don't feel  
7 that you can leave the project without a project manager  
8 for any period of time and so Mr. Saltarelli has agreed  
9 to sit in that seat until we secure the services of a  
10 general project manager similar to the qualifications  
11 and background of Mr. Geurts, and he has been in that  
12 role for a month and a half or thereabouts, and probably  
13 will be there for another month or so until, hopefully,  
14 one of the gentlemen that we are currently in discussions  
15 with will join the project.

16 Steve, you might have some other evaluation  
17 of some of the reasoning behind some of those moves.

18 That's strictly my opinion of why the moves  
19 were done.

20 BY WITNESS GROTE:

21 A No, I think that's approximately correct.

22 When I came onto the project, the project  
23 manager was Jim Pepin, and in the spring of '79  
24 Henry Kirkland became available from the Comanche Peak  
25 Project where he had been the general manager, and prior

21-11

1 to that he had been the project manager at Brunswick Project.

2 He had an engineering and construction background,  
3 probably heavier in construction than engineering.

4 So I had him move back to Houston and put  
5 him to work on the project on an interim basis while I  
6 searched the industry for the strongest project manager  
7 I could find.

8 It was in connection with that search that  
9 I found and eventually hired Jim Geurts until he resigned  
10 about a month ago.

11 Q Can we do the same for the site manager?

12 BY WITNESS BROOM:

13 A Yes, sir. In 1977 Carl Crane was the construction  
14 project manager.

15 He had been in that slot since before the  
16 project moved to the field, before we received a construction  
17 permit.

18 In May of -- Let me make sure I get my dates  
19 right here.

20 In April of 1978, as I indicated just previously,  
21 we moved Carl from his role as construction project manager  
22 to project general manager.

23 The construction project manager was then  
24 vacant.

25 Jim Monroe, who had been his assistant construction

1 project manager -- I believe that was his job -- was promoted  
2 to fill Carl's role, and he stayed in that position from  
3 April of 1978 until May of 1979.

4 Mr. Dodd, who had been at Comanche Peak was  
5 available and we replaced Mr. Monroe with Mr. Dodd, who  
6 had become available off that project.

7 We had been having discussions with our client  
8 during this period, as I indicated, to focus as much senior  
9 current nuclear talent on that project that we had at  
10 our disposal; and I think that's a proper characterization  
11 of the reasons for the next two moves together.

12 Mr. Dodd became and then Mr. Douglas became  
13 available in November, and at the time we judged that ,  
14 although Mr. Monroe and Mr. Dodd and Mr. Douglas all had  
15 considerable nuclear backgrounds, in that progression,  
16 that the subsequent appointee was better suited for one  
17 job.

18 We went through those people and had  
19 Mr. U. D. Douglas in the construction project manager  
20 role in November of 1979.

21 Mr. Douglas stayed in that role until he received  
22 a very attractive offer from an outside firm and chose  
23 to leave us.

24 At that time we had created a position of  
25 deputy general project manager. We had not had one before.

21-13

1 Mr. Leasburg had been recruited and added  
2 to the staff of the project general manager, Mr. Geurts,  
3 and was serving in that capacity.

4 He was on Mr. Geurts' staff, and when  
5 Mr. Douglas announced his intention to leave our company,  
6 Mr. Leasburg was moved to that slot.

7 Mr. Leasburg had had considerable nuclear  
8 experience. Mr. Geurts had known him previously, and  
9 we felt Mr. Leasburg was very well qualified to head up  
10 the site operations.

11 Unfortunately for us, in February of 1981  
12 one of the people who had left the client's organization  
13 to take a job somewhere else lured Mr. Leasburg away to  
14 join him.

15 So they are both now happily situated in a  
16 different utility company, as a matter of fact, in another  
17 part of the country.

18 But seriously, Mr. Leasburg was offered an  
19 opportunity to go into plant operations with a major utility  
20 in the United States in an area of the country that was  
21 to his liking, and he chose that opportunity and left  
22 our company.

23 When he announced his intention to leave in  
24 February of 1981, this was unexpected on our part, and  
25 so we asked Mr. Crane, who had been the construction manager

21-14

1 and the project manager, and as I stated earlier, is a  
 2 gentleman of considerable number of years experience,  
 3 to move back onto the project and for an interim period  
 4 of time, run the field operations until we secured a replacement  
 5 for Mr. Leasburg, who had resigned.

6 That took about two months, from February  
 7 1981 until April of 1981, at which time Mr. Jim Thompson  
 8 joined us to assume the construction project manager role.

- - -

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

1 BY JUDGE HILL:

2 Q Let's see. I would like to pinpoint in here if  
3 the incumbent in each position at the time of the Show Cause  
4 in the case of the General Manager am I correct it is  
5 Mr. Geurts?

6 BY WITNESS BROOM:

7 A Yes, sir.

8 Q And in the Site Manager it was Mr. Dodd?

9 BY WITNESS BROOM:

10 A No, sir. It depends on -- Do you mean --

11 Q Okay. I have a transfer right as 11/79, November  
12 1979 from Dodd to Douglas, so I --

13 BY WITNESS BROOM:

14 A Yes, sir. That's when the inspection at the job-  
15 site began. I don't know what you mean by --

16 Q Okay. I will say when the actual NRC investigation  
17 began.

18 BY WITNESS BROOM:

19 A Began?

20 Q Yes.

21 BY WITNESS BROOM:

22 A I don't recall the day of the month on which that  
23 change occurred, but U. D. Douglas assumed the Construction  
24 Project Manager role in the same month that NRC 79-19 was begun.

25 Q During this period in which you were going through

1 some 13 people in these two positions, I realize that your  
2 client perhaps precipitated some of these changes, but did  
3 Houston Lighting & Power ever voice any objection to the large  
4 number of people that were moving through these positions?

5 BY WITNESS BROOM:

6 A Judge Hill, perhaps Mr. Grote is better qualified  
7 to answer that, but I think it is safe to say that they were  
8 not happy that we had lost people on occasion, or that we had  
9 put someone in there and then wanted to make a subsequent  
10 change for whatever reason. We were not, either.

11 Did they complain? Yes. I am sure they voiced  
12 complaint about that. They wanted to stabilize the project  
13 management just as much as we did, I'm sure.

14 I didn't have those conversations with them  
15 personally. Perhaps Steve did.

16 BY WITNESS GROTE:

17 A Yes. I did.

18 Three of those changes were made as a consequence  
19 of managers leaving our company to go somewhere else. I think  
20 all three of them went to officer positions in other companies.  
21 And HL&P was concerned about losing those people, because they  
22 were all considered to be qualified and doing a good job, and  
23 they expressed their concern to us.

24 We, I think, convinced them that we had done  
25 everything we could to keep them, that we were paying them

1 fairly, and that we had spoken to them and done everthing in  
2 our power to try to convince them, but that they had viewed  
3 the oppportunities elsewhere to be more attractive.

4 In the case of the other individuals, those were  
5 cases where we concurred with HL&P in the selection of  
6 personnel, or in the decision to make personnel changes as a  
7 result of joint feeling on our part that we could bring some-  
8 body in that was stronger. And we are constantly on the lookout  
9 for ways to strengthen the organization, and when an opportunity  
10 arises and we find somebody that we think would be of benefit  
11 to the project, make those changes.

12 JUDGE HILL: Okay. That's all I have.

13 (Bench conference.)

14 BY JUDGE LAMB:

15 Q Mr. Grote, what has, in your judgment, have these  
16 turnovers in the top two slots in the past four years contributed  
17 to the problems which led up to and since the Show Cause Order?

18 BY WITNESS GROTE:

19 A Well, the problems that you are referring to, I  
20 suppose, are those 22 items of non-compliance that were reported?

21 Q And any other difficulties in connection with  
22 meeting the requirements of the job.

23 BY WITNESS GROTE:

24 A I am hesitating, because I have never tried to  
25 connect those two in my mind, and I am trying to do that now.



1 I think we have to look at individual problems on  
2 the project to make a connection, or possible connection. The  
3 primary result of 79-19, or one of the areas of non-compliance  
4 cited by the NRC that was of the most concern to me personally  
5 was that it reflected a perception on the part the QA/QC people  
6 that there was a pattern -- I think the NRC used the words --  
7 of intimidation and harassment, and that there was feeling on  
8 the part of the QC inspectors that they were being pressured by  
9 construction.

10 The QA program on the project that was developed,  
11 of course, was under Appendix B, which requires organizational  
12 freedom of some sort, and freedom from pressures of cost and  
13 schedule, and, presumably, having freedom from construction  
14 pressures.

15 It had always been the policy of the senior  
16 management of Brown & Root, and Power Group, and, of course,  
17 the project to assure that freedom from pressure, and that  
18 organizational freedom existed.

19 To the extent that there was a misunderstanding on  
20 the part of construction people as to management's policies  
21 and desires in connection with that, to the extent that there  
22 was a lack of understanding on certain construction people's  
23 part as to what behavior was to be tolerated and not tolerated,  
24 and certainly some of the things that were reflected in the  
25 interviews in 79-19 reflected a lack of that understanding.

1 I think that it goes right up the line through  
2 management, not just on the project but through me, and to the  
3 top management of Brown & Root.

4 So I suppose as time went on and we made decisions  
5 to select new people for various positions for the project with  
6 a view to strengthening those positions if any lack of strength  
7 were the reason that we made some of those changes, and if there  
8 could be an association between that and the failure to  
9 communicate in the strongest fashion possible, or in a strong  
10 enough fashion, that policy to our people there could be some  
11 connection, I suppose.

12 I'm having a little trouble making the connection in  
13 my mind, but I suppose there could be some, but I don't see a  
14 direct connection right now.

15 Q The question to which I was addressing myself  
16 really was to what extent might the rapid and several changes  
17 in top-level leadership have created a situation of idling --  
18 BY WITNESS GROTE:

19 A Of what?

20 Q Idling or confusion on the part of project people,  
21 with respect to who was driving?

22 BY WITNESS GROTE:

23 A I see what you mean.

24 Q I'm asking you whether you perceive that this  
25 created the problem?

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

BY WITNESS GROTE:

A Judge Lamb, I honestly don't think that was the case. In all cases of transfer of responsibility we either put somebody into a position that had significant exposure to the project previously, or we left somebody in that position through a considerable transition period to assure continuity.

To my recollection, I don't recall a period in time when there was idling or a sense of lack of guidance on the part of people on the project.

///

///

///

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1 BY JUDGE LAMB:

2 Q There is, isn't there, a period of orientation which  
3 would be required for one of these people coming in in order  
4 to -- well, orientation for the person and, also, for others on  
5 the project to become acclimatized to the new management?

6 BY WITNESS GROTE:

7 A Yes, sir, there is. And I can go down the individual  
8 circumstances that I was a party to, but in all of those  
9 circumstances there was someone who had been on the project for  
10 a considerable period of time in either the top or a senior  
11 position.

12 Well, let's go down the line. We had -- I moved  
13 Henry Kirkland to Houston in it was either March or April of  
14 1979, and he worked with me in my responsibilities as the  
15 sponsor of the project. He assisted me in all matters connected  
16 with the project until he took over as the Acting Project  
17 Manager in June. So he had been around for three months.

18 Mr. Geurts came on in September of 1979, and Henry  
19 Kirkland had continuous interface with Jim Geurts until, oh,  
20 the following spring of 1980. Mr. Kirkland was on the project  
21 full time during that period of time.

22 Jim Geurts left us last month, as I said, and  
23 Mr. Saltarelli is the NM Project Manager. Mr. Saltarelli has  
24 been in the Power Group since April of 1980, and he has been  
25 associated with the project on a most-of-the-time basis since

1 then. So we haven't failed to have someone at the top that  
2 had continuity or at least have someone with him to provide  
3 that continuity.

4 Q It seemed to be a rather obvious question there,  
5 and I'm glad you brought up these overlaps so that helps, well,  
6 display some continuity, which is not evident just from the  
7 numbers.

8 BY WITNESS GROTE:

9 A Sir?

10 Q I say that helps illustrate some continuity which  
11 is not available just in the raw numbers.

12 Dr. Broom, do you have any thoughts to add to that?

13 BY WITNESS BROOM:

14 A No, sir, except that it is obvious that I had  
15 neglected to mentioned that. It just dawned on me that I had  
16 not stated that we had certainly provided for extensive overlap.  
17 I guess I just felt that sort of went without saying, but I'm  
18 glad Mr. Grote contributed that.

19 I would say in general that we don't like to have to  
20 make changes on any project, because of the type of concerns  
21 that you expressed. I don't think it occurred on South Texas,  
22 but there is a potential there for an effect on morale, some  
23 unsettling, who is really at the helm, what is the direction?  
24 And so that is a part of our concern about maintaining a lower  
25 rate of turnover, obviously, than we have had in these positions.

1 Q Do you think that was a contributing factor to any  
2 of these problems?

3 BY MR. BROOM:

4 A No, sir. I really don't, except maybe only in the  
5 most indirect manner. Primarily, because I know these gentlemen  
6 involved, and I know their attitude. I don't believe there was  
7 any participation, I don't think there was any act, deed, or  
8 statement from any of these individuals that would have caused  
9 any confusion in the mind of people on the project that we wanted  
10 people to behave professionally. We did not tolerate harassment,  
11 intimidation. We did insist on meeting all quality requirements.

12 I just don't think those people would have  
13 contributed to anything like that, and I believe from your  
14 statement contributory to the problems you are talking about.  
15 You are talking about problems in which we did not fully comply  
16 with all of the quality requirements.

17 So in that sense I don't think that that was a  
18 direct contributor. It might have been, but I don't believe that  
19 given the people involved here, I don't believe that was the  
20 case.

21 JUDGE LAMB: Thank you.

22 ///

23  
24 ///

25 ///

1 BY JUDGE BECHHOEFER:

2 Q Just a couple of fill-in questions on this more-or-  
3 less chart.

4 When did Mr. Pepin, is his name, leave?

5 BY WITNESS BROOM:

6 A Pepin, P-e-p-i-n?

7 Q Yes.

8 BY WITNESS BROOM:

9 A Yes, sir. What about him?

10 Q When did he leave?

11 BY WITNESS BROOM:

12 A Mr. Pepin left in June 1979. He didn't leave our  
13 company, but he left this responsibility.

14 Q Well, why did he do that? Was he there just in an  
15 acting capacity, or was he envisioned as a competent employee,  
16 or --

17 BY WITNESS GROTE:

18 A I think I can answer that.

19 BY WITNESS BROOM:

20 A Mr. Grote did that. I think we ought to let him  
21 answer that.

22 Q Right. Okay.

23 BY WITNESS GROTE:

24 A I assumed that he was envisioned as a permanent or  
25 seni-permanent position. He was in that slot when I came into

1 the Power Group.

2 As I think I said a little earlier, Henry Kirkland  
3 had become available from the Comanche Peak Project, and he was  
4 the most experienced person we had in overall nuclear project  
5 management. He had first assisted me in my duties as the  
6 sponsor of the project, and then in June 1979 I judged that  
7 that was the position that could be strengthened, and so I  
8 assigned Henry Kirkland to the job of overall Project Manager  
9 on an interim basis, because I felt like he brought more  
10 strength to that position than Mr. Pepin did at that particular  
11 time, and initiated a search for a new Project Manager in the  
12 industry outside of Brown & Root, which led to the hiring of  
13 Jim Geurts.

14 Q But I take at the period of time June 1979 you  
15 were looking for something to replace Mr. Pepin.

16 BY WITNESS GROTE:

17 A I decided that I was going to do that, yes.

18 Q Is he still with the company

19 BY WITNESS GROTE:

20 A Jim Pepin?

21 Q Yes.

22 BY WITNESS GROTE:

23 A Yes. He is, with another division of Brown & Root.

24 Q Non-nuclear?

25



1 BY WITNESS GROTE:

2 A Non-nuclear, yes.

3 Q Is there anything specific you can point why you  
4 thought this change was needed, and particularly to bring in  
5 somebody out on an interim basis before you got somebody  
6 permanently to replace him?

7 (Pause.)

8 That, to me, connotes a little urgency, and perhaps  
9 you could elaborate a little on that.

10 BY WITNESS GROTE:

11 A Well, I didn't feel it was a matter of urgency. Jim  
12 Pepin had nuclear experience. It was primarily related to  
13 engineering. He also had project management experience, but  
14 as I recall he did not have nuclear project management experience.  
15 He had very little construction experience. I didn't find his  
16 performance to be deficient. I simply judged that we could  
17 benefit from some more extensive background as it applies to  
18 the specific kind of work we were doing on this project.

19 Henry Kirkland did have that kind of experience,  
20 both engineering and construction, project management experience,  
21 and nuclear experience.

22 ///

23  
24 ///

25 ///

300 7TH STREET, S.W. REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1 Q And why -- and I take it Pepin was brought in  
 2 Because Mr. Crane got promoted, in effect, is that correct?  
 3 Or what happened to Mr. Crane?

4 BY WITNESS GROTE:

5 A Carl Crane was promoted from the project to a  
 6 senior construction manager overseeing a number of projects,  
 7 which Dr. Broom can comment on.

8 Q All right.

9 BY WITNESS BROOM:

10 A That is true. I don't know specifically all of  
 11 the circumstances surrounding Mr. Crane's removal from the  
 12 job and putting Mr. Pepin in that job, however, I think I did  
 13 say that during Mr. Crane's tenure on the job, we announced a  
 14 significant increase in cost and schedule duration and,  
 15 obviously, Houston Lighting & Power nor any nuclear owner these  
 16 days are satisfied with projects wherein cost and schedules  
 17 are not being met, as is the case with most of them.

18 I'm sure that discussions were held with the client  
 19 about Mr. Crane and the degree to which he was responsible for  
 20 the development or the cost and schedule increases. He had been  
 21 a construction manager for some extended period of time, as  
 22 I indicated. He had only been in the general project manager  
 23 role for a relatively short period of time prior to that  
 24 announcement in September of 1980, as I recall.

25 Q So, I take it when you talk about cost or schedule

1 overruns, those are in addition to increases in cost caused by  
2 changing NRC requirements, is that correct?

3 BY WITNESS BROOM:

4 A No, sir. I'm just talking about the simple fact  
5 that for whatever the reason, when a job is late or when the  
6 job costs more than you anticipate, you get upset with the  
7 contractor.

8 Q So, that would be true even though the particular  
9 individuals were performing adequately. If NRC increased the  
10 requirements and caused you to fall behind or caused the costs  
11 to increase, would it be likely to replace a general project  
12 manager in that circumstance?

13 BY WITNESS BROOM:

14 A No, I think as you put it, that would not be  
15 normal. But, Judge Bechhoefer, that is not usually what happens  
16 on a job like this. Those kinds of situations are never that  
17 clear cut. Over a period of time, a number of things change,  
18 and it's very difficult to say that these increases are solely  
19 due to this regulatory change or due to this supplier or whatever  
20 the cause is, it's very difficult to untangle those and place  
21 blame, if you will, squarely in any quarter. I'm simply saying  
22 that any owner on any project, nuclear or not, is disappointed  
23 and upset with the contractor when his job is behind schedule  
24 and over the budget, and the history of the nuclear projects  
25 in general have been that that's a very common problem that we

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1 all suffer. We wish it were not that way, but, nevertheless,  
2 those are the facts of life.

3 Q And I would take it that the problems with  
4 Mr. Bierman were similar, is that correct?

5 BY WITNESS BROOM:

6 A Yes, sir. I think that's partly correct.

7 Q Yes, other than the personal factor that you  
8 mentioned, as well?

9 BY WITNESS BROOM:

10 A Yes, sir. He had been on the job for a considerable  
11 period of time, and these are very large projects. They're  
12 very demanding, and it's been my experience that it's -- well,  
13 I guess I should state it another way.

14 I can never remember a nuclear project that has been  
15 started and finished by a single project manager. If I could  
16 remember one, would be a long, long time ago.

17 (Board conference.)

18 JUDGE BECHHOEFER: For the time being, that's all  
19 the questions the Board has. We would invite redirect, but when  
20 we go around again, we suggest that the recross first be only  
21 on what's gone on thus far and then we can go back to 81-11.  
22 I think that would be easiest, unless you would prefer it  
23 otherwise.

24 We have had some direct testimony on 81-11, but --

25 MR. AXELRAD: Could we make an alternative

1 suggestion, Mr. Chairman?

2 JUDGE BECHHOFFER: Certainly.

3 MR. AXELRAD: Perhaps at this point rather than --  
4 we have a mixture of questions that have been asked to  
5 Dr. Broom and Mr. Vurpillat plus some questions have been  
6 asked of Mr. Grote. It might be best at this point just to  
7 have a final go-round. Just let each of the parties, for  
8 example, Mr. Jordan now cross-examine on 81-11, any redirect  
9 he has on the Board questions, and the questions that he had  
10 indicated when he asked that Mr. Grote be subpoenaed in the  
11 first place. So, he could take care of those three things  
12 in his examination now of the panel.

13 Then, let Mr. Sinkin cross-examine the panel on  
14 81-11, plus his redirect on the Board's questions.

15 Have the Staff cross-examine on 81-11 and redirect  
16 on the Board's questions. And then the Board can ask questions  
17 with respect to 81-11.

18 At that point, we can do our redirect and just  
19 have one final recross being completed. Otherwise, I think  
20 we're going to have three rounds instead of just the two.

21 JUDGE BECHHOEFER: I would just see if it would  
22 be possible to release some of the panel earlier, perhaps other  
23 than Mr. Grote, but I guess it probably isn't possible.

24 MR. JORDAN: If I might chime in, I'm not sure  
25 I understand. The idea is to get any cross-examination, in

1 effect a full round of cross-examination done, is the way  
2 I understand it, which happens to conflict with the way I  
3 understood we were going to do it.

4 My understanding was, and of course the basis for  
5 where we at least intended to go ahead was to finish the round  
6 on -- really what we've talked about today. We've got the  
7 document into evidence, for whatever it's worth, but there  
8 hasn't really been any direct testimony on 81-11. All we've  
9 done is the -- really is cross on the prepared testimony of  
10 Broom and Vurpillat with a little bit of filling out, and it  
11 hasn't gone at all beyond the extent of that testimony,  
12 which happens to include Mr. Grote.

13 To me, it makes more sense to complete, get this  
14 package out of the way completely. Then you -- in fact, as  
15 you go through the transcript, you will have this information  
16 covered, cross-examined and done, then you get into 81-11,  
17 covered and cross-examined and done, and then we get into what  
18 I have for Mr. Grote and the same thing. It seems to me that's  
19 going to give you an easier record to deal with than trying to  
20 do the whole completion of the deal all at once.

21 I don't see that it makes any difference in terms  
22 of timing.

23 MR. SINKIN: I would second the comments of  
24 Mr. Jordan in that regard.

25 MR. REIS: Mr. Chairman, I think in this one I

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1 line up with Mr. Axelrad. I think it will shorten time and  
2 will move things along if we have one round.

3 Now, it may be possible, and there may be an  
4 interim, but certainly not three rounds. It may make some  
5 sense, although I prefer Mr. Axelrad's suggestion, but I want  
6 to also have the Board consider an interim position of finishing  
7 with this panel and then having the next round on what we have  
8 for Mr. Grote on 81-11. Certainly three rounds are ridiculous.

9 MR. JORDAN: Well, with respect to my specific  
10 questions to Mr. Grote, my understanding was that there was  
11 a specific desire to get him -- to do that last so that Broom  
12 and Vurpillat could leave. In fact, that was specifically  
13 requested, which was why I was preparing and expecting that  
14 to occur.

15 MR. AXELRAD: Well, let me explain that. At one  
16 point we thought there might be a possibility, but it turned  
17 out to be apparent, certainly from Mr. Hill's questions, that  
18 the questions he had in mind were similar questions that had  
19 been addressed to Dr. Broom, and it appears to us that the types  
20 of questions that Mr. Jordan has in mind, based upon the  
21 information he has given to us, do pertain similarly to matters  
22 very similar to the type that Dr. Broom and Mr. Vurpillat have  
23 already testified on; and it seems to us it would be much more  
24 conducive to a complete record to have Dr. Broom and  
25 Mr. Vurpillat and Mr. Grote on the stand at the same time

1 when Mr. Grote is being examined, and they have agreed to stay  
2 on, however long that might take. It appears to us in  
3 accordance with the suggestion that the Board had made this  
4 morning that it would be much more effective, rather than  
5 in essence treating people piecemeal, to let each party cross-  
6 examine an entire panel with respect to whatever subject matters  
7 they will be examined on, and to let 81-11 and whatever remaining  
8 questions are left for Mr. Grote be examined at one time rather  
9 than piecemeal.

10 (Beard conference.)

11 JUDGE BECHHOEFER: Let's take about a five-minute  
12 break.

13 (A brief recess was had.)  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25



1 JUDGE BECHHOEFER: Back on the record.

2 The Board has decided that we will try to  
3 go through with one series of examination.

4 We would ask Mr. Jordan to try to divide his  
5 into cross-examination and what amounts to direct examination  
6 on certain points.

7 MR. JORDAN: If I understand what you're saying,  
8 we would do the recross of what's been so far. We would  
9 do the whatever it is of 81-11.

10 JUDGE BECHHOEFER: That's correct.

11 MR. JORDAN: And do what in effect is adverse  
12 direct of --

13 JUDGE BECHHOEFER: And we would ask you to  
14 identify the latter, because different people have the  
15 right to cross-examine it.

16 MR. JORDAN: Yes, I understand that.

17 So let me tell you what -- in fact, this is  
18 confusion that is reflected in the cross-examination plan  
19 that I've given you; but the planning as we have started  
20 to plan to do this not to overlap too much has been with  
21 respect to 81-11, that Mr. Sinkin would in effect carry  
22 the ball on that, and therefore would clearly go first.

23 I would, frankly, hope to do little or no  
24 cross-examination on that point, as I'm sure you would  
25 hope that I might, based on our estimates. That's on 81-11.

24-2

1 He really has got to go first or that doesn't make  
2 any sense.

3 JUDGE BECHHOEFER: You can elect between you  
4 on that.

5 MR. JORDAN: Hold it one second.

6 The other half of that is that in terms of  
7 recross, we, of course, have been assuming that we would  
8 be going in the order that we had continued to go, and  
9 that we would be operating in the way that I described  
10 earlier, which was, I think, everyone's assumption until  
11 that point.

12 As a result, and Mr. Sinkin can confirm this  
13 on his own, but I just spoke with him about it, his preparation  
14 was essentially -- and his notetaking and everything else  
15 was essentially based on the fact that I would be going  
16 first on it.

17 So I guess what I would suggest, even if we  
18 go with this on one great big round, that I do the recross  
19 of this panel that I have, and then he do 81-11.

20 He does the recross he has and then he does  
21 the 81-11, and then I do whatever I have on 81-11 and  
22 then the Grote extras.

23 That, as it happens, would accommodate the  
24 way we have prepared so far.

25 MR. SINKIN: Mr. Chairman, the problem we

24-3 1 have is that we were told it was going to take place in  
2 a certain order and we prepared it in a certain order,  
3 and I think the only way that we are prepared to go forward  
4 in the sense of preparation is the way Mr. Jordan has  
5 laid it out, that he would do the recross of what's happened  
6 so far, and I would second-recross, and then I would cross  
7 on 81-11 and he would recross, and then he will do the  
8 adverse direct of Mr. Grote and I'll be a cross-examiner  
9 on that.

10 (Bench conference.)

11 JUDGE BECHHOEFER: We would have no objection  
12 to that, but all before the Staff. Then the Staff can  
13 do it in one lump.

14 We would have no objection to the division  
15 you just mentioned, and I will guarantee you that you  
16 won't finish today, either, so to the extent --

17 MR. JORDAN: I will guarantee you that.

18 JUDGE BECHHOEFER: I might add the Applicants  
19 will be at least invited to cross-examine on the direct  
20 that Mr. Jordan puts in as well.

21 MR. JORDAN: Mr. Chairman, I hate to say this,  
22 but if we go ahead with our recross of what you've done  
23 now, they will then have whatever redirect they have of  
24 what has been done so far.

25 We would then have recross on that. It seems

24-4

1 to me to make sense at least for them to do the redirect  
2 on those issues now and finish it.

3 We are still going to have that round.

4 (Bench conference.)

5 JUDGE BECHHOEFER: I think that redirect at  
6 this time on the matters that have gone thus far would  
7 be desirable.

8 I think that would make somewhat more sense.

9 MR. AXELRAD: We will simplify matters, Mr.  
10 Chairman. We do not have any redirect.

11 (Laughter.)

12 JUDGE BECHHOEFER: Okay.

13 MR. JORDAN: Fine.

14 JUDGE BECHHOEFER: Okay. You may proceed  
15 then.

16 RE-CROSS-EXAMINATION

17 BY MR. JORDAN:

18 Q Dr. Broom, a little bit of cleanup, I think.

19 There was a time when you promised to provide  
20 the salary ranges for various positions.

21 MR. AXELRAD: Mr. Chairman, both the salary  
22 ranges and the other information that have been requested  
23 will be available tomorrow morning.

24 MR. JORDAN: Okay, I'm sorry. I didn't realize  
25 it was in process.

4-5  
1 BY MR. JORDAN:

2 Q Dr. Broom, you testified in response to questions  
3 by Mr. Reis that -- I can give a transcript reference  
4 for this particular item. It's page 4086, lines 11 through  
5 19. -- to the shortness of time for concrete inspections,  
6 or on the subject of that matter.

7 You said that that was -- the complaint of there  
8 being inadequate time for concrete inspections was a common  
9 one.

10 I'd like to ask you what do you mean "it is  
11 a common one"?

12 BY WITNESS FROOM:

13 A I simply meant that among a large group of  
14 employees there is a general tendency in my experience  
15 to have a certain amount of grouching and complaining  
16 about something or another.

17 In a large group of inspectors, I think a  
18 common complaint is one that, "I don't have enough time  
19 to do my inspection quite thorough," and that's something  
20 that the supervision of that inspection must monitor and  
21 check to see whether that's a serious complaint or simply  
22 just grouching and complaining.

23 That's all I intended by that statement.

24 Q So your point there, Doctor, was really a  
25 general sort of thing, that when you have a bunch of

24-6

1 inspectors, you're likely to get complaints of that sort,  
2 because a lot of people have jobs to do and they often  
3 don't have enough time to do them. Is that the kind of  
4 point you were making?

5 BY WITNESS BROOM:

6 A No, sir. If you'll read my answer, there  
7 were two sentences, I think.

8 What I tried to say is that while what I just  
9 said is true on any job, there's a certain amount of grouching  
10 and complaining, and you normally, usually, in most cases,  
11 in virtually all cases, I don't think that is significant.

12 I think that in this case on this project  
13 that on occasion it did go beyond that, and I think there  
14 were probably times when inspectors did feel that they  
15 were pushed, they did not have sufficient time.

16 There certainly was an avenue and a vehicle  
17 available for them to request additional time.

18 As a matter of fact, they didn't have to request  
19 additional time. All they had to do was take whatever  
20 time was necessary to do the inspection.

21 I'm not certain that that in all cases was  
22 done.

23 MR. NEWMAN: Mr. Chairman, may I interject  
24 before the next question?

25 It's my understanding that we're in a situation

24-7 1 of recross now, the witnesses having been initially crossed  
2 by the other parties.

3 My impression is that on recross of this type  
4 we're limited to the scope of the Board questions, and  
5 I don't recall Board questions in this area.

6 I had waited several questions -- for several  
7 questions to pass by with Mr. Jordan, because I thought  
8 he was leading up to a Board question; but unless he is,  
9 I believe that the scope of the recross is outside the  
10 scope of the Board questions and should not be allowed.

11 JUDGE ECHHOEFER: It normally includes the  
12 scope of questioning by other parties, other parties'  
13 cross-examination as well; and this was based on Staff  
14 questioning, a subject raised by the Staff, if my recollection  
15 is correct.

16 MR. JORDAN: Yes, your recollection is correct,  
17 and I thought that we had resolved that question on perhaps  
18 the second day of the hearing.

19 I'll proceed then.

20 BY MR. JORDAN:

21 Q From what you say then, Dr. Broom, I gather  
22 that you would distinguish between those complaints about  
23 shortness of time for inspection which you talk about  
24 as common, and those which you just mentioned, which you  
25 say have occurred at South Texas, that are out of the

1 ordinary.

2 So there were specific complaints about shortness  
3 of time for concrete inspections.

4 Do you make a distinction? Are there two  
5 categories you're talking about?

6 BY WITNESS BROOM:

7 A Yes, I'm referring to two categories. I don't  
8 have any specific examples in mind, but simply from my  
9 knowledge of what happened on the job site, I believe  
10 that there were both types of circumstances.

11 I was trying to illustrate that the supervision  
12 of the inspectors on the job have that kind of decision-  
13 making process, that kind of assessment to make from time  
14 to time on the project.

15 With regard to occasions where there truly  
16 might have been a feeling in the mind of the inspector  
17 that he was being hurried to do his inspections, I don't  
18 know that that happened frequently, but I suspect, based  
19 on all of the things I've reviewed, that that did happen  
20 on occasion.

21 I tried to go on and say that because of that,  
22 certain actions were taken. Instructions were given.  
23 Meetings were held.

24 Ultimately, we issued a mandatory policy of  
25 24 hours' period for any concrete inspection, which --



24-9

1 well, certainly, in my experience it had never been necessary  
2 to do something like that. We did that on this project.

3 Q Now, if we could get, then, to this, what  
4 I can call for purpose of convenience, Category 2, the  
5 ones which I think you just described as where the inspector  
6 really had in his mind a feeling that he was being pushed,  
7 that that was a specific concern.

8 That's the category that's distinct from what  
9 we might call the common people grouching category; is  
10 that fair?

11 BY WITNESS BROOM:

12 A Continue.

13

14

15

16

17

18

19

20

21

22

23

24

25

24-10

1 Q I'm really just trying to create a vocabulary  
2 to use. That's your second category, isn't it?

3 BY WITNESS BROOM:

4 A Yes, I'll adopt that.

5 Q Okay. My question in that area is can you  
6 tell us how long -- well, first, if you know, how long  
7 that type of complaining or that type of complaint has  
8 occurred at the South Texas Project, with respect specifically  
9 to concrete inspections?

10 BY WITNESS BROOM:

11 A Mr. Jordan, I don't believe I can answer that.

12 I don't think I know when such types of complaints  
13 might have originated, as distinguished from the normal  
14 type of complaints.

15 I'd be hard-pressed to try to determine when  
16 that happened, and if in fact it happened.

17 What I think I said was that I believe that  
18 cases like that occurred on the job, based on statements  
19 made by people. I don't know that to be a fact.

20 Q I don't want to get you into the position  
21 of somehow some being able to read your testimony as admitting  
22 or saying that it has happened when you don't either know  
23 that it has or think that it has.

24 I want to be clear on that. You do not know  
25 of particular instances where that has occurred?

24-11

1 BY WITNESS BROOM:

2 A No, sir. I don't know of any circumstance  
3 for sure where there has been a time constraint placed  
4 on the duration of time that an inspector is permitted  
5 to perform his inspection in.

6 I do believe that inspectors have been instructed  
7 from the beginning of the project that they are to take  
8 whatever time is necessary to perform their inspections  
9 thoroughly.

10 I do know that there have been periods of  
11 time set aside for scheduling purposes, for planning purposes.  
12 It will take about so long. We expect it to take about  
13 so long, things like that.

14 What I said was, I suspect that there have  
15 been cases in which an inspector may have thought that  
16 whatever time constraints he had been given in whatever  
17 fashion he was communicated such time periods, he may  
18 have felt that that was insufficient.

19 He may have felt that their scheduling that  
20 pour for noon today and I can't get finished by noon.  
21 That may very well have happened.

22 I do not know of a specific circumstance  
23 in which that happened.

24 Q Taking aside the formal scheduling of a pour  
25 for a given hour, let me ask you about a situation where

24-12

1 the concrete trucks are standing by and waiting to pour  
2 while the man is doing his investigation.

3                   Wouldn't that be in your Category 2?

4 BY WITNESS BROOM:

5           A        That has never happened at the South Texas  
6 Project.

7           Q        That type of situation has never happened?

8 BY WITNESS BROOM:

9           A        No, sir.

10          Q        And what about a type -- you talked about --

11 BY WITNESS BROOM:

12          A        Let me be very clear on that.

13          Q        Please do.

14 BY WITNESS BROOM:

15          A        To my knowledge, there has never been a situation  
16 where prior to signing a pour card, construction has ordered  
17 concrete trucks that have been at the site of the pour,  
18 standing there with their drums rotating to create some  
19 air of pressure or intimidation.

20                   I believe that in every case going back to  
21 the earliest periods on the job that the construction  
22 was permitted to order a batch of concrete from the batch  
23 plant projected to satisfy beginning a construction pour  
24 at noon tomorrow, whatever; but that batch could not be  
25 released, was not released from the batch plant so that

1 trucks could be filled and they could be sent to the pour  
2 and create a spectre of trucks standing by with inspectors  
3 scrambling around trying to finish their inspections.

4 I do not believe that has ever happened at  
5 the South Texas site.

6 As a matter of fact, since that time we have  
7 changed the policy such that -- or procedure, I guess,  
8 is a better term -- such that construction cannot even  
9 order the batch of material to be prepared at the batch  
10 plant until a pour card has been signed.

11 We're trying to take every step we know how  
12 to remove any potential source of concern in the mind  
13 of the inspector or of others who are reviewing this situation  
14 that in my opinion on other projects this is not a normal  
15 situation and not required.

16 Q I guess I want to get clear on what you would  
17 put in Category 2 and what it sounds like to me is that  
18 you would put in Category 2 those situations in which  
19 there was a time scheduled for the pour and which the  
20 inspector felt that he did not have enough time to do  
21 the inspection before that scheduled time arrived; is  
22 that the description of that category?

23 BY WITNESS BROOM:

24 A Yes. What I have said is that may have happened.

25 Q There are no other types of situations where

24-14

1 an inspector, because of the readiness of concrete or  
2 standing around -- or somebody standing around or anything  
3 of that sort, that you would put in the Category 2, pressure,  
4 shortness of time category, as opposed to the Category 1,  
5 common grouching category?

6 BY WITNESS BROOM:

7 A I'm sorry, Mr. Jordan. I don't understand  
8 that at all.

9 We've been talking up to now about a placing  
10 of a time constraint in some fashion and that being viewed  
11 by an inspector as insufficient or applying pressure on  
12 him to do his work.

13 Now I understand you to be talking about --  
14 did you say people standing around?

15 Q I think an example that was raised earlier,  
16 I believe by the Staff, was a construction supervisor  
17 standing around, if I'm not mistaken; and you -- I don't  
18 want to mislead anybody. You at the time said -- I think  
19 you testified that --

20 BY WITNESS BROOM:

21 A Yes, I remember what I --

22 Q -- that wouldn't necessarily result in any  
23 pressure. It was a perfectly common kind of event.

24 BY WITNESS BROOM:

25 A I believe what I said was I think it would

24-15

1 depend on the way he was standing around.

2 I can envision a guy standing around yelling  
3 and shouting and creating pressure in the mind of the  
4 inspector.

5 On the other hand, I can imagine a man standing  
6 around trying to help, trying to correct any situations  
7 the inspector might find, cleanliness or whatever on the  
8 pour.

9 I do not have any personal knowledge of a  
10 situation where there were people standing around that  
11 was viewed by an inspector to be producing pressure.

12 I seem to remember in some of the statements  
13 that were in 79-19 that some people may have referred  
14 to a situation like that, but I'm not familiar with the  
15 details of it.

16 I don't know when it occurred and who was  
17 involved is what I'm trying to say, if it occurred.

18 Q I see. What I'm trying to do is -- that type  
19 of situation, is that the kind of situation that you would  
20 say is a creation of a time constraint, pressure problem  
21 that would fall into your Category 2, or is it a situation  
22 that would fall into the common grouching Category 1?

23 BY WITNESS BROOM:

24 A Mr. Joran, I'm having a problem in trying  
25 to figure out what your question is.

14-16 1 Do you mean that if people were standing around  
2 the pour, would that create a feeling in the mind of the  
3 inspector that he only had a limited amount of time?

4 Q No, I'm really not asking you that. I think  
5 your testimony on that is pretty clear, that it depends  
6 on the situation, and I think that is clearly the case.

7 BY WITNESS BROOM:

8 A Yes.

9 Q My question is that, assume the situation  
10 arises where an inspector feels pressure for that reason,  
11 whatever the extent of yelling or jumping around or whatever  
12 it is that people are doing.

13 Which category would that fit into?

14 BY WITNESS BROOM:

15 A I think there is only -- I'm not sure anybody  
16 can answer that question.

17 I started to say I think there's only one  
18 person who is best qualified to answer that, and that  
19 would be an experienced QA supervisor who was observing  
20 this situation, to make a judgment as to whether -- in  
21 a very subjective fashion, as to whether the inspector  
22 is overly perceiving the presence of people in this  
23 area.

24 Is he overly sensitive, or if I were in his  
25 shoes, would I feel constrained or intimidated?



4-17 1 I just don't know how to characterize or categorize  
2 such a situation, because I think it could occur in either  
3 fashion.

4 I don't know that it happened like that. I'm  
5 saying that it could have.

6 I guess I'm not real sure I've answered your  
7 question. I'm not really sure what you're driving at.

8 Q I guess I think you've said enough. You've  
9 covered, really, what your understanding is, and you said  
10 "I guess" so many times, I don't want to have to have  
11 you speculating any more.

12 You emphasize your own personal knowledge,  
13 and I don't want to get to more speculation.

14 I would like to take another step along the  
15 road in the concrete area, though, and that is to talk  
16 about the process for inspection of a concrete pour, and  
17 to ask you -- this is before the pour.

18 I think I understand the process. Before  
19 the pour card is signed off -- It's correct, is it not,  
20 that you sign the pour card at the point where you're  
21 ready to pour; is that correct?

22 BY WITNESS BROOM:

23 A Yes, sir, that's correct.

24 Q And that's the sign-off saying, "Now you can  
25 pour"?

4-18

1 BY WITNESS BROOM:

2 A Yes, sir.

3 Q As opposed to, as it happens, I originally  
4 thought that it might be a sign-off that the pour was  
okay?

6 BY WITNESS BROOM:

7 A Well, in the context we've been using the  
8 phrase, "signing the pour card," here in these discussions,  
9 your understanding is correct.

10 That's the signatures that say the pour is --  
11 it is ready or permissible to make the pour. The concrete  
12 has not been poured at that time.

13

14

15

16

17

18

19

20

21

22

23

24

25

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

15-1  
or25-1  
17

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1 Q I take it what happens when the areas where the  
2 pours presented for inspection to the QC inspector and he goes  
3 in and does the extensive investigation that's involved in  
4 making sure it's all set, then if it's okay, he signs off.

5 My question is, if the QC inspector finds it is  
6 not ready to be poured yet, how does that process work?

7 BY WITNESS BROOM:

8 A It depends on the circumstances. Certainly he  
9 does not sign the pour card. He may find, on final inspection  
10 -- this is what you're talking about? --

11 Q Yes.

12 BY WITNESS BROOM:

13 A -- on final inspection he can find something wrong  
14 with the pour that results in an NCR.

15 Q Now, would an NCR be issued, for example, if the  
16 pour had been presented to him for final inspection and he  
17 determined that the area wasn't clean enough, there were a  
18 number of things that had to be cleaned out before the pour  
19 could be made?

20 BY WITNESS BROOM:

21 A That's a very subjective judgment, Mr. Jordan. In  
22 my opinion, it would depend upon the extent to which cleanliness  
23 requirements were not met. I guess it's conceivable that an  
24 NCR could be written at that point, I think a more normal  
25 occurrence would be that on final inspection if you found that

1 some trash had fallen and if you found some debris had fallen  
2 in, or something, you would simply ask the construction people  
3 to remove that.

4 ~~Mr. Vurpillat~~ is more familiar with the details of  
5 that process than I, and I would like to invite him to comment  
6 on that.

7 BY WITNESS VURPILLAT:

8 A Yes. I think that's a fair representation. Upon  
9 final inspection when there's something that can be taken  
10 care of, such as cleanliness, if something needs to be cleaned  
11 up, that fact is known, that you can't sign the pour card until  
12 this is done, it gets done, and the pour card is released.

13 If it's an item on final inspection, such as things  
14 being left out that ought to be there, things being there that --  
15 and I mean things that would --

16 Q Rebar?

17 BY WITNESS VURPILLAT:

18 A Things being left out like rebar, if there is a  
19 substantial amount left out, if it were misspaced and what-  
20 have-you, something that would take a long period of time,  
21 certainly there would be a notation of that nonconformance.  
22 That might be a reported notation or it might be an NCR,  
23 depending on the extent. Concrete pours are a little bit  
24 different than the normal or many inspection items in that  
25 many of the things that you inspect beforehand get covered

1 up so you can't go back and reinspect afterwards, so it's not  
2 a black-and-white, cut-and-dried situation that happens the same  
3 way every time, but I think the important thing is that on a  
4 final preplacement inspection those things that are wrong have  
5 to be corrected before the pour is released, which means the  
6 QC man signing the -- if there is a disagreement between  
7 construction and the QC inspector at this point in time, then  
8 the problem is escalated. It can't be resolved.

9 Q How would that happen?

10 BY WITNESS VURPILLAT:

11 A You go to the respective supervisor.

12 Q And could you explain how the resolution would  
13 occur?

14 BY WITNESS VURPILLAT:

15 A The resolution -- the QC inspector, supervisor,  
16 would come out and inspect the supposed nonconformance, the  
17 concrete foreman's supervisor would come out and look and if  
18 they couldn't agree, it would go the next step higher.

19 Q Wouldn't you involve the original QC inspector in  
20 the --

21 BY WITNESS VURPILLAT:

22 A Absolutely. And you would also involve the original  
23 construction foreman or craftsman, whoever it happened to be,  
24 usually a foreman. Certainly.

25 In most cases. Now, I think that you would have to

1 consult -- at least you would have to consult with both and  
2 say what's the problem.

3 Q Um-hum.

4 BY WITNESS VURPILLAT:

5 A You wouldn't just say, come out and inspect.  
6 There would be that type, at least, that type of consultation.

7 Q Dr. Broom, we've provided to your Counsel a  
8 document headed "Brown & Root, Inc.," a memorandum from R. C.  
9 Forte to G. T. Warnick, dated April 30th, 1979, and I believe  
10 we have also provided copies to the Board and to the reporter  
11 and also to the Staff.

12 We would like at this time to mark this memorandum  
13 for identification, as CEU Exhibit 3.

14 (Whereupon, CEU Exhibit 3 marked  
15 for identification.)

16 JUDGE BECHICEFER: Pardon me. Is this only the  
17 top document in this exhibit?

18 MR. JORDAN: I guess it's the top document in the  
19 package that was given you. I didn't put the package together,  
20 but it is one of the documents in there.

21 JUDGE BECHHOEFER: I see. You aren't offering the  
22 whole package under this date?

23 MR. JORDAN: Oh, no, sir.

24 JUDGE BECHHOEFER: I would note that this document  
25 was provided to the Applicant's Counsel and we were able to do

1 that last night, though I recognize that they haven't had a lot  
2 of time to look at it and to verify its authenticity, I will  
3 ask Dr. Broom --

4 BY MR. JORDAN:

5 Q Dr. Broom, do you have the document before you?

6 BY WITNESS BROOM:

7 A Yes, I do, if this is a three-page memo?

8 Q Yes. It is.

9 BY WITNESS BROOM:

10 A And it's addressed to G. T. Warnick from R. C. Forte,  
11 and on the third page it's signed by R. C. Forte.

12 Q Yes.

13 BY WITNESS BROOM:

14 A I have that.

15 Q Can you tell us first, who is G. T. Warnick?

16 BY WITNESS BROOM:

17 A He was the site QA manager for the project.

18 Q And this is as of the date of the memo, April 30th,  
19 1979?

20 BY WITNESS BROOM:

21 A Yes, sir, I believe that's true.

22 Q Do you know who R. C. Forte is?

23 BY WITNESS BROOM:

24 A I believe he was an inspector, I think a lead  
25 inspector, in the civil discipline. Concrete inspector.

1 Q Dr. Broom, did this appear to be a memo on Erown &  
2 Root letterhead or memo paper?

3 BY WITNESS BROOM:

4 A Yes, sir.

5 Q Have you ever seen it before, other than last  
6 night or today?

7 BY WITNESS BROOM:

8 A No, I had not see it prior to last evening, but  
9 I reviewed it last evening.

10 Q This memo discusses a situation along the lines  
11 of what we've just been discussing in the event of a QC inspector  
12 finding a pour, or an area for a pour unready, largely due to  
13 cleanliness, and then a sign-off by the QC supervisor. Are you  
14 familiar with the incident discussed in the memorandum?

15 BY WITNESS BROOM:

16 A Yes, sir, I think I am. I am pretty generally  
17 familiar with it.

18 Q Are you familiar with the -- perhaps you could  
19 describe the incident for us, as you understand it.

20 BY WITNESS BROOM:

21 A In summary, I believe the incident began, the first  
22 comments that I am aware of about the incident was that the  
23 day before the pour was to be made, that is, the day before the  
24 date referenced in this memorandum on which the inspection --  
25 would have been April 26th, 1979. I believe a construction



1 foreman, I do not know his identity, came to Mr. Forte and said  
2 hat they had scheduled to be finished for this pour area, the  
3 following morning and would like for him to conduct his final  
4 inspection of the form area and sign the pour cards so they could  
5 begin the pour. I am not sure they indicated a scheduled time  
6 during that date for the pour, but certainly it was scheduled  
7 for that day.

8 I think Mr. Forte at that time said that he would  
9 do so, but that everything had better be very clean, the  
10 cleanliness requirements had better be observed, or something  
11 like that. The following morning, he showed up on the site  
12 and began the final inspection of the pour. I believe there  
13 were two other inspectors, Mr. Shaw and Mr. Broussard (phonetic)  
14 that were involved in inspection of this lift area.

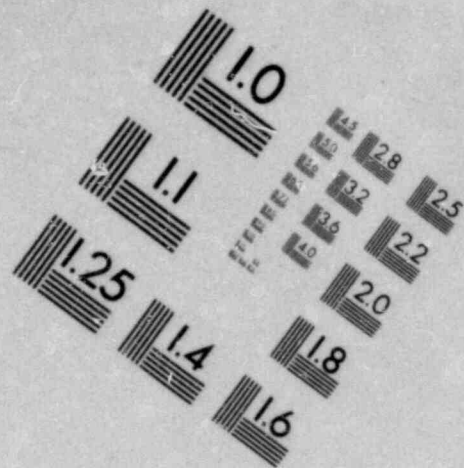
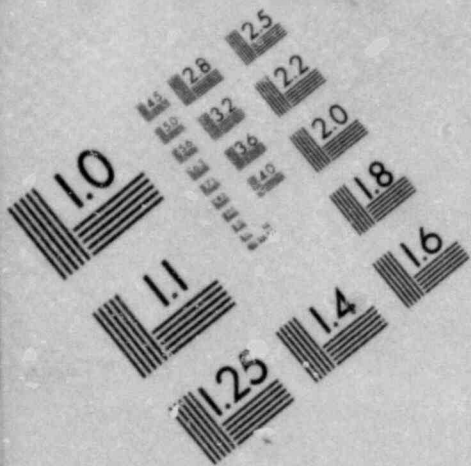
15 I believe that Mr. Forte informed the construction  
16 foreman that the area was not clean enough, and that he would  
17 not sign the pour card. I don't know how much conversation  
18 went on between the two, how many times they may have gone back  
19 and forth, but it was a case in which they sought supervision  
20 to resolve the matter. Mr. Forte's supervisor was brought to  
21 the pour. He consulted with Mr. Forte, asking what was the  
22 problem, and Mr. Forte told him that the pour was not clean --  
23 or not clean enough, or something like that. The supervisor  
24 asked Mr. Forte where, what areas were involved, and I believe  
25 Mr. Forte pointed out a couple of areas in which he had concerns.

1                   The supervisor climbed into the form down to the  
2 levels and areas that were described by Mr. Forte and in  
3 direct conversation with this individual, he said to me that  
4 he felt the pour area was really sufficiently clean for the  
5 concrete, although there were some small amounts of sand or  
6 something that he could find. He came out of the form --  
7 I'm not certain about this on that particular time out of the  
8 form, because I think he went in and out of the form a couple  
9 of times.

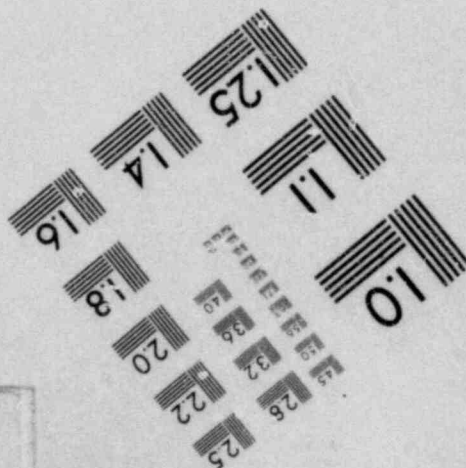
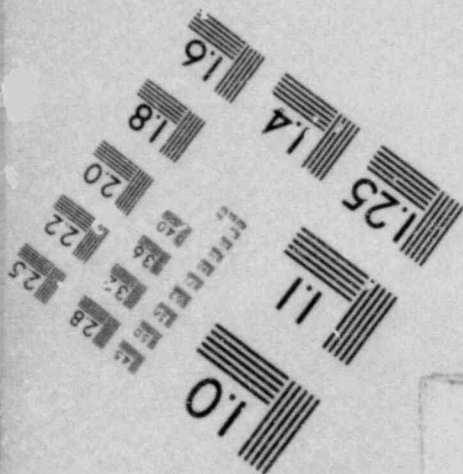
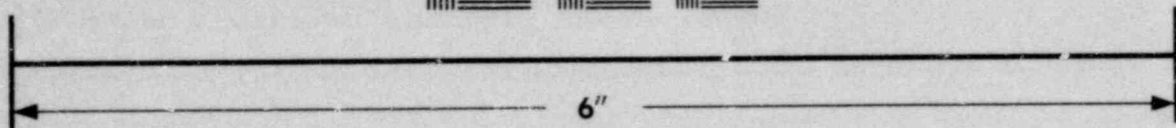
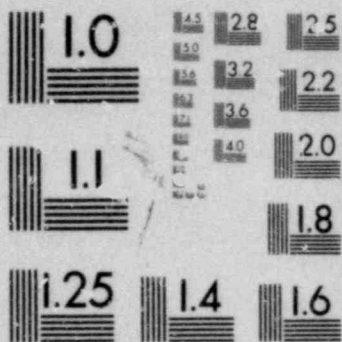
10                   He found that Mr. Forte had not stayed there.  
11 I believe he had gone to another area to perform some inspections.  
12 I'm not exactly sure. He had gone back to his office or gone to  
13 another area. At any rate, he was not there.

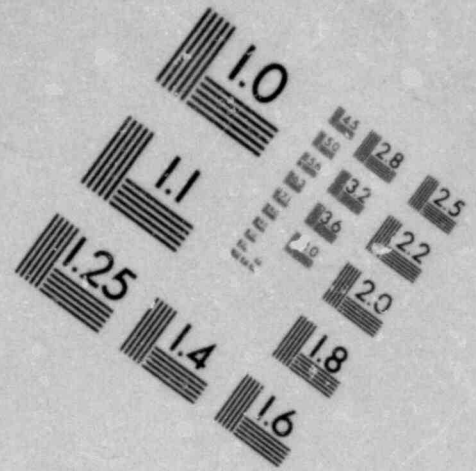
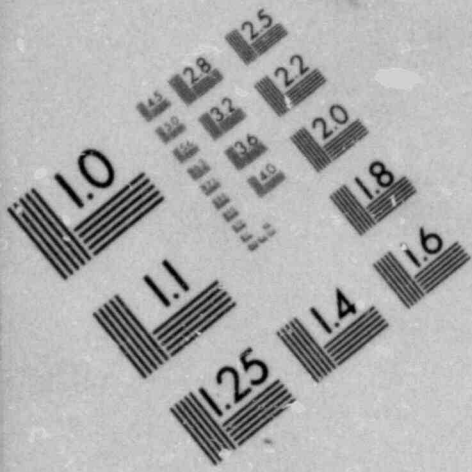
14                   There were two or three inspections performed, and  
15 in each case the construction personnel removed the sand or  
16 whatever it was that was found. Then the supervisor consulted  
17 with the other inspectors in the area and was told that they  
18 had inspected portions of the pour and that their areas were  
19 satisfactory.

20  
21  
22  
23  
24  
25

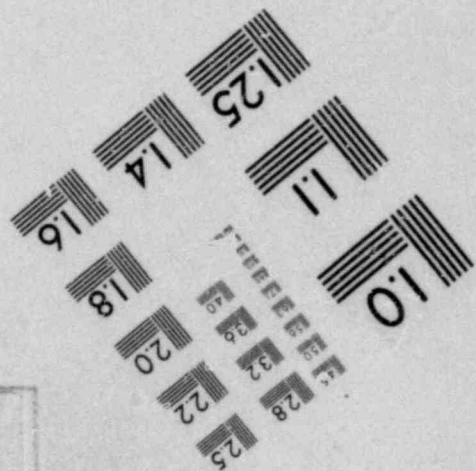
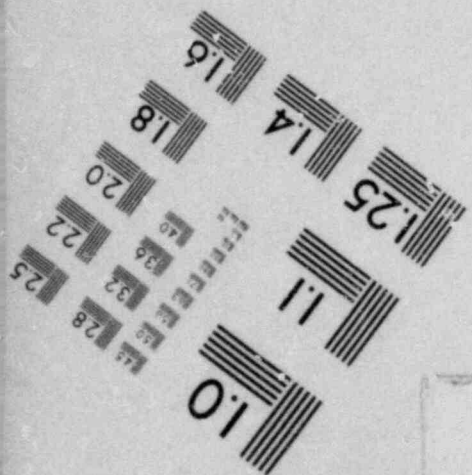
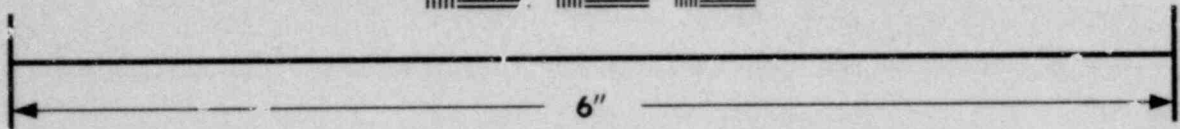
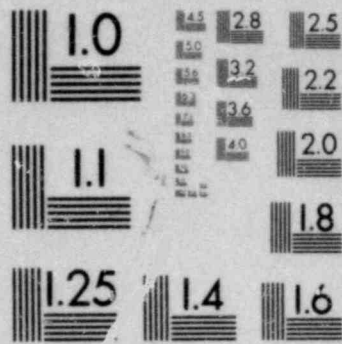


**IMAGE EVALUATION  
TEST TARGET (MT-3)**





**IMAGE EVALUATION  
TEST TARGET (MT-3)**



1 At that point, he summoned Mr. Forte and told him  
2 what had been done and asked him if he would sign the pour card.  
3 Mr. Forte told him no. I'm not sure, at that point, whether  
4 Mr. Forte reentered the forms or not; I don't think he did,  
5 but he might have.

6 At some point during this scenario the project  
7 quality assurance manager and the site quality assurance manager  
8 also went to the area. The project QA manager happened to be  
9 visiting that day and heard what was happening, that there was  
10 some disagreement about whether a pour was satisfactory -- a  
11 pour area was satisfactory for placement of concrete. They  
12 went to the area and both of them climbed into the form, down  
13 into the areas in question, and looked around. I don't know  
14 that either of those two gentlemen are certified civil inspectors,  
15 but I have discussed with one of those gentlemen his observations  
16 The only reason I mentioned that is that the top supervision in  
17 QA on the job was aware of it and did come look and ask what  
18 was going on and try to see what was happening.

19 At any rate, after those actions, the supervisor  
20 called Mr. Forte and asked him if he would sign the pour. He  
21 said no. He said why. He said well it's not clean. He told  
22 him what all had been done, and well, he didn't think it was  
23 clean. And he said well I've been in the form and I've seen  
24 this additional cleaning and so on and so forth; and he  
25 said I will assume the responsibility for cleanliness and

1 the supervisor signed the cleanliness block on the pour card.

2 And then he asked Mr. Forte if he would then  
3 release the pour, if he would sign the pour card. He said  
4 no. He said I have assumed the responsibility for the  
5 cleanliness, you won't release the pour? He said no. And  
6 so at that point, the supervisor determined that he would  
7 assume the responsibility for the pour, informed Mr. Forte of  
8 that, and signed the pour card.

9 I might have some detail of all of that out of  
10 order, but that's my general understanding of what happened.  
11 And the pour was made. I believe that -- I think this is  
12 true -- during that pour there was a Coke a Cola can or soda  
13 pop can that was on top of the concrete and somebody used that  
14 as an example to say there was debris in the forms. I don't  
15 believe that that's a fair judge to use whether there was  
16 anything in the form or not. I don't know whether the can  
17 fell in during the pour or how it got there, but I remember  
18 that was an observation that someone made.

19 At any rate, after this incident occurred,  
20 Mr. Forte was placed on probation by site supervision, QA  
21 supervision, because they didn't think he had a proper attitude  
22 toward his work. He remained on probation for -- I'm not  
23 certain of the period of time -- I think a couple of weeks to  
24 thirty days. I'm not certain of the time, I've not checked the  
25 personnel records, but during that period of time or shortly

1 thereafter, Mr. Forte, I believe, resigned from the project.

2 I may have left something out, but you asked me  
3 to describe the circumstance, and that's what I recall.

4 Q Let me ask you -- of course, you were not there?

5 BY WITNESS BROOM:

6 A No, sir, I was not there.  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1 BY MR. JORDAN:

2 Q Let me ask you -- Of course, you weren't there.

3 BY WITNESS BROOM:

4 A No, sir. I was not there.

5 Q The source of your information you have mentioned  
6 at least one person who was the QC supervisor. Who was that?

7 BY WITNESS BROOM:

8 A That was Mr. Singleton.

9 Q I gather he was the source of your information.

10 BY WITNESS BROOM:

11 A No, sir.

12 Q He was not a source of your information?

13 BY WITNESS BROOM:

14 A I'm sorry. I thought you said he was "the source"  
15 of my --

16 Q No. I amended that to say "a source."

17 BY WITNESS BROOM:

18 A He was one source of my information. Mr. Warnick,  
19 his supervisor was another source of my information.

20 I believe I discussed -- I said Mr. Warnick was  
21 his supervisor. That is not correct. There was an interim  
22 supervisor whom I also, I believe, discussed this situation with  
23 him.

24 In addition to that I have reviewed -- I don't  
25 know -- memoranda of --



1 Q Who did you personally speak to who was actually  
2 there, other than Singleton?

3 BY WITNESS BROOM:

4 A Mr. Warnick.

5 Q Mr. Warnick was one of the two people whom you  
6 described as top management, top QA/QC management, who had  
7 come and looked at it?

8 BY WITNESS BROOM:

9 A Yes, sir. He crawled down into the form with Mr.  
10 Vincent.

11 Q Okay. And Mr. Vincent?

12 BY WITNESS BROOM:

13 A Yes, sir.

14 Q So of people who were actually there, those are the  
15 three you spoke to?

16 BY WITNESS BROOM:

17 A Yes, sir. That is the people I have spoken to in  
18 familiarizing myself with this incident that occurred in April  
19 1979. That is not all of the people that were involved in this  
20 area that Mr. Warnick or Mr. Singleton conferred with or spoke  
21 to. I don't mean to leave that impression.

22 Q No. I simply want to know who you spoke to who was  
23 actually there, and you said --

24 BY WITNESS BROOM:

25 A Yes, sir.

1 Q -- Singleton, Warnick, Vincent.

2 BY WITNESS BROOM:

3 A No. I did not speak to Mr. Vincent personally about  
4 this item. I might have. I don't recall doing that. I do  
5 recall discussing with Mr. Singleton and Mr. Warnick this  
6 specific incident.

7 Q Okay. Thank you.

8 Do you know what actions Mr. Fortay took?

9 BY WITNESS BROOM:

10 A Yes, sir. The memo -- I guess I left that out --  
11 that I am looking at here is a memo that he wrote to Mr. Warnick  
12 after the fact. I would have to check the days here, I guess,  
13 this is three days later after the pour had been made, and I  
14 believe after he had been placed on probation.

15 Q Are you certain of the latter date, the latter  
16 statement?

17 BY WITNESS BROOM:

18 A Whether he had been placed on probation at that  
19 point in time?

20 Q Yes.

21 BY WITNESS BROOM:

22 A No, sir. I'm not positive. I believe that he had  
23 been. I'm not positive.

24 Q When did you actually talk to these people about  
25 the incident?

1 BY WITNESS BROOM:

2 A I talked as recently as last evening, and as long  
3 ago as a couple of months ago. I don't really remember, but  
4 some time ago.

5 Q How soon after April 30th, 1979?

6 BY WITNESS BROOM:

7 A Oh, I did not talk to anybody immediately after  
8 this event. I was not aware of the details of this incident  
9 until just the last few months.

10 Q Can you tell us where Mr. Singleton is now?

11 BY WITNESS BROOM:

12 A Mr. Singleton is employed at the South Texas Project.

13 Q In what position?

14 BY WITNESS BROOM:

15 A In essentially the same position he had at the time  
16 of this incident. I believe his title is Civil UC Superintendent  
17 over all of the civil inspectors. I think that is essentially  
18 his job at the time. I'm not positive of that.

19 MR. JORDAN: Your Honor, I would move the  
20 introduction of this document into evidence, the witness having  
21 identified it as a memorandum prepared by Mr. Fortay. That would  
22 be CEU Exhibit 3.

23 MR. NEWMAN: Mr. Chairman, the document is, obviously,  
24 subject to the infirmity of not having a witness here who, in  
25 particular Mr. Fortay, who actually prepared the document and

1 can speak to the truth of the matters stated therein, but in  
2 light of the Board's expressions earlier about accepting  
3 hearsay evidence, we will waive any objection to the introduction  
4 of the document.

5 JUDGE BECHHOEFER: As far as you know is it  
6 authentic?

7 MR. NEWMAN: Yes. As far as we know -- we tried to  
8 check this out. We only got the document, as I recall it, at  
9 10:00 o'clock last night, and we did manage to check it out  
10 during the evening and today, and I believe that it is authentic.

11 JUDGE BECHHOEFER: Any objections from other parties?

12 MR. REIS: No objections.

13 JUDGE BECHHOEFER: The document will be admitted  
14 as CEU Exhibit 3.

15 (Whereupon, the document heretofore  
16 marked CEU Exhibit No. 3 for  
17 identification, was received in  
18 evidence.)

19 ///

21 ///

23 ///

24  
25

1 BY MR. JORDAN:

2 Q Dr. Broom, another question on the matter that is  
3 related to the document --

4 BY WITNESS BROOM:

5 A Yes, sir.

6 Q -- and really this is about it for this subject,  
7 I think. That is, this appears to relate to Pouring Lift 5;  
8 is that correct?

9 BY WITNESS BROOM:

10 A The subject says Lift 5 RCB No. 2, and I think that  
11 it -- CS2-W5, indicates Lift 5.

12 BY WITNESS BROOM:

13 A Yes.

14 Q Yesterday we had some discussion of Inspection  
15 Report 79-19, which is Staff Exhibit No. 46. I believe there  
16 was an individual identified as A35 and you were not sure who  
17 that was, and you could speculate, and so on. Perhaps you can  
18 refer to the document.

19 I would refer you specifically to

20 MR. JORDAN: I'm sorry, Your Honor. Could we have  
21 a moment?

22 (Pause.)

23 BY MR. JORDAN:

24 Q I refer you, Dr. Broom, to Pages 2 and 3 of  
25 Staff Exhibit 46. That at least is Pages 2 and 3 of Appendix A

1 Notice of Violation.

2 BY WITNESS BROOM:

3 A I'm sorry, sir. I'm not with you. Pages 2 and 3  
4 of which?

5 Q Pages 2 and 3 of Appendix A to Staff Exhibit No. 46.

6 BY WITNESS BROOM:

7 A Yes, sir. Pages 2 and 3. I have that.

8 Q These are part of the Notice of Violation.

9 BY WITNESS BROOM:

10 A Yes.

11 Q It appears that the incident we have just been  
12 discussing is described under Paragraph A on Page 2; is that  
13 correct?

14 Do you want to read that through to yourself and  
15 tell us if you believe that to be the case?

16 BY WITNESS BROOM:

17 A I believe so.

18 Q Accordingly, I would ask you who then is the  
19 QCE supervisor indicated in there; is that Mr. Singleton?

20 BY WITNESS BROOM:

21 A As I indicated earlier, I would prefer not to  
22 identify people in this document, whether I know who they are  
23 or not. If the Board directs me to do that, I will do that.  
24 I have some significant reservations about even if the  
25 identification might be obvious, I have great hesitancy in

1 identifying names with letters or identifications of people  
2 in this document.

3 MR. JORDAN: Your Honor, we are asking the question  
4 because we are having the very same difficulty the Board is  
5 having, and we ask that the witness be directed to provide  
6 the answer.

7 MR. NEWMAN: Mr. Chairman, I think what we will be  
8 having here is some speculation, because, as I recall,  
9 Dr. Broom's description of the incident there were several  
10 levels of supervision involved in that incident.

11 The reference that Mr. Jordan has just made was to,  
12 I believe, a QCE supervisor, so I'm not -- it would appear to  
13 me not readily evident as to who the QCA supervisor in  
14 question might have been. It is certainly speculation, and  
15 if the Board isn't troubled by that -- I think that's all we're  
16 going to have here, though, is speculation, and I think it's of  
17 questionable value.

18 MR. JORDAN: I would respectfully disagree rather  
19 strongly that it is -- in the first paragraph it states, in  
20 the fourth line, "cause a QCE supervisor to override the advice  
21 of his subordinate that the area of the construction joint was  
22 dirty." The witness has testified that that is the incident  
23 he is discussing -- that we have just been discussing, excuse  
24 me. I don't see how there can be any question as to who the  
25 supervisor is, and I do not think that there is a question of

1 speculation on this point.

2 (Board conference.)

3 MR. NEWMAN: Mr. Chairman, may I raise a question?

4 I am really genuinely concerned about the use of  
5 these materials. We have really taken to heart the position  
6 of the I&E Division with respect to the disclosure of informants  
7 and so forth. We certainly supported the Staff position that  
8 we found a reason in sound public policy. I think at least the  
9 Staff ought to be heard on this question of whether --

10 JUDGE BECHHOEFER: The Staff was going to be heard  
11 before we ruled.

12 MR. NEWMAN: I would certainly not feel comfortable  
13 taking any ultimate position with respect to this until the  
14 Staff had been heard and presumably representing the position  
15 of the Division of Inspection & Enforcement.

16 JUDGE BECHHOEFER: I would like to inquire about  
17 the Staff's position, and specifically I would like to know  
18 the answer of the particular I&E inspector who is responsible  
19 for this portion of this particular report is on the stand when  
20 the Staff's case is presented, would he answer that question?

21 MR. REIS: Your Honor, I cannot answer the last  
22 part, but I can say that the material has come out here who  
23 it is from independent sources that are not in the I&E report.  
24 When the material comes out, they are no longer confidential  
25 sources; they come out, and they are there. I think Mr. Jordan



1 brought it out through another memorandum which isn't part of it  
2 that listed names and, therefore, it is not confidential.

3 Further, we must make a dichotomy between sources  
4 and actors. While confidential sources are entitled to  
5 privilege, I'm not sure that we're an actor in the situation --  
6 that the same privilege goes to an actor, and I think we must  
7 make that dichotomy.

8 I think not only must we look at the references --  
9 therefore, I think that there is the memorandum of Forte, the  
10 statements there, the statements of A35 himself, which are  
11 reflected in the report. I don't think we can close our eyes to  
12 them, and I think it has come out independently.

13 Now, the Staff's pledge to any person is that the  
14 Staff will not reveal the name of a source ordinarily without  
15 a specific order of a local authority. The -- if they come  
16 out from other sources, they come out and --

17 JUDGE BECHHOEFER: So, I take it the Staff does  
18 not have any objection to the witness answering the question  
19 that he's been asked at this point?

20 MR. REIS: That's right, because of the predicate  
21 laid in the Forte memorandum --

22 JUDGE BECHHOEFER: To the best of his knowledge.

23 MR. REIS: -- right. And the fact that there are  
24 certain connections and if those connections draw the inferences  
25 that one ordinarily draw or the trier of fact ordinarily draws

1 in a proceeding, then those inferences may be drawn.

2 MR. SINKIN: Mr. Chairman --

3 JUDGE BECHHOEFER: Yes?

4 MR. SINKIN: -- I would also point out that the  
5 resistance to revealing names on the part of the NRC has to do  
6 with a law enforcement agency and its sources. If the Applicant  
7 or Brown & Root already knows the name of the person, then there  
8 is no rationale for not bringing that name out and there certainly  
9 is no rationale for the law enforcement withholding the name.

10 (Bench conference.)

11 MR. REIS: Mr. Chairman, there is also another  
12 consideration here which points to the Staff's position in this  
13 which may not be so in other instances. Where a person has  
14 been proffered by a party as a witness, to that extent, there  
15 might be other considerations of -- they have waived or may be  
16 considered to have waived in coming forward to testify, any  
17 protection they might have given to anonymity.

18 JUDGE BECHHOEFER: The witness may answer the question.

19 WITNESS BROOM: Judge Bechhoefer, as I  
20 understand it, I am supposed to identify who the QCE  
21 supervisor -- who I believe that to be?

22 JUDGE BECHHOEFER: Yes. This is to the best  
23 of your knowledge.

24 Obviously, you can't be entirely sure, but  
25 if you could --

26-12

1 WITNESS BRÖÖM: I'll be happy to identify  
2 that person to the best of my knowledge.

3 If you would permit me, I would like to make  
4 a brief comment about this subject.

5 I'm trying to the best --

6 MR. JORDAN: Your Honor, I must protest. We've  
7 had this happen again and again and again where the witnesses  
8 want to get up and make a brief comment about something.

9 Let's have them answer the question. Then  
10 if they want to get into matters on redirect that they  
11 think there's some way to recover, let's do it on redirect.

12 That's the way legal proceedings are run.  
13 It's not a matter of the witnesses just coming out of  
14 the blue and making their own statements.

15 The answer to the question is the name of  
16 an individual. There is no need for an explanation of  
17 what that name is.

18 MR. NEWMAN: Mr. Chairman, I think the circumstances  
19 here are different.

20 The witness is being called upon to do something  
21 which he himself feels uncertain about, and I think he's  
22 trying to put it in that context for the Board, which  
23 I think is reasonable.

24 JUDGE BECHHOEFER: I think we will allow the  
25 witness to make the statement he wishes, because I think

26-13

1 for the record, we ought to have that.

2 WITNESS BROOM: Judge Bechhoefer, I certainly  
3 appreciate your allowing me to say this.

4 I'm trying to the best of my ability to discharge  
5 a management obligation that I feel very deeply to our  
6 employees.

7 At the same time, I have been instructed on  
8 several occasions by the Nuclear Regulatory Commission  
9 and our client not to in any way divulge the name of any  
10 individual in any way mentioned in any of these investigatory  
11 reports from the NRC.

12 I don't propose to understand the reasons  
13 why, but I have heard that and I have tried to abide by  
14 that.

15 I feel an obligation to our employees because,  
16 as I indicated yesterday, certain of them have come to  
17 me and stated that the statements attributed to them here  
18 and elsewhere are not true.

19 I don't know whether that's true or not. I  
20 have no idea why they would say that to me if it's not  
21 true or if it is true.

22 All I was trying to say was that these people  
23 are identified by NRC inspectors. The veracity of the  
24 individuals involved, the circumstances under which these  
25 questions were asked, the difference between what was

1 said and what is summarized here, I have absolutely no  
2 knowledge of. The NRC does. I do not.

3 With that comment, I'll identify who I think  
4 this supervisor is, and I believe that's Mr. Singleton,  
5 who will testify here in this proceeding.

6 MR. JORDAN: Thank you, Dr. Broom. I guess  
7 I want to say as a personal matter, that I appreciate  
8 your situation; but we believe this is essential to a  
9 complete understanding of the record.

10 BY MR. JORDAN:

11 Q Turn to page 315. This is quite a bit towards  
12 the end of the document. 3-15, I'm sorry.

13 A 3-15.

14 (Witness reviews document.)

15 Q Are you there, sir?

16 BY WITNESS BROOM:

17 A Yes, sir.

18 Q The paragraph is really the largest paragraph  
19 on the page. It begins about halfway down.

20 "A-35 recalled an incident," and so on.

21 Is that the same incident that we've been  
22 discussing?

23 BY WITNESS BROOM:

24 A If I could have a minute to read ahead. It  
25 appears to be.

17-17-1

1 BY WITNESS BROOM:

2 A Yes. That appears to be the lift that we were  
3 talking about earlier.

4 Q So A35 is Mr. Singleton again?

5 BY WITNESS BROOM:

6 A That's --

7 MR. NEWMAN: Mr. Chairman, this, I think, is a  
8 somewhat different situation. Here we are, I think, dealing  
9 with the question of a commissioned informant. I recognize  
10 that in the unique circumstances of this case one may tie  
11 Dr. Singleton -- or Mr. Singleton to the title of QC supervisor  
12 on Page 3 of the report and perhaps to his designation as A35  
13 at 3-15, but I do think that we ought to recognize that at this  
14 point we are beginning to identify confidential, designated  
15 confidential informants.

16 MR. REIS: Mr. Chairman, I realize that as well,  
17 and I have great hesitancy as does the NRC here; however, the  
18 name has come out otherwise, and it is only the Staff's  
19 privilege to bring it out, not that it may not be brought out  
20 otherwise.

21 Further, there is the fact here that although the  
22 question has not been answered, perhaps this is the same person  
23 who is going to be called to testify to aligned matters, and  
24 therefore in those situations any pledges of confidentiality  
25 which might have been given to him would be deemed to have been

17-2  
1 waived if he going to take the stand as an open public witness,  
2 and there is prefiled testimony from this person if the person  
3 is connected up.

4 MR. NEWMAN: Mr. Chairman, I understand Mr. Reis'  
5 remarks and I do think that we may have a special situation here  
6 where we will be able to produce the individual who allegedly  
7 made the statements and have an opportunity to hear him testify  
8 and cross-examine him, and perhaps in this circumstance, given  
9 all the other extrinsic circumstances mentioned by Mr. Reis,  
10 there may be justification for attempting to divulge A35's name.

11 I want to make it clear, however, that to the extent  
12 we attempt to -- or to the extent we identify A35 as such, that  
13 that is with the full concurrence of the NRC Staff, and I just  
14 ask Mr. Reis' assurance in that regard.

15 JUDGE BECHHOEFER: Well, we --

16 MR. REIS: My question is the extent of my authority,  
17 but to the extent of my authority surely I will say that it is  
18 being brought out in an open proceeding, and the witness is  
19 being instructed to answer the questions, and I don't think  
20 there is any fault on the part of the Applicant in having him  
21 answer the questions in a Commission proceeding.

22 Further, I think it's been brought out -- I think  
23 we're hedging now and perhaps engaging in some charades --  
24 perhaps that's a little strong, that word, but I think it's  
25 already revealed openly and I don't see where confidentiality is

7-3  
1 any more there. I think confidentiality serves a very strong  
2 purpose and I think the purposes were amply outlined by the  
3 Appeal Board, but where matters are open they are open.

4 MR. CHAIRMAN: Mr. Chairman, with that explanation  
5 on the part of counsel for the Staff, and under the unique  
6 circumstances of this case, I would withdraw any objection that  
7 I had to the question of identifying A35.

8 MR. REIS: Right. The Staff also wants to state  
9 that its willingness to have this person identified, who is, to  
10 the Staff's knowledge, a potential witness here, is in that  
11 peculiar circumstance and does not carry over to other persons  
12 who might be coded in reports and are not called to testify in  
13 proceedings.

14 MR. SINKIN: Mr. Chairman, I'd just like to add one  
15 thing to the record at this point.

16 Since the appeal on our motion for compelling  
17 disclosure of these witnesses, it has come to our attention  
18 that the probable pledge of confidentiality given by the NRC  
19 was a pledge of confidentiality barring any court or legal  
20 hearing process, and I'm sorry we didn't know that at the time  
21 of the appeal so that we could have asked the NRC, I believe the  
22 Appeal Board itself, at least to the dissent on the appeal,  
23 recognize that there might have been a possibility of a limited  
24 pledge of confidentiality.

25 We are not certain how particularly the pledge was



1 phrased for 79-19, but if it was phrased in this way there was  
2 never any reason for those names to be withheld from these  
3 proceedings.

4 JUDGE BECHHOEFER: Well, all I can say is that  
5 earlier we agreed with you, and got reversed, in effect.

6 The witness may answer that question.

7 BY WITNESS BROOM:

8 A. I believe I'm to answer who I believe A35 is, and  
9 I believe that based on all of this information here A35 is  
10 Mr. Chuck Singleton, but he has made statements to me that are  
11 contradictory to some of the information here, so I presume  
12 this is Mr. Singleton.

13 JUDGE BECHHOEFER: Yes, Mr. Jordan, we are getting  
14 close to the time when we thought we might want to quit. Are  
15 you at a place where you can break?

16 MR. JORDAN: Yes. I just finished a line.

17 JUDGE BECHHOEFER: Yes. I think that would be  
18 desirable.

19 We will be back tomorrow at 9:00 o'clock.

20 MR. AXELRAD: Mr. Chairman, before we adjourn --

21 JUDGE BECHHOEFER: Okay, back on the record.

22 MR. AXELRAD: -- we would like to talk very briefly  
23 with respect to the schedule of witnesses and witness panels for  
24 the balance of this week and next, just to make sure that  
25 everyone is fully aware of what we plan to do, and so that

7-5 1 by the same token we are sure that we can have the necessary  
2 people present to testify.

3 It is our intention, when this cross-examination of  
4 this panel is completed to bring back the Oprea panel, Oprea,  
5 Turner, Briskin and Frazar.

6 We have asked -- since there's some possibility  
7 that the Oprea panel will get on tomorrow, I think, we have  
8 asked the Intervenors to give us tonight any documents that  
9 they would be planning to use for cross-examination of that  
10 witness panel.

11 I don't know whether the Board can tell us based  
12 upon the information that they received as to scope of  
13 cross-examination, whether it is likely that Mr. -- that the  
14 Oprea panel will get on tomorrow or not. It would be useful  
15 for us to know that; in other words, whether the cross-  
16 examination of this panel will take more than an additional day,  
17 will take a full day or more.

18 Does the Board have any --

19 MR. JORDAN: Let me -- as you consider, Members of  
20 the Board, the estimate I gave you this morning was on what I  
21 had developed for recross as of that time. I didn't realize  
22 what was coming, and I must tell you that I would have at least  
23 again as much.

24 I am about to the end of what I had estimated, and  
25 I think I'm also right about to the end of the amount of time

17-6  
1 that I had estimated, so I would expect an hour or two, or  
2 maybe an hour or an hour and a half would be my guess of this  
3 panel and this configuration in the morning, to add to what my  
4 estimate had been.

5 Based on that, I guess my -- and to my knowledge,  
6 if Mr. Sinkin's estimate and the assumption that there's going  
7 to be a lot from the Staff on 81-11.

8 MR. REIS: About an hour.

9 MR. JORDAN: An hour?

10 MR. REIS: An hour and a half.

11 MR. JORDAN: I guess I'd be a little surprised if we  
12 got to that panel tomorrow.

13 JUDGE BECHHOEFER: I think this panel will be here  
14 all day tomorrow.

15 MR. AXELRAD: All day tomorrow. That takes care of  
16 Wednesday.

17 Will the Oprea panel cross-examination take Thursday,  
18 Friday and Saturday morning, or should we be preparing to have  
19 somebody, another panel available for Saturday or Friday?

20 JUDGE BECHHOEFER: I would fully expect -- I would  
21 be very surprised if it didn't.

22 MR. AXELRAD: We can always make arrangements, I  
23 guess, at the last minute, but as of now we will plan for the  
24 Oprea panel Thursday, Friday and Saturday.

25 Now, for next week, beginning on Monday morning,

7-7

1 we would recall the Goldberg/Frazar panel with Mr. Barker, but  
2 we do have two other considerations in mind.

3 One is that -- we did indicate before that we would  
4 bring the backfill panel on as the first technical panel, and  
5 two members of that panel are leaving the country after the 24th,  
6 which I believe is Wednesday, so I'm not sure whether taking  
7 Goldberg/Frazar/Barker first means that we might not be able  
8 to finish the Pettersson panel before they have to leave the  
9 country, so it might be better to take the Pettersson panel  
10 first.

11 JUDGE BECHHOEFER: Would anybody have any objection  
12 to that?

13 MR. REIS: Is Mr. Pettersson on two panels?

14 MR. AXELRAD: Yes. It will be the Pettersson panel  
15 on backfill and then there's the Pettersson/White panel on the  
16 FSAR statements, which I don't think should take that long, but  
17 if we start Monday morning I would hope that we could finish  
18 both Pettersson panels before that panel has to leave.

19 MR. REIS: The Staff would have no objection.

20 MR. JORDAN: I'm sorry, we didn't realize about the  
21 FSAR. We would have to reserve judgment on that particular  
22 matter at this point.

23 MR. AXELRAD: Okay. If everyone could think about it  
24 and maybe tomorrow we can discuss schedule.

25 Now, the other thing that we would have to do the

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 564-2346

7-8 1 following week is the Buckalew/Duke panel, because Mr. Duke is  
2 now assigned out of the country. He is back in the country  
3 only for these two weeks, and he won't be back in July nor I  
4 believe in September.

5 MR. REIS: Mr. Axelrad, will you refresh my memory  
6 what they're testifying to?

7 MR. AXELRAD: The Buckalew/Duke panel is on the,  
8 I believe the alleged falsification of cad weld records. I can  
9 tell you exactly.

10 Well, it's part of Intervenors' Contention 2 where  
11 they allege some falsification of documents. It's relatively  
12 brief testimony by Mr. Bucalew and Mr. Duke on that subject.

13 JUDGE BECHHOEFER: If we scheduled those two panels  
14 immediately following the Oprea, et al. panel, would that be too  
15 much of an inconvenience? Have you prepared at all for those?  
16 It would not be this week, it would be next week.

17 MR. JORDAN: You said two panels, and I'm not sure  
18 which because we've already had two panels. I should think we  
19 could --

20 MR. AXELRAD: It's the backfill and the Buckalew/  
21 Duke panel. I identified them two weeks ago as being panels  
22 that we intend to take up. I assumed that the parties would  
23 be ready at that time.

24 MR. JORDAN: Buckalew/Duke could come on anytime  
25 that week?

1 MR. AXELRAD: Anytime that week, right. They could  
2 come on like Thursday or Friday.

3 MR. JORDAN: They could come on after Goldberg/  
4 Frazar, too, depending on --

5 MR. AXELRAD: Well, my preference is --

6 MR. JORDAN: There isn't even any direct examination  
7 on that panel. I don't know what we're going to talk about --  
8 Goldberg/Frazar/Barker?

9 MR. AXELRAD: We do not have any particular interest,  
10 as far as I know, of bringing Mr. Goldberg and Mr. Frazar back  
11 with respect to 81-11. We had offered that and we had thought  
12 the offer had been accepted, to bring them back after the Brown &  
13 Root testimony on 81-11 and have HL&P testimony on 81-11. They  
14 were really being offered only for purposes of cross-examination.  
15 Now, if after the Brown & Root testimony is heard no one on the  
16 Board or among the parties wants their testimony, we will not  
17 bring them back.

18 (Board conference.)

19 MR. JORDAN: Well, I would certainly leave open the  
20 option that we don't need them back.

21 MR. AXELRAD: Right. What we would like to do is  
22 go ahead with the two Pettersson panels on backfill after we  
23 get through with the Oprea panel, take Buckalew/Duke, for sure,  
24 next week, so that he can go back to --

25 JUDGE BECHHOEFER: There's only one Pettersson panel

300 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554-2345

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

on backfill, is there not?

MR. AXELRAD: No. There are two. It's the Pettersson panel on backfill, plus Pettersson/White, on the FSAR statements which relate to backfill.

JUDGE BECHHOEFER: Oh, I see, because there was another backfill panel already which we're through with.

MR. AXELRAD: Right. There were three panels all together, counting the FSAR statements we have referred to.

JUDGE BECHHOEFER: Okay.

MR. JORDAN: Your Honor, as I've heard many times in this hearing, I have complete confidence that we can work this out.

JUDGE BECHHOEFER: All right. We will be back here at 9:00 o'clock in the morning.

(Whereupon, at 5:55 o'clock p.m., the hearing in the above referenced matter was adjourned, to reconvene at 9:00 o'clock a.m., in the same location, on June 17, 1981.)

---

This is to certify that the attached proceedings before the  
NUCLEAR REGULATORY COMMISSION  
HOUSTON LIGHTING & POWER COMPANY, ET AL.  
in the matter of:

South Texas Nuclear Project Units 1 and 2

DATE of proceedings: June 16, 1981

DOCKET Number: 50-498 OL; 50-499 OL

PLACE of proceedings: Houston, Texas

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

Lagailda Barnes  
Official Reporter (Typed)

*Lagailda Barnes*  
Official Reporter (Signature)