

NUCLEAR REGULATORY COMMISSION

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In the Matter of: CONSUMERS POWER COMPANY : DOCKET NOS. 50-329-OM  
(Midland, Units 1 & 2) 50-330-OM

Deposition of DONALD ELDON HORN

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DATE: October 21, 1980 PAGES: 1 - 174

AT: Midland, Michigan

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NUCLEAR REGULATORY COMMISSION

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In the matter of: :  
CONSUMERS POWER COMPANY :  
- - - - -x

Docket Nos. 50-329-OM  
50-330-OM

Nuclear Regulatory Commission  
Midland Service Center  
1100 South Washington Street  
Midland, Michigan

Tuesday, October 21, 1980

Deposition of DONALD ELDON HORN, a witness herein,  
called for examination by Counsel for the Nuclear Regulatory  
Commission in the above-entitled matter, pursuant to notice,  
the witness being duly sworn by Marilyn Shockey, at the  
Nuclear Regulatory Commission, Midland Service Center, 1100  
South Washington Street, Midland, Michigan, commencing at  
9:55 o'clock a.m., Tuesday, October 21, 1980, and the  
proceedings being taken down by stenomask by Marilyn Shockey  
and transcribed under her direction.

APPEARANCES:

On behalf of the Nuclear Regulatory Commission:

WILLIAM PATON, Esq.  
BRADLEY JONES, Esq.  
Nuclear Regulatory Commission'  
Maryland National Bank Building  
Bethesda, Maryland

1 On behalf of Consumers Power Company:

2 RONALD G. ZAMARIN, Esq.  
3 ALAN FARNELL, Esq.  
4 Isham, Lincoln & Beale  
5 One First National Plaza  
6 Chicago, Illinois 60603

7 JAMES BRUNNER, Esq.  
8 Consumers Power Company  
9 212 West Michigan  
10 Jackson, Michigan 49201

11 ALSO PRESENT:

12 GENE GALLAGHER,  
13 NRC Inspection and Enforcement, Region III

14 RAYMOND SUTPHIN,  
15 NRC Inspection and Enforcement, Region III

16 JOHN GILRAY,  
17 NRC Quality Assurance Branch,  
18 Bethesda, Maryland

19 BILL MAINES,  
20 WMPX

21 DARL HOOD,  
22 NRC, Division of Licensing,  
23 Bethesda, Maryland

24 SANDRA VISSER,  
25 Paralegal,  
Consumer Power Company

SHARON WARREN, Intervenor

BARBARA STAMIRIS, Intervenor

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C O N T E N T S

EXAMINATION BY COUNSEL  
FOR THE NUCLEAR REGULATORY COMMISSION

WITNESS:

Donald Eldon Horn  
By Mr. Paton

4

E X H I B I T S

NUMBER

IDENTIFIED

IN EVIDENCE

No. 1

24

No. 2

71

400 7TH STREET, S.W., REPORTERS BUILDING, WASHINGTON, D.C. 20024 (202) 554 2345

P R O C E E D I N G S

1  
2 MR. PATON: This is a deposition of Donald Horn of  
3 Consumers Power, scheduled to start this morning at 9.30,  
4 pursuant to notice.

5 We are going to ask that people in the room not at  
6 counsel table identify themselves, starting with Mr.  
7 Gallagher.

8 MR. GALLAGHER: Gene Gallagher, NEC Inspection and  
9 Enforcement, Region 3.

10 MR. SUTPHIN: Ray Sutphin, I&E, Region 3.

11 MR. GILRAY: John Gilray, G-i-l-r-a-y, Quality  
12 Assurance Branch, Bethesda, Maryland.

13 MR. MAINES: My name is Bill Maines. I am with  
14 WMPX.

15 MR. HOOD: My name is Darl Hood. I am with the  
16 Nuclear Regulatory Commission, and I am with the Division of  
17 Licensing.

18 MS. VISSER: Sandra Visser, V-i-s-s-e-r. I am a  
19 paralegal for Consumers Power.

20 MS. WARREN: Sharon Warren, accepted intervenor.

21 MS. STAMARIS: Barbara Stamaris, S-t-a-m-a-r-i-s,  
22 intervenor.

23 Whereupon,

24 DONALD HORN,  
25 the deponent herein, called for examination by Counsel for

1 the Nuclear Regulatory Commission, having been duly sworn by  
2 the Court Report, was examined, and testified as follows:

3 EXAMINATION BY COUNSEL FOR THE NUCLEAR REGULATORY COMMISSION

4 BY MR. PATON:

5 Q Mr. Horn, would you state your full name and  
6 business address for the record, please.

7 A Donald Eldon Horn, 3812 Wingate.

8 Q What is your business address?

9 A My business address is 1963, that would be Post  
10 Office Box 1963, Midland, Michigan, 48460.

11 Q How long have you been employed by Consumers Power  
12 Company?

13 A Nine and one half years.

14 Q What was your first job when you came with --  
15 strike that. I want to know your education first.

16 What is your education after high school?

17 A Two years at Flint Community Junior College, two  
18 years at Michigan Technical University in civil engineering,  
19 received a B.S. in civil engineering.

20 Q B.S. in civil engineering.

21 What was the name of the college again?

22 A Michigan Technical University.

23 Q Is that the extent of your formal education after  
24 high school?

25 A Yes.

1 Q You attended Michigan Technical University for two  
2 years, is that correct?

3 A Yes.

4 Q Did you have any courses there that devoted  
5 themselves just to the subject of quality assurance or  
6 quality control?

7 A No.

8 Q Did you major in civil engineering?

9 A Yes.

10 Q Can you break it down any more than that, or  
11 within that major, was there any speciality, or was it civil  
12 engineering? Is that the description?

13 A Civil engineering was the description. However, I  
14 did have electives, and those were construction.

15 Q Were any courses devoted to the study of soils  
16 engineering?

17 A Yes.

18 Q Tell me about those. How many courses did you  
19 take that addressed that subject?

20 A Two. It would be one year of soils engineering.

21 Q Was that two three-hour courses? Is that what  
22 that was?

23 A Yes, and there was a lab with a one hour credit  
24 given.

25 Q What year did you graduate?

- 1 A '71.
- 2 Q Did you go to work for Consumers immediately after  
3 you graduated from school?
- 4 A No.
- 5 Q Did you graduate in June of '71?
- 6 A Yes.
- 7 Q What was your employment following June of '71?
- 8 A I worked for two weeks with Delta Engineering in  
9 Flint.
- 10 Q What was your employment after that?
- 11 A With Consumers Power Company.
- 12 Q I want to make sure. Have we completed all your  
13 formal education?
- 14 MR. ZAMARIN: After high school.
- 15 BY MR. PATON: (Resuming)
- 16 Q After high school.
- 17 A Yes.
- 18 Q You haven't taken any two week courses or one  
19 month courses or three day courses or anything like that  
20 since that time?
- 21 A Not accredited, no.
- 22 Q When you came to work for Consumers, was that July  
23 '71?
- 24 A Yes.
- 25 Q What was your first job?



- 1       A       Soils engineer.
- 2       Q       What project was that?
- 3       A       The Ludington Pump Storage Project.
- 4       Q       Ludington what?
- 5       A       Ludington Pump Storage Project.
- 6       Q       Where is that?
- 7       A       Ludington, Michigan.
- 8       Q       What was your job there? I mean, you said it was  
9 soils engineer, but what did you do?
- 10      A       I was in charge of the dikes.
- 11      Q       The dikes?
- 12      A       On the reservoir, and then later it was  
13 restoration of the site, and also construction of picnic  
14 areas and campsites.
- 15      Q       Restoration of the site. Restore it from what,  
16 from the impact of construction or what?
- 17      A       Yes.
- 18      Q       What did you do at the dikes? What kind of work  
19 did you do on the dikes?
- 20      A       I was Consumers' representative for the soil  
21 placement for cost and schedule of the reservoir.
- 22      Q       At this time did you have any responsibility with  
23 respect to quality assurance? Was quality assurance  
24 applicable to this dike?
- 25      A       It did not fall under a QA program, but we did run

1 audits on the work going on.

2 Q Was there a formal quality assurance program in  
3 connection with this work?

4 A No.

5 Q Did you have any quality assurance  
6 responsibilities at that time?

7 A Yes.

8 Q What were they?

9 A It would be the performance of audits on work  
10 going on.

11 Q What were you auditing? I mean, what were you  
12 trying to find?

13 A Auditing the specification.

14 Q Do you mean determining compliance with the  
15 specification?

16 A Yes.

17 Q Did you determine at any time that there was  
18 noncompliance with the specification?

19 A Would you restate the question?

20 Q Did you determine at any time that there was  
21 noncompliance with any of the specifications?

22 A Yes.

23 Q More than once?

24 A Yes.

25 Q What did you do about it?

1           A       They would be written up in the audit report.  If  
2 it wasn't something that I was watching during an audit, it  
3 would be contacting the people that were doing the work,  
4 contacting an inspector and pursuing it through that, or  
5 contacting my supervisor.

6           Q       Do you recall whether the nonconformance was fixed?

7           A       Yes.

8           Q       I construed your answer to be that you recall  
9 whether the nonconformance was fixed.

10                   Now, let me ask you, was in fact the  
11 nonconformance fixed?

12          A       Yes.

13          Q       It was.  Okay.

14                   How long were you at the Ludington Pump Storage  
15 Project?

16          A       Two years, approximately two years, a little over  
17 two years.

18          Q       July or August of '73 maybe?

19          A       No, I left November, part time in November, and  
20 full time in December I was gone from the project of '73.

21          Q       I'm not sure, you are talking about part time,  
22 full time.  You were working full time for Consumers during  
23 this entire period?

24          A       Yes.

25          Q       In December of '72, you terminated your work at

1 the Ludington Pump Storage Project, is that correct?

2 A No.

3 Q Would you explain that to me?

4 MR. ZAMARIN: December of '73.

5 THE WITNESS: Right.

6 BY MR. PATON: (Resuming)

7 Q Oh, December of '73. You at that point terminated  
8 your employment at Ludington.

9 A Yes.

10 Q Did your employment change at any time while you  
11 were at Ludington? Did you go to a different job?

12 A Yes.

13 Q What job -- the first job you had was called soils  
14 engineer, is that right?

15 A Yes.

16 Q What job did you change to? What was your next  
17 job?

18 A I was in charge of the recreation facilities.

19 Q Were you still a soils engineer?

20 MR. ZAMARIN: Wait a minute. Do you mean by  
21 description or training or nature? It is a little unclear  
22 as to what you are asking him.

23 MR. PATON: I think if the Witness is unclear, he  
24 can tell me he's not clear. I don't think -- are you going  
25 to alert me all day and tell me when you are not clear on a

1 question?

2 MR. ZAMARIN: Yes.

3 MR. PATON: I think that is inappropriate.

4 MR. ZAMARIN: I don't.

5 MR. PATON: You are going to tell the Witness when  
6 a question is unclear?

7 MR. ZAMARIN: Yes.

8 MR. PATON: Okay.

9 BY MR. PATON: (Resuming)

10 Q Let me ask you, you were a soils engineer when you  
11 started at Ludington.

12 A Yes.

13 Q Were you a soils engineer for the entire time you  
14 were at Ludington?

15 A That is not clear to me.

16 MR. ZAMARIN: Are you asking him about his job  
17 title there or whether in fact by training he is a soils  
18 engineer?

19 BY MR. PATON: (Resuming)

20 Q What did you mean in the first place when you told  
21 me you started as a soils engineer?

22 A My title was soils engineer.

23 Q Was your title soils engineer for the entire time  
24 you were at Ludington?

25 A Yes.

1 Q Put you worked with the dikes at first, and then  
2 you went to the recreational areas, is that right?

3 A Yes.

4 Q For the entire period you had no QA  
5 responsibilities.

6 MR. ZAMARIN: Wait a minute. That's not what he  
7 testified to.

8 MR. PATON: I'll ask him.

9 It is going to be a long day.

10 MR. ZAMARIN: Don't mischaracterize his testimony  
11 and we will be all right.

12 MR. PATON: You don't think you mischaracterized  
13 anybody's testimony?

14 MR. ZAMARIN: No, I don't.

15 BY MR. PATON: (Resuming)

16 Q Is it correct that you did not have QA  
17 responsibilities while you were at Ludington for some period  
18 of time? When you first went there did you have any QA  
19 responsibilities?

20 A Yes.

21 Q You did?

22 A Yes.

23 Q I thought you said you did not, but you did.

24 What were those responsibilities?

25 A I made sure that the work going on met the

- 1 specifications that had been written.
- 2 Q When you went to the recreational area, did you  
3 have any QA responsibilities there?
- 4 A Yes.
- 5 Q You did?  
6 What were they?
- 7 A Making sure that the specification was followed in  
8 the work that was going on.
- 9 Q Did you find any nonconformances in that area?  
10 A Not that I recall.
- 11 Q After December f '73, what was your next  
12 employment with Consumers? You left the Ludington area, the  
13 Ludington Pump Storage Project.
- 14 A Yes.
- 15 Q What did you do then?  
16 A I came to Midland and worked at the Midland  
17 nuclear site.
- 18 Q Was that in December in January?  
19 A Part time in November, full time in December.
- 20 Q What was your first job at Midland?  
21 A Field Quality Assurance Engineer.
- 22 Q Field QA Engineer, is that correct?  
23 A Yes.
- 24 Q How old were you at that time?  
25 A Twenty-four.

1 Q Did you have any people working for you as a field  
2 quality assurance engineer? Did you have any supervisory  
3 responsibilities?

4 A No, I didn't have anyone working for me.

5 Q How long were you a field quality assurance  
6 engineer?

7 A Approximately four years.

8 Q At the end of that four year period did you have  
9 any supervisory responsibility?

10 A Yes.

11 Q At the end of that four year period how many  
12 people were you supervising?

13 A One.

14 Q This is essentially 1974 through 1977. Is that  
15 approximately the four year period we are talking about here?

16 A Yes. It wouldn't be through '77. It was the  
17 first part of '77.

18 Q I want to get it straight. You said four years,  
19 and you started after December of '73, so I counted '74, '75

20 --

21 A It should be corrected to three years.

22 MR. ZAMARIN: I think you said about four years.

23 THE WITNESS: Approximately four years is what I  
24 should say. It's what I said, but it should be three years.

25 Q Was there ever a time during that three year



1 period what you supervised more than one person?

2 A During that three years I didn't supervise any  
3 people.

4 Q I thought you indicated to me that at the end of  
5 the three year period or four year period you supervised one  
6 person.

7 A At the end of that I did.

8 Q My question is, at any time during that three year  
9 period did you supervise more than that one person?

10 A No.

11 MR. ZAMARIN: Just so the record is clear, he  
12 states that he didn't supervise anyone during that period,  
13 but at the end, that is when he started to supervise  
14 someone. I think there is some confusion perhaps in your  
15 mind.

16 MR. PATON: I don't think so. He said at the end  
17 of the three year period he was supervising one person.

18 MR. ZAMARIN: No. At the end, he didn't supervise  
19 someone.

20 MR. PATON: Let me try it again.

21 BY MR. PATON: (Resuming)

22 Q During the three year period, did you ever  
23 supervise anybody?

24 A Yes.

25 Q I think you indicated before at the end of the

1 three year period you supervised one person, is that correct?

2 A Yes.

3 Q When? How much before the end of the three year  
4 period?

5 A January of '77.

6 Q When did this three year period end?

7 A The three year period would end December of '76

8 Q So your testimony is that when you began to  
9 supervise the person, it was after the three year period.

10 A That is correct. I said approximately three years  
11 in my testimony.

12 Q I thought you told me you supervised a person at  
13 the end, but you mean after this three year period you  
14 supervised a person.

15 Let me ask the witness, please, I don't think you  
16 should sit there and constantly -- I am going to put on the  
17 record that we are starting the day with Mr. Zamarin  
18 interjecting himself between me and the witness to the point  
19 that I am not able to interrogate the witness fairly, and I  
20 think it is inappropriate.

21 MR. ZAMARIN: I am interjecting myself so that you  
22 can interrogate him fairly.

23 MR. PATON: I dont really want your help, sir. I  
24 really wish you would just let the witness answer the  
25 questions.

1 MR. ZAMARIN: I will object to the form of the  
2 question because you were talking about a three year period,  
3 and that date is imprecise. He said about three years.  
4 Perhaps if you ask him during the period he was quality  
5 field assurance engineer, you would then have an absolute  
6 time frame on it, and that way we won't have to worry about  
7 this imprecise approximate three year period.

8 MR. PATON: I really don't want any help from  
9 you. You are interjecting yourself unduly in my  
10 interrogation of the witness. If the witness and I don't  
11 understand each other, I think the witness can say if he  
12 doesn't understand the question, and I don't think you  
13 should constantly sit there and interpret questions for the  
14 witness and perhaps tell him when you don't understand the  
15 question.

16 MR. ZAMARIN: Your misperception of the role of  
17 lawyers at a deposition is not going to affect the way I  
18 represent my client. If you ask a question that is bad as  
19 to form, or confusing or unintelligible, I will object and  
20 we will go from there.

21 MR. PATON: I'll still object to your constant  
22 interjecting yourself between myself and the witness.

23 MR. ZAMARIN: I know you do.

24 BY MR. PATON: (Resuming)

25 Q Let me ask you about this. You have indicated

1 that you supervised one person somewhere near the end of  
2 this three year period, is that correct?

3 A Yes.

4 Q For how long a period of time did you supervise  
5 this person?

6 Let me strike that question.

7 Did you supervise this person at any time during  
8 the three year period?

9 A No.

10 Q So you supervised this person after the three year  
11 period.

12 A Yes.

13 Q What responsibilities did you have when you  
14 started your employment as a field quality assurance  
15 engineer in December of '73?

16 A I received the civil discipline at the Midland  
17 site.

18 Q I'm sorry, I didn't hear you. Would you say that  
19 again?

20 A I had the civil discipline at the Midland site.

21 Q Civil discipline? Could you tell me what that  
22 means?

23 A Any civil activities that would occur, I was in  
24 charge of the quality assurance of that activity.

25 Q What does civil include? What kind of work does

1 it include?

2 A It includes concrete, reinforcing steel, coatings,  
3 soils.

4 Q I dont want to interrupt you. Have you finished?

5 A Yes.

6 Q You said concrete, reinforcing steel, and the last  
7 one was soils. The other one was coatings?

8 A Yes.

9 Q Coatings over what?

10 A Steel surfaces, concrete surfaces.

11 Q What were your responsibilities? Take any one if  
12 you want, concrete or whatever. What did you do?

13 A I reviewed specifications. I performed audits. I  
14 performed walk-through surveillances of concrete activities.

15 Q Tell me what you did with respect to soil work.

16 A The same for soils.

17 Q You reviewed -- you say you reviewed the  
18 specifications.

19 Did the specifications you reviewed, were they  
20 supplied by Bechtel?

21 A No.

22 MR. ZAMARIN: I'll have to ask for clarification.  
23 Are you talking about all specs?

24 MR. PATON: You are asking for clarification  
25 because you don't understand the question?

1 MR. ZAMARIN: You bet. You asked him specifically  
2 about soils. Are you now going back about general or are  
3 you keeping it to soils? It makes a difference.

4 MP. PATON: With respect to soils.

5 THE WITNESS: I don't know what you mean.

6 BY MR. PATON: (Resuming)

7 Q You said you reviewed specifications. That is one  
8 of the things you did.

9 A Yes.

10 Q And you did that with soils.

11 A Yes.

12 Q Whose specifications were they? Who wrote them?

13 A Bechtel.

14 Q Is it part of your procedure to check those  
15 specifications against the PSAR or the document filed by  
16 Consumers with the NRC?

17 A The question is too general. There were seven  
18 years there.

19 Q I am asking you, do you consider that for this  
20 three year period that you were a field quality assurance  
21 engineer, do you consider that as part of your job? Should  
22 you check the specifications given to you by Bechtel against  
23 the PSAR or the FSAR?

24 A Yes.

25 Q Did you do that?

- 1       A     Yes.
- 2       Q     Did you do it for soils?
- 3       A     Yes.
- 4       Q     Did you find compliance?
- 5       A     I don't recall.
- 6       Q     Did you ever find noncompliance with respect to  
7 the comparison of the Bechtel specifications with respect to  
8 soils and the PSAR?
- 9       A     I don't recall.
- 10      Q     Do you recall a specification for compaction -- do  
11 you recall a specification that required 95 percent  
12 compaction of soils?
- 13      A     Yes.
- 14      Q     Explain that, if you will. What does 95 percent  
15 compaction mean?
- 16      A     95 percent compaction means that you have 95  
17 percent of a standard compaction test.
- 18      Q     Did the Bechtel specifications state what that  
19 standard test was?
- 20      A     Yes.
- 21      Q     Did the PSAR state what that standard test was?
- 22      A     I don't recall.
- 23      Q     You do recall -- do you recall what the standard  
24 test was in the Bechtel specification?
- 25      A     Yes.

1 Q What was it?

2 A There were two of them, and I am not sure on the  
3 wording. One was related to ASTM D-1557. The other was  
4 Bechtel Modified Proctor.

5 Q Was there any confusion as to which of these tests  
6 was applicable?

7 MR. ZAMARIN: Excuse me. I will object to the  
8 form. Confusion on the part of whom?

9 BY MR. PATON: (Resuming)

10 Q Was there any confusion on anyone's part as to  
11 which of these tests was applicable?

12 A The question is too general. Could you give me a  
13 timeframe when?

14 Q The three year period, '74, '75, '76.

15 A Yes.

16 Q Are you aware of any correspondence addressing  
17 this subject in that timeframe?

18 A Yes.

19 Q Were there several letters back and forth between  
20 the Bechtel people at Ann Arbor and on the site trying to  
21 clarify this question?

22 A Not that I recall.

23 Q When you audited or when you did your quality  
24 assurance, or when you did your work as a field quality  
25 assurance engineer, which of the two tests did you use to



1 determine whether there was compliance?

2 A I used Bechtel Modified Proctor.

3 Q Why did you use that one and not the other one?

4 A Because telecons had been written to state that  
5 that was to be used.

6 Q From whom?

7 A The site to project engineering.

8 Q The site. Who is the site?

9 A The Midland site.

10 Q Who is that? It must come from some person.

11 A The one that I recall was Bechtel QA had a telecon  
12 with project engineering.

13 Q Bechtel QA to project engineering. That is  
14 consumers?

15 A No, that is Bechtel.

16 Q So the Bechtel QA people told the Bechtel  
17 engineering people that the test to be used was the Bechtel  
18 Modified Proctor.

19 A No.

20 Q No? How is that wrong?

21 A I believe you stated that Bechtel QA tolds project  
22 engineering what the test was to be.

23 Q Right.

24 A It was the other way around.

25 Q Bechtel project engineering told -- the people at

1 the site told the people at the site what it was to be.

2 A Yes.

3 Q But you never to your knowledge checked the PSAR  
4 the Consumers filed with the NPC to determine what was  
5 indicated there was the proper test?

6 A Yes, I did.

7 Q You did?

8 What did you find?

9 A I didn't find any requirement in the PSAR for that  
10 compaction test, to the best of my knowledge.

11 MR. PATON: Let me show you a document that has  
12 got a date at the top which is difficult to read. I believe  
13 that date is March 22, 1979. In pencil on the front, for  
14 whatever evidentiary value or not, are the words  
15 "Investigation Report." There is a line for the signature  
16 on page 2 of James G. Keppler, which I have marked  
17 Deposition Exhibit No. 1 for identification.

18 (The document referred to was  
19 marked Deposition Exhibit  
20 No. 1 for identification.)

21 BY MR. PATON: (Resuming)

22 Q Now that your attorney has put the date and your  
23 name on it, I'll ask you if you have ever seen that before.

24 A I have seen a copy of this.

25 Q What is that?

1           A       This is an I&E report.

2           Q       Can you tell me any more about what it is? Is it  
3 just another I&E report?

4           A       It is an I&E report of the soils investigation  
5 that Region 3 performed at the site, Ann Arbor and in  
6 Jackson.

7           Q       Did you read it more than once?

8           A       Yes.

9           Q       The appropriate compaction test -- is the  
10 appropriate compaction test a significant consideration in  
11 determining the consideration of the soils difficulties at  
12 Midland?

13           MR. ZAMARIN: Could we hear that back before he  
14 answers?

15           (The pending question was read by the Reporter.)

16           MR. ZAMARIN: I object to the form of that  
17 question.

18           BY MR. PATON: (Resuming)

19           Q       Let me ask the witness, did you understand that  
20 question?

21           A       Yes.

22           MR. PATON: Do you still object to the form of the  
23 question?

24           MR. ZAMARIN: I didn't object on the basis that it  
25 wasn't understandable. It is just the form. You used the

1 word "significant" and that could be significant in any  
2 number of areas. It could be legally significant. I just  
3 don't think -- I don't think he is capable of categorizing.

4 BY MR. PATON: (Resuming)

5 Q Let me limit the word "significant" to significant  
6 to you evaluation as a field quality assurance engineer.

7 A As not a geotech representative, I can't answer  
8 that. I don't have enough knowledge to determine whether  
9 the selection of that affected the soils problem at the  
10 Midland site.

11 Q I want to stay with that subject for a minute. I  
12 want to make sure that you and I are communicating.

13 There were two tests. You have testified that in  
14 the Bechtel specification -- this is not important, but do  
15 you happen to remember the number of the Bechtel  
16 specification?

17 A Yes.

18 Q What was it?

19 A There were two specifications, C-210 -- in fact,  
20 there were three specifications, C-210, C-211 and C-208.

21 Q You testified at one point that in the Bechtel  
22 specifications there were two tests, is that correct?

23 MR. ZAMARIN: Two standard tests you are referring  
24 to?

25 BY MR. PATON: (Resuming)

1 Q Two standard compaction tests, and if you didn't,  
2 or if that doesn't sound right, please correct it.

3 A I don't recall whether the two tests given in each  
4 of those specifications --

5 Q That is not what I asked you.

6 Were there two tests anywhere in Bechtel's  
7 specifications?

8 A Yes.

9 Q Do you recall whether in Specification C-210 there  
10 were two tests?

11 A Yes.

12 Q Were there?

13 A Yes.

14 Q Were there two tests in Bechtel Specification  
15 C-208?

16 A Yes.

17 Q Were there two tests in Bechtel Specification  
18 C-211?

19 A I don't recall.

20 Q Were these specifications, did they address soils  
21 work?

22 A Would you clarify that question?

23 Q Yes. Let's start with the first numerically  
24 specification, C-208. It was specifications for what?

25 A Testing.

- 1 Q What?
- 2 A Soils, concrete, steel.
- 3 Q It was for testing, and it was for testing more  
4 than just soils?
- 5 A Yes.
- 6 Q What was the specification C-210? What was that  
7 for? What did that address?
- 8 A Soils placement.
- 9 Q Just soils?
- 10 A Yes, I believe so.
- 11 Q All right. C-211, what did that address?
- 12 A Soils placement.
- 13 Q What was the difference between C-210 and C-211?
- 14 A C-210 was soil placement by Canonie. It was a  
15 subcontract for Canonie. C-211 was more structural backfill  
16 placement.
- 17 Q I don't understand the difference. You said C-210  
18 was with respect to the work done by Canonie?
- 19 A Yes.
- 20 Q Generally what was that? Did they do work in the  
21 power block area?
- 22 A They did some, yes.
- 23 Q What other work by Canonie did C-210 apply to?
- 24 A It applied to the cooling pond dikes.
- 25 Q Are you finished with your answer? .

- 1           A       Yes.
- 2           Q       Did Bechtel use Specification C-210 for the  
3 placement of soils in the power block area?
- 4           A       I'm not clear on the question.
- 5           Q       You indicated that Specification C-210 applied to  
6 soils placement.
- 7           A       Yes.
- 8           Q       You tell me that Specification C-210 was a Bechtel  
9 specification.
- 10          A       Yes.
- 11          Q       Did Bechtel use Specification C-210 for soils  
12 placement?
- 13          A       I am having problems with the word "soils  
14 placement."
- 15          Q       They are your words. Bechtel -- Canonic did the  
16 soils placement. Is that what you are saying?
- 17          A       Where?
- 18          Q       The power block area.
- 19          A       Right.
- 20          Q       Who else did any of it?
- 21          A       Bechtel did part of it.
- 22          Q       Did Bechtel perform QA on that soil placement in  
23 the power block area?
- 24          A       Yes.
- 25          Q       Did they use Specification 21- in performing that

- 1 quality assurance work? .
- 2 A Yes.
- 3 Q The two standard compaction tests you mentioned  
4 before were ASTM D, is that correct?
- 5 A Yes.
- 6 Q What does that stand for?
- 7 A ASTM is the American Society of Testing Materials.
- 8 Q Then you also said I believe D-1557.
- 9 A Yes.
- 10 Q The other one was a Bechtel Modified Proctor Test.
- 11 A Yes.
- 12 Q Is there a difference between the two?
- 13 A Yes.
- 14 Q What is the difference?
- 15 A With the D-1557 you would obtain 56,000 foot  
16 pounds, approximately 56,000 foot pounds. With the Bechtel  
17 Modified Proctor you would obtain 20,000 foot pounds.
- 18 Q Using the ASTM standard test with 56,000 foot  
19 pounds would be more conservative than using the other test,  
20 would it not?
- 21 A Yes.
- 22 Q In performing your function as a field quality  
23 assurance engineer, do you know which of these tests was  
24 used by Bechtel?
- 25 A Yes.



1 Q Which one?

2 A They used both.

3 Q As a field quality assurance engineer, did you  
4 consider that appropriate?

5 A Yes.

6 Q What were the criteria that you used to determine  
7 when one test was appropriate and when the other was  
8 appropriate?

9 A They used the 20,000 foot pound method for  
10 evaluating tests and they used the ASTM D-1557 only for  
11 information, which was very seldom.

12 Q I'm sorry, I just don't understand your answer. I  
13 am sure that is my fault.

14 You used Bechtel to evaluate tests. In  
15 determining conformance with specifications, am I correct  
16 that Bechtel used the Bechtel Modified Proctor Test?

17 A Yes.

18 Q What do you mean they used the other one for  
19 information? I'm not sure I understand that.

20 A They very seldom, maybe when they first started  
21 out in the soils placement, they had run the 1557 test for  
22 information.

23 Q And you say they used it when they started out.

24 A As information.

25 Q Did they stop using it after some period of time?

1           A       I don't recall them using it, 1557, to evaluate  
2 soils placement, only as information.

3                    Are we still talking about this timeframe, '74,  
4 '75, and '76?

5           Q       Yes.

6           A       All right.

7                    MR. PATON: Why don't we take five minutes' break.

8                    (A brief recess was taken.)

9                    BY MR. PATON: (Resuming)

10          Q       Mr. Horn, I want to show you a document we have  
11 just identified as Deposition Exhibit 1 and ask you to take  
12 a look at pages 11, 12, and 13, which follow this partial  
13 sentence at the bottom of page 11. I am just going to read  
14 that. Then I'm going to hand it to you. "The following is  
15 a summary of the documentation regarding the confusion of  
16 the compaction requirements for plant area fill:"

17                    Now, before I hand you this document, you  
18 indicated that you have read this more than once, this  
19 document.

20          A       Yes.

21          Q       Let me ask you to look at pages 11, 12, and 13,  
22 and when you have done that, I want to ask you a question.

23                    Would you let me know when you have had a chance  
24 to read those pages?

25          A       Yes.

1 MR. ZAMARIN: Did you say 11, 12, and 13?

2 MR. PATON: Starting at the bottom of page 11,  
3 reading Items 1 through 10, which ends on page 13.

4 THE WITNESS: I'm through.

5 BY MR. PATON: (Resuming)

6 Q When you read that document for the first time,  
7 was that your first knowledge of this correspondence that  
8 you have just read about?

9 A The question is too general.

10 Q Let me back up even more than that.

11 Do you agree that you have just read a document  
12 that seems to reference some correspondence between Bechtel  
13 employees?

14 A Yes.

15 Q What was your first knowledge of that  
16 correspondence?

17 A There are quite a few letters in here. They would  
18 have been before I saw them in this document, I believe,  
19 most of them.

20 Q You think you would have seen most of them before  
21 they were summarized in this document? Is that your answer?

22 A Yes, I believe I have seen most of them before I  
23 have seen them in this document, that is correct.

24 Q Do you know whether you have or not?

25 MR. ZAMARIN: Wait a minute. I object unless he

1 is shown the particular letter. You are giving someone  
2 else's summary. I don't think that is a fair inquiry of any  
3 witness.

4 MR. PATON: I am not cross examining him on the  
5 document.

6 MR. ZAMARIN: You are asking him if he knows when  
7 you saw the letters, and you don't have those letters in  
8 front of him.

9 MR. PATON: I am asking him when his first  
10 knowledge of the subject was.

11 MR. ZAMARIN: That is a different question.

12 BY MR. PATON: (Resuming)

13 Q Can you answer that question?

14 A Would you repeat it again?

15 Q Let me ask you this question.

16 Did you ever become aware of any confusion within  
17 Bechtel as to the proper compaction test to be used?

18 A Yes.

19 Q When did you first become aware of that confusion?

20 A I don't recall the year.

21 Q What was your knowledge? What did you learn when  
22 you first learned of this?

23 A Would you repeat the question?

24 Q Let me just ask you, you don't understand the  
25 question, is that correct?

1 A Yes, I don't.

2 Q You don't understand the question.

3 You don't remember when you first knew about this  
4 subject. Do you know whether you heard from somebody or you  
5 read something?

6 Do you remember anything about your first  
7 knowledge of this subject?

8 A No, I don't recall.

9 Q But you do know that you did know something about  
10 this subject before you saw that report.

11 A Yes.

12 Q But you don't know what you knew.

13 A I don't recall what my first encounter of this  
14 problem was.

15 Q Tell me whatever you do now about this subject,  
16 about the confusion at Bechtel about the proper compaction  
17 test to be used.

18 A The telecon that I recall was a telecon between  
19 Jon Hook and Rao, and that was because of the problem of  
20 which test to use, whether to use the 1557 method or to use  
21 the Bechtel Modified Proctor which we had been using.

22 Q Do you have any idea what year that was?

23 A No, '76 or '77.

24 Q Let me ask you -- just a minute, please.

25 Do you remember whether you gave Mr. Gallagher any

1 of the correspondence that is referenced in pages 11 through  
2 13?

3 MR. ZAMARIN: It would be the same objection of  
4 not having the correspondence before him, based upon --

5 MR. PATON: All right.

6 BY MR. PATON: (Resuming)

7 Q Based upon the description, Mr. Gallagher's  
8 description of this correspondence, do you remember whether  
9 you gave Mr. Gallagher copies of this correspondence that is  
10 in this document?

11 A I don't recall giving specific items n here. I  
12 believe I gave him some, possibly all. I don't recall.

13 Q Do you remember meeting with Mr. Gallagher in  
14 October of 1978?

15 A I don't recall that date or month.

16 Q Tell us what you know about the confusion within  
17 Bechtel about the proper compaction test to be used.

18 A From time to time within Consumers, within  
19 Bechtel, there were problems with the interpretation of the  
20 specifications in the areas of which standard test to use.

21 Q Mr. Horn, that is all you know about the confusion  
22 within Bechtel --

23 MR. ZAMARIN: Hold it.

24 MR. PATON: Strike that.

25 BY MR. PATON: (Resuming)

1 Q Is it your statement that you have just told me .  
2 about everything you know about the confusion within Bechtel  
3 about the proper compaction test to be used?

4 A No.

5 Q Would you please do that.

6 MR. ZAMARIN: I will object to the form as calling  
7 for a narrative, and you tried to pin him down to a question  
8 but you are asking it in a narrative. That is an objection  
9 to form.

10 MR. PATON: Are you telling him not to answer?

11 MR. ZAMARIN: No. I am just saying I don't think  
12 you can pin him down on that answer because you are asking  
13 him for a narrative, and that is an objection to form.

14 MR. PATON: Okay.

15 BY MR. PATON: (Resuming)

16 Q Do you know any more about the confusion within  
17 Bechtel about the proper compaction test to be used that you  
18 have already related?

19 MR. ZAMARIN: The same objection.

20 MR. PATON: This is really -- I don't understand  
21 this.

22 MR. ZAMARIN: He may note the letters, he may know  
23 there are telecons. You are asking him a very broad-ranging  
24 question.

25 MR. PATON: I will ask him what he knows and go

1 down the list if we have to.

2           MR. ZAMARIN: I think that is a better way to do  
3 it.

4           MR. PATON: All right. We will be here a long  
5 time the way this is going. Okay.

6           BY MR. PATON: (Resuming)

7           Q     Mr. Horn, I am going to read Item No. 1 on pages  
8 11 and 12. Then I am going to hand you the document. In  
9 fact, if we have another document -- oh, you have it. You  
10 can follow along.

11          A     Is this the same document?

12          Q     To my knowledge. You can follow me along, and  
13 when I get through reading that item to you, I am going to  
14 ask you what your knowledge is of that item. As a matter of  
15 fact, since this will be a deposition exhibit, I will not  
16 read it. You can take time to read it again, if you want  
17 to, and I am going to read it right now.

18          MR. ZAMARIN: You are talking about the document  
19 or No. 1?

20          MR. PATON: We are talking about page 11 of  
21 Deposition Exhibit No. 1.

22          MR. ZAMARIN: You just want him to read No. 1 for  
23 right now.

24          MR. PATON: No. 1. That is on pages 11 and 12.

25          BY MR. PATON: (Resuming)



- 1 Q You have read that, Mr. Horn?
- 2 A Yes.
- 3 Q What do you understand it to say?
- 4 MR. ZAMARIN: The document speaks for itself, but  
5 go ahead. That is an objection.
- 6 If you can answer it, go ahead.
- 7 THE WITNESS: I don't understand the question.
- 8 BY MR. PATON: (Resuming)
- 9 Q You don't understand my question? My question was  
10 what do you understand that to say?
- 11 A That is correct.
- 12 Q Do you see Item No. 1 on pages 11 and 12?
- 13 A Yes.
- 14 Q Did you read Item No. 1 on pages 11 and 12?
- 15 A Yes.
- 16 Q Do you understands Item No. 1 on pages 11 and 12?
- 17 A Yes.
- 18 Q What do you understand it to say?
- 19 A Subcontracts was addressing field engineering on  
20 their concern on the soils and the backfill for the planter  
21 fill and berm to be compacted to 95 percent compaction and  
22 received four roller passes with the 50 ton rubber tire  
23 roller.
- 24 Q That is what you understand No. 1 says?
- 25 A Yes.

1 Q It says Subcontracts. Who is that?

2 A It is an organization within Bechtel.

3 Q It is an organization within Bechtel. Do you know  
4 anything about that organization? That is not too helpful:  
5 it is an organization within Bechtel.

6 Can you tell me anything about them? Do you know  
7 anything about them? Do you know what they do? What is  
8 their relationship to you?

9 Answer any one of those questions.

10 MR. ZAMARIN: I object to form. You may answer.

11 THE WITNESS: Subcontracts handles the  
12 subcontracts that Bechtel has issued. They take care of the  
13 actual documents. When the documents come in from the  
14 subcontractor, they would review it. They are in charge of  
15 the implementation of that subcontract.

16 BY MR. PATON: (Resuming)

17 Q From a QA point of view?

18 A No, from a subcontract contractual view.

19 Q In this case here, who was the subcontractor that  
20 was involved?

21 A Canonic.

22 Q What do you understand No. 1 to require? You told  
23 me about two tests. Which one does this one require or  
24 would this one seem to indicate is appropriate?

25 A This one states by a Modified Proctor Method, ASTM

1 1557, Method D.

2 Q Is that the one that would apply 56,000 foot  
3 pounds?

4 A No.

5 Q Under No. 1, is 20,000 foot pounds the appropriate  
6 test?

7 MR. ZAMARIN: I will object to the form of the  
8 question. Are you asking is No. 1, whether something is an  
9 appropriate test?

10 BY MR. PATON: (Resuming)

11 Q I willk start again, ask the same question.

12 Whatever the question is, I will start again.

13 You just gave me an answer. Now I want to be sure  
14 I understand that answer.

15 What I attempted to ask you is which of the two  
16 tests does No. 1 tell you is appropriate?

17 A At the time it told me Bechtel Modified Proctor.

18 Q Is tha the test you have stated would require a  
19 test involving 20,000 foot pounds?

20 A Yes.

21 Q I read the words Modified Proctor Method, and then  
22 at the top of page 12, ASTM 1557, Method D, and I thought I  
23 understood you to say before that that involved the test  
24 that used 56,000 foot pounds. Am I incorrect?

25 A Would you restate the question?

1 Q Okay. I am reading the words at the bottom of  
2 page 11 and the top of page 12, quote, Modified Proctor  
3 Method (ASTM 1557, Method D), unquote. Do those words tell  
4 you whether the test should involve 56,000 foot pounds or  
5 20,000 foot pounds?

6 A Those words tell me that it was a modified test  
7 method to the 1557 Method D.

8 Q Can you answer my question?

9 MR. ZAMARIN: I think he did.

10 MR. PATON: I am asking you whether that tells you  
11 whether it is 56,000 foot pounds or 20,000 foot pounds. If  
12 it doesn't tell you, that is fine.

13 THE WITNESS: I believe I answered it previously.  
14 It would be 20,000 foot pounds.

15 BY MR. PATON: (Resuming)

16 Q Describe for me which of these two tests it is  
17 that involves 56,000 foot pounds.

18 MR. ZAMARIN: Which of which two?

19 MR. PATON: He previously testified that there  
20 were two --

21 MR. ZAMARIN: Are you out of number one?

22 MR. PATON: We are abandoning number one. We are  
23 talking in general terms. You told me before there were two  
24 tests.

25 THE WITNESS: Yes.

1 BY MR. PATON: (Resuming)

2 Q You told me one of them involved 56,000 foot  
3 pounds?

4 A Yes.

5 Q Please tell me which test that was.

6 A ASTM D 1557, Method D. I believe the other -- A,  
7 E, and C, in that ASTM also give you 56,000 foot pounds.

8 Q Describe the test for me that you stated before  
9 involves 20,000 foot pounds.

10 MR. ZAMARIN: You mean identify it?

11 MR. PATON: Yes.

12 THE WITNESS: The Bechtel Modified Proctor.

13 BY MR. PATON: (Resuming)

14 Q And that is the test that you think is described  
15 in number one?

16 A That is correct.

17 Q Does this indicate -- where was the confusion?

18 There was a reference here to a quote that there has been  
19 some confusion. Did you think at this point that there was  
20 any confusion?

21 A Back at that time there was confusion out on the  
22 compaction butt on whether the material had to receive both  
23 four passes and obtain 95 percent compaction.

24 Q What did you do about that confusion?

25 Let me strike that question.

1           You were, at that time, a Midland field quality  
2 assurance engineer, right?

3           A     Right.

4           Q     Did that interest you? Did you know there was any  
5 confusion at the time?

6           A     I don't believe at that time, no.

7           Q     No?

8           A     Not on the percent compaction.

9           Q     Within your area of responsibility at the time,  
10 should you have been aware that there had been any confusion  
11 in this area?

12          A     Would you restate the question?

13          Q     You know what your responsibilities were at the  
14 time, is that correct?

15          A     Yes.

16          Q     Considering those responsibilities, do you think  
17 you should have become aware of any confusion in an area  
18 like this?

19          A     If there would have been confusion in that area I'  
20 would hope to have. Bechtel didn't always tell me when  
21 there was confusion in these letters and things like that.

22          Q     Should Bechtel have told you if there was any  
23 confusion in an area like that?

24          A     I would have hoped that they would have.

25          Q     Mr. Horn, I appreciate that. But what I am

1 getting at is I am talking to a qualified field quality  
2 assurance engineer at this period of time, and I want to  
3 know, within your professional responsibilities -- I want  
4 your answer couched in those terms.

5           Let me ask you this question. Am I correct to say  
6 that in your responsibilities as a QA engineer for Consumers  
7 you have a watchdog responsibility over Bechtel?

8           MR. ZAMARIN: I will object to the form of the  
9 question.

10          MR. PATON: Do you understand what I mean by that?

11          THE WITNESS: No.

12          BY MR. PATON: (Resuming)

13          Q     You don't understand that?

14          A     No.

15          Q     Mr. Horn, you work for Consumers in this period of  
16 time we're talking about?

17          A     Yes.

18          Q     And you were a field quality assurance engineer?

19          A     Yes.

20          Q     Did you have any responsibility to observe  
21 Bechtel's work on this site?

22          A     Yes.

23          Q     Within that area of responsibility -- strike that.

24                Would your knowledge of any confusion that existed  
25 on Bechtel's part on compaction requirements come within

1 that field of responsibility?

2 A Would you repeat the question?

3 Q Let me ask you -- you don't understand the  
4 question as I stated it? Is that correct?

5 A Yes.

6 Q You do understand it, or you don't?

7 A Yes, I don't understand it.

8 Q Did you have any responsibility to know whether  
9 Bechtel was complying with compaction requirements?

10 A Yes.

11 Q Would you have been interested to know, within  
12 your professional responsibilities, whether or not there was  
13 any confusion on Bechtel's part as to what those compaction  
14 requirements were?

15 A Yes.

16 Q Did you know, in 1974, that there was any  
17 confusion on Bechtel's part as to compaction requirements?

18 A Yes.

19 Q What did you do about it?

20 A The compaction requirement was as stated in number  
21 one. When I was out on the dike -- I believe it was the  
22 dike -- the question came up whether four roller passes was  
23 required and in addition to meet the 95 percent compaction.  
24 I contacted the -- I believe I contacted the QC  
25 man at the time and I questioned him on it. He contacted



1 his supervisor. The supervisor contacted -- the supervisor  
2 wrote a letter to Subcontracts.

3 Subcontracts wrote this letter to Field  
4 Engineering.

5 Q Is that the end of your answer?

6 A Yes.

7 Q Was the confusion clarified?

8 A Yes.

9 Q It was?

10 A Yes.

11 Q Did you read all ten of the items on pages 10, 11,  
12 12, and 13?

13 A Yes.

14 Q The last item I see here, I notice it was October,  
15 1977. Let me ask you this. When was the confusion  
16 clarified?

17 A On item number one it was clarified that year.

18 Q Was there further confusion?

19 A Based on this document? Yes.

20 Q What was that confusion?

21 A They are enumerated here.

22 Q I am entitled to ask you questions, sir.

23 What was the future confusion?

24 MR. ZAMARIN: With regard to what?

25 MR. PATON: He's already answered there was

1 confusion after 1974 with respect to compaction  
2 requirements. He knows what I'm talking about, I believe.

3 MR. ZAMARIN: We have a record that we are  
4 concerned with.

5 MR. PATON: Okay.

6 MR. ZAMARIN: Can you recall specifically what  
7 that refers to this document?

8 MR. PATON: Mr. Zamarin, I don't think you should  
9 be asking your witness questions.

10 MR. ZAMARIN: I'll ask him one if I want to.

11 MR. PATON: You are going to interrupt me and  
12 start interrogating your own witness? I think that is  
13 improper.

14 Could the witness please see the document that  
15 I've handed to him? If you are done with it I will take it  
16 back.

17 MR. ZAMARIN: If you are asking him to refer to it  
18 in answering your question then he can see it. If you are  
19 asking for his recollection then he has no need to see it.

20 MR. PATON: He has had it for fifteen minutes  
21 before you took it out of his hand.

22 MR. ZAMARIN: Do you have a question pending?

23 MR. PATON: By this time I have no idea. Could I  
24 have the document back?

25 MR. ZAMARIN: Sure.

1 BY MR. PATON: (Resuming)

2 Q Mr. Hora, am I correct that you stated that after  
3 1974 there was further confusion with respect to the  
4 appropriate compaction test to be used by Bechtel at the  
5 Midland site? And I will state that if you wish to refer to  
6 the document that you have been referring to, I would be  
7 glad to hand it to you.

8 A I'm not sure of the time frame, but there were  
9 problems with the question on compaction.

10 Q You stated, am I correct, that you were aware of  
11 this problem in 1974?

12 A I was aware of a problem in 1974.

13 Q And the problem was some confusion about the  
14 proper compaction test?

15 A No.

16 Q No? What was the problem?

17 A The problem was whether the soils had to be  
18 compacted to 95 percent compaction and obtain or have four  
19 roller passes placed on it.

20 Q Is it your testimony that in 1974 there was  
21 absolutely no confusion as to the appropriate compaction  
22 test to be used?

23 A Not that I recall.

24 Q Did you ever, at any time since 1974 up to today,  
25 look at the FSAR or the FSAR that is filed with the NRC by

1 your company, Consumers, to determine what it said about the  
2 proper compaction test to be used at Midland?

3 A Yes.

4 Q When did you do that?

5 A 1974 was the earliest.

6 Q Do you recall what it said?

7 MR. ZAMARIN: What is it? You have referenced two  
8 things.

9 MR. PATON: I am asking about the PSAR. Tell me  
10 what the PSAR said and tell me what the FSAR said, if you  
11 recall. In 1974 I doubt if there was any FSAR.

12 THE WITNESS: I don't recall in the PSAR  
13 requirements for the percent compaction.

14 BY MR. PATON: (Resuming)

15 Q I want to clarify. You don't recall. I think you  
16 have just stated that you looked. Is that correct?

17 A That is correct.

18 Q Is it your testimony that you could not find any?

19 MR. ZAMARIN: He said he could not recall.

20 MR. PATON: I'm asking him.

21 BY MR. PATON: (Resuming)

22 Q Are you saying you don't remember whether you  
23 found any? Or do you remember that you had not found any?

24 A I don't remember that I found any.

25 Q You don't remember that you found any. Do you

1 recall whether the PSAR refers to the Dames and Moore Report?

2 MR. ZAMARIN: I will object to the form of the  
3 question where you say referenced. Will you tell us what  
4 you mean?

5 BY MR. PATON: (Resuming)

6 Q Do you know what I mean when I say a document is  
7 referenced by the PSAR? Do you know what that question  
8 means?

9 The question was raised by your lawyer.

10 A I believe I understand what that means.

11 MR. ZAMARIN: Then I object unless you ask him  
12 what his understanding is, so that we know the frame of  
13 reference for his answer.

14 BY MR. PATON: (Resuming)

15 Q Please explain what you mean by referenced by the  
16 PSAR.

17 A Within the body of the section it may state Dames  
18 and Moore Report, or in the back of a section it may have  
19 references that were used in preparing that document.

20 Q Fine. Do you know whether in fact the PSAR  
21 referenced a Dames and Moore Report entitled, quote,  
22 Foundation Investigation and Preliminary Exploration for  
23 Borrow Materials, unquote?

24 A I don't recall whether it did.

25 Q You don't recall. So if you don't recall reading,

1 obviously you don't know whether it stated any compaction  
2 requirements in it, do you?

3 A You didn't ask me that.

4 Q All right. I will ask you that.

5 Do you recall reading a report by Dames and Moore  
6 entitled, quote, Foundation Investigation and Preliminary  
7 Exploration for Borrow Materials?

8 A I don't recall reading a document with that  
9 title. I have reviewed or read the Dames and Moore report.  
10 I am not sure on the title.

11 Q You have just stated that you have read the Dames  
12 and Moore report. What subject was addressed by that report?

13 A I believe it gave boring data. It gave  
14 recommendations for soil placement. I believe that is all I  
15 can recall.

16 Q Do you recall whether it contained any tests for  
17 compaction requirements?

18 A I believe it did.

19 Q Do you know what those tests were or do you know  
20 what that test was that was reported in the Dames and Moore  
21 report that we have just been discussing?

22 A I don't recall which test it was.

23 Q Was there any ultimate disposition of which of the  
24 two tests you have described as appropriate for the  
25 placement of soils in the power block area of the Midland

1 site?

2 A Could you give me a time frame?

3 Q I said ultimate. Did they ever figure it out?

4 A Yes.

5 Q When did they figure it out?

6 A After the settlement of the DG building.

7 Q What was that ultimate disposition or resolution?

8 A It would be to use Method D 1557.

9 Q How many foot pounds does that involve?

10 A 56,000 foot pounds.

11 Q Who made that decision?

12 A I am not aware of who made that decision.

13 Q Let me show you item number five on page 12 that  
14 you have previously read and ask you to review that again.  
15 Have you seen that, sir?

16 A Yes, I have read that.

17 Q I want to read you this sentence.

18 Quote, Geotech reiterates the specification  
19 requirement of 95 percent of ASTM 1557 Method D, unquote.  
20 And this was in 1974. Do you agree?

21 A Yes. That is what the record says.

22 Q Do you understand that to be 56,000 foot pounds,  
23 or 20,000 foot pounds?

24 A As stated there it would be 56,000 foot pounds.

25 Q And that is in 1974?

1 A Yes.

2 Q I thought I understood you to say previously that  
3 it was Bechtel's position that 20,000 foot pounds was the  
4 appropriate test in 1974.

5 A I don't believe you asked and I don't believe I  
6 stated that.

7 Q With respect to the appropriate test for  
8 compaction, we have been talking about two tests. Was there  
9 any confusion on Bechtel's part about which test was  
10 appropriate in 1974?

11 A I stated that I could not recall that. Based on  
12 number five there, it appears there was.

13 Q Don't you think the knowledge of whether or not  
14 there was any confusion in 1974 was within your knowledge --  
15 your knowledge of that was within the scope of your  
16 responsibilities in 1974?

17 A Yes.

18 Q Did you know about that confusion in 1974?

19 A I could not recall that.

20 Q You don't know?

21 MR. ZAMARIN: He says he can't recall.

22 MR. PATON: You just don't recall?

23 THE WITNESS: I don't recall at this time.

24 BY MR. PATON: (Resuming)

25 Q Did Bechtel follow a practice in 1974, to your



1 knowledge, of keeping you fully informed on a subject like  
2 this?

3 A Would you repeat the question?

4 Q Did Bechtel follow a practice in 1974 of keeping  
5 you informed of a subject like the one we are discussion, to  
6 your knowledge?

7 A Could you repeat that once more?

8 MR. PATON: Would the reporter read that back,  
9 please?

10 (The pending question was read by the reporter.)

11 A To the best of my knowledge, they did.

12 Q In 1974, did you ever -- strike that.

13 Have you ever complained to anyone within  
14 Consumers or Bechtel that Bechtel was not providing you the  
15 information that you needed to perform your duties?

16 A Could you repeat that once more?

17 MR. PATON: Would the reporter please read the  
18 question?

19 (The pending question was read by the reporter.)

20 A That is too general a question.

21 Q Let me ask you this. Do you understand the  
22 question?

23 A Yes.

24 Q It is too general meaning it covers too many years?

25 A Yes.

- 1 Q All right. Let's try 1974.
- 2 A I can't recall of ever complaining to anyone.
- 3 Q How about 1975?
- 4 A I can't recall ever complaining to anyone.
- 5 Q 1976?
- 6 A I can't recall complaining to anyone.
- 7 Q 1977?
- 8 A I can't recall any complaints.
- 9 Q 1978?
- 10 A I can't recall any complaints.
- 11 Q 1979?
- 12 A Yes.
- 13 Q Could you relate that to us, please?
- 14 A It was the qualification test of compaction  
15 equipment.
- 16 Q Would you tell us about you complaint? For  
17 example, what brought it about? What complaint you made,  
18 who you made it to? Was there any result, et cetera? We'll  
19 go through all this, Mr. Horn, and obviously that is the  
20 pattern we are on, but we are going to be here a long time  
21 if you don't open up a little bit and help me a little with  
22 my questions and answers.
- 23 MR. ZAMARIN: Hold it. That is argumentative. He  
24 will answer your questions as you frame them if they are  
25 appropriate. He is doing fine.

1 BY MR. PATON: (Resuming)

2 Q Tell us the events that caused you to make this  
3 complaint. What led up to the complaint?

4 A Bechtel had been working on a report of the  
5 background -- the backup -- information for the  
6 qualification of equipment that was to be used at the  
7 Midland site.

8 Gene Gallagher had asked several times on getting  
9 that document to the site to have at the site a reference  
10 and it was in pursuing his request and my own that I  
11 contacted Sherif Afifi to expedite getting that document to  
12 the field.

13 Q My question was to tell us the background or the  
14 facts that led up to your complaint, and that is your answer?

15 A Yes.

16 Q You contacted Mr. Afifi and asked him to get the  
17 document to the site. Is that correct?

18 A Yes.

19 Q That is what caused you to make a complaint about  
20 not getting enough information?

21 A Yes.

22 Q Did Mr. Afifi send it to the site?

23 A Yes.

24 Q When.

25 A I don't recall the time.

1 Q We started this by my asking you whether there --  
2 strike that. You stated that you made a complaint to  
3 someone that you weren't getting information you thought you  
4 needed from Bechtel. Is that correct?

5 A Yes.

6 Q Who did you complain to?

7 A Sherif Afifi.

8 Q Mr. Horn, I want to abandon this subject for just  
9 a second and then get back to it. But I want to ask you  
10 something else first to see how long this interrogation will  
11 last.

12 Were there any complaint? Did you make any  
13 complaints to anyone in the year 1980 about not getting  
14 information from Bechtel in a manner that you thought  
15 appropriate for you to perform your duties?

16 A Not that I recall. I'm trying to remember if that  
17 fell into 1979, when I talked to Sherif, or whether it fell  
18 into '80. I don't recall, but it was one year or the other.

19 Q What was the lapse of time? I believe you  
20 indicated you asked Bechtel or Mr. Afifi for this report and  
21 perhaps you had to go back and ask him again. Is that  
22 correct?

23 A No, I did not ask Sherif.

24 Q You asked somebody else?

25 A Yes.

1 Q I thought I said that. Well how much time elapsed  
2 between the time you asked the first time and the time you  
3 asked the second time? Who did you ask the first time?

4 A The first time was Sherif.

5 Q Who did you ask the second time?

6 A Jim Wanzack.

7 Q How much time elapsed between the first request  
8 and the second request?

9 A Approximately a month. I don't recall.

10 Q I gather -- is it that month that you felt was a  
11 little longer than it should have been? That you should  
12 have had the information before the month was out? Is that  
13 fair?

14 A With the words that Sherif told me, yes. I would  
15 have expected to have been received at the site within that  
16 month.

17 Q What did he tell you?

18 A In summary, he told me that they were working on  
19 it and it should be out soon.

20 Q You talked to Sherif first. Is that correct?

21 A On the complaint. Yes.

22 Q Was it the type of information you thought you  
23 should have had before you called Mr. Afifi the first time?

24 A Yes.

25 Q Did Bechtel always provide you information that

1 you thought you needed in the performance of your duties  
2 with this exception in a timely manner?

3 A As well as I can recall, yes.

4 Q I want to change the subject and get back to the  
5 tests. We have a 56,000 foot pound test and a 20,000 foot  
6 pound test. I want to ask you again, to be sure we are  
7 communicating. I think you indicated that ultimately --  
8 that is, as of today -- Bechtel has determined that the  
9 56,000 test is the appropriate test?

10 A Yes.

11 Q But during the course of placing the fill in the  
12 power block area they used a 20,000 pound test?

13 A Yes.

14 Q Is it fair to characterize to name that test as  
15 Bechtel Modified Test?

16 A That is what it is called, yes.

17 Q The Bechtel Modified Test?

18 A The Bechtel Modified Proctor.

19 Q It is called the Bechtel Modified Proctor?

20 A Yes.

21 Q The word Proctor does not appear in the name of  
22 the other test. Is that correct?

23 A As I have stated, it doesn't. I believe it is in  
24 the title of the ASTM D 1557.

25 Q That might have caused some confusion?

1 A No.

2 Q No confusion? No possible confusion because that  
3 word Proctor sometimes does and sometimes does not appear in  
4 the title of the 56,000 pound test?

5 MR. ZAMARIN: I will object. Unless you are  
6 asking him if it caused him confusion.

7 THE WITNESS: It is in the title of the standard.

8 BY MR. PATON: (Resuming)

9 Q The word Proctor?

10 A Yes. When I hear 1557, I think of that Proctor  
11 test.

12 Q During the course of construction they used the  
13 20,000 pound test.

14 A Yes.

15 Q Is it correct that they didn't meet, they failed  
16 that test?

17 MR. ZAMARIN: Who is they?

18 BY MR. PATON: (Resuming)

19 Q Strike that. Is it correct that when that test  
20 was applied during the course of construction that the  
21 material that was tested did not meet that test, or failed  
22 that test?

23 A Yes.

24 Q And your reports reflect that?

25 A Yes.

1 Q Your reports reflect -- strike that. Can you  
2 approximate the number of tests that were made?

3 A Will you state the question again?

4 Q You have stated that the compaction tests using  
5 the 20,000 foot pound tests were failed. How many times was  
6 that test run where the soil did not meet that test?

7 A The 1557, or Bechtel Modified Proctor, or standard  
8 tests -- they are used to go out and evaluate field tests.  
9 The field tests are the ones that fail, not the standard  
10 tests.

11 Q How frequently were field tests taken?

12 MR. ZAMARIN: Can you narrow it down a little  
13 bit? Are you talking about the power block area?

14 BY MR. PATON: (Resuming)

15 Q In the power block area?

16 A The specification for the power block area in  
17 small areas it was one in ten to one in a hundred. One test  
18 per cubic yard of material placed to one test in one hundred  
19 cubic yards placed.

20 In large areas we used large compaction  
21 equipment. It was one test in every five hundred. In the  
22 power block area, those frequencies were complied with.

23 MR. PATON: Why don't we break for lunch.

24 (Whereupon, at 12:05 p.m., the deposition  
25 recessed, to reconvene at 1:00 p.m.)



1 BY MR. PATON: (Resuming)

2 Q Mr. Horn, did you, in preparation for this  
3 deposition, review any of your files?

4 A No.

5 Q In your opinion, are you answering my questions  
6 carefully?

7 A Yes.

8 Q In your opinion, are you answering my questions  
9 very carefully?

10 MR. ZAMARIN: Now wait a minute. That is an  
11 improper line of questioning?

12 MR. PATON: Are you instructing him not to answer?

13 MR. ZAMARIN: Yes.

14 MR. PATON: Okay.

15 BY MR. PATON: (Resuming)

16 Q Mr. Horn, I want to change the subject,  
17 generally. I want to go back now to your employment with  
18 the company.

19 I want to review very quickly what you told me  
20 before, and I want to ask you, when I get through, whether  
21 what I say is correct.

22 You were employed by Consumers Power as a field  
23 quality assurance engineer for approximately three years  
24 during and after November and December 1973. Is that  
25 correct?

- 1           A     Yes.
- 2           Q     So for the years, substantially, 1974, '75, and  
3 '76, you were employed as a field quality assurance engineer?
- 4           A     Yes.
- 5           Q     And for most of that period of time you supervised  
6 no one?
- 7           A     Yes. That is correct.
- 8           Q     Did you get a different job after that -- after  
9 that three-year period?
- 10          A     Yes.
- 11          Q     You don't want to go ahead and tell me what it  
12 is? You just want to tell me yes?
- 13          A     It was quality assurance group supervisor, after  
14 the first part of '77, I believe it was -- I assumed Acting  
15 Civil Group Supervisor.
- 16          Q     Do you know the month that you stopped your  
17 employment as a field quality assurance engineer?
- 18          A     All it was was a change in title, not job.
- 19          Q     Okay. When did that happen?
- 20          A     As close to my recollection, it was the first part  
21 of '77.
- 22          Q     We have had a little confusion on dates. Can we  
23 agree maybe January, 1977, approximately?
- 24          A     Yes, approximately.
- 25          Q     Okay. January 1977. Am I correct? You were

1 given a new title?

2 A Yes.

3 Q Please tell me again what that title was.

4 A It was Civil Group Supervisor, in parentheses  
5 Acting.

6 Q Did your job change at all in January, 1977 from  
7 what it had been for the approximate three-year period?

8 A Yes.

9 Q In what way did it change?

10 A Some of the responsibilities that I had up until  
11 that time were given to another gentlemen in the IE and TV  
12 Group.

13 Q I'm sorry. IE and TV?

14 A Yes.

15 Q What is that, please?

16 A Inspection Examination and Test Verification.

17 Q You say some of your prior responsibilities were  
18 given to someone else. Is that correct?

19 A Yes.

20 Q Just from that statement I would construe that you  
21 had less to do than you did before. Is that correct?

22 A Less responsibility, yes.

23 Q You did? You had less responsibility?

24 A Yes.

25 Q Does that strike you as unusual, that after that

1 three years you would have less responsibility?

2 A No.

3 Q Can you tell me the reason that you were given  
4 less responsibility?

5 A Our organization changed. We added more people  
6 and the IE and TV group were the people who were to go out  
7 and perform overinspections. The quality assurance  
8 engineering group that I was in had different  
9 responsibilities than the IE and TV group had.

10 Q You did not consider it in any way as a demotion  
11 at that time?

12 A No.

13 Q With respect -- in the three-year period, with  
14 respect to soils, who on the site did you report to?

15 A I reported to a quality assurance superintendent.

16 Q Did he have a name?

17 A Yes.

18 Q You don't just want to go ahead and tell me his  
19 name?

20 MR. ZAMARIN: Hold it. Stop it. Ask him  
21 questions and he will answer them.

22 MR. PATON: I will state for the record that the  
23 way we are progressing it may be that it is an option you  
24 have to proceed this way.

25 I would merely suggest that it will take an

1 inordinate amount of time to get even basic information  
2 proceeding this way. Perhaps it is permissible to proceed  
3 this way, but I am afraid it is going to take a long time.

4 MR. ZAMARIN: I think the appropriate format is  
5 for you to ask a question and for him to answer it. He is  
6 not supposed to guess at what your next question is going to  
7 be. So if you will ask, he will answer them. And that is  
8 what he is doing.

9 MR. PATON: Does that mean when I ask him if  
10 somebody has a name and he answers yes.

11 MR. ZAMARIN: That is right.

12 MR. PATON: All right, that is the way we are  
13 going to proceed. I'm sorry, sir, but I've forgotten the  
14 gentleman's name. What was his name?

15 THE WITNESS: I didn't give you his name.

16 BY MR. PATON: (Resuming)

17 Q I will see if I can think of the next question.  
18 What is that person's name?

19 A Jerry Corley.

20 Q Jerry?

21 A Corley.

22 Q Could you spell the last name?

23 A C-o-r-l-e-y.

24 Q Would you tell me his title again, please?

25 A I believe it was Quality Assurance Superintendent.

1 Q Did he have responsibility -- he had supervisory  
2 responsibility as far as you are concerned? He was your  
3 superior?

4 A Yes.

5 Q He was your superior with regard to QA as it  
6 related to soils?

7 A Yes.

8 Q Did you ever discuss with him the status of the QA  
9 program and implementation on the site during that  
10 three-year period?

11 A Yes.

12 Q Did you ever advise him that there was a lack of  
13 compliance with QA of their program or implementation during  
14 that three-year period?

15 A Yes.

16 Q What, in your opinion, during that three-year  
17 period was the most serious violation of QA implementation?

18 A The missing rebar problem.

19 Q Was that within your scope of responsibility?

20 A Yes.

21 Q In that three-year period, in your opinion what  
22 was the most serious deficiency with respect to compliance  
23 with soils QA?

24 A Could you repeat the question again?

25 (The pending question was read by the reporter.)

1 THE WITNESS: Implementation of the soils  
2 specification.

3 BY MR. PATON: (Resuming)

4 Q Can you explain to me what you mean by that, sir?

5 A There were samples and NCRs and audit finding  
6 reports where the specification was not complied with per  
7 those requirements.

8 Q Going back to your original statement, was the  
9 failure to implementation of what?

10 A Specification requirements.

11 Q Specification requirements?

12 A Right.

13 Q With regard to placing soils? Or, you say it in  
14 your own words.

15 A Right. In general, it was lack of implementation  
16 of the specification requirements.

17 Q For placement of soils?

18 A In general. The whole soils -- the placement, the  
19 testing.

20 Q To your knowledge, has Consumers Power determined  
21 what the cause of the soils problem is at the site?

22 A Would you repeat the question?

23 (The pending question was read by the reporter.)

24 THE WITNESS: Yes.

25 BY MR. PATON: (Resuming)

1 Q What did they determine it to be?

2 A Insufficiently compacted material.

3 Q Do you know when they determined that?

4 A I don't recall. No.

5 Q Do you have an opinion as to -- well, do you agree  
6 with that conclusion that insufficient compaction is the  
7 cause of the soils problem at Midland?

8 A Yes.

9 Q You do. Do you have an opinion as to whether or  
10 not quality assurance deficiencies that you have reported  
11 contributed to the insufficient compaction?

12 A I am not sure, again, as to the time frame. We  
13 were talking about up to '77. I am not sure whether the  
14 NCRs that I filed at that time and the AFPs that I filed at  
15 that time relate to soil problems that we have had or have  
16 now.

17 Q I want to ask you to look at items number 13 and  
18 14 on page 19 of Deposition Exhibit Number 1, then I want to  
19 ask you if that refreshes your recollection in any way.

20 The question is whether or not, having reviewed  
21 that information, this assists you in answering my previous  
22 question that during the period 1974, 1975, and 1976 quality  
23 assurance deficiencies contributed to the insufficient  
24 compaction that you say Consumers has concluded as the cause  
25 of the soils problem?



1 MR. ZAMARIN: If I say, that really wasn't your  
2 question -- whether it reported quality assurance  
3 deficiencies. I think you changed gears on us a little bit.

4 BY MR. PATON: (Resuming)

5 Q Have you reviewed items 13 and 14 on page 19 of  
6 the Deposition Exhibit Number 1?

7 A Yes.

8 Q Having reviewed that, do you have an opinion as to  
9 whether quality assurance deficiencies at the site in the  
10 years 1974, 1975 and 1976 contributed to the insufficient  
11 compaction?

12 MR. ZAMARIN: I object to the form of the  
13 question. You say answer.

14 THE WITNESS: Examples that are given here are not  
15 that time period. I cannot state, without looking or  
16 without seeing what those findings were at that time.

17 BY MR. PATON: (Resuming)

18 Q I show you -- Mr. Horn, I want to show you part  
19 of NRC Deposition Exhibit 2 for identification as of today's  
20 date, October 21, 1980.

21 (The document referred to was  
22 marked Deposition Exhibit  
23 No. 2 for identification.)

24 BY MR. PATON: (Resuming)

25 Q I want to show you part of what I have marked as

1 Deposition Exhibit Number 2 for identification, which is a  
2 cover letter dated August 12, 1980, to Mrs. Barbara Stamiris  
3 and it says, quote, please find copies of the  
4 non-conformance report and quality action request referenced  
5 in paragraph 4 in Appendix A of the December 6 order,  
6 unquote.

7 I show you a document that is dated October 3  
8 through 7, 1977, report number F-7732, and ask you if you  
9 know what that is.

10 MR. ZAMARIN: You're asking him to look at what at  
11 the bottom is dated number --

12 MR. PATON: No. May I have it back a second,  
13 please?

14 MR. ZAMARIN: I just want to identify the page,  
15 because they're not numbered seriatim.

16 MR. PATON: I'm asking him to look at a document  
17 which I believe he prepared which is entitled Audit Report  
18 7732, which goes on for a number of pages -- five, six,  
19 seven or eight -- I won't count them. But a number of pages.

20 MR. ZAMARIN: The first page of which is 11/4/77  
21 at the bottom?

22 MR. PATON: That is correct.

23 BY MR. PATON: (Resuming)

24 Q I'm asking you to look at that report and ask if  
25 you know what that is.

- 1           A       Yes.
- 2           Q       Did you prepare it?
- 3           A       I prepared part of it. Yes.
- 4           Q       Do you have any reason to believe that the  
5 information that is contained therein is inaccurate?
- 6           A       No.
- 7           Q       Tell me -- do you call this a non-conformance  
8 report?
- 9           A       No.
- 10          Q       What do you call it?
- 11          A       An audit report.
- 12          Q       What is the difference between those two?
- 13          A       An audit report is reporting, documenting, an  
14 audit. And NCP is documenting a non-conformance.
- 15          Q       Am I correct that an audit report may say we  
16 performed an audit and we found nothing wrong? Is that  
17 possible?
- 18          A       Yes, that is possible.
- 19          Q       And you say report F-7732 is an audit report?
- 20          A       Yes.
- 21          Q       Does it contain information in it concerning  
22 non-conformances?
- 23          A       May I look at it?
- 24          Q       Yes, sir.
- 25          A       Yes, it contains items of non-conformance.

1 Q How many items of non-conformance are in that  
2 report?

3 A It appears that there are three closed findings  
4 and three open findings.

5 Q Can you tell me what those are -- the three open  
6 findings?

7 A The first finding is a non-conformance against the  
8 specification C-210. The same for finding number 2. The  
9 third finding is non-conforming against specification C-211.

10 Q What was the difference between finding number 1  
11 and number 2, since they both apparently reported  
12 non-conformance with C-210.

13 A Offhand, I can't see the difference between the  
14 two because they both contain moisture deficiencies and  
15 compaction deficiencies in both findings.

16 Q How many examples of moisture deficiencies and  
17 compaction deficiencies do you report under finding number 1  
18 and you can approximate it?

19 A Four on moisture, approximately, and density,  
20 approximately two.

21 Q Could I see the report just a second?

22 I show you a sheet at the bottom of the page that  
23 says Sheet five of twelve. What does that information relate  
24 to? Tell me what is on that page.

25 A They are examples of deficiencies against

1 specification C-210.

2 Q What kind of deficiencies?

3 A Moisture content deficiencies and compaction  
4 deficiencies.

5 Q You used the expression density before. Does that  
6 mean the same thing? Density and compaction? You used them  
7 in the same sense.

8 A Yes.

9 Q Is that an open item or a closed item?

10 A It is a closed item.

11 Q How many examples of each do you have?

12 A Compaction, 22.

13 Q I notice one of those is marked north plant dike.  
14 My question is what is the location of the other ones?

15 A I wouldn't know that without the report itself.  
16 Structural back fill would be within the plant area. I  
17 wouldn't know other than that.

18 Q Structural back fill. Does that expression mean  
19 to you that it may involve sand or clay, or is there no  
20 connection between those two? The expression structural  
21 back fill. Does that connote to you either sand or clay?

22 MR. ZAMARIN: As it appears here on sheet five or  
23 twelve?

24 MR. PATON: Right.

25 THE WITNESS: No.

1 BY MR. PATON: (Resuming)

2 Q No? Okay. What is the location of these tests at  
3 the top of the page under the heading Plant Area Fill. Are  
4 they in the power block?

5 A Yes.

6 Q Do these represent QA deficiencies?

7 A I don't believe they are QA deficiencies. I  
8 believe they are deficiencies and not QA deficiencies.

9 Q Does the fact that there are so many of them  
10 indicate to you some deficiency in QA?

11 A No.

12 Q May I have it, please?

13 I am looking at the tests listed under Plant Area  
14 Fill at the top of the page. I think the first is dated  
15 October 21, '76, and the last one is dated June 16, 1977.  
16 You see no connection between quality assurance and the  
17 tests that are indicated on that sheet?

18 MR. ZAMARIN: Wait a minute. I'll object to the  
19 form. The connection is this is a quality assurance sheet.  
20 So if you could specify a little more what he is answering,  
21 otherwise I object to the form as unanswerable.

22 BY MR. PATON: (Resuming)

23 Q Do the tests that are reflected at the top of that  
24 sheet indicate to you any QA deficiency?

25 MR. ZAMARIN: I think that has been asked and

1 answered.

2 MR. PATON: No, he didn't answer it.

3 THE WITNESS: I don't understand what you mean by  
4 QA deficiency.

5 BY MR. PATON: (Resuming)

6 Q The tests addressed at the top of that sheet were  
7 evaluated pursuant to quality assurance -- let me ask you  
8 this.

9 Who evaluated those tests?

10 A The question is too general.

11 Q Has anybody connected with any QA program looked  
12 at the information that is reflected on the top of that  
13 sheet?

14 A Yes.

15 Q Who?

16 A I did.

17 Q Did those tests show compliance with the  
18 compaction requirements -- applicable compaction  
19 requirements?

20 A No.

21 Q That is what I was trying to get at before. Let  
22 me see if you agree with this statement.

23 The QA program reveals a lack of compliance with  
24 the compaction requirements?

25 A Yes.

- 1 Q Have you reviewed the entire audit report F-7732?
- 2 A Now?
- 3 Q Yes.
- 4 A No.
- 5 Q Let me ask you a question and you can say if you  
6 have to look at it to answer the question.
- 7 What period of time does that entire report cover?
- 8 A I would have to look at the report.
- 9 Q Please do. Just in years. What years?
- 10 A 1974, 1975, 1976 and 1977.
- 11 Q Can I describe the test results that you reflect  
12 in there, can I describe them as non-conformances?
- 13 A Yes.
- 14 Q You indicated before that Consumers has determined  
15 that the cause or the principal cause or any word that you  
16 want to use of the soils problem at Midland is insufficient  
17 compaction?
- 18 A Yes.
- 19 Q In your opinion, the non-conformances that you  
20 report in audit report F-7732 contribute to the insufficient  
21 compaction?
- 22 MR. ZAMAPIN: Could I hear that question back,  
23 please, Miss Reporter?
- 24 (The pending question was read by the reporter.)
- 25 THE WITNESS: They are examples of insufficiently



1 compacted material. However, I do not know if the actual  
2 locations are locations where we have found insufficiently  
3 compacted back fill.

4 BY MR. PATON: (Resuming)

5 Q Am I correct that you do not have an opinion --  
6 you do not have an opinion as to whether the  
7 non-conformances reflected by audit report number F-7732  
8 contributed to what Consumers now feels is insufficient  
9 compaction at the site?

10 A Yes. That is correct.

11 Q That is correct? You don't.

12 Do the result of the report of the test indicate  
13 to you insufficient compaction?

14 A Yes.

15 Q Explain that. How do you arrive at that  
16 conclusion?

17 A The specification requirement at the time these  
18 were taken was 80 percent of relative density and the tests,  
19 as indicated in this report, are below that requirement.

20 Q What is the date of the first test report on that  
21 report?

22 A 5/25/74.

23 Q At that time, you were a field quality assurance  
24 engineer?

25 A Yes.

1 Q Responsibl for soils?

2 A Yes.

3 Q When was your first knowledge -- did you become  
4 aware of these non-compliances during 1974?

5 A No.

6 Q But some of the tests were taken in 1974?

7 A Yes.

8 Q Wouldn't knowledge of the outcome of those tests  
9 be within the scope of your job as a field quality assurance  
10 engineer?

11 A Yes.

12 Q Can you explain why you were not aware of the  
13 results of some of these tests?

14 A I did not review all records. I performed audits  
15 on work and did walk-through surveillances on work.

16 Q Did the fact that you did not discover these  
17 non-conformances indicate to you the QA program or the  
18 implementation was deficient in any way, discovered in 1974?

19 A No.

20 Q I am not sure I understand. Do you mean you have  
21 a deficiency and it is within the scope of your employment  
22 and you are a QA man and you are the soils QA man and you  
23 don't have any knowledge and that is okay under the QA  
24 program? That does not indicate any problem within the QA  
25 program?

1 MR. ZAMARIN: You are talking about knowledge,  
2 again, in 1974?

3 MR. PATON: Yes.

4 THE WITNESS: No, because we didn't look at all  
5 work going on.

6 BY MR. PATON: (Resuming)

7 Q Consumers did not know about these non-conformance  
8 questions in 1974, is that right?

9 A Yes.

10 Q Did Bechtel?

11 A I am not aware that they were. No.

12 Q Is it correct -- did U.S. Testing have this  
13 information in 1974?

14 MR. ZAMARIN: Which information?

15 MR. PATON: The test results we have been talking  
16 about.

17 THE WITNESS: Yes.

18 BY MR. PATON: (Resuming)

19 Q And nobody else knew about it? Nobody else knew  
20 about the test results?

21 A No, that is not correct.

22 Q Who did?

23 A Bechtel knew about the test results.

24 Q In 1974?

25 A Test results, not these findings. Right.

1 Q Bechtel, in 1974, they knew the test results, but  
2 they didn't know that they were not in conformance. Strike  
3 that. They didn't know that the tests did not conform --  
4 that they were non-conformance tests?

5 MR. ZAMARIN: Could you repeat that back?

6 (The pending question was read by the reporter.)

7 MR. PATON: We will strike all of that and begin  
8 again.

9 BY MR. PATON: (Resuming)

10 Q U.S. Testing had the test results?

11 A Yes.

12 Q U.S. Testing was not aware that the test results  
13 did not conform to the standard?

14 A The question is too general. There are a lot of  
15 examples in there of different type problems.

16 The fact that the densities were not met. I am  
17 sure that they were aware of that.

18 Q U. S. Testing?

19 A Yes.

20 Q Was Bechtel aware of it?

21 A Yes.

22 Q Were you aware of it?

23 A Not that I can recall. No.

24 Q You think Bechtel was aware of it?

25 A Yes.

1 Q Do you know what Bechtel did about it?

2 A It appears that they didn't close out. They  
3 didn't take retests or rework the area based on this audit  
4 finding report.

5 Q Construction was proceeding. The fill work was  
6 proceeding at this time?

7 A Yes.

8 Q And nothing was done to react to this information  
9 which indicated that the fill material did not meet the  
10 requirements it was supposed to meet?

11 MR. ZAMARIN: I object to the form of the question.

12 MR. PATON: Is that correct?

13 MR. ZAMARIN: I object to the form of the question.

14 BY MR. PATON: (Resuming)

15 Q You say Bechtel was aware of these  
16 non-conformances. Did they do anything about it?

17 A In this case, it appears that they had not. There  
18 wouldn't have been a finding if they had taken action.

19 Q The material had been placed. Correct?

20 A Yes.

21 Q Do you have any idea why Bechtel did not take some  
22 action to correct the obvious deficiency in the soil that  
23 had been placed?

24 A I don't believe they had a tracking mechanism on  
25 failing tests to assure themselves that the retests were

1 performed -- the rework was performed. That is why we had  
2 examples of still having non-conforming material.

3 Q As part of a QA program in Bechtel's quality  
4 assurance, shouldn't that information have been reviewed in  
5 1974?

6 A Would you repeat the question again?

7 Q I will strike the question and try at it another  
8 way. If Bechtel had properly implemented a QA program,  
9 wouldn't they have revealed this information in 1974?

10 A I believe so.

11 Q Wasn't it part of your job to oversee or check on  
12 or look at or observe or judge Bechtel's QA program?

13 A Yes.

14 Q Why didn't you uncover this deficiency, then?

15 A I did detect a deficiency as stated in here.

16 Q You detected it when?

17 A Prior to 11/4/77.

18 Q 11/4/77. Prior to? How much prior to?

19 A During that audit report.

20 Q That doesn't help me. A month before? Or two  
21 months before?

22 A October 3 through the 7th.

23 Q Of '77?

24 A Right.

25 Q Wasn't that too late?

1 MR. ZAMARIN: Is that all of your question? \*

2 MR. PATON: That is it.

3 MR. ZAMARIN: I have to object. Too late for  
4 what? That is objectionable as to form.

5 MR. PATON: He is a QA man. He is a responsible  
6 QA man.

7 All right, within your area of expertise. QA I am  
8 talking about. Your QA responsibilities, et cetera.

9 BY MR. PATON: (resuming)

10 Q You discover, in 1977, a problem. It involves  
11 fill material placed in 1974. Do you consider your  
12 discovery of that problem timely?

13 A No.

14 Q Why didn't you discover it timely?

15 A Depending on the scope of the audits, we might  
16 look at a certain phase of construction testing and audit  
17 that and then another audit might pick up on another portion  
18 of testing or placement. That is why it may not be timely.

19 Q I understand your question to be that a QA audit  
20 doesn't check 100 percent of all the items you want to check  
21 on. It checks on a select group, and in this case the  
22 problem didn't happen to fit in -- it just didn't happen to  
23 fall within the select group. That is the question.

24 MR. ZAMARIN: That is the question, is that  
25 right? Is that what you are saying?

1 MR. PATON: Is my understanding correct?

2 THE WITNESS: Yes.

3 BY MR. PATON: (Resuming)

4 Q Is that, in your opinion -- does that, in your  
5 opinion, say anything adverse about your QA program or  
6 implementation?

7 MR. ZAMARIN: I will object to the form of the  
8 question.

9 MR. PATON: I will let him answer it.

10 THE WITNESS: Would you repeat the question?

11 MR. ZAMARIN: Would you read it back?

12 (The pending question was read by the reporter.)

13 BY MR. PATON: (Resuming)

14 Q Can you answer that?

15 A What do you mean by adverse?

16 Q I'll ask another question.

17 In that instance -- in the instance you have  
18 described where you did not discover a non-conformance until  
19 1977 that occurred in 1974, does that demonstrate to you --  
20 is that consistent with a good QA program?

21 A No.

22 Q What is the problem with the program?

23 A I would hope that the program would pick up the  
24 problems as they are occurring and not a year or two years  
25 later.



1 Q Let me make -- let me ask you -- I appreciate what  
2 you are saying, I would hope. But I want to talk to you as  
3 a QA expert who knows and doesn't know, et cetera.

4 I am not trying to be funny, but it doesn't come  
5 out good on the record. What is wrong with the QA program?  
6 Tell me specifically. I asked you program as opposed to  
7 implementation. What is wrong with a QA program that allows  
8 that to happen? And if you want me to repeat that, I will.  
9 I'll repeat that.

10 What is wrong -- is there anything wrong with a QA  
11 program that allows a serious problem to develop in 1974  
12 which is not revealed or discovered until 1977 -- the  
13 specific problem that we are talking about in this case?

14 MR. ZAMARIN: I object to the form. Are you  
15 saying a program that allowed something to develop?

16 MR. PATON: I think he said there is a problem  
17 with the program.

18 MR. ZAMARIN: He didn't say that it allowed  
19 something to develop. Something happened. He said they  
20 didn't find out about it until later on. Did he say they  
21 allowed it to happen?

22 MR. PATON: Let me ask you this --

23 MR. ZAMARIN: Just the characterization I have a  
24 problem with.

25 BY MR. PATON: (Resuming)

1 Q Did you indicate there was some deficiency in a  
2 program that would permit that?

3 A Yes.

4 Q What is wrong with that program?

5 A The program should pick up problems that are  
6 occurring at the time that they are happening.

7 Q Did that same situation indicate to you any  
8 deficiency in the implementation of that program? Or do you  
9 say that the problem is with the program itself?

10 A Would you repeat that again?

11 Q You understand the situation we are talking about  
12 where there is a deficiency in '74 that was not discovered  
13 until '77. Do you have that in mind?

14 MR. ZAMARIN: The non-conformance in '74?

15 MR. PATON: The non-conformance in '74.

16 THE WITNESS: Yes.

17 BY MR. PATON: (Resuming)

18 Q You have indicated that that reflects a deficiency  
19 in the QA program.

20 A Yes.

21 Q I asked you what deficiency, and I understood your  
22 answer to be that the program should pick it up.

23 A Yes.

24 Q I knew that. Again, I'm not trying to be funny,  
25 but I knew when the program didn't pick it up, I know the

1 program should have picked it up. Why didn't the program?  
2 What is the deficiency? What happened? What is the  
3 failure? Why wasn't it picked up? Was the program bad?  
4 Weren't there enough people on the site?

5 I'll hope you'll help me get an answer to the  
6 question. I think you understand the question.

7 MR. ZAMARIN: Are you asking him what should have  
8 been done that wasn't done, in his opinion, in the program?

9 MR. PATON: Fine, a good question. What should  
10 have been done that wasn't done?

11 MR. ZAMARIN: If anything, in your opinion?

12 THE WITNESS: More actual following of the work  
13 going on in the field.

14 BY MR. PATON: (Resuming)

15 Q Are we talking about Bechtel program or Consumers'  
16 program?

17 A Bechtel program. When you said Consumers or  
18 Bechtel, did you mean the actual work performed by one of  
19 those organizations, or the program?

20 Q Let me back up to another question. You indicated  
21 there was some problem with the program. Were you talking  
22 about Bechtel's program or Consumers' program?

23 A I was talking Consumers' program.

24 Q I want to ask you again what was wrong with  
25 Consumers' program? Why didn't it pick up this deficiency?

1 Why didn't it learn about these non-conformancies in a  
2 timely manner?

3       A       I believe if Consumers' would have been touching  
4 more of the hands-on work -- the actual work being done --  
5 as opposed to record review, it would have been picked up in  
6 a more timely manner.

7       Q       How many people were assigned to this review?  
8 Were you one of the people?

9       A       Yes.

10      Q       Anybody else?

11      A       Yes.

12      Q       How many other people?

13      A       One.

14      Q       What was that person's name?

15              MR. ZAMARIN: Excuse me. When you say this  
16 review, he is referring to the audit. I am not sure that is  
17 what you were referring to.

18              MR. PATON: I'll ask him.

19              THE WITNESS: Don Blumenthal.

20              BY MR. PATON: (Resuming)

21      Q       Is Don Blumenthal still employed by Consumers?

22      A       No.

23      Q       How long -- strike that.

24              How long was he engaged in QA work for Consumers,  
25 to your knowledge?

- 1           A       Approximately a year.
- 2           Q       Did you work with him for that entire year?
- 3           A       No.
- 4           Q       Let me try to understand what you indicated the  
5 problem could be. The problem was, I think, you recommended  
6 more hands-on work as opposed to checking papers.
- 7           A       Yes.
- 8           Q       Have you ever heard a criticism like that  
9 addressed to anyone other than Consumers?
- 10          A       Yes.
- 11          Q       Who was that other party or that other --
- 12          A       Bechtel.
- 13          Q       Who said that?
- 14          A       I don't recall.
- 15          Q       Did you ever say it?
- 16          A       I don't recall.
- 17          Q       Did you ever hear anyone in Consumers or Bechtel  
18 estimate the dollar cost of fixing the problems caused by  
19 the difficulties with the soil at the site?
- 20          A       I have heard estimates, yes.
- 21          Q       What were those numbers?
- 22          A       I believe they were \$10 million.
- 23          Q       Just to be sure we are communicating, that is to  
24 remedy the soils problem. I mean you can define it any way  
25 you want, but generally speaking that is the cost of this

1 problem that Consumers is having with soils. Is that  
2 correct?

3 A Yes.

4 Q So you agree it is a substantial or a significant  
5 problem?

6 A Yes.

7 Q I want to go back to your statement that the  
8 non-conformances contained in audit report F-7732 were, in  
9 your opinion not discovered sooner, at least in part,  
10 because you did not spend more time with what I think you  
11 described as hands-on work as opposed to checking papers.  
12 And I want to ask you, is there anything in that statement  
13 that I have just said that you disagree with?

14 A Could I hear it again?

15 MR. ZAMASIN: Have her read it back.

16 (The pending question was read by the reporter.)

17 THE WITNESS. No.

18 BY MR. PATON: (Resuming)

19 Q Can you think of any other cause for not  
20 discovering the 1974 non-conformances until 1977 other than  
21 the one you have described?

22 A Yes.

23 Q What is that?

24 A Not reviewing these reports for the specific item  
25 we were reviewing them for earlier.

1 Q Did you comply with your QA program in the  
2 frequency of checking these reports?

3 A We did not have a frequency established.

4 Q Did the QA program leave that frequency to your  
5 judgment?

6 A Yes.

7 Q Is it your opinion now that your judgment at that  
8 time was not good?

9 A No.

10 Q Is it correct, then, that although your opinion is  
11 that your judgment at that time was good that it did, in  
12 fact, not work out very well?

13 MR. ZAMARIN: You mean it didn't work out very  
14 well because they didn't catch these?

15 MR. PATON: I will explain what I mean by didn't  
16 work out very well. Okay?

17 What I mean by that is that you checked these test  
18 results with a certain frequency in 1974, is that correct?

19 THE WITNESS: Yes.

20 BY MR. PATON: (Resuming)

21 Q In 1977, it was revealed to you that there were a  
22 number of non-conformances. Is that correct?

23 A Yes.

24 Q And now we find that there is a very serious soils  
25 problem at the site characterized by at least a problem that

1 it may take \$10 million to fix. Is that correct?

2 A Estimates that I have heard, yes.

3 Q Tell me whether you agree or disagree with my  
4 statement that since you, yourself, say that the lack of  
5 frequency in checking those tests in 1974 contributed to the  
6 problem. My statement is that that didn't work out very  
7 well, did it? That the lack of checking in 1974 as a matter  
8 of fact didn't work out too well.

9 MR. ZAMARIN: I will object to the form of the  
10 question. When you talk about problems, there were two. He  
11 testified earlier that he couldn't say whether these  
12 non-conformances contributed to the soils problem because he  
13 didn't know the locations of the tests.

14 You were talking before about the problem being  
15 the fact that these non-conformances were not picked up  
16 until '77. Now you are using problems to describe the soils  
17 problem at Midland. He's already said he doesn't know where  
18 these were. Therefore, he doesn't know if these  
19 non-conformances in fact relate to an area with the  
20 compaction problem.

21 BY MR. PATON: (Resuming)

22 Q Mr. Horn, I think you are indicating that the  
23 non-conformances indicated on page five of twelve of report  
24 number F-77-32, I think you have indicated that you cannot  
25 conclude that those non-conformances contributed to the



1 insufficient compaction of the site.

2 A That is correct.

3 Q Do you know of any non-conformances that you feel  
4 it is your opinion contributed to the insufficient  
5 compaction of the site?

6 A I don't recall any. No.

7 Q Let me make sure I understand. You did agree that  
8 there is insufficient compaction at the site?

9 A Yes.

10 Q Do you have any opinion of what the cause is?

11 A Yes.

12 Q What.

13 A They have been established in the response  
14 50.54(f).

15 Q What are they?

16 A Heavy reliance on testing as opposed to inspection.

17 MR. PATON: I want to ask a few general questions  
18 -- very general -- before I show him the documents and ask  
19 what, if anything, he knows about it.

20 BY MR. PATON: (Resuming)

21 Q Are you familiar with staff question 23?

22 A Yes.

23 Q Did you prepare a document in response to that  
24 question?

25 A I helped prepare it. Yes.

1 Q Did you substantially prepare the document? I  
2 mean, did you do most of the work?

3 A No.

4 Q You had some contribution to it?

5 A Yes.

6 Q Have you read it?

7 A Yes.

8 Q Do you recall now -- you can certainly read the  
9 document if you want to -- but do you recall when you read  
10 it whether you disagreed with anything in the document?

11 A I don't recall disagreeing with anything in the  
12 document.

13 Q Is it fair to say that the document addressed the  
14 root causes of insufficient compaction?

15 A Would you repeat that again?

16 Q Is it a fair statement to say that your answers to  
17 staff question 23 addressed the root causes of insufficient  
18 compaction at the site?

19 A Yes.

20 Q That is fair. Do you know approximately how many  
21 root causes were identified in 23? Now I am asking you for  
22 your recollection. In a minute I will show you the document.

23 A Approximately 25.

24 Q Do you recall, about five minutes ago I asked you  
25 what were the causes of insufficient compaction at the site

1 and you answered heavy reliance of testing as opposed to  
2 inspection?

3 A Yes.

4 Q Am I correct that you had not completed your  
5 answer at that point?

6 A Yes.

7 Q Okay. Were some of these causes identified in 23  
8 similar to the non-conformances that we were talking about a  
9 minute ago in that they were not discovered for two or three  
10 years?

11 MR. ZAMARIN: Excuse me. Could you read the  
12 question back please?

13 (The pending question was read by the reporter.)

14 BY MR. PATON: (Resuming)

15 Q This is to clarify that last question, since there  
16 is some problem with it. We are talking about page 5-12 of  
17 audit report 7732. Am I correct that you indicated prior  
18 that the non-conformances reflected on that page were not  
19 discovered by you for several years -- 1974 non-conformances  
20 were not discovered until 1977?

21 A Yes. I would like to correct that. There was  
22 only one item on here that was in '74 on this page. The  
23 rest of them are in '76 and in '77.

24 Q Is it correct that the '76 non-conformances were  
25 not discovered until 1977?

1 A That is correct.

2 Q Do you have an opinion as to whether or not that  
3 delay in discovering the non-conformances contributed to the  
4 soils problem at Midland?

5 MR. ZAMARIN: I object. He has answered that.

6 MR. PATON: He answered it? What did he say?

7 MR. ZAMARIN: Do you want me to tell you what he  
8 said?

9 MR. PATON: Sure.

10 MR. ZAMARIN: He said no, I can explain it.

11 MR. PATON: He states that he doesn't know that  
12 that contributed to the insufficient compaction.

13 MR. ZAMARIN: There were really two points to your  
14 question. One to the fact that they were not discover and  
15 he said no, and the other is he doesn't even know if these  
16 non-conformances contributed because he doesn't know whether  
17 these were in locations where in fact there was a compaction  
18 problem for information that is contained on here.

19 That is my recollection of his answers.

20 BY MR. PATON: (Resuming)

21 Q Let me shift back to question number 23. Question  
22 23 reflected a number of root causes for insufficient  
23 compaction of the site. Correct?

24 A Yes.

25 Q To your knowledge, were any of those root causes

1 -- did any of those root causes involve deficiencies or  
2 non-conformances that were not discovered in a timely manner  
3 and please feel free to look at the answers if you want to?

4 A Not that I recall.

5 Q How about inadequate soil moisture testing?

6 A I don't recall that as being a root cause to  
7 insufficiently compacted back fill. It is a root cause in  
8 that report for a deficiency that was identified, but I am  
9 not sure whether that is a reason for insufficiently  
10 compacted back fill.

11 Q I want to go back to page five or twelve of audit  
12 number F-77-32. You indicate that there were  
13 non-conformances that were not discovered until 1977 which  
14 in fact occurred in '75 or '76.

15 MR. ZAMBIN: I think he said one in '74, the rest  
16 in '76 and '77.

17 THE WITNESS: There are some reports in there and  
18 a portion of that that do indicate the other years that I  
19 gave earlier, but on that specific page it is only one test.

20 BY MR. PATON: (Resuming)

21 Q You gave me two reasons. You said there was not  
22 enough hand-on testing by yourself. You gave me two reasons  
23 why -- two causes for that delay, the reason it was not  
24 discovered until later. You thought there were two causes  
25 for it.

1           One, there was not enough hands-on work by  
2 yourself. Okay?

3           A     Yes.

4           Q     Do you recall the other one?

5           A     It wasn't frequency of audits. It was scoping of  
6 an audit -- what we looked at?

7           Q     I don't understand scoping of an audit. What does  
8 that mean?

9           A     What specifically we looked at during that audit.  
10 The audit would be scheduled. It would be scheduled that we  
11 would run a soils audit that month, and it was left up to  
12 myself on what I actually looked at during that audit.

13          Q     I think you indicated that you used good judgment  
14 in that regard -- in scoping the audit?

15          A     Yes.

16          Q     Then it is acceptable in your mind when auditing  
17 these tests as part of your responsibility that you do not  
18 discover a problem for more than a year. Is that acceptable  
19 in your mind? Is that a permissible result under an  
20 acceptable audit program, in your expert opinion?

21               MR. ZAMARIN: Objection to the form of the  
22 question.

23               THE WITNESS: Could you repeat the question again?

24               MR. PATON: I will say it again.

25               BY MR. PATON: (Resuming)                   \*

1 Q Do you agree that the non-conforming test results  
2 were not known to you or some of them at least for a year or  
3 more?

4 A No.

5 Q Why is that wrong?

6 A I believe I was aware of non-conforming tests. I  
7 was not aware that they had not been cleared.

8 Q You were aware of non-conforming tests?

9 MR. PATON: Why don't we take a five-minute break?

10 (A brief recess was taken.)

11 BY MR. PATON: (Resuming)

12 Q Mr. Horn, we have been discussing a situation  
13 indicated by your audit report F-7732 that certain  
14 non-conforming tests were not known to you for a year or  
15 more. Do you agree with that statement?

16 A No.

17 Q Tell me what is wrong with that statement.

18 A I might have been aware of non-conforming tests.  
19 I was not aware that they had not been closed out. That is  
20 what that audit finding indicated.

21 Q The fact that they were not closed out. What does  
22 that mean?

23 A That the material had not been reworked and  
24 satisfactory tests covering the failing tests taken.

25 Q So the problem was still outstanding, to your

1 knowledge. The problem had never been solved. Is that  
2 correct?

3 A That is correct.

4 Q Didn't you indicate to me that if in your QA  
5 program there had been more hands-on work that you might  
6 have discovered that problem earlier?

7 A Yes.

8 Q You gave me another reason -- something about  
9 scoping. Something about the frequency of the audit or a  
10 scoping of the audit as the other reason that you might have  
11 discovered that earlier?

12 A Yes.

13 Q Could you explain that a little more please?

14 A If an audit would have looked at, gone through all  
15 the records of tests that had failing tests and a check to  
16 see if the failing tests had been cleared by passing tests,  
17 that would have been picked up.

18 Q Please correct me, but I think you are saying to  
19 me that if you had checked, you would have found it. That I  
20 know. That is fairly clear. If you had checked it more  
21 frequently maybe you would have found it?

22 A No. If I would have checked it for the scope of  
23 those tests earlier I would have found it.

24 Q I can't argue with that at all.

25 If you had found it you would have found it. What



1 should you have done? Should you have done anything  
2 different than what you did?

3 MR. ZAMARIN: When and with what, please?

4 MR. PATON: Do you want me to go through the whole  
5 thing again?

6 MR. ZAMARIN: You mean other than what he did here?

7 MR. PATON: When he did the audit work on this  
8 that led to this report here. Would you do anything  
9 different if you had to do it again. In doing the work that  
10 led to the preparation of audit report F-7732 would you do  
11 anything different than you did?

12 THE WITNESS: Yes.

13 BY MR. PATON: (Resuming)

14 Q What would you do?

15 A I would have more hands-on inspection.

16 Q Anything else?

17 A No.

18 Q I thought a minute ago you gave me some other  
19 reason other than a hands-on inspection, or am I wrong on  
20 that?

21 A No, I gave you another reason, which would be  
22 scoping of audits, but I believe I would scope them the same  
23 as what I have in the past.

24 Q So you wouldn't change that? So it boils down to  
25 hands-on work?

- 1 A Yes.
- 2 Q Were you aware at the time, or was it your  
3 opinion, in 1974 or 1975 or 1976 that you were not doing  
4 enough hands-on work?
- 5 A No.
- 6 Q When did you come to the opinion that you were not  
7 doing enough hands-on work?
- 8 A It came out in the 50.54(f). In preparing for  
9 that.
- 10 Q When was that?
- 11 A The response was, I believe, in April, 1979.
- 12 Q April of '79?
- 13 A Yes.
- 14 Q Did you prepare that response?
- 15 A Yes.
- 16 Q Did you contribute to it?
- 17 A Yes.
- 18 Q So it was your opinion in April, 1979, that there  
19 should have been more hands-on work?
- 20 A Yes.
- 21 Q In your audit work?
- 22 A You said audit work. It wasn't audit work.
- 23 Q In your QA work?
- 24 A Yes.
- 25 Q Was it ever your opinion before April of 1979 that

1 you should have done more hands-on work?

2 A Yes.

3 Q When? When was it first your opinion?

4 A After the diesel generator settlement.

5 Q The diesel generator settlement indicated to you  
6 that you had not done enough hands-on work. Is that what  
7 you just said?

8 A No.

9 MR. ZAMARIN: He said he hadn't done enough.

10 MR. PATON: What did you just say?

11 THE WITNESS: I said no.

12 MR. ZAMARIN: Do you mean what was his previous  
13 answer? If you want to hear it, let's have it read back.  
14 The problem with this is for him to say he should have done  
15 more doesn't mean that what he did wasn't enough.

16 MR. PATON: I am afraid that these conversations  
17 are going to the witness.

18 MR. ZAMARIN: He already answered the question no,  
19 and you seemed puzzled.

20 MR. PATON: All right. We will have to go back and  
21 do that one again.

22 (The sequence of questions and answers was read by  
23 the reporter.)

24 BY MR. PATON: (Resuming)

25 Q Let's go back to that little line of questions

1 right there. When did you first have the opinion that you  
2 should have been doing more hands-on work?

3 A After the diesel generator building settlement  
4 problem.

5 Q Was there anything about the diesel generator  
6 settlement problem that caused you to think you should do  
7 more hands-on work?

8 A Would you repeat that?

9 (The pending question was read by the reporter.)

10 A Yes.

11 Q Can you tell us what that was?

12 A More hands-on inspection of the work.

13 MR. ZAMARIN: No, he means what was it about the  
14 diesel generator building that caused you -- the settlement  
15 -- that caused you to come to the opinion that you should do  
16 more hands-on work?

17 THE WITNESS: The fact that it did not meet the  
18 design criteria for that structure.

19 BY MR. PATON: (Resuming)

20 Q What is the connection between the lack of  
21 hands-on work on your part and the failure of the diesel  
22 generator building to meet the design criteria?

23 A If I would have done more over inspections and  
24 direct hands-on inspections there is a possibility that I  
25 would have picked up the problems that have been identified.

1 Q Is that your complete answer?

2 A Yes.

3 Q In your last answer you referred to problems that  
4 you might possibly have identified. Would you agree that  
5 you probably would have identified some of those problems --  
6 or do you think possibly is more accurate?

7 A I think possibly is more accurate.

8 Q What problems are these that you might have  
9 identified?

10 A Lift thickness problems, reliance on testing, lack  
11 of adequate QC inspection. That is all that I can recall  
12 now.

13 Q The fact that you now believe that more hands-on  
14 work should have been done, does that mean that there was,  
15 at the time you did your work in '74 through '77,  
16 insufficient staffing in the QA organization?

17 A No.

18 Q Then I would conclude that it was a matter of  
19 emphasis in your work as opposed to requiring someone else  
20 to help you do the work. Is that correct?

21 A Could you repeat that again?

22 (The pending question was read by the reporter.)

23 THE WITNESS: I don't understand the question.

24 BY MR. PATON: (Resuming)

25 Q You indicated you didn't think there was a problem

1 with sufficient staffing of QA. That the insufficient  
2 hands-on problem did not reflect to you any lack of staffing  
3 of the QA. Is that correct?

4 A Yes.

5 Q Then where did the problem come from? In other  
6 words, was it your bad judgment?

7 A No.

8 Q Did your supervisor tell you how much hands-on  
9 work to do?

10 A No.

11 Q How did you know how much hands-on work to do?

12 A Hands-on work was to do walk-through surveillances  
13 in the absence of performing audits.

14 Q How did you know how much of that to do?

15 A As much as I could.

16 Q But you have just told me that you didn't do  
17 enough.

18 MR. ZAMARIN: No, he didn't. I object to that  
19 characterization.

20 BY MR. PATON: (Resuming)

21 Q Did you just tell me that you didn't do enough of  
22 that work? I'm asking?

23 MR. ZAMARIN: That was asked and answered, and the  
24 answer was no. That was when we read them back. He said  
25 they should have done more to catch these problems.

1 THE WITNESS: The type of hands-on inspection --

2 BY MR. PATON: (Resuming)

3 Q The type of. Up until I thought you told me you  
4 didn't do enough. Is that wrong or right?

5 MR. ZAMARIN: I'm not sure he was finished with  
6 that answer.

7 MR. PATON: All right. Were you finished?

8 THE WITNESS: Yes.

9 BY MR. PATON: (Resuming)

10 Q I thought you told me that you didn't do enough  
11 hands-on work.

12 MR. ZAMARIN: No. I object. That was asked and  
13 answered and he answered no. We had that way back before.

14 MR. PATON: Do you agree with your lawyer that you  
15 didn't tell me that? I think he just changed now to a type  
16 of hands-on. Why don't you just let him clarify it?

17 MR. ZAMARIN: Because it has been asked and  
18 answered and he said that there should have been more and  
19 you said did he not do enough and he said no.

20 MR. PATON: The record is total confusion. I would  
21 think could clarify it by you and I talking. Let me just  
22 ask him a very simple question. What did he say?

23 MR. ZAMARIN: Then I have to object, because it  
24 has been asked and answered.

25 MR. PATON: You said something about hands-on work

1 as causing the problems we have here, did you not? Did you,  
2 yes or no?

3 THE WITNESS: No.

4 BY MR. PATON: (resuming)

5 Q In your QA work -- was there a lack of hands-on  
6 inspection?

7 A Yes.

8 Q Is that -- when I asked you was there not enough  
9 hands-on work, your answer to that it you didn't say that.  
10 Is that correct?

11 A Would you repeat that again?

12 Q You agreed that there was a lack of hands-on  
13 inspection.

14 A Yes.

15 Q Who determined how much hands-on inspection was  
16 done?

17 A I determined that.

18 Q You have just told me that there was a lack of  
19 hands-on inspection.

20 A Yes. In the soils area.

21 Q You did not spend enough time on hands-on  
22 inspection, is that right?

23 A Yes.

24 Q Is that because you didn't have enough time to  
25 spend on that?



1           A       Yes.  If I would have had more time to spend on it  
2 I could have spent more time on soils.  Right.

3           Q       You have indicated to me that you ultimately  
4 decided there was a lack of hands-on inspection in the soils  
5 area and you didn't spend that time because you didn't have  
6 that time available.  You would have spent more time on it  
7 if you had had the time, is that correct?

8           A       Yes.

9           MR. ZAMARIN:  I object.  He has already answered.

10          THE WITNESS:  I said I could have spent more time  
11 on soils had I --

12          BY MR. PATON:  (Resuming)

13          Q       What is possible is not helpful.  Should you  
14 have?  That is what we are talking about.  You said the lack  
15 of hands-on inspection is the problem, and I am trying to  
16 find out why there wasn't more hands-on inspection.  Why  
17 wasn't there more hands-on inspection?

18          A       At the time I did not feel that there was a  
19 problem with soils of magnitude that I presently know.

20          Q       Is it fair to say that you did not appreciate the  
21 problem at the time?

22          MR. ZAMARIN:  What problem?  You mean with the  
23 soils?

24          BY MR. PATON:  (Resuming)

25          Q       You did not understand there was a serious soils

1 problem at the time? At the time that you did not spend  
2 enough time with hands-on inspection?

3 A Could you repeat the question?

4 Q Let me try something else. Do you know the  
5 purpose of this deposition?

6 A Yes.

7 Q Do you understand that I am trying to understand  
8 what went wrong, if anything, with the QA program?

9 A Yes.

10 Q Are you trying to be responsive and helpful to me  
11 in learning that information?

12 MR. ZAMARIN: He is being, and I object to this  
13 line of questioning. He is being responsive. He is  
14 answering your questions.

15 MR. PATON: Do you instruct him not to answer the  
16 question?

17 MR. ZAMARIN: You bet I am. The record speaks for  
18 itself.

19 MR. PATON: It sure does.

20 MR. ZAMARIN: You don't want us to interrogate you  
21 as to whether your people are responsive in answering a  
22 deposition.

23 BY MR. PATON: (Resuming)

24 Q Was your QA program effective in the soils area?

25 A I felt it was effective at the time of it, right.

1 Q What is your conclusion now?

2 A That it was not effective.

3 Q What makes you say it was not effective?

4 A The problems that have been identified.

5 Q The problems have been identified, I believe you  
6 cited before, were lift, thickness, reliance on testing, and  
7 lack of adequate QC inspection.

8 A Yes.

9 Q Those are the problems that arose from inadequate  
10 QA, is that correct?

11 A Those are problems that could have possibly been  
12 caught had there been more hands-on inspection of that work.

13 Q I think I asked you this again. I don't know  
14 whether you answered or not. You made the judgment -- I  
15 believe you indicated -- on how much hands-on inspection you  
16 did. Is that correct?

17 A Yes.

18 Q So on hindsight you now believe that your judgment  
19 in that regard was in error?

20 MR. ZAMARIN: When you say in hindsight, you mean  
21 if he had known then everything he knows now would his  
22 judgment have been different?

23 MR. PATON: No.

24 MR. ZAMARIN: Is that what you mean by hindsight?

25 BY MR. PATON: (Resuming)

1 Q Considering what you know now, do you consider  
2 that your judgment at the time, based on what you knew at  
3 the time, was good judgment?

4 A I feel that at the time that I performed the soil  
5 audits and inspections that I was performing them and  
6 evaluating the problems identified to the best of the QA  
7 program. The hindsight that I see now would tell me that  
8 more over inspections should have been performed at this  
9 time. If I had to do it all over again I would probably do  
10 the same thing at that time, now knowing the information  
11 that I know now.

12 Q Okay. So your judgment, based on everything you  
13 know now, was that your judgment at that time was good, was  
14 not defective based on what you knew at that time?

15 A Yes.

16 Q Do you consider yourself qualified in the quality  
17 assurance area? Did you consider yourself at that time  
18 qualified to perform your function?

19 A Yes.

20 Q When you first started as a field quality  
21 assurance engineer would you agree that you had very limited  
22 experience in QA?

23 A Yes.

24 Q And when you first started, did you consider  
25 yourself qualified to perform the job you had?

1 A Are you talking about at Midlands or elsewhere?

2 Q When you started at Midland in December of '73?

3 A Would you repeat that again?

4 Q I will do it.

5 You started at Midland in December or November of  
6 '73. Is that correct?

7 A Yes.

8 Q When you first started your job as a Midland field  
9 quality assurance engineer, did you believe yourself to be  
10 qualified to perform your function?

11 A Yes.

12 Q It is your opinion that you exercised good  
13 judgment at the time prior to the settlement of the diesel  
14 generator building? I gather if you had to do the whole  
15 thing over again now, with the knowledge that you now have,  
16 you would do some things differently.

17 A Yes.

18 Q During the period prior to the settlement of the  
19 diesel generator building, tell me again the name of your  
20 supervisor.

21 A There were two prior to the diesel generator  
22 building settlement problem. One was Jerry Corley, who was  
23 my supervisor from '73 until approximately January of '77.  
24 From that time period on, until the diesel generator  
25 building settlement problem, it was Walter Bird.

1 Q Did you ever discuss with either one of them how  
2 much hands-on inspection you should do?

3 A No. My job function changed in '77 -- in the  
4 first part of '77.

5 Q Prior to the change of your job function in '77,  
6 did you ever discuss with Mr. Corley how much hands-on work  
7 you should do -- hands-on inspection you should do?

8 A No.

9 Q So it was strictly a matter of your own judgment?

10 A Yes.

11 Q They never gave you any direction?

12 MR. ZAMARIN: They. You were talking about he.

13 BY MR. PATON: (Resuming)

14 Q Did Mr. Corley ever give you any direction in that  
15 regard?

16 A No.

17 Q Is it your judgment now that there was  
18 insufficient staffing in the QA organization with respect to  
19 this period of time where you thought that there should be  
20 more hands-on inspection?

21 MR. ZAMARIN: Objection. That's been asked and  
22 answered. You may answer it if you can.

23 THE WITNESS: That is too general.

24 BY MR. PATON: (Resuming)

25 Q What is too general?

1 A Soils. yes.

2 Q Your judgment now is that there was insufficient  
3 staffing in the soils area during this time in which you  
4 felt that there should have been more hands-on inspection.  
5 Is that correct?

6 A Yes.

7 Q At any time have you made any recommendation to  
8 management -- your management -- in that regard?

9 A Could you give me a time frame?

10 Q At any time?

11 A Yes.

12 Q When was the first time you made such a  
13 recommendation?

14 A The first recommendation that I can recall was the  
15 merge between Pechtel QA and Consumers QA, which would have  
16 been the last part of '79 or the first part of '80.

17 Q Approximately when did you become aware of the  
18 diesel generator settlement problem?

19 A August of 1978.

20 Q Am I correct that you indicated -- how long after  
21 the diesel generator building settlement problem did you  
22 come to the conclusion that there was a lack of hands-on  
23 inspection in the soils area?

24 A I don't recall. It would have been between that  
25 time period and the time period of the first report on the

1 question 23 response, which was April of '79. It was  
2 between that time period.

3 Q So I see a gap between April of '79,  
4 approximately, when you came to the conclusion that there  
5 should have been more hands-on inspection in the soils area  
6 and December of '79 or January of '80, when you made such a  
7 recommendation to your management.

8 MR. ZAMARIN: No, the recommendation to the  
9 management was with reference to insufficient staffing, not  
10 about hands-on. You are comparing apples and oranges.

11 MR. PATON: What was your recommendation to  
12 management? Did you indicate to management when you made  
13 the recommendation in December of '79 or January of '80 that  
14 there was this lack of hands-on inspection that we discussed.

15 THE WITNESS: No.

16 BY MR. PATON: (Resuming)

17 Q No? What was your recommendation to management in  
18 December of '79 or January of '80?

19 A Jerry Corley asked me how many people I felt I  
20 needed in the quality assurance engineering section, and I  
21 stated three to four people.

22 Q How many people did you have when he asked you  
23 that question?

24 A One.

25 Q So it was your opinion at that time that you



1 should have had two or three more people than you had?

2       A       What he was asking me was with the merge we were  
3 going to have with Bechtel (A how many I felt I would need  
4 to fulfill the responsibilities of the new requirements per  
5 that merge, and I stated three to four people, including  
6 myself.

7       Q       I recall an answer you gave, and it may be not  
8 accurate --

9               MR. ZAMARIN: You mean your recollection may not  
10 be accurate?

11              MR. PATON: My recollection.

12              BY MR. PATON: (Resuming)

13       Q       You indicated that you became aware of the problem  
14 that there should have been more hands-on work when you  
15 realized the diesel generator building settlement -- that  
16 the diesel generator building had not met its design  
17 criteria in settlement. Do you recall an answer like that?

18       A       I recall saying that it was after that. Yes.

19       Q       My question is, when you referenced design  
20 criteria, what did you mean?

21       A       The FSAR requirements on settlement.

22       Q       Do you recall what they are?

23       A       For the diesel generator building it varies  
24 between 2.8 inches and 3.2 inches per the forty-year life of  
25 the plant.

1 Q Is it correct that in January 1977 you received a  
2 new title, Civil Group Supervisor (Acting)?

3 A Yes

4 Q You assumed at that time different  
5 responsibilities?

6 A Yes.

7 Q Some responsibilities that you had had prior to  
8 January 1977 were transferred to other people?

9 A Yes.

10 Q After January '77 did you become a supervisor?

11 A Yes.

12 Q Prior to that time you had not been a supervisor?

13 A Yes.

14 Q That is correct?

15 A Yes.

16 Q You became a supervisor of one person?

17 A Yes.

18 Q I understand you lost some responsibilities, or  
19 some responsibilities were transferred. Were you given any  
20 additional responsibilities other than the supervising of  
21 the one person?

22 A Not that I recall.

23 Q How long did you remain as a Civil Group  
24 Supervisor?

25 A To the present time.

- 1 Q Approximately 2-1/2 years, is that correct?
- 2 A It will be three years.
- 3 Q It is more than 3-1/2 years?
- 4 A Yes.
- 5 Q Are you still, is the word Acting still at the end  
6 of you title?
- 7 A No.
- 8 Q You are now Civil Group Supervisor?
- 9 A I should clarify that. In the quality assurance  
10 engineering section.
- 11 Q And you still have responsibilities in the soils  
12 area?
- 13 A Yes.
- 14 Q You now -- has there been a reorganization in the  
15 QA structure?
- 16 A Since --
- 17 Q You tell me. Has there been, since January ,  
18 1977? Has there been a reorganization?
- 19 A Yes.
- 20 Q When was that?
- 21 A Approximately August 15 of 1980.
- 22 Q Very recently. Two months ago. Something like  
23 that?
- 24 A Yes.
- 25 Q What was the reason for the reorganization?

1           A       This was a Bechtel QA merge with Consumers QA  
2 merge. It was the QA department which comes now under the  
3 Midland Project organization.

4           Q       Does that mean that QA comes under Consumers as  
5 opposed to Bechtel? I'm not sure I understand. It comes  
6 under the Midland project.

7           A       Bechtel and Consumers merged and the supervision  
8 being the superintendent, the QA director, and on up the  
9 latter, with the Consumers employees.

10          Q       Mr. Bird is the manager?

11          A       Yes.

12          Q       He got that assignment with this new  
13 reorganization two months ago?

14          A       No. He received that earlier.

15          Q       I see a name. L. A. Dreisbach.

16          A       Right.

17          Q       Is he with Bechtel?

18          A       Yes.

19          Q       What is his relationship to Mr. Bird? Is he his  
20 assistant?

21          A       He handles, I believe, the ASME items.

22          Q       I don't understand that.

23          A       He would be responsible for Bechtel maintaining an  
24 N stamp.

25          Q       I'm sorry. Bechtel maintaining what?

1 A An N stamp.

2 Q An N stamp? I don' understand that. Would you  
3 explain?

4 A That is all I know either. It is in the piping,  
5 mechanical area. I don't know much more than that myself.

6 Q How many people do you now supervise?

7 A One.

8 Q You made a recommendation that you supervise more  
9 than one person. Is that correct?

10 A Yes.

11 Q Do you know what the status of that recommendation  
12 is?

13 A Yes.

14 Q What is it?

15 A I will have another man, hopefully the first part  
16 of November. We have had a vacancy in that spot since one  
17 of our men left and we have been trying to fill that.

18 Q Is Mr. Kasperak -- he works for you?

19 A Yes.

20 Q He works for Bechtel?

21 A Yes.

22 Q And there is a vacancy?

23 A Yes.

24 Q You stated before that you recommended two or  
25 three additional people.

1 A That is correct.

2 Q Is it your opinion that you can effectively  
3 perform your function with the number of people you have  
4 now? Can you do it with the number of people you have now?

5 A Not at the present time. No.

6 Q So that right now you are unable to perform your  
7 function properly?

8 A Could you repeat that?

9 (The pending question was read by the reporter.)

10 THE WITNESS: No.

11 BY MR. PATON: (Resuming)

12 Q No meaning you agree with me, or you don't agree  
13 with me?

14 A I disagree with you.

15 Q You disagree with me. I had thought a minute ago  
16 that you had answered clearly. Let's go back again.

17 You did make a recommendation that two or three  
18 more people should be added to your section.

19 A I requested that two or three more people be. Yes.

20 Q Am I correct that you made that recommendation  
21 because you thought those people were needed to perform your  
22 function effectively?

23 A Now, or in the future. Right.

24 Q And now you have one person who works with you.

25 A Yes.

1 Q Are you able to perform your function now with  
2 that one person, Mr. Kasperak? Is that his name?

3 A Yes. That is his name.

4 Q Are you able to perform your assigned function  
5 with just that one person assisting you?

6 A For day-to-day work, yes.

7 Q So it is okay for today.

8 A I should clarify. New work.

9 Q You do know what your function is?

10 A Yes.

11 Q You were saying you can perform it effectively  
12 today -- maybe even all week -- with just one assistant. Is  
13 that right?

14 A New work. That is correct.

15 Q What do you mean, new work?

16 A If we are preparing inspection plans for the IE  
17 and TV group to go out and inspect.

18 Q You have a certain assigned responsibility? You  
19 know what your job is?

20 A Yes.

21 Q Is it your opinion that you can now perform the  
22 function assigned to you with one assistant?

23 MR. ZAMARIN: Objection. Asked and answered.

24 MR. PATON: I keep getting what I construe to be  
25 conflicting answers. I think your attorney is going to

1 answer the question, you can or can not perform your  
2 function now with one assistant.

3 MR. ZAMARIN: The same objection. You can answer.

4 THE WITNESS: I would like to talk to my counsel.

5 (A discussion was held off the record.)

6 THE WITNESS: When I mentioned day-to-day work, it  
7 would be over inspection plans for the IE and TV group to go  
8 out and inspect to. That is why I say I feel at the present  
9 staffing we have we can handle that. There is a backlog on  
10 open NCPs. There is a backlog on unresolved items with the  
11 NRC. There is a backlog of items of non-compliance with the  
12 NRC.

13 And to resolve all of the things that I am  
14 responsible for the present staff with one person in  
15 addition to myself cannot do the total job.

16 BY MR. PATON: (Resuming)

17 Q You have a backlog of non-conformance. What did  
18 you say?

19 A Non-conformances.

20 Q What else did you say you had a backlog in?

21 A Unresolved NRC items.

22 Q What else.

23 A A backlog of items of non-compliance that the NRC  
24 has.

25 Q These are non-compliances NRC is raising as



1 opposed to the ones that you are raising?

2 A Yes.

3 Q Are those serious? Strike that.

4 In your opinion, is it appropriate to continue  
5 construction in the face of a backlog of non-compliances,  
6 unresolved NPC items, and NPC -- the first item should have  
7 been non-conformances, unresolved NPC items, and NPC  
8 non-compliances?

9 MR. ZAMARIN: Could we have the question read back  
10 as a whole?

11 (The pending question was read by the reporter.)

12 THE WITNESS: Yes.

13 BY MR. PATON: (Resuming)

14 Q You don't believe that the non -- the backlog of  
15 non-conformances, unresolved NPC items, and NPC  
16 non-compliances could contribute to any future problem  
17 similar to the soils problem we are now having?

18 A That is correct. I do not feel that they would  
19 have that effect.

20 Q Can you explain on what basis you arrive at that  
21 conclusion that they could not affect a future safety  
22 problem such as the soils problem we are now having.

23 MR. ZAMARIN: Could you read that question back,  
24 please?

25 (The pending question was read by the reporter.)

1 BY MR. PATON: (Resuming)

2 Q Am I correct that you have stated that you didn't  
3 think it possible -- that in your opinion the backlog of  
4 non-conformances, unresolved NRC items, and NRC  
5 non-compliances would not contribute to a problem similar to  
6 the soils problem that we now have in Midland? Did you say  
7 that?

8 A Yes.

9 Q Can you tell me the basis for that statement?

10 A Each one of these items are individual in  
11 themselves and the corrective actions that have been taken  
12 up to this time would not tend to have fallen under that  
13 category.

14 Q Are you indicating that this backlog of  
15 non-conformances, unresolved NRC items, and NRC  
16 non-compliances are not in the soils area?

17 A My first answer -- the way I answered it before --  
18 was that it would not affect soils. Your second question  
19 was that if it was similar to the soils problem and I  
20 answered based on that being the specific item that they are  
21 written against and not soils.

22 Q What are these items written against?

23 A NCRs are written on soils. Some NCRs are written  
24 on soils.

25 Q You have NCRs in two expressions.

1 A The top one.

2 Q Non-conformances?

3 A Yes.

4 Q That is with respect to soils?

5 A Some are with respect to soils. One is on  
6 structural steel. One is on concrete. One is on compaction  
7 equipment. That is all that I can recall.

8 Q The next item I have listed is NBC unresolved  
9 items. In your mind is that a separate list from the  
10 non-conformances?

11 A Yes.

12 Q What is involved there?

13 A From my best recollection it would be silicone  
14 behind base plates is an unresolved item. Not having  
15 qualification requirements for grouting personnel for  
16 grouted anchors.

17 Q I missed a word. What personnel?

18 A Grouting personnel.

19 Q Could you say the whole thing again?

20 MR. ZAMARIN: I think it was qualification  
21 requirements for grouting personnel.

22 MR. PATON: Is that it? Not having qualification  
23 requirements for grouting personnel?

24 THE WITNESS: For grouted anchors.

25 BY MR. PATON: (Resuming)

1 Q All right. You are still thinking?

2 A Yes. Resolution of NCR M-01-04 or -5, I'm not  
3 sure which, -8-046.

4 Q May I interrupt you long enough to ask, you did  
5 recite those numbers without referring to any document, is  
6 that correct?

7 A Yes, that is correct.

8 Q What were the last numbers you gave -- 8-what?

9 A -046.

10 Q Can I ask you what that is?

11 A It is a non-conformance report that Consumers  
12 issues on voids in grouted anchors.

13 Q May I ask, is there some reason you know that  
14 answer so well? It seems rather fantastic to me that you  
15 should come up with that answer.

16 A All the digits, except for the last one, are  
17 pretty well formatted. It is always M. It is always -01;  
18 it is always the year that it was written, and then the  
19 actual number itself.

20 Q Are you still working on the list of unresolved  
21 NRC items?

22 A Yes. I'm trying to recall if I have any more  
23 long-term concrete test reports -- the items of  
24 non-compliance based on the Keppler report.

25 Q Let's be, if we can, a little more specific on

1 that. I don't mean to interrupt you, but the Keppler  
2 report, do you mean 78-20?

3 A Yes.

4 Q Items of non-compliance. I am looking at pages 17  
5 through 19 and I see sixteen examples, review of  
6 non-conformance reports. Are you referring to that, or are  
7 you referring to the entire report?

8 A Within the body of the report there are numbers in  
9 parentheses after a given section and I am referring to  
10 those.

11 Q Mr. Horn, let me ask you very briefly. There is  
12 no question about this, but I'm looking at the bottom of  
13 page 8 and I see the numbers 329/78-20-01, and on the next  
14 page -- page 9 -- I see at the end of the report called  
15 Effective Gound Water in Plant Area Fill -- half an item on  
16 page nine. I see the number two.

17 A Yes.

18 Q Is that the series of reports or items that you  
19 are talking about that you just referenced?

20 A Yes. Within the Keppler report.

21 Q Do you know approximatley how many items there are  
22 in all?

23 A In this report?

24 Q Approximately.

25 A Approximately nine or ten.

1 Q Thank you.

2 A That is all I can recall that would also include  
3 what I've already stated as far as NRC items. It already  
4 includes unresolved and items of non-compliance. Those are  
5 all that I can recall.

6 Q That list, then, I thought you were listing  
7 unresolved NRC items. That includes NPC non-compliance?

8 A Right.

9 Q So that completes your whole list. Did you  
10 describe this list as a backlog of unresolved items?

11 A A backlog of NRCs, et cetera.

12 Q All right. If this many items being outstanding  
13 are unresolved, do you consider that a normal situation?

14 MR. ZAMARIN: I object to the form of the  
15 question. Normal for what?

16 BY MR. PATON: (Resuming)

17 Q In your expertise in the field of quality  
18 assurance, is that acceptable? Is that appropriate? Do you  
19 consider this acceptable?

20 MR. ZAMARIN: I still object. Acceptable in terms  
21 of what? With regard to the Midland plant as it sits today?

22 BY MR. PATON: (Resuming)

23 Q Today, with regard to the Midland plant, you have  
24 told us this is presently existing information. This is as  
25 of today, to the best of your knowledge?

1 A Right.

2 Q Within your responsibilities at the QA plant -- at  
3 the Midland plant, rather -- you are the Civil Group  
4 Supervisor. Is that acceptable to you?

5 MR. ZAMARIN: The same objection as before.

6 THE WITNESS: The question keeps changing on me.  
7 It seems like -- no, it is not acceptable and we plan on  
8 trying to get old items closed out -- at least on a computer  
9 printout program. As far as it being acceptable, it depends  
10 on the actual item, in what stages it is as far as getting  
11 resolved. There are many open items.

12 Q I mean the total picture you have given me. You  
13 have indicated there are several of these items. Adding  
14 them all up, is that acceptable to you in your capacity as  
15 Civil Group Supervisor?

16 MR. ZAMARIN: The same objection as to form. We  
17 don't know acceptable as to what.

18 MR. PATON: He is the Civil Group Supervisor. Do  
19 you have difficulty with that question?

20 THE WITNESS: Yes.

21 BY MR. PATON: (Resuming)

22 Q Have you reported these items to your supervisor?

23 A Not specifically. He is aware of them.

24 Q Have you made any recommendation to him that  
25 something should be done to resolve this backlog?

1 A He is the one who is pushing for that. Yes.

2 Q Are you pushing for it?

3 A Yes.

4 Q And he is pushing for it?

5 A Yes.

6 Q How long have you both been pushing for it?

7 A Approximately two months.

8 Q That is the time of the reorganization?

9 A Yes.

10 Q Did you have responsibilities in some of these  
11 areas prior to two months ago?

12 A Yes.

13 Q Were you pushing to get them resolved then?

14 A Some were in progress. Some were being pushed.  
15 Yes.

16 Q I understand your answer to be that you were  
17 pushing to get some of them resolved.

18 A I said some were in progress and some were being  
19 pushed. Yes.

20 Q That is what I said. You were pushing some of  
21 them.

22 A Yes.

23 Q How long were you pushing some of those?

24 A Some of those approximately eight months.

25 Q Who do you push?



1 MR. ZAMARIN: I object to the form of the question.

2 BY MR. PATON: (Resuming)

3 Q Do you have difficulty with that question?

4 MR. ZAMARIN: You haven't laid any foundation --  
5 whether he pushes someone or something or what he does push.

6 MR. PATON: Do you really want me to clarify that?

7 MR. ZAMARIN: Yes.

8 BY MR. PATON: (Resuming)

9 Q You say you have been pushing to get these items  
10 resolved. You push someone. There has been a request for  
11 clarification. You push some person. Is that correct?

12 A Sometimes. Yes.

13 Q Who do you push.

14 A It could be a project engineering. It could have  
15 been before the merge Bechtel QA people.

16 Q Who do you personally push within your  
17 organization?

18 A Myself.

19 Q You don't try to go up the ladder and try to get  
20 someone else to assist you to get these items solved?

21 A Each individual is given the responsibility to  
22 close out a particular NCR that they have or other  
23 unresolved item. My supervisor has, in some cases, helped  
24 me in trying to resolve the items.

25 Q Well, you used the expression pushing to get these

1 resolved. You were confining your efforts when you said  
2 pushing to yourself and your supervisor?

3 A No. I said project engineering personnel and  
4 Bechtel QA personnel before the time of the merge.

5 Q Do you ever go higher in the Consumers  
6 organization to try to get some of these things done?

7 MR. ZAMARIN: Higher than his supervisor, or  
8 himself?

9 MR. PATON: Higher than yourself or your  
10 supervisor?

11 THE WITNESS: I personally don't. No.

12 BY MR. PATON: (Resuming)

13 Q Do you think you should?

14 MR. ZAMARIN: In order to do what?

15 BY MR. PATON: (Resuming)

16 Q Do you think you should, with the responsibilities  
17 you have as the Civil Group Supervisor?

18 A If the need arises, yes.

19 Q Apparently you have not found that the need has  
20 arisen since you say you have not done it.

21 A That is correct.

22 Q Have you ever done it? Gone over your boss's head  
23 in QA and said something isn't getting resolved and you are  
24 unhappy about it and you want some help from somebody higher  
25 than your boss, since you worked for Consumers?

1           MR. ZAMARIN: I will object to the form as a  
2 characterization of his testimony, which I don't believe it  
3 is.

4           MR. PATON: All I said was had he ever done it?

5           MR. ZAMARIN: Then you told us what it meant. I'm  
6 not sure that is what we have been talking about.

7           BY MR. PATON: (resuming)

8           Q     Regardless, have you ever, since you have worked  
9 for Consumers Power, sought to talk to someone higher than  
10 your own supervisor because of your own inability to get a  
11 matter under your own responsibility resolved?

12          A     I don't believe I have personally. I believe my  
13 supervisor has taken it up further.

14          Q     Who does he go to?

15          A     With the new organization, he would go -- it was  
16 Hank Leonard under the new organization. Hank Leonard is my  
17 supervisor. He would have gone to Jerry Corley.

18          Q     Is that as high as it goes?

19          A     If they -- you see those people are aware of open  
20 NCRs. The QA manager is aware of open NCRs. Also, Bechtel  
21 management is aware of open NCRs. The computer printout  
22 indicates who has the responsibility for getting the action  
23 done on the specific item.

24          Q     Do you know whether Mr. Bird is aware of this  
25 backlog of problems that you recited?

- 1 A Yes.
- 2 Q Do you know what he is doing about it?
- 3 A It appears in his monthly report.
- 4 Q Do you know?
- 5 A Pardon me?
- 6 Q Do you know what he is doing about it?
- 7 A He is trying to impress on the people out in the  
8 field to get our items closed out, if we have the  
9 responsibility to get them closed out.
- 10 Q What is -- is Mr. Bird doing anything to advise  
11 his superiors?
- 12 A Yes. He makes up the monthly report that he  
13 submits to the Vice President.
- 14 Q What Vice President is that?
- 15 A The Midland Vice President.
- 16 Q Does he have a name?
- 17 A Yes. Jim Cooke.
- 18 Q Are you aware of any conversations between Mr.  
19 Bird or Mr. Cooke with respect to the backlog of items that  
20 you have recited?
- 21 A Conversation meaning verbal?
- 22 Q Verbal. Written. Any communications between  
23 those gentlemen on that subject?
- 24 A Yes. The monthly report.
- 25 Q What does the monthly report say? We ought to fix

1 this, or how does it characterize it?

2       A     The monthly report says which items are still  
3 remaining open.

4       Q     Some items remain open from month-to-month?

5       A     Yes.

6       Q     Let me get back to this list of backlog items that  
7 you have recited. You apparently don't think that you have  
8 any responsibility to attempt to get those items resolved  
9 promptly. Is that accurate?

10           MR. ZAMARIN: Wait a minute. I will object to  
11 that as a mischaracterization. -- an incredible  
12 mischaracterization -- of what we have been talking about  
13 for the last twenty minutes. And to that extent it is  
14 argumentative.

15           BY MR. PATON: (Resuming)

16       Q     Is it your present opinion that there is  
17 sufficient staffing in your area of responsibility to  
18 properly carry out the QA program?

19       A     I don't understand what you mean by QA program.

20       Q     I was referencing the QA program over which you  
21 have responsibility. Do you understand what I mean by QA  
22 program now?

23       A     No.

24       Q     Are you familiar with 10 C.F.R., part 50, Appendix  
25 B?

1 A Yes.

2 Q Does it give 18 criteria in there for the QA  
3 program?

4 A Yes.

5 Q Do you now know what I mean by QA program within  
6 the context of the question I asked you?

7 Mr. Horn. Let me ask you this. You have been in  
8 QA work for a number of years now and you are sitting across  
9 the table telling me you don't know what I mean by QA  
10 program, and I have difficulty with that. Can you tell me  
11 why you don't know what I mean by QA program?

12 MR. ZAMARIN: I will object to that. He says he  
13 doesn't know what you mean, because I suspect you don't know  
14 what you mean by QA program.

15 MR. PATON: He has been in QA for seven years and  
16 he doesn't know what I mean by the expression QA program.

17 MR. ZAMARIN: His terminology may not be the same  
18 as yours and he is entitled to know what you are talking  
19 about.

20 BY MR. PATON: (Resuming)

21 Q Do you know what I mean when I say QA program?

22 MR. ZAMARIN: I object. He can't know what you  
23 mean. It is impossible for him to know what you mean.

24 MR. PATON: I'll ask him what he understands --  
25 what you mean when you say QA program.

1 THE WITNESS: It is a planned implementation of  
2 activities to assure a reasonable acceptance level of an  
3 item.

4 BY MR. PATON: (Resuming)

5 Q Have you finished.

6 A Yes.

7 Q Does Consumers Power, to your knowledge, have a QA  
8 program designed to comply with Appendix B 210 CFR, part 50?

9 A Consumers itself. No.

10 Q Does Bechtel?

11 A The total program does. Yes.

12 Q Is that statement true only in the last two months  
13 since you have combined your organizations?

14 A No.

15 Q Do you have certain responsibilities in carrying  
16 out portions of some QA program?

17 A Yes.

18 Q You have responsibilities with respect to a QA  
19 program? Is that correct?

20 A Yes.

21 Q Whose QA program is that?

22 A Consumers QA program.

23 Q At the present time, is there sufficient staffing  
24 in your area of responsibility to properly carry out the  
25 responsibilities assigned to you? I would like that on

1 frequent occasions today we have had long pauses prior to  
2 the witness answering and that this is one of those  
3 occasions.

4 MR. ZAMARIN: You might as well also show we have  
5 had a plethora of unintelligible questions as well.

6 MR. PATON: I resent that, sir. I think that is  
7 really outside the bounds of good taste, good judgment.

8 MR. ZAMARIN: No more so than yours, my man.

9 MR. PATON: You have really given this case a  
10 flavor that is totally unnecessary.

11 MR. ZAMARIN: That is no less appropriate than  
12 your comment.

13 THE WITNESS: Could you repeat the question?

14 (The pending question was read by the reporter.)

15 THE WITNESS: No.

16 BY MR. PATON: (Resuming)

17 Q Have you conveyed that information to your  
18 superior?

19 A No.

20 Q Is it your opinion that you require additional  
21 personnel to perform the responsibilities that you have as a  
22 Civil Group Supervisor?

23 A Yes.

24 Q Do you know why you cannot get those additional  
25 personnel?



1           A       He is aware of that and we are in the process of  
2 getting that additional person. That additional person  
3 should be on-site the first part of November.

4           Q       When you add that additional person, will you  
5 then, in your opinion, be able to perform your assigned  
6 responsibilities?

7           A       I will evaluate it at that time based on what  
8 activities we have to follow and what is being done.

9           Q       Do you have an opinion on that matter right now?  
10 Do you know if you add another person whether you will be  
11 able to perform the responsibilities assigned to you now?

12          A       Yes.

13          Q       Do you have an opinion?

14          A       Yes.

15          Q       What is that opinion?

16          A       That we will be able to perform the activities  
17 that we have to perform in our QA manual.

18          Q       What will be the minimum qualifications for the  
19 person that you next assign to your section?

20               MR. ZAMARIN: I object as being outside of the  
21 scope of this proceeding, but go ahead and answer it if you  
22 know.

23               THE WITNESS: There is a number of possible  
24 requirements for that individual.

25               BY MR. PATON: (Resuming)

1 Q Have you completed your answer?

2 A Yes.

3 Q Do you know what those possible requirements are?

4 MR. ZAMBIN: I object again. It is outside the  
5 scope of this proceeding by leaps and bounds.

6 BY MR. PATON: (Resuming)

7 Q Will you answer the question?

8 THE WITNESS: May I talk to my counsel?

9 (A discussion was held off the record.)

10 THE WITNESS: The general requirements, as I  
11 recall, would be five years experience in construction with  
12 approximately three years in the nuclear area, preferable a  
13 degreed engineer, a member of professional engineering  
14 groups. That is about all I can recall.

15 BY MR. PATON: (Resuming)

16 Q Is there any requirement that this person have any  
17 experience in quality assurance work?

18 A There might be a person of QA and QC, but I don't  
19 recall if it is specifically quality assurance.

20 Q There is a requirement? Is there any requirement  
21 that the person have any QA or QC work?

22 A Yes.

23 Q Do you know how many years?

24 A Again, no fast and hard rule, but approximately  
25 three years of nuclear QA, QC experience.

1 Q You have previously recited a backlog of  
2 outstanding items -- non-conformances, NRC items, and NPC  
3 non-compliances. How high in the Consumers organization --  
4 to what level do you go -- strike that.

5 What I want to find out is who knows about these  
6 items and I think you have indicated Mr. Bird knows about  
7 the items?

8 A Yes.

9 Q I think you mentioned Vice President Jim Cooke.

10 A James Cooke. Right.

11 Q I think you indicated that Mr. Bird sent him a  
12 report on those items.

13 A He sends monthly reports on items such as those.  
14 Yes.

15 Q You are going to attempt to reduce the number of  
16 items on this list of backlogged items. Is that correct?

17 A Yes.

18 Q Do you see any similarity between this list of  
19 backlogged items and the non-conformances that I believe you  
20 have indicated led to problems such as lift thickness,  
21 reliance on testing, and lack of adequate QC inspection?

22 A Can you repeat that again?

23 Q Strike it. Do you see any similarity in the fact  
24 that we have a backlog of non-conformances, unresolved NRC  
25 items, and NRC non-compliances with the situation that led

1 to the soils problems at Midland?

2 A No.

3 Q Are you aware of the history of problems in the QA  
4 area that have been experienced at the Midland site?

5 A QA, being the whole realm of the QA program? Is  
6 that the question?

7 Q Yes.

8 A I am aware of civil items, except for cadweld.  
9 I'm not that familiar with the cadweld problem.

10 Q In your professional judgment, are you receiving  
11 sufficient support from top management of Consumers Power to  
12 perform your assigned responsibilities in the QA area?

13 A Yes.

14 Q Tell me on what you base your answer.

15 A The company is making efforts and getting more  
16 people into our organization with the merge with Bechtel QA  
17 and Consumers QA. That added a great deal to our program  
18 and I feel that if I called on an individual that I had a  
19 problem, that they would give me their time and attention to  
20 resolving that.

21 Q By an individual, I guess you mean someone in top  
22 management?

23 A This could be Walt Bird, Jim Cooke. Yes.

24 Q Have you ever called on Mr. Cooke to give you that  
25 kind of assistance?

1 A No.

2 Q But you think you would?

3 A Yes.

4 Q You indicated before that you felt, I think, there  
5 was a possibility that a lack of hands-on inspection in the  
6 soils area may have contributed to a problem which you  
7 designated as lift thinkness. Is that accurate?

8 A Could you repeat that again?

9 (The pending question was read by the reporter.)

10 THE WITNESS: I believe I stated that a lack -- an  
11 increased amount of over inspection in the area could have  
12 possibly picked up the fact that there was a problem with  
13 lift thinkness. Yes.

14 BY MR. PATON: (Resuming)

15 Q I'm sorry. Did you say an increased amount of  
16 over inspection?

17 A Yes.

18 Q What is over inspection?

19 A The same as hands-on inspection. We are into an  
20 over inspection program now, as opposed to the walk-through  
21 surveillances in earlier years.

22 Q You are equating over inspection with the hands-on  
23 inspection?

24 A Yes.

25 Q As opposed to a walk-through inspection. Can you

1 tell me -- I'm just not familiar with those terms. Can you  
2 tell me a little bit more about what that means?

3 A The walk-through surveillances were less formal  
4 than the over inspection. The over inspection -- there is a  
5 plan that is prepared by the quality assurance engineering  
6 group, and the IE and TV group are the ones that go out and  
7 implement that plan.

8 That over inspection program began approximately  
9 1977.

10 Q What was the lift thickness problem? You have  
11 used that expression. What kind of a problem are you  
12 referring to?

13 A There was a possibility of putting in taller lifts  
14 -- higher lifts -- than what the compaction equipment was  
15 capable of compacting.

16 Q You said there was a possibility that -- I have  
17 forgotten what you said -- that the lift was --

18 A Too high.

19 Q Do you know that that in fact happened? That  
20 there were instances where the lift was too high?

21 A For the compaction equipment. Yes.

22 Q How much after -- you were talking about the  
23 placement of soils and you are saying that the lift was too  
24 high?

25 A Yes.

1 Q. How much after that was placed with a lift that  
2 was too high did you discover the problem?

3 A. At the time that the placement of that lift was in  
4 progress. At the time that they were complete and either  
5 bladed off the top of the lift or not.

6 Q. You discovered it that day or the next day,  
7 immediately as it happened?

8 A. Yes, immediately, as it happened.

9 Q. What did you do about it?

10 A. The non-conformance reports were prepared or the  
11 actual material was cut down and compacted.

12 Q. Did you have stop work authority?

13 A. Yes.

14 Q. Did you ever exercise it?

15 A. Do you mean in a formal stop work, or actually  
16 having them stop until I came back?

17 Q. Tell me both.

18 A. Yes, on having them stop what they were doing and  
19 no on the formal stop works.

20 Q. I am correct that you have never issued a formal  
21 stop order?

22 A. Yes, that is correct.

23 Q. I think you have also referenced some informal  
24 stop work. What was the alternative that you discussed to a  
25 formal stop work?

1           A        Telling the people that we were working with to  
2 stop. If they didn't stop then I would go to my  
3 supervisor. I would go to my supervisor or go to the field  
4 engineering supervision to get the work stopped until I  
5 resolved the problem.

6           Q        Do you know how often you did that -- where you  
7 did it informally? Approximately? I realize that may be  
8 hard to remember.

9           A        Whenever I found the problem.

10          Q        I realize this may be hard to remember, but did  
11 this happen roughly twice a year or fifteen times a year, or  
12 more? Can you make any approximation of it at all?

13          A        To my best recollection approximately twice a year.

14          Q        Did you ever seriously consider issuing stop work  
15 order -- a formal stop work order?

16          A        Yes.

17          Q        Tell us what was the matter that caused you to  
18 seriously issue a stop work order?

19                 MR. ZAMARIN: Seriously considerly or seriously  
20 issue?

21                 MR. PATON: Seriously consider.

22                 MR. ZAMARIN: I thought you dropped a word out of  
23 your question. I didn't hear consider.

24                 THE WITNESS: After the diesel generator building  
25 settlement and after I performed an audit of soils this year.



1 BY MR. PATON: (Resuming)

2 Q Am I correct that you just indicated there were  
3 two occasions on which you seriously considered issuing a  
4 stop work order?

5 A To my best recollection. Right.

6 Q And the first one was after the diesel generator  
7 building settlement and the second one was --

8 A After I performed a soils audit this year.

9 Q What do you understand about your authority to  
10 issue a stop work order?

11 A I have the authority to stop work.

12 Q Under what conditions would you stop work?

13 A If an item -- there is a checklist that we go  
14 through on stop work -- determination of stop work. If an  
15 item continues and it would be high cost impact if work  
16 would continue and it would affect the safety of the public  
17 that is about it.

18 Q With respect to the -- after the diesel generator  
19 building settlement, what were the considerations -- what  
20 were -- what did you consider when you say you seriously  
21 considered issuing a stop work order?

22 A I believe Ben Margulcio contacted me and felt that  
23 stop work should be imposed on Bechtel until we resolved the  
24 problems or possible problems and root causes of the actual  
25 settlement of the diesel generator building.

1 Q When was that?

2 A I don't recall.

3 Q You say -- essentially, I think, what you are  
4 saying is it was Marguglio -- is that how you pronounce it?

5 A Yes. That's how you spell it, but the way you  
6 pronounce it is Margulio.

7 Q Am I correct that Mr. Marguglio suggested that to  
8 you?

9 A Yes, he did suggest that to me.

10 Q And that prior to suggesting it to you you had not  
11 seriously considered a stop work order?

12 A I was concerned about continuation of work.

13 Q Had you independently of your call from Mr.  
14 Marguglio -- had you yourself seriously considered issuing a  
15 stop work order?

16 A No.

17 Q Knowing what you know now, do you think you should  
18 have issued a stop work order at that time?

19 MR. ZAMARIN: Objection as to form. Do you mean  
20 having all the information you have now. If he had all that  
21 information at that time?

22 MR. PATON: That is what I said, I think. Knowing  
23 what you know now, would you have issued a stop work order?

24 MR. ZAMARIN: The same objection as to form. In  
25 other words, knowing what he knows now, would he have issued

1 it based upon what he knew then, or would he have issued it  
2 assuming that he knew then what he knows now?

3 MR. PATON: It is knowing what you know now, which  
4 I assumes means knowing what you know now. I said knowing  
5 what you know now.

6 MR. ZAMARIN: Would you have then issued it?

7 MR. PATON: Knowing at that time what you now  
8 know, would you have issued a stop work order?

9 THE WITNESS: No. I would like to state that stop  
10 work -- not a formal stop work -- was imposed, but the stop  
11 work was not imposed on Bechtel.

12 BY MR. PATON: (Resuming)

13 Q Was that imposed by Consumers?

14 A Yes.

15 Q Who made that decision?

16 A Ben Marguglio.

17 Q Do you agree with that decision?

18 A Yes.

19 Q You agree with that decision, but at the same time  
20 you state that at that time if you knew everything you know  
21 now you would not have issued a stop work order. Is that  
22 correct?

23 A Yes.

24 Q Is the reason that you would not have issued a  
25 stop work order at that time because there was some

1 agreement that they were going to stop work anyway?

2       A       No. They took corrective action. They took some  
3 corrective action in the area of soil placement.

4       Q       What was that corrective action?

5       A       They brought up an on-site geotechnical engineer.  
6 They began testing to the D-1557 Method D. They began  
7 taking samples and comparing those samples, running Proctors  
8 on each individual test so that they would have the direct  
9 correlation between samples and the standard tests and the  
10 field tests.

11       Q       Having an on-site geotechnical engineer. You  
12 didn't have an on-site geotechnical engineer continuously  
13 prior to that time. Is that correct?

14       A       No. That is not correct.

15       Q       Okay. You did have. Is that correct?

16       A       Part of the time. Yes. Part of the time we are  
17 talking about.

18       Q       What is the period of time that you believe we are  
19 talking about?

20       A       You said prior to bringing the on-site  
21 geotechnical engineer on-site. So that would have been  
22 prior to '78.

23       Q       Was there more than one, or was there just one  
24 geotechnical engineer on the site?

25       A       In '73 I believe there were two. In '74, I

1 believe, there was only one. And after '74, there wasn't a  
2 permanent on-site geotechnical soils engineer out there. As  
3 he was requested from project engineering or from the  
4 field. He would go out there on visits. But not on a  
5 regular basis.

6 Q Was he a Consumers employee?

7 A No. He was Bechtel Geotech.

8 Q Are you familiar with Bechtel design criteria  
9 C-501?

10 A I have read it. Yes.

11 Q Do you know whether it requires that during  
12 filling operations that there be a continuous technical --  
13 that there be a continuous technical supervision by a  
14 qualified soils engineer?

15 MR. ZAMARIN: Could we have the question read  
16 back, please?

17 (The pending question was read by the reporter.)

18 THE WITNESS: By filling I am assuming soil  
19 placement fill and I am aware of maybe not those quote,  
20 words, unquote, but words to those effect.

21 BY MR. PATON: (Resuming)

22 Q In your opinion, was there compliance with that  
23 requirement?

24 A No.

25 Q Were you aware when filling operations were being

1 conducted?

2       A     That is general. Yes. I was aware of that  
3 requirement during filling. Yes.

4       Q     My question is was there compliance with that  
5 requirement?

6       A     No. There was not compliance to that for '74 --  
7 excuse me, '75, '76, '77, '78 -- for part of '78 and the  
8 remaining time there would have been.

9       Q     When was the plant fill work done in the power  
10 block area? In what years?

11      A     Could I ask what you mean by power block?

12      Q     Under the diesel generator building, for example?

13      A     To my best recollection, it would have been '75,  
14 '76, '77, '78, '79. I think that is it.

15      Q     So for at least three of those years while fill  
16 was being placed in the power block area, or certainly under  
17 the diesel generator building, there was no continuous  
18 geotechnical -- there was no qualified soils engineer  
19 continuously on the site?

20      A     Yes.

21      Q     When did you first become aware of that?

22      A     Are you asking the requirement for that?

23      Q     No. When did you first become aware that there  
24 was no qualified soils engineer continuously on the site?

25      A     '75.

1 Q Within your responsibilities at that time, did you  
2 do anything about that? About that information that there  
3 was no qualified soils engineer continuously on the site?

4 A I wasn't aware of that requirement. I'm just  
5 saying when I was aware.

6 Q When did you first become aware of the requirement?

7 A I can't recall the time period before. But I know  
8 I was after the diesel generator building settlement.

9 Q You are stating that you do not know right now --  
10 you can't remember that you knew of this requirement for the  
11 qualified soils engineer to be continuously on the site  
12 during filling operations. You were not aware of that prior  
13 to the settlement of the diesel generator building?

14 MR. ZAMARIN: May I have the question read back,  
15 please?

16 (The pending question was read by the reporter.)

17 BY MR. PATON: (Resuming)

18 Q Do you remember right now -- do you remember when  
19 you acquired your first knowledge of the requirement that  
20 there be a qualified soils engineer on the site continuously  
21 during filling operations?

22 A I remember performing an audit. I don't recall  
23 the date or the time frame. Where it is an audit on C-501.  
24 I recall reading the portion that states similar to the  
25 words that you have. I'm not sure of the exact words, but I

1 remember reading a section of that standard spec that did  
2 have words similar to that.

3 Q The specific question was when did you know that?

4 A When I performed that audit.

5 MR. ZAMBIN: Ask him if he recalls when he  
6 performed the audit.

7 BY MR. PATON: (Resuming)

8 Q I don't know when you performed that audit. Can  
9 you help us out? Do you know when you performed that audit  
10 approximately?

11 A '75 or '76. I don't recall.

12 Q So there was a time -- strike that.

13 Was there a time while soil placement was being  
14 accomplished in the power block area --

15 MR. ZAMBIN: Meaning the diesel generator  
16 building area?

17 MR. PATON: The diesel generator building area.  
18 Do you want me to name some more?

19 THE WITNESS: If you say non-dike area --

20 MR. PATON: We will understand each other?

21 THE WITNESS: I will understand it. Yes.

22 BY MR. PATON: (Resuming)

23 Q The non-dike area. Was there a time while filling  
24 operations were being conducted in the non-dike area that  
25 you were aware that there was not a qualified soils engineer



1 continuously on the site?

2 A Yes.

3 Q What did you do about it?

4 MR. ZAMARIN: Remember when we went through that  
5 he said also at that time he was not aware of a requirement.

6 MR. PATON: He just said he became aware of the  
7 requirement in '74 or '75.

8 MR. ZAMARIN: But he couldn't recall when it was.  
9 If you compound those two --

10 BY MR. PATON: (Resuming)

11 Q Was there ever a time when you had knowledge of  
12 two things simultaneously. Number one, that filling  
13 operations in the non-dike area were being conducted and  
14 number two, that there was not a qualified soils engineer  
15 continuously on the site and that you were aware of the  
16 requirement for the qualified soils engineer to be  
17 continuously on the site?

18 A Could I have the question back again?

19 MR. ZAMARIN: Just read it back. The question was  
20 fine, if you could read it back.

21 (The question was read by the reporter.)

22 THE WITNESS: May I talk to my counsel?

23 (A discussion was held off the record.)

24 THE WITNESS: I will try to answer the question as  
25 I feel that you are proposing it to me.

1           There was a time period where an on-site  
2 geotechnical engineer was not at the site and that was, as I  
3 stated earlier, '75, '76, '77, and part of '78. When I read  
4 that requirement in C-501 I did not feel that it was a  
5 requirement to have a person of the capability that we had  
6 had earlier and what we have now at the site.

7           BY MR. PATON: (Resuming)

8           Q     You say when I read the requirement.

9           MR. ZAMARIN: You only read a portion of it. I  
10 think he is saying there is more to it. You have been  
11 limiting him to one sentence. That is why I wanted you to  
12 show him C-501 earlier. You are limiting him to one  
13 sentence of that and he has been giving responses in  
14 accordance with your question, which was that one sentence.

15           What he is saying now is that there is more in  
16 C-501 of which he was aware.

17           THE WITNESS: That is right.

18           BY MR. PATON: (Resuming)

19           Q     There is something else in criteria in C-501 that  
20 bears on the qualifications of the soils engineer?

21           A     It states what this man does.

22           Q     Does it indicate the degree to which he has to be  
23 continuously on the site?

24           A     No.

25           Q     Does it say what he is supposed to do?

1 A Yes.

2 Q What is that?

3 A It says that he is to take tests, I believe.

4 Q You construed that requirement to mean that he has  
5 to be on-site continuously at any time he is needed to take  
6 tests?

7 A No. When I read that requirement it stated an  
8 on-site geotech man would be on-site full time. He would  
9 also be making tests. When I reviewed that I felt that it  
10 was being met by the U.S. Testing personnel in the field who  
11 were performing those tests.

12 Q Did I understand your previous answer to be that  
13 this person would be on the site full time?

14 A Right.

15 Q And that you thought this requirement was being  
16 met by U.S. Testing?

17 A Yes.

18 Q Was U.S. Testing on the site full time?

19 A Yes.

20 Q You understood the people at U.S. Testing to meet  
21 -- to satisfy -- the requirement for a qualified soils  
22 engineer? Is that correct?

23 MR. ZAMARIN: We're getting into the same  
24 problem. You are referring to something and you're giving  
25 him little bits and pieces of it. If you have the full text

1 then let him see it. This is why we had this problem with  
2 the questions before.

3 BY MR. PATON: (Resuming)

4 Q Mr. Horn, I want to ask you have you just read the  
5 last paragraph on page 24 of NPC Deposition Exhibit No. 1?

6 A Yes.

7 Q There is an expression in there qualified soils  
8 engineer. Do you feel that the people from U.S. Testing  
9 satisfied the requirement for a qualified soils engineer?

10 A I did not scope it that specific.

11 Q Did you feel that the requirement that is  
12 indicated in that last paragraph on page 24 was being met?

13 MR. ZAMARIN: You are talking about now. This  
14 generalization of what is in C-501, including the thing that  
15 says who would perform in-place density tests?

16 MR. PATON: It appears to me to be a quotation.  
17 Now let me ask the witness, do you have reason to believe  
18 that that quotation is not accurate?

19 THE WITNESS: No, I don't have reason to believe  
20 that that is not accurate.

21 BY MR. PATON: (Resuming)

22 Q Do you agree -- there is an expression in there --  
23 qualified soils engineer. Is that correct?

24 A Yes.

25 Q And there was some requirement that had something

1 to do with the qualified soils engineer. Was that  
2 requirement being met by anybody, to your knowledge?

3 MR. ZAMARIN: I will object because you are taking  
4 three words out of a sentence and asking him if those three  
5 words were met. I don't think you should do that.

6 MR. PATON: I am trying to break it down to A, B,  
7 C. If I could break down A, B, and C I would. I just don't  
8 think -- I don't think it is that difficult. I think if the  
9 witness wanted to give me an answer he could give me an  
10 answer. I just don't understand what the difficulty is.

11 MR. ZAMARIN: I disagree with you. You are taking  
12 three words out of a sentence that constitutes a paragraph  
13 in this report and asking him if those three words were  
14 met. I don't think he can do that.

15 BY MR. PATON: (Resuming)

16 Q Mr. Horn, you agree that there are words in here  
17 that say that filling operations should be performed under  
18 the continuous technical supervision -- with emphasis on the  
19 word supervision -- of a qualified soils engineer? Are  
20 those words in this paragraph?

21 A Yes.

22 Q Can you tell me whether you think that that  
23 requirement -- the requirement with respect to supervision  
24 -- was being complied with?

25 MR. ZAMARIN: I will object to the form of the

1 question. You are saying that is a requirement. That is  
2 only half of a sentence.

3 BY MR. PATON: (Resuming)

4 Q Do you agree that that is a requirement?

5 MR. ZAMARIN: You are asking him, I think, now for  
6 a conclusion with regard to whether half of a sentence is a  
7 requirement. I don't think that is a fair question.

8 MR. PATON: Can he answer the question?

9 MR. ZAMARIN: As an expert on whether half a  
10 sentence pertains to a full requirement?

11 MR. PATON: Can he answer the question?

12 MR. ZAMARIN: I don't think it is capable of being  
13 answered, in my legal opinion. Half of a sentence doesn't  
14 constitute a requirement when there is more to that sentence.

15 MR. PATON: Are you instructing him not to answer?

16 MR. ZAMARIN: Not to answer what?

17 MR. PATON: The question.

18 MR. ZAMARIN: What is the question?

19 MR. PATON: Do you know the question?

20 MR. ZAMARIN: Don't ask him. I'm asking -- ask  
21 him what the question is.

22 MR. PATON: Are you instructing him not to answer?

23 MR. ZAMARIN: I don't have a question in mind.

24 MR. PATON: Do you understand the question?

25 MR. ZAMARIN: You have got a question. There is an

1 objection.

2 MR. PATON: I'm asking the witness if he  
3 understands the question.

4 MR. ZAMARIN: I don't care what you are asking  
5 him. I want to know what the question is.

6 BY MR. PATON: (Resuming)

7 Q Mr. Horn, are you familiar with Bechtel design  
8 criteria 501?

9 A I have read it. I have performed audits to it. Yes.

10 Q Do you recall whether there are any requirements  
11 in Bechtel design criterion 501 with respect to having a  
12 qualified soils engineer on the site continuously, all the  
13 time?

14 A Yes. General requirement.

15 Q Your answer is yes. General requirement?

16 A Yes.

17 Q That is your answer?

18 A Yes.

19 MR. ZAMARIN: That is his answer. It is on the  
20 record.

21 BY MR. PATON: (Resuming)

22 Q What is the requirement with respect -- strike  
23 that. What is your recollection with respect any  
24 requirements that may be contained in Bechtel's design  
25 criterion 501 with respect to having a qualified soils

1 engineer on the site at any time?

2       A       Just as you have stated. Was a requirement and  
3 that the person perform field tests.

4       Q       Mr. Horn, I am asking you for your recollection of  
5 what the requirement was.

6               MR. ZAMARIN: He just told you what it was.

7               MR. PATON: He said there was a requirement and he  
8 was to do some testing.

9               MR. ZAMARIN: That is right. That is what it  
10 says. You can read it.

11              BY MR. PATON: (Resuming)

12       Q       I am asking you your recollection of what the  
13 requirement was with respect to a qualified soils engineer  
14 on the site at Midland.

15              MR. ZAMARIN: I think he just answered that. If  
16 you will go back two answers you will find it. It has been  
17 asked and answered. We will have it read back.

18              (The answer was read back by the reporter.)

19              BY MR. PATON: (Resuming)

20       Q       Mr. Horn, I just heard the reporter read back your  
21 answer, including the words, as you stated. Were you  
22 referring to something I stated.

23       A       Yes.

24       Q       Did you say as I stated?

25       A       I don't recall what I stated.



1 Q Did you incorporate within your answer some  
2 statement that I made?

3 A Yes.

4 Q Can you tell me what that statement was?

5 A The statement was the question prior to my  
6 response.

7 Q What did I say?

8 A You stated the quote out of that document and left  
9 off the part --

10 Q Will you tell me what I said?

11 A Filling operations should be performed under the  
12 continuous technical supervision of a qualified soils  
13 engineer. I believe you added at all times at the Midland  
14 site.

15 Q Okay. I thought I said at any time. Do you agree  
16 that Bechtel's design criterion C-501 required that at some  
17 time -- meaning any time -- I'm not pinning you down to any  
18 particular period, but that at some period of time there be  
19 a qualified soils engineer -- strike that.

20 That filling operations should be performed under  
21 the continuous technical supervision of a qualified soils  
22 engineer?

23 A Would you repeat the question. You had your  
24 strike out stuff and then the question wasn't complete.

25 Q Let me try something else. I'm going to ask you

1 that question reading the entire quote. Do you agree that  
2 Bechtel's design criterion C-501 required that filling  
3 operations should be performed under the continuous  
4 technical supervision of a qualified soils engineer who  
5 would perform in-place density tests in the compacted fill  
6 to verify that all materials are placed and compacted in  
7 accordance with the recommended criteria?

8 A Yes.

9 Q In your opinion, was there a compliance with that  
10 requirement?

11 A May I talk with counsel?

12 (A discussion was held off the record.)

13 BY MR. PATON: (Resuming)

14 Q Mr. Horn, we have been discussing the last  
15 paragraph on page 24. There are some requirements in that  
16 last paragraph that are indicated that come from Bechtel  
17 design criterion 501. My question to you is, do you believe  
18 Bechtel's design criterion 501 to be applicable to the  
19 Midland project?

20 A C-501. Yes.

21 Q Do you believe the requirement that is stated in  
22 this last paragraph of quotes is applicable to the Midland  
23 project?

24 A Yes.

25 Q Do you believe there was ever compliance with this

1 requirement? \*

2 MR. ZAMARIN: As he sits here now?

3 MR. PATON: Yes.

4 THE WITNESS: Complete? No.

5 BY MR. PATON: (Resuming)

6 Q Please explain your answer.

7 A Right now, as I sit here, the on-site geotechnical  
8 soils engineer that we have at the site does not perform  
9 field tests. He directs field tests, but he does not  
10 perform field tests.

11 Q What you are saying is you are saying you are not  
12 in compliance with that right now?

13 A That is correct. As stated the way it is stated.

14 Q In what way are you not in compliance with that  
15 right now?

16 A I just stated that. That the on-site geotechnical  
17 soils engineer does not perform the actual tests. He  
18 directs those tests.

19 Q I see the words in here technical supervision --  
20 under the continuous technical supervision of a qualified  
21 soils engineer. It would seem to me that that would not  
22 require him to perform the tests. If he just supervised  
23 them, that would be sufficient.

24 MR. ZAMARIN: We will stipulate to your  
25 understanding.

1 THE WITNESS: No.

2 BY MR. PATON: (Resuming)

3 Q Was there ever a period, to your knowledge, that  
4 you were not in compliance with this requirement?

5 A With the knowledge that I have right now?

6 Q Yes.

7 A Yes.

8 Q There was a period when you were not in compliance  
9 prior to right now. First you indicated that you were not  
10 in compliance with it now. Is that correct?

11 A The way that that reads, that is correct. My  
12 interpretation of those words. Yes.

13 Q You do not think you are in compliance with it  
14 now. Is that correct?

15 A That is correct.

16 Q Do you have an opinion right now, based upon what  
17 you know now, and as you sit there, that you were ever in  
18 compliance with this requirement?

19 A No.

20 MR. PATON: May we have the last question and  
21 answer read back?

22 (The last question and answer were read back by  
23 the reporter.)

24 BY MR. PATON: (resuming)

25 Q Was your answer that you did not have an opinion?

1 A No.

2 Q Am I correct that your answer was that you have  
3 never been in compliance with that requirement?

4 A Yes.

5 Q That is correct.

6 Is there anything inconsistent in your mind  
7 between -- is there anything inconsistent in your statement  
8 that you are not now in compliance with this requirement and  
9 that you have never been in compliance with this requirement  
10 and you are permitting work to continue?

11 A Could I have that read back again?

12 (The pending question was read by the reporter.)

13 THE WITNESS: Based on the discussion on that  
14 particular section, it appears to me just today in this  
15 discussion that we are not in compliance with the words  
16 specifically that the on-site geotechnical soils engineer is  
17 performing the test.

18 BY MR. PATON: (resuming)

19 Q Who is performing the test?

20 A U. S. Testing personnel are performing the tests.

21 Q You do now have an on-site soils engineer?

22 A Yes.

23 Q Are there any filling operations being performed  
24 right now?

25 A Yes.

1 Q What are they?

2 A I do not know the specific locations of those  
3 placements.

4 Q Do you know -- strike that.

5 How many qualified soils engineers are on the site  
6 right now?

7 A To meet that requirement, one.

8 Q Is there another or others for some other purpose?

9 A There is one person that is at the site part-time  
10 and that is very limited right now. That is a man who is  
11 basically stationed in Ann Arbor.

12 Q Do you know his name?

13 A Jim Wanzeck.

14 Q He is a qualified soils engineer?

15 A Yes.

16 Q He is on the site sometimes?

17 A Yes.

18 Q Is there another qualified soils engineer that is  
19 on the site?

20 A Yes.

21 Q Maybe more than Wanzeck?

22 A Yes.

23 Q Fairly continuously?

24 A All the time.

25 Q What is the name of the man who is there all the

1 time?

2 A Karl Kleinhart.

3 Q To your knowledge, does he supervise any filling  
4 operations that are going on right now?

5 A Yes.

6 Q Does he do that continuously?

7 A Yes.

8 Q Is U.S. Testing performing in-place density tests?

9 A Yes.

10 Q Does Mr. Kleinhart supervise the testing performed  
11 by U.S. Testing?

12 A I don't know what you mean by supervise.

13 Q I would suggest to you that the word supervision  
14 is in this last paragraph. I intend it to mean it in that  
15 manner and let me ask if you understand it as it is stated  
16 there. Do you understand the question?

17 A Yes.

18 Q Would you answer the question?

19 A He is one who provides technical supervision to  
20 U.S. Testing personnel.

21 Q Mr. Horn, is the reason that you say you are not  
22 in compliance with this last paragraph on page 24 now relate  
23 to the words who would perform in-place density tests? And  
24 you are saying that Mr. Kleinhart does not perform in-place  
25 density tests?

1           A       That is correct.

2           Q       Are you otherwise in compliance with that  
3 requirement, to your knowledge?

4           A       Yes.

5           MR. ZAMARIN:   Could we take five minutes?

6           (A brief recess was taken.)

7           MR. PATON:   Why don't we stop now and begin again  
8 in the morning at 9:00 a.m.

9           (Whereupon, at 6:30 p.m., the deposition recessed,  
10 to reconvene at 9:00 a.m., Wednesday, October 22, 1980.)

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the  
DEPOSITION OF DONALD ELDON HORN

in the matter of: CONSUMERS POWER COMPANY

Date of Proceeding: October 21, 1980

Docket Number: 50-329-OM & 50-330-OM

Place of Proceeding: Midland, Michigan

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

Marilyn Shockey

Official Reporter (Typed)

Marilyn Shockey

(SIGNATURE OF REPORTER)

NUCLEAR REGULATORY COMMISSION

ORIGINAL

In the Matter of:

CONSUMER POWER COMPANY

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)  
)

DOCKET NOS. 50-329-OM

50-330-OM

DEPOSITION OF THOMAS CHARLES COOKE

DATE: October 22, 1980

PAGES: 1 thru 64

AT: Midland, Michigan

ALDERSON  REPORTING

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NUCLEAR REGULATORY COMMISSION

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In the matter of: : Docket Nos. 50-329-OM

: : 50-330-OM

CONSUMERS POWER COMPANY :

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Nuclear Regulatory Commission  
Midland Service Center  
1100 South Washington Street  
Midland, Michigan

Wednesday, October 22, 1980

Deposition of THOMAS CHARLES COOKE, a witness  
herein, called for examination by Counsel for the Nuclear  
Regulatory Commission in the above-entitled matter, pursuant  
to notice, the witness being duly sworn by Marilyn Shockey,  
at the Nuclear Regulatory Commission, Midland Service  
Center, 1100 South Washington Street, Midland, Michigan,  
commencing at 2:00 o'clock p.m., Wednesday, October 22,  
1980, and the proceedings being taken down by stenomask by  
Marilyn Shockey and transcribed under her direction.

## 1 APPEARANCES:

2 On behalf of the Nuclear Regulatory Commission:

3 WILLIAM PATON, Esq.  
4 BRADLEY JONES, Esq.  
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7 Bethesda, Maryland8  
9 On behalf of Consumers Power Company:10 RONALD G. ZAMARIN, Esq.  
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12 Isham, Lincoln & Beale  
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16 Consumers Power Company  
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## 19 ALSO PRESENT:

20 RAYMOND SUTPHIN,  
21 NRC Inspection and Enforcement, Region III22 BILL MAINES,  
23 WMPX24 DARL HOOD,  
25 NRC, Division of Licensing,  
Bethesda, Maryland

SHARON WARREN, Intervenor

BARBARA STAMIRIS, Intervenor

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C O N T E N T S

WITNESS

PAGE

THOMAS CHARLES COOKE

3

E X H I B I T S

NUMBER

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No. 1

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1 Whereupon,

2

THOMAS CHARLES COOKE

3 the deponent herein, called for examination by Counsel for  
4 the Nuclear Regulatory Commission, having been duly sworn by  
5 the Court Report, was examined, and testified as follows:

6 EXAMINATION BY COUNSEL FOR THE NUCLEAR REGULATORY COMMISSION

7

P R O C E E D I N G S

8

9

BY MR. JONES:

10 Q Would you state your name and address for the  
11 record, please?

12 A My name is Charles Cooke.

13 I live at 1969 East Stewart Road, Midland,  
14 Michigan.

15 Q Is that your home address?

16 A Yes.

17 Q Would you give a summary of your formal education  
18 since graduation from high school?

19 A I graduated in 1957 from Ohio University with a  
20 Bachelor of Science in Civil Engineering.

21 Since then I have had various training courses. I  
22 attended the Engineer Officer Basic Course in Ft. Belvoir,  
23 Virginia. I have been to Hobart Welding Inspection Course  
24 in Troy, Ohio. I have had courses in the CPM Seminar.

25 Q Excuse me. What is that?

1           A     Critical Path Method Seminar.

2                     I have taken a course in fall-out shelter  
3 analysis. I have taken the Nuclear Steam Design Supply  
4 lecture series. I have done a home study course on public  
5 utility reports, and I have taken various utility-sponsored  
6 management courses.

7           Q     When you said you have a B.A. in civil engineering  
8 --

9                     MR. ZAMARIN: B.S. in civil engineering.

10                    BY MR. JONES: (Resuming)

11           Q     Is that the same field as structural engineering?

12           A     Structural engineer is part of civil engineering.

13           Q     Did you take any courses with respect to the  
14 geotechnical area?

15           A     I had a soils course.

16           Q     How about any courses with respect to mechanical  
17 engineering?

18           A     I had some basic mechanical engineering courses.

19           Q     When you graduated in 1953 --

20           A     I graduated from college in 1957.

21           Q     From the University of Ohio. Where did you go to  
22 work at that time?

23           A     I started work with Consumers Power Company.

24           Q     Have you been with Consumers Power Company  
25 continuously since graduation from college?

1           A     No. I have not.

2           Q     Starting with that first period with Consumers  
3 Power Company, when did you leave them?

4           A     I left them in about September of '57.

5           Q     So was it from June of '57 until September of '57  
6 you were with Consumers?

7           A     August or September. Yes.

8           Q     Where were you employed after September of '57?

9           A     I spent two years with the U.S. Army Corps of  
10 Engineers.

11          Q     That was until September of '59?

12          A     Yes.

13          Q     When you left the job with the Corps of Engineers,  
14 who did you next work with?

15          A     Consumers Power Company.

16          Q     Was that again, approximately September of '59?

17          A     Yes.

18          Q     Has your employment been continuous with Consumers  
19 since that time?

20          A     Yes.

21          Q     With respect to the two years in employment with  
22 the Corps of Engineers, what type of work did you do with  
23 that?

24          A     I was an officer in the Corps of Engineers. I was  
25 a platoon commander and assistant operations officer.



1 Q With respect to your -- strike that.

2 Did that job involve working in civil engineering  
3 matters?

4 A Yes, it did.

5 Q What type of civil engineering projects were you  
6 working on?

7 A We worked on roads. We worked on bridges, rifle  
8 ranges.

9 Q With respect to your work on roads and rifle  
10 ranges and bridges, did you have occasion to consider  
11 geotechnical matters with respect to those projects?

12 A I guess I'm not sure I understand the question.  
13 Would you maybe restate it?

14 Q All right.

15 With respect to the jobs on bridges and roads and  
16 rifle ranges, did you deal with questions of soil properties?

17 A Yes.

18 Q In what respect?

19 A With respect to obtaining compaction. I was in  
20 construction at the time.

21 Q When you say with respect to obtaining compaction,  
22 does that mean you were responsible for the method of  
23 compacting the soil?

24 A We were responsible for getting the job done to  
25 meet whatever specification we were working under.

1 Q And that would include compacting it to whatever  
2 the specification required?

3 A Yes.

4 Q When you began work with Consumers Power Company  
5 in September of '59 this is the second period with  
6 Consumers. What was your job at that time?

7 A In September of '59 I started out on the graduate  
8 student training program.

9 Q How long were you in that program?

10 A Approximately five or six months.

11 Q What specifically was that training designed to do?

12 A It was designed to familiarize me with the various  
13 departments in the company.

14 Q At the end of that five or six month period, what  
15 job -- what was your job title with Consumers?

16 A Graduate Student in Training, I believe.

17 Q After that was over, at the end of that period?

18 A After that, I believe I was a Field Construction  
19 Assistant/Gas.

20 Q What were your responsibilities in that job?

21 A In that job I was responsible for observing the  
22 back fill of the pipe line. I had some responsibilities  
23 with radiographic inspection.

24 Q When you say observing the back fill of pipelines,  
25 is that, again, assuring that the compaction meets the

1 specification?

2 A We were not so much concerned with compaction on  
3 the pipeline. We were more concerned with other things.

4 Q Explain what you meant when you said you were  
5 observing the back fill of the pipeline.

6 A We were concerned with seeing that the back fill  
7 did not damage the coating on the pipe, that the back fill  
8 was completely around the pipe, that the back fill was  
9 raised a certain amount of distance above the normal grade  
10 there so that when it settled it would settle to a uniform  
11 level.

12 Q How long did you hold that position in Consumers  
13 Power -- that Field Construction Assistant/Gas?

14 A Approximately -- I think it was about eight or  
15 nine months.

16 Q If I'm adding the dates up right, sometime in the  
17 fall of 1960 you changed your position?

18 A Yes. That is correct.

19 Q What position did you then have?

20 A I was then a Field Construction Assistant/Electric.

21 Q Did that involve the same type of responsibilities  
22 with respect to electrical assistants as that title had with  
23 gas?

24 A There were different responsibilities.

25 Q What were those responsibilities?

1           A       I was at a 265 megawatt fossil plant and my  
2 responsibilities were primarily in the structural area.

3           Q       What specifically were you doing with respect to  
4 the structural area?

5           A       I was working with miscellaneous platforms.

6           Q       What was your responsibilities with respect to  
7 miscellaneous platforms?

8           A       Designing them and seeing that they got installed.

9           Q       So you designed them and supervised the  
10 installation of them?

11          A       Yes. Supervised the contractor who was installing  
12 them.

13          Q       For how long did you hold the position of Field  
14 Construction Assistant/Electric?

15          A       Until March of '61.

16          Q       What position did you then obtain?

17          A       I was then Field Construction Assistant/Electric  
18 at another 260 megawatt fossil plant.

19          Q       Were the responsibilities similar at the second  
20 plant?

21          A       What do you mean by similar?

22          Q       Similar to the responsibilities that you had at  
23 the first fossil plant.

24          A       I was following piping and not the structural work.

25          Q       Was it, again, design and supervision of

1 installation of the piping?

2       A     It was limited designing.  Primarily supervision  
3 of installation of the contractor who was installing the  
4 piping.

5       Q     How long did you hold that position?

6       A     Until June of '62.

7       Q     What job title did you then obtain?

8       A     Field Construction Supervisor/Electric.

9       Q     What facilities was that job title with respect to?

10      A     That was with respect to the James H. Campbell  
11 Plant.

12      Q     Is that a fossil plant?

13      A     Yes.

14      Q     What was the difference between your  
15 responsibilities at the Campbell plant as a Field  
16 Construction Supervisor/Electric and the type of work you  
17 did as a Field Construction Assistant/Electric?

18      A     I got more involved in start-up activities.

19      Q     Would you explain what you mean by more involved  
20 with start-up activities?

21      A     As compared to construction activities where you  
22 install pipe, start-up activities include checking out the  
23 equipment and getting it running for the first time.

24      Q     How long were you in that position?

25      A     Until June of '63.

- 1 Q What position did you then obtain?
- 2 A Field Construction Supervisor/Electric.
- 3 Q Different plant?
- 4 A At the Overisel Gas Compression Station.
- 5 Q Can you tell me very briefly what a gas  
6 compression station is?
- 7 A A gas compression station consists of units that  
8 pump gas from one place to another.
- 9 Q Were you again responsible for checking out the  
10 electric volt systems in preparation for start-up of that  
11 facility?
- 12 A I don't believe I was responsible for checking out  
13 electrical systems. I was responsible for initial start-up  
14 and check-out of systems as opposed to being an electrical  
15 specialist. I'm not an electrical specialist.
- 16 Q I am a little confused. What did the /Electric --  
17 what did that -- that doesn't indicate that the  
18 responsibilities were limited to electric matters?
- 19 A As I recall, basically that meant what department  
20 I was reporting to at the time.
- 21 Q You were checking other than electrical systems?
- 22 A At the Overisel Compression Station I was  
23 responsible for installation of compressors, associated  
24 mechanical and electrical equipment.
- 25 Q Going back for just a moment to your job as Field

1 Construction Assistant/Gas -- I forget the exact term -- you  
2 were observing the back fill of pipelines. Did that work  
3 include checking to see whether the pipes were installed at  
4 level or true?

5 A No.

6 Q How about with respect to your work as a Field  
7 Construction Assistant/Electrical? Around approximately  
8 March of '61, when you were working at the fossil plant, it  
9 had something to do with piping. Did that involve checking  
10 to see whether the pipes were installed at level or true?

11 A No.

12 Q How long did you hold the position of Field  
13 Construction Superintendent/Electric at the Overisel Gas  
14 Compression Station?

15 A I was Field Construction Supervisor/Electric until  
16 June of '54.

17 Q What was your job title then?

18 A Field Construction Supervisor/Electric.

19 Q With respect to what facility?

20 A Grand Rapids Heating Plant.

21 Q What were your responsibilities with respect to  
22 that plant?

23 A Demolition and installation of boilers and  
24 associated mechanical and electrical equipment and start-up  
25 of same.

1 Q Did your work with respect to the demolition and  
2 installation of boilers involve any possible settlement of  
3 the soils?

4 A Not that I recall. No.

5 Q These boilers were installed inside an  
6 already-constructed building?

7 A Yes.

8 Q Your responsibilities did not extend to any -- to  
9 the design of the building itself in any way?

10 A I had no design responsibilities for the building.

11 Q How long did you hold that position?

12 A Until June of '65.

13 Q What was your job title then?

14 A Field Construction Supervisor/Electric.

15 Q Where?

16 A At the James H. Campbell Plant.

17 MR. JONES: I'm going to mark this resume as NRC  
18 -- I'm now looking at a resume for Thomas Cooke which has  
19 been marked NRC Deposition Exhibit 1 for identification,  
20 10/22/80.

21 (The document referred to was  
22 marked NRC Deposition Exhibit  
23 No. 1 for identification.)

24 BY MR. JONES: (Resuming)

25 Q With respect to your job, from June 1965 to



1 October 1965 as a Field Construction Supervisor/Electric --  
2 let the record show I'm getting that information from the  
3 page marked Chronology in that exhibit. What were your  
4 responsibilities with respect to that job?

5 A I had responsibilities connected with  
6 instrumentation, piping and start-up.

7 Q With respect to the piping, did any of your  
8 responsibilities include checking to see whether the piping  
9 was installed at level or true?

10 A None that I recall.

11 Q Was that piping installed beneath -- strike that.  
12 Was that piping below ground, level?

13 A There was some pipe below ground.

14 Q With respect to that installation -- strike that.  
15 Were you responsible for supervising the  
16 installation of that piping?

17 A I was responsible as owner's representative for  
18 observing the contractor's activities in this regard.

19 Q With respect -- what do you mean when you say  
20 observing the contractor's activities?

21 A If you ask me if I am responsible for installation  
22 of the piping and I were a foreman installing the piping, I  
23 would be responsible for working for the contractor. As the  
24 owner's representative we were not directly responsible for  
25 the installation. We are responsible for seeing that the

1 contractor does it.

2 Q Does that responsibility include making sure the  
3 piping is installed correctly by the subcontractor?

4 A On occasion, yes.

5 Q In making that determination of whether it is  
6 installed correctly, do you consider soil settlement  
7 problems -- possible soil settlement?

8 MR. ZAMARIN: Did he at that time?

9 BY MR. JONES: (Resuming)

10 Q With respect to this job we are referring to at  
11 the Campbell Plant?

12 A I don't recall any soil settlement considerations  
13 on that job that I was involved with.

14 Q In installing piping underground, would it -- does  
15 your training extend to the proper way to install piping  
16 below ground?

17 A Yes.

18 Q In installing piping underground, would you  
19 normally consider the effects of soil settlement on that  
20 piping?

21 A I'm not sure I understand what you are driving at.

22 Q Let me give you a scenario and ask if that sort of  
23 thing is considered.

24 If soil settlement would put certain pressures on  
25 the piping -- I've heard the phrase drag on the piping --

1 from the settlement around it, are those sort of factors  
2 considered when deciding how to install piping?

3 MR. ZAMARIN: Let me just object to the form of  
4 the question. Are you talking about at the design stage or  
5 are you referencing when he was out there as the owner's  
6 representative?

7 MR. JONES: I am talking with respect to his  
8 expertise in the proper way of installing piping, which I  
9 asked him if his training included the proper way to install  
10 piping.

11 MR. ZAMARIN: My problem with the question is you  
12 asked him whether that is a consideration with regard to  
13 installing piping. I really want to know consideration by  
14 whom and at what time. By a guy designing it or by a guy  
15 preparing specs or by the guy watching it. That is the  
16 problem that we have.

17 BY MR. JONES: (Resuming)

18 Q With respect to your expertise in the field of  
19 installation of piping, in determining whether the piping  
20 was installed correctly, would you normally want to know the  
21 predicted settlement of soils around that piping?

22 A If it was mentioned in the specification.

23 Q In October, 1965, you obtained the title of  
24 General Engineer. Is that right?

25 A Yes.

1 Q With what facility were you then working?

2 A The same facility. I had similar responsibilities  
3 on all three job title here.

4 Q What was the difference in your job  
5 responsibilities as a General Engineer from those as a Field  
6 Construction Supervisor/Electric at that plant?

7 A Very little.

8 Q Was it a change in title?

9 A Yes.

10 Q In March of 1967, did you become an Assistant  
11 Field Superintendent/Construction at that plant?

12 A Yes.

13 Q Was there a change in your responsibilities at  
14 that time from responsibilities as a General Engineer?

15 A Yes.

16 Q What was the change in responsibilities?

17 A I assumed somewhat broader responsibilities for  
18 other areas of the plant also.

19 Q What other areas did you now have responsibility  
20 for?

21 A I had more responsibility for some of the work  
22 that was going on in the structural work and some of the  
23 work that was going on in the electrical area. I was still  
24 primarily responsible for the piping and instrumentation  
25 start-up.

1 Q When you say more responsibility in the structural  
2 area, do you mean -- what do you mean by more responsibility  
3 in the structural area?

4 A I had more supervisory responsibilities over other  
5 engineers who had specific responsibilities in that area.  
6 It was a promotion.

7 Q By structural area am I correct in understanding  
8 that to mean the construction of buildings?

9 A Yes.

10 Q With respect to responsibilities in the structural  
11 area, did you have occasion to consider soil settlement  
12 factors in those buildings you were supervising?

13 A Yes.

14 Q What was the nature of the consideration of the  
15 soil?

16 A Occasionally, as I recall, we checked surveys of  
17 the buildings to see what the settlement was on them. We  
18 ran surveys on the structures.

19 Q The surveys that actually had taken place?

20 A We ran checks to see that the survey had taken  
21 place and what the survey was.

22 Q In your supervision of this structural area, did  
23 you have occasion to consider predicted soil settlement?

24 A I don't recall the answer to that question.

25 Q In July of '67 did you switch --

1           A       Excuse me. Maybe I can backtrack.

2                    If you are saying predicted settlement with  
3 looking at what the survey said and what we actually found  
4 out there, yes. I probably looked at what the survey said  
5 and looked at what was required or what was allowable, if  
6 that is what you are talking about.

7           Q       All right. Let me come back to that. Was part of  
8 your responsibility to see that the building was not sinking  
9 beyond the specifications -- beyond the rate predicted by  
10 the specifications?

11          A       Sinking or rising, yes.

12          Q       Do you recall whether during that period you had a  
13 situation arise where a building sank or rose more than was  
14 predicted by the specifications?

15          A       I recall no such incident.

16          Q       In July of '67 you switched plants and maintained  
17 the same title?

18          A       That is correct.

19          Q       Were your responsibilities similar at this next  
20 plant?

21          A       The next plant was a different plant. It was more  
22 in the civil stages, so I had more civil responsibilities  
23 initially than I did at the other plant. They were,  
24 however, similar responsibilities.

25          Q       What kind of plant was that?

1           A       It was the Palisades Nuclear Plant.

2           Q       When you say more civil responsibilities --

3           A       The plant was just being built. It was starting  
4 from the ground up. The other unit -- we were putting a new  
5 unit in an existing building.

6           Q       Did you become at all involved with the design of  
7 these buildings?

8           A       No.

9           Q       Your responsibilities extended -- did your  
10 responsibilities --

11          A       Let me correct that. Possibly some minor design,  
12 but not design as I interpret the word design.

13          Q       How do you interpret the word design?

14          A       If we had some minor conflict with something where  
15 maybe a piece of pipe was running through another piece of  
16 pipe maybe we would adjust the elevation of the pipe or  
17 something like that. But they were very minor things I was  
18 involved in.

19          Q       Did you consider soil questions? Soil settlement  
20 -- did you consider soil settlement with respect to the  
21 Palisades Plant in the same way that you did with respect to  
22 the Campbell plant?

23          A       No.

24          Q       Did you consider soil settlement at all with  
25 respect to your responsibilities at the Palisades Plant?

1           A     Only that I was aware that settlement readings  
2 were being taken. I didn't have the same responsibilities  
3 as I did over at Campbell.

4           Q     In August of '68 you became a General Supervisor.  
5 Is that correct?

6           A     Yes.

7           Q     Was that at the Palisades Plant?

8           A     Yes, it was.

9           Q     How did your responsibilities change from those as  
10 an Assistant Field Construction Superintendent at Falisades?

11          A     When I became a general supervisor I was no longer  
12 involved in construction activities. I was involved in  
13 coordination of all start-up activities prior to fuel load.

14          Q     When you say coordination of all start-up  
15 activities, what did that involve?

16          A     That involved coordinating the efforts of start-up  
17 engineers that reported to me, coordinating the efforts of  
18 plant operators, coordinating the efforts of Bechtel's  
19 start-up engineers, coordinating the efforts of combustion  
20 engineeringr start-up engineers.

21          Q     Were those individuals -- were they reporting --  
22 what were these individuals reporting to you?

23          A     The start-up engineers that reported directly to  
24 me were responsible for check-out and pre-operational tests  
25 of individual systems. Start-up engineers that were



1 reporting indirectly to me were responsible for assistance  
2 in specific areas.

3 Q With respect to these tasks, did people reporting  
4 to you do the analysis of the tests or did they feed you the  
5 results and you did the analysis of the tests?

6 A The people who reported to me ran the tests,  
7 collected the information, fed me some information on the  
8 analysis, and my prime responsibility was not to analyze the  
9 tests but to take the tests and run the tests.

10 Q In March of '71 you became Project Superintendent  
11 at the Palisades Plant?

12 A That is correct.

13 Q How did your job responsibilities change at the  
14 time from General Supervisor of the plant?

15 A At that point in time the operation of the plant  
16 was turned over to the Operations Department and I was  
17 responsible for the rad waste and cooling tower  
18 modifications.

19 Q Was your job to supervise the construction  
20 activity?

21 A My job was to supervise the contractor's efforts  
22 in that area.

23 Q What exactly do you mean when you say you  
24 supervised the subcontractors?

25 A Myself and the engineers who reported to me were

1 responsible for seeing that the contractor completed the  
2 project on time and within the specified budget.

3           They also included coordination activities with  
4 certain other departments within Consumers Power Company.

5           Q     Okay. You were responsible for seeing that the  
6 subcontractors completed the project on time within the  
7 budget. Did you also -- were you also responsible for  
8 seeing that the job was completed according to  
9 specifications?

10          A     Quality assurance was a separate responsibility,  
11 if that is what you are getting at.

12          Q     Is there a difference between quality assurance  
13 and quality control?

14          A     Yes.

15          Q     Were you responsible for supervising the quality  
16 control?

17          A     I don't think I can recall off the top of the head  
18 exactly what my responsibilities were in the area of quality  
19 at that point in time, because that was a different era as  
20 far as quality assurance and quality control. I probably  
21 had some quality responsibility, but I can't tell you to  
22 what extent. It was back in the '60s.

23          Q     In general, who would be responsible for quality  
24 control? The subcontractor or Consumers?

25          A     You mean contractor? There is a difference

1 between contractor and subcontractor.

2 Q Contractor.

3 A Generally speaking, the contractor was responsible  
4 for quality control.

5 Q It is the contractor who you were supervising in  
6 the installation or construction of the rad waste and  
7 cooling towers?

8 A Yes.

9 Q Would you in any way consider, within the  
10 responsibilities of that supervision, whether or not the  
11 quality control program of the contractor was adequate?

12 A As I recall, I did, because I believe some of that  
13 work was non-Class One structures.

14 Q If it was Class One, you would not have considered  
15 it?

16 A As I recall, it was Class One. The quality  
17 control and quality assurance were done by a separate  
18 department of Consumers.

19 Q Then in January of '73 you became Project  
20 Superintendent, I assume, at the Midland Plant?

21 A Yes.

22 Q And that is your title up until the present?

23 A Yes. That is correct.

24 Q Were your responsibilities to Midland of the same  
25 general nature as those with respect to Palisades rad waste

1 and cooling tower construction, except on a broader scale?

2 A Yes.

3 MR. ZAMARIN: For the record I would like to  
4 indicate that Exhibit 1 is, in fact, a resume of Thomas C.  
5 Cooke that we provided to you today.

6 BY MR. JONES: (Resuming)

7 Q With respect to the Midland plant and your  
8 supervision -- strike that.

9 Are you supervising the contractor with respect to  
10 the Midland plant or both the contractor and subcontractors  
11 with respect to the Midland plant?

12 A The contractor and subcontractors.

13 Q Does that supervision include considering the  
14 quality control programs of either the contractor or  
15 subcontractors?

16 A I have no direct responsibilities for the quality  
17 control programs.

18 Q Do you have any responsibility with respect to  
19 quality assurance?

20 A I have no direct responsibility with respect to  
21 quality assurance.

22 Q Are you kept informed of any quality assurance?  
23 Are you kept informed of any quality assurance problems  
24 which the quality assurance branch identifies?

25 MR. ZAMARIN: I will have to object to the form of

1 the question. Quality assurance problems is a little vague.

2 BY MR. JONES: (Resuming)

3 Q Are you aware of what a non-conformance report is?

4 A Yes.

5 Q Are you kept aware of any non-conformance  
6 reports? Are you kept aware of any non-conformance reports  
7 that are issued with respect to the Midland plant?

8 A Yes.

9 Q Are you kept aware of any quality control  
10 deficiencies with respect to the Midland plant?

11 MR. ZAMARIN: I would have to object. If we're  
12 talking about deficiencies in the quality control program or  
13 deficiencies as identified by quality control.

14 BY MR. JONES: (Resuming)

15 Q Are you kept informed of any deficiencies in  
16 construction as identified by quality control people,  
17 whoever they are?

18 A Yes.

19 Q Do you have any responsibilities to act on  
20 information such as non-conformance reports or the notice of  
21 deficiencies in construction which the quality control group  
22 identifies?

23 A Yes.

24 Q What action do your responsibilities require you  
25 to take?

1           A       They are rather broad responsibilities.  If I am  
2 aware of a problem that is developing in the field work I am  
3 responsible in a general sense to investigate the problem  
4 and try to assist in resolving it from a management  
5 standpoint.

6           Q       In your present position, do you have any stop  
7 work authority?

8           A       Yes.

9           Q       What is the extent of that authority?

10          A       If I see some problem that I feel the contractor  
11 is not resolving in a timely fashion I can stop the work in  
12 that area.

13          Q       In your present position, do you receive reports  
14 of various experts in the disciplines involved in  
15 construction of the plant?

16          A       I don't understand the word experts.

17          Q       I believe you stated earlier that you do not have  
18 -- you would not consider yourself an expert in geotechnical  
19 matters.  Is that correct?

20          A       That is a true statement.

21          Q       When a geotechnical problem comes up which you are  
22 supervising, do you receive reports from people who would be  
23 considered experts in the geotechnical field?

24          A       Yes.

25          Q       Do you rely on their conclusions as presented to

1 you, or within the extent of knowledge of geotechnical  
2 matters you do have do you analyze the report that was sent  
3 to you?

4 MR. ZAMARIN: Could I hear that back please?

5 (The pending question was read by the reporter.)

6 MR. ZAMARIN: I will object as to form and lack of  
7 foundation.

8 THE WITNESS: I guess I would like to know what  
9 you mean by do you rely. I really don't understand what you  
10 are getting at.

11 BY MR. JONES: (Resuming)

12 Q When you receive a report from the -- the example  
13 I am using is a geotechnical expert. When you receive a  
14 report from a geotechnical expert that report contains a  
15 conclusion with respect to whatever subject it is  
16 analyzing. Is that correct?

17 A It generally does. Yes.

18 Q My question is, do you accept that conclusion  
19 without -- strike that.

20 My question is, to what extent do you take that  
21 information that is contained in the report absent the  
22 conclusion to see if you agree with that conclusion?

23 A I guess to answer your question, to the extent --  
24 to what extent do I agree with the conclusion or disagree  
25 with the conclusion. As I understand your question, I would

1 probably rely heavily on what the consultant said in his  
2 report and my evaluation of the report.

3 Q If a report comes to you which is in the civil  
4 engineering discipline in which I think we have established  
5 you are an expert, would you be more inclined -- strike that.

6 Would you perform more analysis of that  
7 information?

8 MR. ZAMARIN: Excuse me. You struck your question  
9 and now you don't have a predicate.

10 BY MR. JONES: (Resuming)

11 Q Is the reason you would rely heavily, going back  
12 to the geotechnical expert example, is the reason you would  
13 rely heavily, very heavily, on that expert's conclusion  
14 because you are not an expert in the geotechnical area?

15 A Yes.

16 Q If a report comes up that is in the civil  
17 engineering area, would you be more inclined to make your  
18 own analysis of the data?

19 A Not necessarily.

20 Excuse me, may I speak to counsel?

21 (A discussion was held off the record.)

22 BY MR. JONES: (Resuming)

23 Q Did your supervisory responsibilities with respect  
24 to the Midland plant include supervision of the dike  
25 construction?



1 A Yes.

2 Q Can you describe what your supervisory  
3 responsibilities with respect to construction of the dike  
4 involved?

5 A My primary responsibilities with respect to the  
6 dike involved cost and schedule and quality on the non-Q  
7 portion of the dike.

8 Q Who supervised -- you may have answered this  
9 question, but I've forgotten. Who supervised this -- the  
10 construction of Q-related structures?

11 A Who supervises construction?

12 Q You just said your responsibility with respect to  
13 dike construction was supervision of cost, schedules and the  
14 quality of non-Q portions.

15 A Right. Only.

16 Q Q-portions are seismic category one. Is that the  
17 difference?

18 A Yes.

19 Q Whose responsibility is it -- cost, schedules and  
20 quality -- with respect to seismic category one structures?

21 A I have overall responsibility for costing,  
22 scheduling, on the job. If it is a class one structure,  
23 quality assurance has prime responsibility for the quality.

24 Q When was construction on the dikes completed?

25 A I believe the dike construction was completed

1 approximately 1975.

2 Q You mentioned earlier that you have stop work  
3 authority. Do you ever exercise that authority in the  
4 construction of the Midland plant?

5 A Yes.

6 Q More than once?

7 A I believe so. Yes.

8 Q When was the first time you exercised it?

9 A I don't recall.

10 Q Did you exercise it on numerous occasions?

11 A What do you mean by numerous?

12 Q Did you exercise this more than five times?

13 A To the best of my recollection, it was not more  
14 than five times.

15 Q Do you remember what the situation was which  
16 caused you to issue the first stop work order?

17 A No, I do not.

18 Q Do you remember the most recent stop work  
19 authorization?

20 A Yes.

21 Q What was that with respect to?

22 A It was with respect to the welding of small pipes  
23 to large pipes and the usage of weld-o-lets and sock-o-lets.

24 Q What caused you to issue the stop work  
25 authorization in that instance?

1           A       As a management function, it did not appear to me  
2 that we were resolving the problem in a timely fashion.

3           Q       What exactly was the problem?

4           A       The problem involved the interpretation of the  
5 amount of weld -- that's all -- that was being placed when  
6 you were utilizing such things as weld-o-lets or sock-o-lets.

7           Q       Was there some disagreement over the amount of  
8 metal that should be used?

9           A       There was a disagreement on the interpretation.

10          Q       Between -- was the disagreement between --

11          A       I can't say that it was between any two parties.  
12 There were several parties involved and several people were  
13 in the discussion. Project management people were  
14 involved. Quality assurance people were involved. Quality  
15 control people were involved. Field engineers were involved.

16          Q       Was this disagreement between Bechtel people and  
17 Consumer people, or within one of those organizations?

18          A       Primarily between Bechtel and Consumers.

19          Q       Has that been resolved?

20          A       No. That has not been resolved.

21          Q       Do you recall whether you ever issued a stop work  
22 order with respect to a soils problem?

23          A       I don't have any recollection of it.

24          Q       Can you briefly describe some of the other  
25 instances in which you can recall issuing a stop work

1 authorization?

2 A Not at this time.

3 Q With respect to your issuance of a stop work  
4 order, do you consider the cost of issuing such an order and  
5 by cost I mean do you consider the cost a delay in  
6 construction will entail in issuing a stop work order?

7 MR. ZAMARIN: Are you referring to the type of  
8 stop work orders which he does which are the non-QA area?  
9 When you say you, it is not clear whether you are referring  
10 to him personally.

11 MR. JONES: I have to go back because you are  
12 saying something he didn't say.

13 MR. ZAMARIN: If you will go all the way back, you  
14 will see that he did.

15 BY MR. JONES: (Resuming)

16 Q You did say that you have general overall  
17 responsibilities for supervising construction of the  
18 facility, did you not?

19 A Yes.

20 Q You did say that with respect to Q portions you  
21 have less supervisory responsibility. I take that back.  
22 That the QA group is more involved with supervising cost,  
23 schedules and quality?

24 A No.

25 MR. ZAMARIN: He said they were responsible for

1 quality. QA is, on those items.

2 BY MR. JONES: (Resuming)

3 Q You are still responsible for costs and scheduling  
4 with respect to that?

5 A Yes.

6 Q Do you have stop work authorization with respect  
7 to Q-related structures?

8 A Yes.

9 Q Is the only stop work authorization you  
10 specifically recall issuing the one with respect to welds?

11 A At this point in time, yes.

12 Q Is that related to a Q-related structure?

13 A It is related to Q-related work. Yes.

14 Q In issuing a stop work order such as that one, is  
15 one of your considerations the cost from the delay in  
16 construction that stopping work would entail?

17 A I consider cost.

18 Q What do you mean when you say cost?

19 A If I consider cost I would consider cost of the  
20 delay. I would consider the cost of rework if something  
21 went uncorrected and had to be reworked.

22 Q Do you ever seek advice -- strike that.

23 You do have superiors within the Consumers Power  
24 Company, do you not?

25 A Yes.

1 Q Have you ever received advice from those superiors  
2 with respect to whether or not a stop work authorization  
3 should or should not be issued?

4 A Yes.

5 Q Can you relate -- when was that that you received  
6 such advice? And I mean when, not date but with respect to  
7 what problem?

8 A I have probably received advice on more than one  
9 occasion. The most recent advice being the most recent stop  
10 work.

11 Q Was that advice to issue the stop work or not  
12 issue the stop work order with respect to the most recent?

13 A Neither.

14 Q What was the advice?

15 A The advice was that if it wasn't resolved by  
16 quitting time -- if I couldn't resolve it by quitting time  
17 to go ahead and issue it.

18 Q I take it that was quitting time on whatever day?

19 A Yes. The day in question.

20 Q Did you receive advice from your superiors on  
21 other stop work orders with respect to the stop work orders?

22 A I can't recall one way or the other for sure.

23 Q Do your responsibilities as a general manager --

24 A Project Superintendent.

25 Q Project Superintendent -- entail coordination of

1 the various disciplines involved in construction?

2 A Would you rephrase the question, please?

3 Q Was it your job to coordinate experts, as I  
4 defined experts earlier as being specialists in a particular  
5 construction discipline, within several disciplines? And by  
6 this I mean, did you see that there was coordination between  
7 what one expert would recommend -- for instance, a method of  
8 compaction -- and between structural experts, who would  
9 analyze what the effects on the building of that method of  
10 compaction would be?

11 A No.

12 Q Do you know if there was a consultation between  
13 the disciplines, again using the example I used of between a  
14 structural engineer and a geotechnical person, with respect  
15 to the effects -- what one individual was recommending would  
16 have on the other person's discipline?

17 A Yes.

18 Q Could you describe the nature of the communication?

19 A I have sat in on meetings in Ann Arbor where the  
20 structural discipline and the soils disciplines were present  
21 at the same meeting discussing common problems. I have also  
22 sat in on meetings where consultants, which you are defining  
23 as experts, were in these meetings discussing the problems  
24 between, say, the soils and the structural.

25 Q Did your responsibilities, as you described them,

1 apply to the construction of the administration building?

2 A Yes.

3 Q Are you familiar with the soil settlement problem  
4 that occurred with respect to the administration building?

5 A Yes.

6 Q When did you become aware of that problem?

7 A I can't give you the exact date.

8 Q A rough estimate. Give me as near as you can. I  
9 don't care if it is a year or six months.

10 A I really don't know off the top of my head.

11 Q Do you know if it was soon after the problem was  
12 discovered?

13 A Yes.

14 Q How would that have come to your attention?

15 A The Bechtal project superintendent brought it to  
16 my attention.

17 Q Would you describe the problem with the  
18 administration building with respect to soil settlement?

19 A There was an excessive amount of settlement of the  
20 grade beam.

21 Q The last phrase you used was grade beam? Use a  
22 layman's term please?

23 A Concrete down in the soil a ways.

24 Q When you became aware of this settlement problem  
25 with respect to the administration building, did you inform



1 the Jackson office of Consumers Power of that problem?

2 A Yes.

3 Q How soon after you were informed of the problem  
4 did you inform the Jackson office?

5 A I don't recall.

6 Q Would it have been more than six months after you  
7 found out?

8 A No.

9 Q How did you inform them -- the Jackson office of  
10 Consumers Power?

11 A I can tell you specifically one way that I  
12 informed them and that was by copying them on a letter that  
13 I wrote to our contractor requesting that he keep the costs  
14 separate for the repair of this thing, inasmuch as we feel  
15 that it might have been something that we would want to be  
16 reimbursed for later.

17 Q Did a copy of that letter go to Mr. Keeley, to  
18 your knowledge?

19 A Yes, it did.

20 Q Do you recall whether that letter was sent before  
21 the problem with the diesel generator building developed?

22 A Yes, it was.

23 Q Do you recall whether it was sent before  
24 construction of the diesel generator building began?

25 A I can't tell you that.

1 Q You did testify that you couldn't remember exactly  
2 when you sent that?

3 A Yes.

4 Q Can you give me, within a year, that you sent it?

5 A No.

6 MR. JONES: Let's take a five-minute break.

7 (A brief recess was taken.)

8 BY MR. JONES: (Resuming)

9 Q I show you an exhibit that has been marked NRC  
10 Exhibit No. 2 in the date of 10/22/80. Is that the letter  
11 you referred to as being sent, a copy of which was sent to  
12 the Jackson office?

13 A Yes.

14 (The document referred to was  
15 marked NRC Deposition Exhibit  
16 No. 2 for identification.)

17 BY MR. JONES: (Resuming)

18 Q Does the company have some notation on here that  
19 indicates who copies were sent to?

20 A There is no indication on this letter.

21 MR. ZAMARIN: Just for the record, exhibit number  
22 2 also contains a letter dated September 23, 1977, to the  
23 attention of T. C. Cooke at Consumers Power Company from  
24 what appears to be a J. F. Newgen -- N-e-w-g-e-n -- and a  
25 letter dated December 30, 1977, to Mr. T. C. Cooke from Mr.

1 Newgen also.

2           The first letter to which these are stapled is a  
3 letter dated September 8, 1977, to Mr. Newgen from Mr. T. C.  
4 Cooke.

5           BY MR. JONES: (Resuming)

6           Q     You stated a copy of this letter was sent to the  
7 Jackson office. Is that correct?

8           A     That is correct.

9           Q     Do you know whether a copy of this letter was sent  
10 to Mr. Keeley?

11          A     As I recall, I sent a copy directly to Mr. Keeley  
12 and discussed it with him.

13          Q     That would have been, I think we established,  
14 within at least six months after you sent this letter?

15          A     Yes.

16          Q     At the outside?

17          A     At least.

18          Q     We had just begun discussing the administration  
19 building. You have described the test or the problem at the  
20 administration building as being settlement -- I don't think  
21 this is the way you described it. Let me ask you if this is  
22 a correct characterization, as settlement beyond that  
23 provided for in the technical specs?

24          A     I described it as excessive settlement of the  
25 grade beam.

1 Q I'm going to refer to that as excessive settlement.

2 Do you know if tests were taken to determine if  
3 the problem with the excessive settlement at the  
4 administration building was an isolated problem?

5 A To the best of my recollection, yes.

6 Q Do you know what kind of tests were taken?

7 A We took, as I recall, two additional soil borings.

8 Q Do you recall what the conclusion was from those  
9 borings?

10 A The conclusion was that the administration grade  
11 beam was an isolated instance.

12 Q Do you recall where those two borings were taken?

13 A To the best of my knowledge, one was taken in the  
14 evaporator building area and the other was taken near the  
15 diesel generator building.

16 Q Who decided -- strike that.

17 Who decided what kind of test would be used to  
18 determine if it was an isolated problem? I mean, was it  
19 Bechtel or Consumers?

20 MR. ZAMARIN: Or somebody else.

21 MR. JONES: Yes. Or somebody else.

22 THE WITNESS: I think it was a Bechtel decision,  
23 as I recall.

24 BY MR. JONES: (Resuming)

25 Q Do you know if Consumers had any input into that

1 decision process?

2 A As I recall, we concurred with it.

3 Q Can you explain this to me? As I understand it,  
4 there was one boring taken on the north side of the plant.  
5 I think that was the evaporator building. There was one  
6 taken on the south side of the plant. Was it slightly south  
7 of the diesel generator building?

8 A To the best of my recollection it was somewhere  
9 near the diesel generator building. I don't recall exactly  
10 where it was.

11 Q The diesel generator building is on the south side  
12 of the plant?

13 A That is correct.

14 Q Can you explain to me, as a layman, how those two  
15 borings can indicate whether or not it was an isolated  
16 problem with respect to the whole plant?

17 A We tested the soil in those two areas and we found  
18 the soil acceptable from the tests that we ran on it, and  
19 that, coupled with the fact that we had observed no other  
20 unusual settlement, led us to the conclusion that it was an  
21 isolated incident.

22 Q At the time these tests were taken -- these two  
23 borings -- had construction begun on the diesel generator  
24 building outside of preparation of the soil?

25 A I don't recall.

1 Q Do you recall when these borings were taken?

2 A I don't recall the exact date. To the best of my  
3 recollection, they were some time in the same time frame as  
4 when we discovered the problem -- shortly thereafter.

5 Q Were the two borings taken in areas in which fill  
6 material had been placed?

7 A Yes.

8 Q Was there ever any concern in your mind that two  
9 borings might not be enough to determine whether or not this  
10 was an isolated problem?

11 A No.

12 MR. ZAMARIN: I'm sorry. May I have that question  
13 and answer read back?

14 (The question and answer were read by the  
15 reporter.)

16 BY MR. JONES: (Resuming)

17 Q I'm still confused. As a layman -- I will explain  
18 my confusion and perhaps you can answer a question that will  
19 straighten that out.

20 My problem is that I see there was settlement at  
21 the administration building and two borings were taken --  
22 one at the northern side of the plant and one at the  
23 southern side of the plant. I take it there was also fill  
24 material being placed in-between those two points. Is that  
25 correct?

1           A     That is correct.

2           Q     My question is I'm having a problem understanding  
3 how a boring taken at the northern side and one at the  
4 southern side can indicate that there is not a similar  
5 problem with the soils in-between those two points. That is  
6 my problem. That is my statement of what my problem is.

7                     Now my question is can you explain to me how those  
8 two borings indicate whether or not there is a similar  
9 problem with the soils in the area in-between those two  
10 points?

11           MR. ZAMARIN: I'm going to object. I think that  
12 was asked and answered.

13           MR. JONES: I said I don't understand the  
14 question. As a layman I'm asking him if he can possibly  
15 explain it to me.

16           MR. ZAMARIN: You mean other than him saying that  
17 those borings showed the soil was acceptable and they hadn't  
18 observed any other unusual settlement? I don't know how he  
19 could break it down any finer than that.

20           MR. JONES: All right. I will withdraw the  
21 question.

22           BY MR. JONES: (Resuming)

23           Q     When you say that one of the reasons that these  
24 borings indicated that this was an isolated problem was that  
25 in addition to the tests on the borings themselves there was

1 not any other settlement being observed. There was not any  
2 other unusual settlement being observed with respect to the  
3 other portions of the plant.

4           With that premise, I ask you would any significant  
5 settlement be expected before a building is placed on an  
6 area that has had fill material put into it?

7           A     Yes.

8           Let me make sure I understand the question. Are  
9 you saying that if there is a problem, is there any  
10 significant settlement expected?

11          Q     Yes. That is correct. Prior to the building  
12 being built.

13          A     If there is a problem, you would expect additional  
14 significant settlement prior to the building being placed,  
15 as I understand it.

16          Q     As you understand it, would any problem settlement  
17 or unusual settlement be accentuated when a building was  
18 placed on that material?

19          A     On unsatisfactory material?

20          Q     Yes.

21          A     Yes.

22          Q     Would the problem be more likely to occur after  
23 the building was placed? Would it be observable after the  
24 building was placed on the material?

25          A     Yes.



1 Q Correct me if I'm wrong, but I believe you stated  
2 you did not recall whether or not the diesel generator  
3 building was under construction at the time the borings were  
4 taken?

5 A Yes.

6 Q Do you know -- how would you describe the nature  
7 of the fill material that was placed under the  
8 administration building?

9 MR. ZAMARIN: Objection as to form.

10 BY MR. JONES: (Resuming)

11 Q Are you familiar with the fill material that was  
12 placed under the administration building?

13 A Generally speaking, although I'm not a  
14 geotechnical expert, I'm generally familiar with it.

15 Q Generally speaking, then, how would you describe  
16 that material?

17 MR. ZAMARIN: The type of material? How it was  
18 compacted? Or how it was placed? What are you getting at?

19 MR. JONES: I want you to describe, generally  
20 speaking, the type of material.

21 THE WITNESS: I would generally describe the type  
22 of material as clay and possibly, in some instances, sand.

23 BY MR. JONES: (Resuming)

24 Q Is random fill an appropriate way to characterize  
25 that material?

1 A Not necessarily.

2 Q Is zone 2 material an appropriate way to  
3 characterize that material?

4 A I don't recall all the definitions of the zones  
5 and specs in C-210. But what I am saying is it is not  
6 specific. Whatever I said was that I recall part of the  
7 material under the administration building is on plant fill  
8 and I think a portion of it somewhere along the line sits on  
9 a dike back fill. I'm not sure just exactly where that  
10 dividing line is.

11 Q Do you know, with respect to which of those two  
12 sets of material you just identified -- the back fill for  
13 the dike and the plant fill -- that the problem of  
14 settlement occurred -- the unusual settlement occurred with  
15 respect to the administration building?

16 A As I recall, it was in the plant fill portion.

17 Q Was that plant fill, to the best of your  
18 knowledge, the same fill that was placed under the diesel  
19 generator building?

20 MR. ZANARIN: The same type?

21 MR. JONES: The same type of material.

22 THE WITNESS: The spec allowed the same type of  
23 material.

24 BY MR. JONES: (Resuming)

25 Q Do you know whether in fact it was the same type

1 of material that was placed under the diesel generator  
2 building as had been placed under the administration  
3 building?

4 A No.

5 Excuse me. Let me correct that. I do know there  
6 was some kind of concrete placed under the diesel generator  
7 building. I don't believe there was any placed under the  
8 administration building. I know there is some sand under  
9 the diesel generator building. I don't know if there was  
10 any sand placed under the administration building.

11 Q You do know, I believe you stated, that you did  
12 know that the specs called for -- the specs allowed the same  
13 type of material under the administration building and the  
14 diesel generator building. Is that correct?

15 A That is correct.

16 Q When the administration building problem was  
17 brought to your attention do you recall what the status of  
18 construction on the diesel generator building was?

19 A No.

20 Q When you learned of the problem with the unusual  
21 settlement at the administration building --

22 MR. ZAMARIN: You had earlier indicated that you  
23 were going to call the excessive amount of settlement of the  
24 grade beam excessive settlement of the administration  
25 building. Are you still doing that?

1 MR. JONES: I will try to do that.

2 MR. ZAMARIN: It might be appropriate to ask him  
3 whether the entire building experienced unusual settlement,  
4 just so we can clear it up, because I don't know when you  
5 are switching off of that previous definition.

6 MR. JONES: I think he said it was just the areas  
7 where the plant back fill was located as opposed to the dike.

8 BY MR. JONES: (Resuming)

9 Q What portion of the administration building?

10 A The grade beam is what was settling.

11 Q Is that the portion that was located on plant fill  
12 as opposed to the dike back fill?

13 A As I recall, it was the portion on plant fill.

14 Q Was the whole administration building sinking as a  
15 result of the excessive settlement of that beam that you  
16 identified?

17 A No.

18 Q What portions of the building were?

19 A None.

20 Q Was the building in place at that time?

21 A No, it was not.

22 Q Was just that beam in place at that time?

23 A That is correct.

24 Q When you became aware of the excessive settlement  
25 of this beam in the administration building area, did that

1 raise any concern in your mind that the diesel generator  
2 building might have the same problems with respect to  
3 excessive or unusual settlement of the fill material?

4 A It raised the question in my mind whether or not  
5 we might have similar problems on-site. It did not raise  
6 the question in my mind whether specifically the diesel  
7 generator building had the same problem.

8 Q But when you say concern of whether you might have  
9 similar problems at the site you would be concerned with  
10 whether or not a similar problem would occur at the diesel  
11 generator building?

12 A Or anywhere on the site.

13 Q I wanted to be sure the diesel generator building  
14 wasn't left out.

15 What alleviated your concern?

16 A The borings that we took and the fact that we had  
17 not observed any unusual settlement in other areas of the  
18 plant fill.

19 Q Other than -- strike that.

20 When you learned of the excessive settlement of  
21 the beam at the administration building did you conduct any  
22 investigation or did you direct any investigation to take  
23 place to ascertain whether similar material as that which  
24 was causing the problem had been placed elsewhere on the  
25 plant? I am asking if you did anything. I realize that

1 Bechtel ordered these borings. I'm asking if you did  
2 anything.

3 A Not that I can recall and I believe I said that to  
4 the best of my recollection Bechtel initiated the borings.

5 Q Do you understand what the term differential  
6 settlement -- does the term differential settlement have any  
7 meaning to you?

8 A Yes, it does.

9 Q What does that term mean to you?

10 A Differential settlement to me means that one part  
11 of a structure may be settling more than another portion of  
12 the structure.

13 Q Was that the type of excessive settlement that was  
14 occurring with respect to the beam at the administration  
15 building?

16 A I don't recall if the beam itself had differential  
17 settling. I don't recall.

18 Q Is that the type of settlement which caused -- is  
19 that the type of unusual settlement that took place at the  
20 diesel generator building?

21 A We are experiencing differential settlement on the  
22 diesel generator building.

23 Q Before the diesel generator building was  
24 constructed was there, to the best of your knowledge, any  
25 expert analysis of the effects that stress from differential

1 settlement would have on the ability of the building to  
2 withstand a design basis earthquake?

3 A I have no direct knowledge in that area.

4 Q Do you know if, since the diesel generator  
5 building experienced unusual settlement, there has been any  
6 analysis on the effects of the stress from differential  
7 settlement on the ability of that building to withstand a  
8 design basis earthquake?

9 A Yes, there has.

10 Q Do you know when that analysis was completed?

11 A That was done in response to one of the 50.54(f)  
12 questions, I believe.

13 Q Would that have been question 14?

14 A I don't know.

15 Q Are you confident -- strike that.

16 Are you familiar with the PSAR section -- 1.4 of  
17 the PSAR for the Midland plant?

18 A I don't recall specifically what that is.

19 Q Do you recall whether there is a section in the  
20 PSAR which deals with principal architectural and  
21 engineering criteria for design of the plant?

22 A No, I don't recall.

23 Q I want to return now and talk for a few minutes  
24 about the stop work authority you said you have.

25 I believe you stated earlier that among the

1 considerations when you are deciding whether or not to issue  
2 a stop work order is cost, both rework and delay. And I've  
3 forgotten now what the other considerations were. Would you  
4 again state what those considerations were for issuing a  
5 stop work order?

6 A I don't recall whether I issued what all the  
7 considerations were. I think you asked me if I considered  
8 cost and I told you I did consider cost.

9 Q Do you consider the effects on the schedules for  
10 construction of the plant in deciding whether to issue a  
11 stop work order?

12 A I would consider the schedule effects, yes.

13 Q Do the quality assurance people have stop work  
14 authority also, to the best of your knowledge?

15 A Yes.

16 Q Do you know whether cost is one of the factors --  
17 never mind.

18 Is the quality assurance group under your  
19 supervision?

20 A It is not.

21 Q Do they report to you in any way -- strike that.

22 When you decide to issue a stop work order, how is  
23 that decision executed by you?

24 A Normally it is executed through use of a letter to  
25 Bechtel.



1 Q As I understand it, then, in response to that  
2 letter, then, Bechtel will stop construction?

3 A That is correct.

4 Q You say you consider schedule and you consider  
5 costs. With respect to the stop work orders that you might  
6 issue, would you consider issues -- would you consider  
7 quality concerns, or is that solely the province of the QA  
8 people?

9 A I would consider quality concerns. As I  
10 mentioned, I do not have quality assurance responsibilities.

11 Q Would you issue a stop work order solely on the  
12 basis of a quality concern, or would that be referred to QA?

13 A I might bring it to their attention, or I might  
14 issue it myself.

15 Q Is there anything in particular that would  
16 determine whether or not you would take the action yourself  
17 rather than refer it to QA?

18 A Generally speaking, it would be the circumstances  
19 surrounding the item in question.

20 Q Do you know if QA would execute one of their stop  
21 work orders in the same manner you described?

22 A They would not.

23 Q Do you know what quality assurance method of  
24 execution of stop work orders they have?

25 A They have a written procedure on how to execute

1 their stop work orders.

2 Q You have no written procedure?

3 A I have none. Excuse me. Define what you mean by  
4 procedure.

5 Q Do you have anything in writing which defines the  
6 circumstances under which you are to issue a stop work order?

7 A Yes.

8 Q What is that?

9 A There are some words in my job description and  
10 procedures manual.

11 Q That is a procedures manual for Consumers for  
12 construction activities?

13 A Yes.

14 Q And now I show you a document labeled NRC Exhibit  
15 3 for identification marked 10/22/80, Cooke Deposition. And  
16 in pencil at the top is written Midland PSAR and the typed  
17 portion, or printed portion, begins with section 1.4. I  
18 will now show you this and ask you if you are familiar --  
19 you have ever seen -- those provisions before.

20 MR. ZAMARIN: I note that the Midland PSAR is  
21 written in pencil.

22 (The document referred to was  
23 marked NRC Deposition Exhibit  
24 No. 3 for identification.)

25 MR. ZAMARIN: The rest is a typed sheet. Do you

1 want him to look at the whole thing or just one section?

2 MR. JONES: Would you please look at section 1.4.1  
3 and 1.4.7?

4 THE WITNESS: I have gone through the PSAR at one  
5 time or another. I can't specifically state that I remember  
6 reading this at any given time. That is an old document.

7 BY MR. JONES: (Resuming)

8 Q I'm going to read a portion of 1.4.1 which is  
9 labeled Plant Design. It states, quote, principal  
10 structures and equipment which may serve either to prevent  
11 accidents or to mitigate their consequences are designed,  
12 fabricated and directed in accordance with the applicable  
13 codes and to withstand the most severe earthquakes, flooding  
14 conditions, wind storms, snow loads, temperature, and other  
15 deleterious natural phenomena which could be expected to  
16 occur at the site during a lifetime of these units, unquote.

17 That is the first sentence of that section. That  
18 is not the complete section and I ask you if you have  
19 confidence that the diesel generator building, considering  
20 the stresses caused by differential settlement, meets the  
21 requirements of that first statement I just read?

22 A I have performed no independent analysis in this  
23 area.

24 Q Would it be -- strike that.

25 You earlier stated that an analysis has been done

1 in response to a 50.54(f) question.

2 A Yes.

3 Q Which was concerned with the ability of the  
4 building to withstand a design basis earthquake?

5 A Yes. Well, you asked about differential  
6 settlement.

7 Q Considering the differential settlement stress?

8 A Yes.

9 Q Is it your opinion that analysis shows that the  
10 building satisfies this requirement?

11 A Yes, although you were asking a question on  
12 something that I have no responsibility. That is an  
13 engineering analysis. That is another part of our company.

14 Q Does your responsibility include seeing that the  
15 contract -- your job responsibility include seeing that the  
16 contractor builds the building to comport with the  
17 specifications for the plant that are present in the PSAR?

18 MR. ZAMARIN: Could we have that read back please?

19 (The pending question was read by the reporter.)

20 MR. ZAMARIN: Are you talking about the diesel  
21 generator building?

22 MR. JONES: I will withdraw the question.

23 BY MR. JONES: (Resuming)

24 Q Is it a proper characterization of your job  
25 responsibility that you are responsible for making sure that

1 Bechtel builds the plant in accordance with the  
2 specifications?

3 MR. ZAMARIN: Could I have that read back, please?

4 (The pending question was read by the reporter.)

5 THE WITNESS: Specifically I have responsibilities  
6 on the non-Q portions of the plant for quality.

7 BY MR. JONES: (Resuming)

8 Q By the phrase quality, is that analogous to  
9 whether or not the construction is in accordance with the  
10 specs?

11 A Yes.

12 Q But that responsibility does not extend to  
13 determining whether Q portions of the plant are built in  
14 accordance with the specs. Is that correct?

15 A I have no direct responsibility to assure the  
16 company that the Q portions of the plant are built in  
17 accordance with the specs.

18 Q Let me ask you who is the lowest level individual  
19 who has responsibility for overseeing whether or not the Q  
20 portions are built in accordance with the specs?

21 A In Consumers Power Company?

22 Q Yes, in Consumers Power Company.

23 A It would be the on-site quality assurance engineer.

24 Q Is that Mr. Horn?

25 A Mr. Horn, I believe, is a section supervisor.

1 Q Is this individual you are describing who has  
2 authority over all the Q portions -- would he be above or  
3 below Mr. Horn?

4 A If I understand your question properly, he could  
5 be Mr. Horn or somebody working for him or someone above him.

6 Q Do you have any responsibility with respect to  
7 determining whether the soils are compacted to comply with  
8 the specifications within the power block area?

9 A I have no direct responsibility to assure  
10 Consumers Power Company that the soils are properly  
11 compacted in the power block area.

12 Q Are you responsible for supervising the  
13 construction of the diesel generator building? Were you  
14 responsible? Strike that.

15 Was one of your responsibilities determining  
16 whether the diesel generator building was built to the  
17 specifications? I think I know the answer, but answer me  
18 anyway.

19 A If I understand your question, the answer is no.

20 Q Explain how you understand my question.

21 A I think you are trying to get at quality assurance  
22 responsibilities for which I'm not responsible.

23 I am responsible for the contractor getting the  
24 job done, getting it done properly and on time and on  
25 schedule. I do not have quality assurance responsibilities.

1 Q Here is where my problem is. What is the  
2 difference between seeing that a job is done properly and  
3 seeing that it is done in accordance with the specifications?

4 A From a management standpoint, if there is a  
5 problem that is developing in the construction of any part  
6 of the plant up there, I would possibly become involved to  
7 see what that problem was and help resolve it if I could.

8 From the standpoint of seeing that the  
9 specification is followed to the letter, the quality control  
10 engineer does that. The quality control engineer works for  
11 Bechtel and the quality assurance organization, over which  
12 I'm not a part, has responsibility to see that the quality  
13 control engineer is doing his job.

14 Q Then did you become involved with the correction  
15 of the soil settlement problem with respect to the diesel  
16 generator building?

17 A Yes, I did.

18 Q In determining what should be done about that soil  
19 settlement problem, did you have occasion to consider what  
20 the causes of the problem were?

21 A Yes.

22 Q What, to your understanding, caused the soils --  
23 strike that.

24 Is it your understanding that the soils were  
25 improperly compacted and that that was at least one of the

1 causes of the problem?

2 A Yes, it is.

3 Q Do you have any knowledge as to why they were  
4 improperly compacted?

5 A Yes.

6 Q What is your understanding?

7 A My understanding is that the soils in that area  
8 were improperly compacted. As we presented to the NRC the  
9 several reasons -- I believe it was the July 18, 1979  
10 meeting in Bethesda -- which is part of the 50.54(e) report.

11 Q I don't have that in front of me. Let me ask, was  
12 one of the causes -- was one of the problems that led to  
13 this improper compaction with the people who were conducting  
14 tests on the soil?

15 MR. ZAMARIN: May I hear that back, please?

16 (The pending question was read by the reporter.)

17 MR. ZAMARIN: I object. I think the question is  
18 in improper form and it is too vague with respect to  
19 reference to problems with people. Is the question in such  
20 a form that you believe you can answer it as stated?

21 THE WITNESS: I think I can clarify it, but I  
22 can't answer it as stated.

23 BY MR. JONES: (Resuming)

24 Q You just referred to an answer that was sent to  
25 the NRC in response to one of your questions which contained



1 -- you referred to a meeting in which the causes of the  
2 problem we discussed -- can you relate to me what those  
3 causes were that were presented at that meeting?

4 A I can't relate all of the causes to you. I don't  
5 recall all of the causes.

6 Q Can you give me those that you do recall?

7 A As I recall, one of the causes was an  
8 over-reliance on testing. I think we listed that and  
9 several other potential causes at that meeting.

10 Q Is it your understanding that the over-reliance on  
11 testing is the principal reason for the problem?

12 A It is my understanding that that was one of the  
13 principal reasons for the problem.

14 Q Was the group that was conducting the tests on  
15 which there was over-reliance, are those the tests that were  
16 conducted by U.S. Testing?

17 A Yes, it is.

18 Q When you come in on a problem, as you did with the  
19 diesel generator building soils problem, is part of your  
20 responsibility to recommend a course of action which will  
21 prevent the occurrence of the same problem in the future?

22 MR. ZAMBIN: Could I hear that again, please?

23 (The pending question was read by the reporter.)

24 THE WITNESS: Only in a general sense, as part of  
25 the investigation.

1 BY MR. JONES: (Resuming)

2 Q Do you recall what changes, if any, you  
3 recommended to prevent a reoccurrence of this type of soils  
4 problem in the future?

5 A That I recommended?

6 Q Yes. As a result of your investigation of this  
7 problem.

8 A I would have to think on that. I don't recall  
9 right off the top of my head. No. I would have to think  
10 about that.

11 Q In your opinion, what caused the improper  
12 compaction of soils under the diesel generator building?

13 MR. ZAMARIN: I think that was asked and answered.

14 MR. JONES: I've got what was a report in  
15 Bethesda. I'm asking him his own opinion.

16 MR. ZAMARIN: I think he said it was stated at the  
17 July 19 meeting and also what we put in the 50.55(e) report  
18 to NRC.

19 MR. JONES: He told me about the answer, but I  
20 want to know what he carries around with him. What is his  
21 knowledge?

22 MR. ZAMARIN: My objection is that it was asked  
23 and answered. If you can recall something. I guess what  
24 you have testified to already, go ahead.

25 THE WITNESS: Because of my involvement in the

1 investigation of the problem I am supportive of the reasons  
2 and potential reasons that were presented in the July 18  
3 meeting. In other words, I concur with those reasons.

4 BY MR. JONES: (Resuming)

5 Q Do you recall what those reasons are?

6 A I can recall several of them, yes.

7 Q We have over-reliance on testing. Do you recall  
8 any others?

9 A As I recall, we considered such things as the  
10 full-time inspector on the site -- the full-time  
11 geotechnical person on the site. As I recall, we  
12 considered, or listed as a potential reason, the lift  
13 thickness. There were several reasons and I would have to  
14 go back and read them to list them all again.

15 But I was supportive and I am supportive of the  
16 reasons that we listed.

17 MR. JONES: I have nothing further.

18 MR. ZAMARIN: I have no re-direct.

19 (Whereupon, at 5:10 p.m., the deposition was  
20 concluded.)

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

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in the matter of: CONSUMER POWER COMPANY - DEPOSITION OF THOMAS CHARLES

COOKE  
Date of Proceeding: October 22, 1980

Docket Number: 50-39-OM, 50-330-OM

Place of Proceeding: Midland, Michigan

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

~~Marilyn Shockey~~

Official Reporter (Typed)

*Marilyn Shockey*

Official Reporter (Signature)