

1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3 IN THE MATTER OF:) Docket Nos. 50-329-OL
4 CONSUMERS POWER COMPANY) 50-330-OL
(Midland Plant, Units 1 & 2)) 50-329-OM
5 50-330-OM

6 The deposition of JAMES WALLACE SIMPSON,
7 called by Consumers Power Company, taken pursuant
8 to the provisions of the Civil Practice Act and the
9 Rules of the Supreme Court of the State of Illinois
10 pertaining to the taking of depositions for the
11 purpose of discovery, taken before TOBY ANNE SLUTZKY,
12 a Notary Public within and for the County of Cook,
13 State of Illinois, and a Certified Shorthand Reporter
14 of said state, at Suite 4300, One First National
15 Plaza, Chicago, Illinois, on the 19th day of
16 November, A.D. 1980, at 10:00 a.m.

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PRESENT:

MESSRS. ISHAM, LINCOLN & BEALE,
(One First National Plaza,
Chicago, Illinois 60603), by:
MR. RONALD G. ZAMARIN and
MR. ALAN S. FARNELL,

-And-

MR. JAMES E. BRUNNER,
(1945 West Parnall Road,
Jackson, Michigan 49201),

appeared on behalf of
Consumers Power Company;

MR. BRADLEY JONES,
(United States Nuclear Regulatory Commission,
Washington, D.C. 20555),

appeared on behalf of the
United States Nuclear Regulatory
Commission.

ALSO PRESENT:

MR. GILBERT S. KEELEY.

REPORTED BY:

TOBY ANNE SLUTZKY, C.S.R.

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I N D E X

<u>WITNESS</u>	<u>EXAMINATION</u>
JAMES WALLACE SIMPSON	
By Mr. Parnell	4 86

E X H I B I T S

<u>NUMBER</u>	<u>MARKED FOR ID</u>
CPCO (Simpson) Deposition Exhibit	
No. 1	4
No. 2	15
No. 3	35
No. 4	41
No. 5	62
No. 6	69
No. 7	79
No. 8	96
Nos. 9, 10 and 11	98
No. 12	99
No. 13	100
No. 14	108
No. 15	110
No. 16	121
No. 17	129

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MR. FARNELL: Swear the witness, please.

(WHEREUPON, the witness was
duly sworn.)

JAMES WALLACE SIMPSON,

called as a witness herein by Consumers Power
Company, having been first duly sworn, was examined
and testified as follows:

EXAMINATION

BY MR. FARNELL:

Q Please state your name for the record.

A James Wallace Simpson.

Q What is your office address?

A 536 South Clark Street, Chicago, Illinois,
60605.

MR. FARNELL: Off the record.

(WHEREUPON, said document was marked
CPCO(Simpson) Deposition Exhibit
No. 1, for identification, as
of 11/19/80.)

BY MR. FARNELL:

Q I now show you what has been marked as
CPCO Deposition Exhibit No. 1 for identification.
I ask you if this is a copy of a resume that you
produced to us today?

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A Yes.

Q Is this resume current?

A Yes.

Q Is the information contained here accurate to the best of your knowledge?

A To the best of my knowledge.

Q You have a Bachelor of Science in Civil Engineering from Purdue University?

A Yes.

Q Is that the only formal degree you have?

A Yes.

Q It states here that you have had numerous courses at Universities of Purdue, California, Wisconsin, Corps of Engineers Schools and elsewhere. Could you give us a brief rundown of these courses?

A This is after Purdue?

Q After you got your BS in Engineering.

A In 1966 I took a course in computer programming at Purdue University -- a three-hour, one-semester course; in 1971, a course in construction excavations at the University of Wisconsin -- this is one week; in 1974, a course in stability of structures -- this was in the Corps of Engineers School

1 in Vicksburg -- waterways and experimentation; in
2 1975, seven weeks of advanced soil mechanics at the
3 University of California in Berkeley.

4 Q Who sponsored that course?

5 A This is sponsored by the Corps of
6 Engineers. Then I took numerous other courses at
7 different times on seepage, computer application to
8 technical problems, dynamic responses of earth dams.
9 And these are all different courses.

10 Q Do you want to spell that?

11 A Dynamic, d-y-n-a-m-i-c, responses of
12 earth dams, earthquake engineering. These are some
13 of them. Usually, we take two courses a year; two
14 weeks, three weeks.

15 Q I see on the first page of Exhibit 1 you
16 have a summary of work experience. In that page
17 you break up your work experience into three
18 categories.

19 A Yes.

20 Q Is that correct?

21 A Yes.

22 Q What do you mean by -- I guess the first
23 one must be, "Soils and Materials"?

24 A Soils and materials? Soil mechanics, right.

1 Q What type of experience does that
2 encompass as opposed to the other two categories?

3 A This would be directly related to soil
4 mechanics and problems and the materials used in
5 construction.

6 Is that specific enough?

7 Q Yes. And "Structural," is that the
8 second category?

9 A Yes. Structural is mostly bridge design.

10 Q Civil Engineering is the third category?

11 A Yes.

12 Q What would that encompass?

13 A The Civil Engineering was mainly a field
14 of work in -- usually quality assurance and
15 equipment control and supervising the contractor
16 and building projects.

17 Q Since joining the Corps of Engineers in
18 1971 -- is that when you did join?

19 A Yes.

20 Q All of your work experience has been in
21 soils and materials?

22 A Yes.

23 Q Was the majority of your experience prior
24 to 1969 in highways and bridges? Could I classify

1 it that way and be correct?

2 A I would say in connection with the
3 soil mechanics and materials -- part of highways
4 and bridges except for the five years in the office
5 when we did the design.

6 Q Five years -- which job are you referring
7 to?

8 A That would be 1962 to '67.

9 Q There you were designing bridges?

10 A Yes. This was in the office.

11 Q What were the soils mechanics
12 relating to bridges? What type of work would you
13 do there?

14 A Bridge foundations and so forth in
15 constructing the approaches -- the embankments.

16 Q Did you ever have any experience during
17 that time with caissons?

18 A During this -- what time are you talking
19 about?

20 Q During the time -- say up to the time
21 you started to work for the Corps.

22 A 1962 -- or 1969 to '71 I had quite a
23 lot of experience with caissons.

24 Q Prior to that time, did you have?

1 A No.

2 Q Prior to 1969, did you have any experience
3 with preloading or surcharging of buildings or soils?

4 A I would say maybe one case.

5 Q Are you sure that is the case? When you
6 say "maybe," I did not understand that.

7 A Yes. One case.

8 Q Could you describe that for us?

9 A This was a bridge embankment or approach
10 to a bridge in Thailand. The bridge was over a
11 canal. It was on very soft soils.

12 We preloaded the embankment in order to
13 raise the strength of the soils so that it would not
14 slide into the canal.

15 Q Is this prior to the time that the bridge
16 was built or was it after?

17 A Prior.

18 Q Prior.

19 Did you take any soil borings after the
20 preloading of the embankment?

21 A Yes.

22 Q How many borings did you take?

23 A As I recall, maybe three or four,
24 something like that.

1 Q What purpose did you take the borings
2 for?

3 A To establish the strength of the soil
4 so we could do an arc strength analysis.

5 Q What?

6 A So we could do a stability analysis.

7 Q Did you do tests on the borings after you
8 had taken them?

9 A Yes. Unconfined compression tests.

10 Q What?

11 A Unconfined compression tests.

12 Q These tests were primarily for bearing
13 capacity?

14 A Not primarily. Partly for bearing
15 capacity, but mostly for strength for the arc
16 stability analysis.

17 Q What type of soil was the embankment
18 made of?

19 A Soft clay. Delta deposit of soft clay.

20 Q Did it have any random -- was it a
21 random type of soil, or was it just clay?

22 A Fairly homogeneous clay.

23 Q Did you make any settlement predictions
24 based on the data you received from the borings?

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A The borings?

Q After the tests.

A Prior to the preload?

Q After the preload.

A After the preload, no.

Q Why didn't you?

A We were not primarily interested in settlement. We were interested in stability. The highway can settle considerably and doesn't hurt anything.

Q Did you make any predictions of settlement prior to the time you made -- had done the preload?

A Yes, yes. Prior to the preload.

Q What were those predictions based on?

A On the tests -- consolidation tests.

Q You took borings before the preload?

A Sure.

Q Then you took -- made consolidation tests on those borings and made predictions?

A Right.

Q Those were settlement predictions, you say?

A Yes.

Q How did your predictions compare to the

1 settlement that was achieved during the preload?

2 A If I can recall, I would say plus or
3 minus three, four inches.

4 Q How much was the total settlement?

5 A About 15 inches or so, something like that.
6 But again we weren't primarily interested in
7 settlement.

8 Q Can you give me a date when these tests
9 occurred?

10 A A year or what?

11 Q That would be good, yes.

12 A 1960.

13 Q Do you have problems with taking
14 undisturbed samples?

15 A Not really, no.

16 Q Did you take unconfined compressive
17 tests prior to the preload?

18 A Yes.

19 Q Did you take confined compressive tests
20 prior to preload?

21 A Would you repeat that?

22 Q Did you take confined compressive tests
23 prior to the preload?

24 A Unconfined compressive tests is what we

1 based our strengths on. Confined -- I am not sure
2 what you mean by that.

3 Q Do you recall how the unconfined
4 compressive tests before the preload compared with
5 the unconfined compressive tests after the preload?

6 A There was a gain in strength. But it has
7 been a long time ago, I am not sure I can tell you
8 how much.

9 Q How did you make the determination how
10 long to keep the preload in place?

11 A We did it from the consolidation tests.

12 Q Consolidation tests taken after the
13 preload was taken off?

14 A No, no. Before.

15 Q Can you explain to me how that would be
16 a basis on which -- how you make the decision how
17 long to keep the preload on?

18 A Well, you run the consolidation test of
19 samples taken before the preload. And you would
20 get your preload peak which is a void ratio and,
21 of course, you have your time curves, too.

22 And from all of this information, you can
23 figure out how much preload you have to put on and
24 how long it should be on.

1 based our strengths on. Confined -- I am not sure
2 what you mean by that.

3 Q Do you recall how the unconfined
4 compressive tests before the preload compared with
5 the unconfined compressive tests after the preload?

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7 been a long time ago, I am not sure I can tell you
8 how much.

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10 long to keep the preload in place?

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17 long to keep the preload on?

18 A Well, you run the consolidation test of
19 samples taken before the preload. And you would
20 get your preload peak which is a void ratio and,
21 of course, you have your time curves, too.

22 And from all of this information, you can
23 figure out how much preload you have to put on and
24 how long it should be on.

1 Q Did you use any piezometers or any other
2 instrumentation during the preload to make a
3 determination on how long it should be kept on?

4 A No.

5 Q Were you concerned about entering
6 secondary consolidation?

7 A We were concerned about getting through the
8 primary, sure.

9 Q How did you make the determination that
10 you had gotten out of the primary?

11 A Well, you predicted it in the curve, of
12 course -- precurves. Then afterwards, the main
13 concern was the strength. So we did take the
14 strength test. And as I remember, we didn't really
15 correlate whether -- you know, we didn't take any
16 consolidation tests afterward but to correlate the
17 two.

18 Q Did you use log time fitting curves to
19 determine whether you were out of primary consolida-
20 tion?

21 A Yes.

22 Q What did you look for in those log time
23 curves to enable you to determine that you were out
24 of primary consolidation?

1 A You looked for the curve -- let's see --
2 that goes this way (indicating). Then it will go
3 into this straight part.

4 Q Could you draw us a sketch of what you
5 are talking about?

6 (WHEREUPON, there was a
7 short interruption.)

8 BY THE WITNESS:

9 A You may be able to see this better on a
10 arithmetic curve rather than a log curve.

11 MR. FARNELL: Why don't we mark this as an
12 exhibit.

13 (WHEREUPON, said document was marked
14 CPCO(Simpson) Deposition Exhibit
15 No. 2, for identification, as
16 of 11/19/80.)

17 BY MR. FARNELL:

18 Q The top line is pressure?

19 A Right.

20 Q The vertical line?

21 A Void ratio.

22 Q You did not use settlement over time?

23 A Yes. This is a different curve from a
24 settlement time curve.

1 Q Did you use a settlement time curve to
2 construct -- did you construct one?

3 A On this particular project?

4 Q Yes.

5 A We did on the preload -- I mean before
6 the preload that happens. We did before on the
7 samples -- before the preload, but we didn't after-
8 wards.

9 Q Did you monitor settlement during the
10 time the preload was in place?

11 A Yes.

12 Q Did you construct any settlement versus
13 time charts on the basis of that information?

14 A It has been a long time ago. As I recall,
15 we did.

16 Q Do you recall whether you used that
17 information to predict whether -- or to determine
18 whether you were out of primary consolidation?

19 A I don't really recall.

20 Q Do you recognize the settlement versus
21 log time as an accepted method of determining
22 whether you have gotten out of primary consolidation?

23 A It's a recognized way of doing it, yes.
24 How accurate it is, you know, is questionable in some

1 cases. You have to be careful.

2 Q What do you have to be careful of?

3 A Its application. Soils aren't always
4 homogeneous as your samples are. Sometimes this
5 prediction doesn't really come in that close.

6 Q By that do you mean it does not help
7 you determine whether you have gotten out of primary
8 consolidation?

9 A It's an indication. It's an indication
10 whether you are or are not, but if you are relying
11 on it 100 percent -- I wouldn't do it.

12 Q You said previously you believe that
13 soils were not always as homogeneous as the samples
14 in answering my question.

15 A At this one site, the soils were pretty
16 homogeneous. But generally speaking, this area --
17 maybe Michigan area -- sometimes your samples don't
18 represent what is really there.

19 Q How would that relate to the settlement
20 versus log time curve that is based on a field test?
21 It is not based on samples?

22 A Well, you are talking about a field test
23 now?

24 Q Yes.

1 A And what was the question again?

2 Q The question was -- I just did not see how
3 your samples related to your statement that samples
4 are not always as homogeneous as soils -- soils are
5 not as homogeneous as samples, I guess.

6 A Yes.

7 Q Right. I did not see how this related
8 to this field test I thought we were talking about.

9 A Well, we are in two different areas here.
10 We should separate them; field tests and preload.

11 Obtaining your curves from the samples and obtaining
12 them from the preload is two different things.

13 Q Let's just confine it to field tests.

14 Okay. Do you think that settlement
15 versus log time curves taken -- constructed on the
16 basis of field tests are accurate?

17 A Reasonably accurate, but not -- I wouldn't
18 trust it altogether because there are things that
19 can go wrong even with a field test that you might
20 not be aware of unless you go in and sample and see
21 what has really happened.

22 Q Does a settlement field test and
23 settlement versus log time curve give a reasonably
24 accurate indication of whether you're out of primary

1 consolidation?

2 A Yes. But here again it should be checked.

3 Q Would there come a time on a settlement
4 versus log time curve where you could be more than
5 reasonably certain that you were out of primary
6 consolidation? In other words, if the settlement
7 curve stretched out long enough, would that give
8 you reasonable assurance?

9 A It depends on your definition of
10 reasonable. I would say reasonably, but not 100
11 percent.

12 Q Do you think that it is necessary to
13 have 100 percent assurance?

14 A On Category 1 structures, you bet.

15 Q 100 percent, you have to be absolutely
16 certain?

17 A As you possibly can be on Category 1
18 structures.

19 Q Who told you that?

20 A No one. That is my own --

21 Q Did you ever receive any guidance when
22 you were first involved in the Midland Project as
23 to what degrees of certainty you had to have with
24 regard to -- besides Category 1 structures?

1 A No. This is my own engineering
2 judgment.

3 Q Is that the judgment you apply in
4 reviewing the information submitted by Consumers
5 Power?

6 A Yes.

7 MR. FARNELL: Would you read back the part of
8 the question and answer before we got into this
9 reasonable assurance deal.

10 (WHEREUPON, the record was read
11 by the reporter as requested.)

12 BY MR. FARNELL:

13 Q Your testimony then is that there is not
14 a point in time at which a settlement versus log time
15 curve could give you the -- by itself could give
16 you the assurance you need with regard to whether
17 you are out of primary consolidation?

18 A I would say on a usual structure you
19 could reasonably depend on this log time curve.
20 But on a Category 1 structure, I wouldn't put all
21 my eggs in one basket because things can go wrong.
22 And it's better to go in and check by whatever means
23 you can.

24 Q By "check" -- what do you mean by that?

1 A Take borings and some new consolidation
2 tests.

3 Q If you have a non-homogeneous fill under
4 the preload, how would taking borings and making
5 consolidation tests give you any information as to
6 whether you are out of primary consolidation?

7 A Do you mean you have sand and clay?

8 Q And other materials probably.

9 If you have something that is not
10 homogeneous, could it be classified as random?

11 A The clay part, the test would apply
12 there. And the sand, you probably have to take
13 relative intensity tests or density tests.

14 Q How would you go about -- excuse me.

15 A And you have to work them in conjunction
16 with each other.

17 Q How would you go about getting a
18 representative sample?

19 A Of the clay or sand?

20 Q Or other materials.

21 A You put the boring down and sample --
22 turn and pull the sample out. You would have clay
23 and you would have sand. You would have two
24 different materials.

1 Q Is there any possibility that there might
2 be portions of the fill that are part sand and part
3 clay in one degree?

4 A Do you mean sand and clay?

5 Q Yes.

6 A Right. It could be.

7 Q How many borings would you have to take
8 before you got enough representative samples?

9 A For any one area, you would have to do
10 something -- you have to take an exploratory boring
11 down to find out what your materials are and figure
12 out where you want it sampled and put another boring
13 down and take samples.

14 Q So you want some exploratory borings and
15 then some borings after that?

16 A Yes. That is if there are no borings
17 that have been taken already in this one area. If
18 there were, you could probably use them.

19 Q Would you think you would have any
20 problems with sample disturbances with regard to
21 borings?

22 A Yes.

23 Q Any major problems?

24 A You would have to try and see the extent

1 of the disturbance. It could be small or large.
2 You would have to evaluate that after you got the
3 sample.

4 Q Are you familiar with Dr. Ralph Peck?

5 A Yes.

6 Q Do you know if it is his view that sample
7 disturbances would be a major problem with regard
8 to the borings that the NRC wishes to take under
9 the diesel generator building area and other areas?

10 A Any time you sample, this is a problem.
11 It could be a problem in there, but you have to
12 evaluate it the same as you do any other sample you
13 take.

14 Q Do you know what Dr. Peck's view is with
15 regard to borings that the NRC wishes to take under
16 the diesel generator building?

17 A Yes.

18 Q Do you agree with his view?

19 A No. I agree with what he did in the
20 preload. This is probably the best thing that could
21 be done under the circumstances, but I think he
22 should go one step farther and check out what
23 happened to the soils.

24 Q You said, "under the circumstances."

T2

1 What circumstances are you talking about?

2 A Of fill put in with not enough density
3 which caused settlement with the building already
4 in place.

5 Q Did you think that was the best option
6 that Consumers Power could have taken?

7 A Yes. I would like to qualify that.

8 It is probably the best and the least
9 costly. The best option would be to take the whole
10 thing out -- the building -- and to start over.
11 This would be the best, but that would be very
12 costly. And what he did under the circumstances,
13 again, was probably the best.

14 Q During 1969 through '71, you were a
15 soils mechanic engineer for Soil Testing Services?

16 A Yes. '69 to '71, yes.

17 Q Did you have any experience during that
18 time with preloading of building soil?

19 A Yes. One more case. Yes.

20 Q More than one, you said, or one case?

21 A One.

22 Q Could you describe that to us?

23 A This was on the bank of the White River
24 in Indianapolis. There was a soft area and they

1 wanted to put an industrial building in. So we had
2 to preload it.

3 Q Did you take borings prior to the time --

4 A Yes.

5 Q What type of tests did you do?

6 A Consolidation tests and confined compression
7 tests.

8 Q Based on those tests, did you make any
9 settlement conclusions?

10 A Yes, we did.

11 Q How did you determine how long you were
12 going to keep the pre load on?

13 A By the time pressure curve.

14 Q Did you monitor settlement during the
15 time this preload was in place?

16 A No. We didn't follow through on this
17 one case. We turned in a report that the preload
18 should be done, and I understand it was done. But
19 someone else took over from there. And what happened
20 other than it was successful, I am not sure.

21 Q So you do not know how long it was kept in
22 place or how they made the determination to keep it
23 on that long?

24 A No. We gave them a recommendation on how

1 long to keep it on. How long they did, I don't know.
2 How much settlement they had, I am not sure.

3 Q From 1971 to date, excluding the
4 Midland diesel generator building, have you had any
5 experience preloading buildings?

6 A No.

7 Q Or preloading embankments or dirt for
8 settlement?

9 A No.

10 Q During your career, have you had any
11 experience with remedial underpinning for buildings
12 that have had settlement problems?

13 A Yes.

14 Q When was the first time you were involved
15 with that?

16 A With Soil Testing Services. From 1969
17 to 1971, we had, I would say, several cases of
18 underpinning.

19 Q Were these underpinning pilings or
20 caissons?

21 A They were fairly light structures.
22 We used jacked-in-place piles rather than -- there
23 was another case where we used caissons. This was
24 an apartment building.

1 Q Did you take borings prior to installing
2 caissons or pilings?

3 A Sure.

4 Q What purpose did you take those for?

5 A To see what the subsurface soil conditions
6 were and to have some idea of the number of caissons
7 or piles necessary.

8 Q Could you tell us your next experience
9 with remedial underpinning?

10 A In the same time frame?

11 Q No. It does not have to be. Go up to
12 date if you like. Have you had many experiences
13 with remedial underpinning?

14 A After Soil Testing Services, no.

15 Q You have not had any experiences?

16 A No. Not that I recall.

17 Q During 1971 through 1974, you were a
18 Civil Engineer with the Corps of Engineers, is that
19 correct?

20 A Yes.

21 Q What type of experience did you have
22 with dams or levies?

23 A During this period of '71 to '74, I was
24 working for Chicago District. And we did all the

1 plans and special analysis computations on all of the
2 dams and levy projects in the Chicago District.

3 Q Can you give us an idea of how many there
4 were at that time?

5 A Dams, there was principally one dam;
6 Oakley Dam. Levies, there were maybe two or three
7 projects.

8 Q Do your specifications call for taking
9 record samples during the time the dams or levies
10 were being constructed?

11 A Yes, they did.

12 Q All of them?

13 A There is another department that does
14 construction, you know, and I am not really familiar
15 with it -- how often they take them. But they do
16 take record samples.

17 Q In your specifications -- that was not
18 part of your specifications?

19 A It is part of the specifications.

20 Q And you did the specifications for these --
21 one dam and two or three levies? Did they all have
22 specifications that record samples should be taken?

23 A During construction, yes.

24 Q Do you know whether they were taken?

1 A I have no knowledge, but I assure you
2 they were. I have no direct knowledge.

3 Q Do you know if any borings were taken at
4 the dam or the two or three levies after they were
5 constructed for determining what type of soil
6 characterization --

7 A This one dam was never built.

8 Q Okay.

9 A The environmentalists knocked us out of
10 it.

11 Q How about the two or three levies?

12 A Yes. They were built.

13 Q Do you know if borings were taken after
14 they were constructed?

15 A This is in another department now.
16 Should I go on?

17 Q Go ahead.

18 A The quality assurance people sometimes
19 take borings after the projects are built to
20 establish density and strength. Whether they did
21 or not, I have no idea.

22 Q Is that sometimes they do -- does that
23 mean sometimes they do not?

24 A If they are suspicious that things might

1 not be correct.

2 Q Is there any instruction, do you know,
3 or guidance within the Corps of Engineers as to
4 when borings should be taken after a dam or
5 embankment has been constructed?

6 A I don't believe there is.

7 Q It is just if you are suspicious, is
8 that what you are saying?

9 A If you have reason to believe that they
10 might be necessary, you take them.

11 Q Have you ever heard anyone express any
12 concern with borings in a dam or embankment because
13 of some hydraulic fracture? We are still in this
14 time frame.

15 A I would like to go on to the complete
16 course of time frame, if I could. Okay?

17 Q Fine.

18 A We have maybe 40 or 50 dams, I am not
19 sure, in the North Central District. The maintenance
20 and stability of these dams -- some built years
21 ago -- there are problems on numerous occasions.
22 And we take borings to check these dams out,
23 especially the old ones. We now have -- I think we
24 are checking out maybe three or four right at this

1 time for stability by taking borings in the dam.

2 Hydraulic fracturing is a concern.
3 You have to be aware of it. And you have to be
4 sure your pressures of the mud you use, if any,
5 are not greater than the overburden pressures.
6 You also have to be sure next to conduits or
7 abutments where there could be arching that you
8 don't -- you have to be more careful in these
9 areas.

10 About hydraulic fracturing, it is a
11 concern. You have to be careful. This is something
12 that we do every day; put borings in the dams.

13 Q Are you aware that Consumers' consultants
14 have recommended borings not be taken in the cooling
15 pond embankment dike in the Midland Plant because
16 of their concern for hydraulic fracturing?

17 A In a structure of this size, I would say
18 these concerns are needless or not valid. And I
19 think you will get Dr. Peck to say the same thing.

20 Q Do you have any concrete information that
21 you think Dr. Peck will say the same thing, or is it
22 just a guess on your part?

23 A Well, it is knowing Dr. Peck and his
24 engineering judgment. I would say this would probably

1 be his opinion, too, if -- well that is it, period.

2 Take the "if" away and just put period.

3 Q Do you have respect for Dr. Peck's
4 engineering judgment?

5 A Yes, I do.

6 Q Do you consider him to be an expert?

7 A I would say one of the top men in the
8 field. But I might also say he is not infallible.
9 He does make mistakes.

10 Q You cannot be 100 percent sure with him?

11 A That's right. In the soil mechanics
12 business, it's an art. And no one is ever 100 percent
13 sure.

14 Q You said, "No one is ever 100 percent
15 sure," yet you want 100 percent assurity for the
16 diesel generator building. Can you explain that?

17 A 100 percent reasonably sure. You can
18 never be exact. But you can be more sure.

19 Q Than what?

20 A Than not taking any more borings or
21 doing anything else.

22 Q From 1974 to '78, have you had any
23 experience with dams, dikes or levies? This is
24 when you were, I guess, a Civil Engineer still, right?

1 A This is when I was with North Central
2 Division. I had considerable experience with
3 dikes and levies and dams during this period.

4 Q Your earlier answers with hydraulic
5 fracturing dealt with your entire time period with
6 the Corps of Engineers, is that right?

7 A That's right.

8 Q You are presently Chief of the
9 Geotechnical Branch, North Central Division,
10 Corps of Engineers?

11 A Yes.

12 Q Your resume states that you provide
13 general supervision and responsibility for all soil
14 mechanics, geology and construction materials in
15 five districts. Would you explain what you mean
16 by, "general supervision"?

17 A This means we give our approval to all
18 of the designs that are handed in from the districts
19 before the project can be built or money is given
20 for the project.

21 Q Do the five districts, I guess; Detroit,
22 Chicago, Rock Island, Buffalo and St. Paul, report
23 to you?

24 A What do you mean by "report"? They send

1 all of their plans and specs and documents, analyses,
2 computations in for our review. And if that is what
3 you mean by "report," yes.

4 Q And you have to approve them prior to --

5 A Right.

6 Q Who else is in the North Central District
7 office besides yourself, just generally?

8 A In the Geotechnical Branch?

9 Q Yes.

10 A One soil mechanics engineer, John Norton,
11 and one geologist, Terry Smith.

12 Q Does Mr. Norton report to you?

13 A Yes.

14 Q Mr. Smith, also?

15 A Yes.

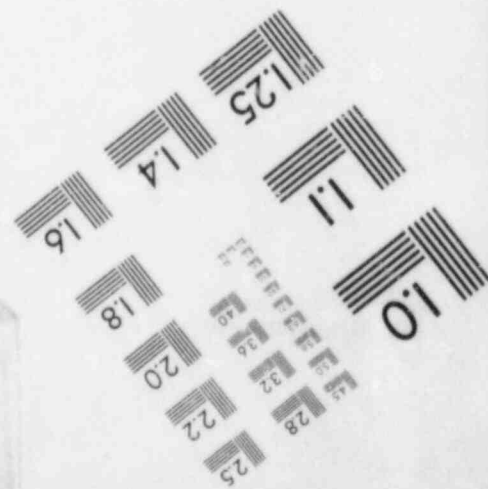
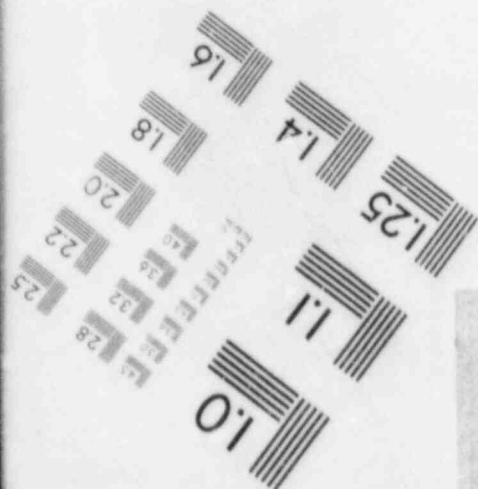
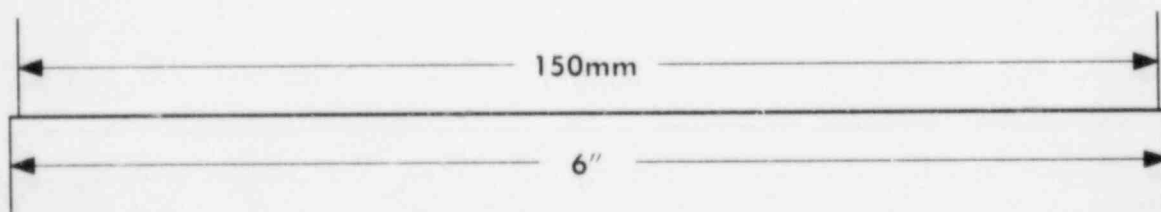
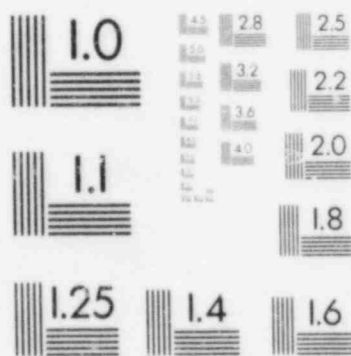
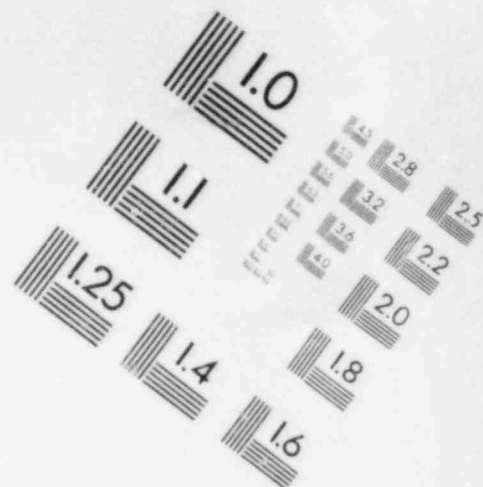
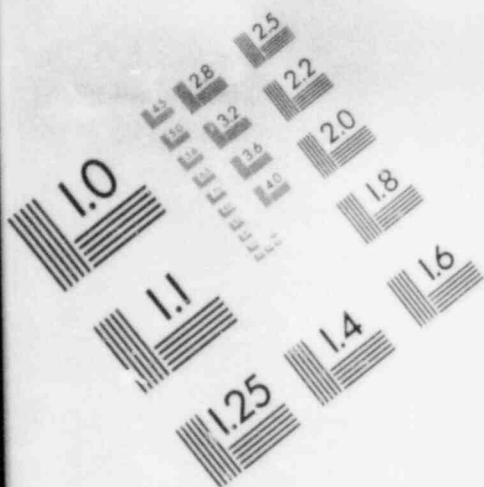
16 Q You also stated in your resume that
17 you act as consultant to the districts on major
18 problems:

19 A Yes.

20 Q What do you mean by that?

21 A When there is a problem that comes up
22 with the dams or levies, and sometimes there are
23 questions about what to do and when to do it. Why
24 usually, we have conferences and meetings and iron

IMAGE EVALUATION
TEST TARGET (MT-3)



1 out -- try and look at the way to attack the
2 problem and what to do.

3 Q As consultant, you do not have to
4 necessarily approve what the districts do in that
5 regard? They are just asking your advice?

6 A Yes. But we have to approve -- before
7 what is finally done, we have to give our approval,
8 yes.

9 Q Do any of the five districts deal
10 with -- is there something called Tulsa District?

11 A Yes. This is down in the Southwestern
12 District there.

13 MR. FARNELL: Why don't we mark this as
14 an exhibit.

15 (WHEREUPON, said document was marked
16 CPCO(Simpson) Deposition Exhibit
17 No. 3, for identification, as
18 of 11/19/80.)

19 BY MR. FARNELL:

20 Q Is Exhibit No. 3 a representation of the
21 districts of the Corps of Engineers?

22 A Yes.

23 Q Is this the present organization?

24 A There could be minor changes. Mostly, yes.

1 Q Okay. Your responsibility is the
2 North Central --

3 A Right.

4 Q -- which you have colored in orange.
5 Tulsa is the Southwestern District?

6 A Yes.

7 Q So you do not have any direct
8 responsibility for that office?

9 A No, no.

10 Q Is there anyone in the Chicago District
11 Office besides yourself that works on Midland Project?

12 A Change that Chicago District to North
13 Central Division.

14 Q North Central Division. Okay.

15 A John Norton, our soil mechanics engineer,
16 worked on it up to a point, but he was off with a
17 back injury for about the last 90 days. Prior to
18 that, he worked on it somewhat.

19 Terry Smith attended one meeting, so he
20 is not really familiar with the problems.

21 Q Did Mr. Norton work on the Midland Project
22 for a long time prior to his back injury?

23 A Not a long time. I would say intermittently.

24 Q When were you first involved with the

1 Midland Project?

2 A I believe we came aboard in September
3 of last year, 1979.

4 Q Is that when a contract was signed
5 between the Corps of Engineers and NRC?

6 A I believe so.

7 Q Did you have any part in the negotiations
8 of that contract?

9 A No.

10 Q When did you first learn that the contract
11 was signed?

12 A It's an agreement, not really a contract.
13 I would say sometime in September. This is handled
14 at the Office of the Chief of Engineers in
15 Washington, D.C.

16 Q Who is that?

17 A The contract?

18 Q Yes. Who was --

19 A The man responsible is Rixby Hardy.

20 Q Who first told you that this agreement
21 had been entered into?

22 A Mr. Hardy.

23 Q At that time, did he tell you you were
24 going to be involved in working on the Midland Project?

1 A I believe so.

2 Q What did he tell you your responsibilities
3 would be with regard to the Midland Project?

4 A This is hearsay, you know, telephone
5 conversations, but we were to aid in the NRC
6 Geotechnical Branch in their review of the FSAR;
7 the safety records and other things that happened
8 in connection with the foundations of the Midland
9 Plant.

10 Q Did he or anyone else tell you why the
11 Corps was asked to aid in this review?

12 A No.

13 Q You did not ask him?

14 A Well, because of the problems involved --
15 this is hard to recall exactly -- but, you know,
16 we do talk about things like that --

17 Q I would think so.

18 A -- because of the complex nature of
19 the problems involved. And I guess the NRC people
20 didn't have the time or the people to really study
21 the situations, so they called us in.

22 Q What was your responsibility at the
23 beginning, say, in September of 1979 with regard
24 to the Midland Project?

1 A In the beginning, it was mainly
2 familiarization meetings and orientation lectures.

3 Q Did you have anyone working for you at
4 that time on the Midland Project? Were you in
5 charge of the Midland Project? Let me start with that.

6 A We had better get to that. We assigned
7 it to the Detroit District.

8 Q Who is "we"?

9 A The Chief of the Engineering Division at
10 the North Central Division.

11 Q Who was that?

12 A Mr. Goodman --- Zane Goodman.

13 Q Did you replace Mr. Goodman?

14 A No. He is the Chief of our --

15 Q Chief of the entire engineering?

16 A Yes. Right.

17 Q Do you know why he assigned it to
18 Detroit?

19 A The district most geographically located
20 with regard to the Midland Plant. They are
21 familiar with the soils and some of the problems
22 with the soils of the area. So they would naturally
23 be selected to handle the problems.

24 Q Mr. Goodman gave you your assignment of

1 Midland?

2 A Gave me?

3 Q Did he tell you you were going to work
4 on Midland?

5 A You are talking about myself?

6 Q Yes.

7 A My role -- I haven't really worked on it.
8 But I review what Detroit has done.

9 Q Starting at the beginning, why don't you
10 tell us -- have your responsibilities changed at all?

11 A No.

12 Q They stayed the same from September to
13 the present?

14 A Right.

15 Q What are your responsibilities?

16 A Detroit District was handed the
17 assignment. It was up to them to review all of the
18 materials that were given them by the NRC and
19 Consumers. They are responsive to the NRC people
20 directly. Our role is to keep on top of the
21 problems and be sure that Detroit District is doing
22 a proper job and review all of their conclusions
23 and analyses.

24 Q Did you have any responsibility for

1 determining who of the Detroit District personnel
2 would be working on Midland?

3 A No, no.

4 MR. FARNELL: Mark this as Exhibit 4.

5 (WHEREUPON, said document was marked
6 CPCO(Simpson) Deposition Exhibit
7 No. 4, for identification, as
8 of 11/19/80.)

9 BY MR. FARNELL:

10 Q I show you Exhibit 4 for identification
11 and this came from documents that your Counsel
12 produced to us yesterday.

13 Would you tell me what that document is?

14 (WHEREUPON, the document was
15 tendered to the witness.)

16 BY THE WITNESS:

17 A This was written for the -- we have a
18 new Commander and Chief -- a General coming in.
19 There was a change of command, and this was really
20 a briefing for him.

21 BY MR. FARNELL:

22 Q Is that written fairly recently?

23 A Yes.

24 Q Was it your understanding that as stated

1 in here that geotechnical engineering aspects of the
2 Midland Project -- the Corps was to review what
3 would include earth embankments and rock fill dams?

4 A Earth embankments. I am not aware of any
5 rock fill dams at this time. But this wording came
6 out of our inner agency agreement with NRC, so it
7 was taken verbatim out.

8 Q When you first began to work on Midland
9 Project, did you believe you had to look into the
10 dikes -- the cooling pond dikes at Midland?

11 A Well, you are getting into Detroit
12 District area. I can't really answer that because
13 I don't know what date. It would be their business.

14 Q Did you read the contract when you
15 started working on this assignment?

16 A Yes.

17 Q Did it occur to you to request when the
18 Detroit people should be working on anything with
19 regard to the dikes at the Midland Project?

20 A We gave them the contract and they took
21 it from there. I am not sure. What was the question
22 again?

23 MR. FARNELL: Read the question back.

24

1 (WHEREUPON, the record was read
2 by the reporter as requested.)

3 BY MR. FARNELL:

4 Q They were beginning the assignment. They
5 read the same thing presumably.

6 Do you know whether they considered at
7 the beginning that they had responsibility to look
8 into the dikes at Midland Plant?

9 A I am sure that they knew they were
10 supposed to because it is in this wording here
11 which is in our agreement -- in our agency agreement.

12 Q Do you know why dikes were included
13 within that agreement?

14 A Yes. They were included -- I am not
15 sure why.

16 Q Have you ever heard anyone speculate that
17 it could have been for the Federal Dam Safety Act
18 or something like that?

19 A No. I can tell you why they were
20 included.

21 Q Please.

22 A Because of the problems with the fill
23 in the other plant areas -- guilt by association.
24 The other fill was bad and maybe this could be bad,

1 too. So this was the reason.

2 Q Is that in September of 1979 that
3 determination or guilt by association feeling had
4 been made within the NRC time contract or the
5 agreement was assigned?

6 THE WITNESS: Read that again.

7 (WHEREUPON, the record was read
8 by the reporter as requested.)

9 BY THE WITNESS:

10 A It was later than September because
11 September was really orientation and briefings and
12 not -- I don't think it had been analyzed at this
13 time, you know.

14 BY MR. FARNELL:

15 Q Right. Okay. My question is why was it
16 included in here. You said it might have been that
17 guilt by association, but they had not made that
18 determination. I think you are saying at the time
19 this was assigned --

20 A This was in NRC works here. And maybe
21 they make this guilt by association. I am not sure.
22 And they wrote it in, but for us it came later after
23 we were given all of the information and studied it.

24 Q Do you know if the Detroit District

1 considered at the beginning of their assignment
2 that they had to look into the dikes, or was this
3 something that just occurred to them?

4 A No. This was part of their agreement.
5 Oh, I imagine they knew at the beginning that they
6 had to look at the dikes. What they had to do --
7 maybe nothing -- they weren't certain at this time.

8 Q After the agreement was signed in
9 September of 1979 between NRC and the Corps of
10 Engineers, did the Corps immediately begin working
11 on the Midland Project?

12 A Yes.

13 Q Who at that time was working from the
14 Detroit District on that project?

15 A Well, Bill Otto and Joe Kubinski,
16 K-i-b-i-n-s-k-i.

17 Q Is that -- could it be, K-u?

18 A Yes.

19 Q K-u-b-i-n-s-k-i.

20 A I'm sorry. That is it.

21 Q What was his position?

22 A Project Manager.

23 Q What were his responsibilities at that
24 point?

1 A He is to receive all of the documentation
2 data and other information from NRC, comb through it
3 and try and separate the problems and hand different
4 problems through other personnel in the Geotechnical
5 Branch.

6 Q Is he like a coordinator?

7 A That's right. Coordinator and manager.

8 Q Is he still there? Does he still work
9 on this project?

10 A No.

11 Q When did he leave the project?

12 A I am not certain, maybe two or three
13 months later.

14 Q Any reason why?

15 A Personal reasons. The job was getting
16 to him, I guess.

17 Q Is he still with the Corps?

18 A Yes.

19 Q Could you give us a little bit more
20 detail on how the job was getting to him?

21 A Well, these are conversations with him.
22 He wasn't able to accumulate all of the data, and
23 he wasn't sleeping at night and, more or less,
24 things like that.

1 Q Do you know if he had any problems with
2 any of the NRC personnel that he had to work with?

3 A I am not aware of any.

4 Q Did he have any problems with the
5 people from Consumers Power or Bechtel?

6 A None that I am aware of.

7 Q Who else besides Kubinski and Otto
8 initially began working on the Midland Project?

9 A Robert Erickson, Pete Kytasky.

10 Q What was Kytasky's position?

11 A He is a soils mechanic engineer. I
12 believe there is also another man, Willis Reed,
13 from Tulsa District.

14 Q Willis Reed or Willis Walker? Would that
15 be it?

16 A Walker, yes. That is it.

17 Q Why was someone -- Walker from the
18 Tulsa District -- why was he involved?

19 A They needed -- it was quite an assign-
20 ment. They needed more personnel. We put out a
21 flyer for all the other -- throughout the Corps
22 for assistance. He was available, so he came and
23 helped like a limited period of time.

24 Q Did he come up to the Detroit District?

1 A Yes.

2 Q Do you know when he arrived?

3 A No.

4 Q Is he still there?

5 A No.

6 Q Did he leave recently -- or sometime in
7 1980?

8 A I am not really sure. It could have
9 been early in 1980.

10 Q How long was he there?

11 A I think 90 days. But I am not really
12 sure of this either, so thereabouts.

13 Q Who did he report to when he was there?

14 A Mr. Otto -- Bill Otto.

15 Q Did the Corps immediately begin reviewing
16 information that Consumers Power submitted to the
17 NRC regarding Midland Project after the contract
18 was signed?

19 A I believe they did. Off the record a
20 minute.

21 MR. FARNELL: Off the record.

22 (WHEREUPON, discussion was
23 had off the record.)
24

1 BY THE WITNESS:

2 A In the list of Detroit District personnel,
3 Harry Singh should be added to the list of people
4 working on the Midland Project.

5 Q Was he there in the beginning after
6 September, 1979, or did he come much later, say, in
7 May of 1980?

8 A Harry?

9 Q Harry Singh.

10 A He came later after Joe had his
11 problems -- Joe Kubinski.

12 Q Why did Willis Walker leave the Detroit
13 District and go back to Tulsa -- is that where he
14 is?

15 A Yes. He was on what we call TDY;
16 Temporary Duty Assignment of 90 days. At the end
17 of 90 days, why he went back to Tulsa.

18 Q He was a geotechnical soils engineer?

19 A Yes.

20 Q Did you keep familiar with the personnel
21 that were working on the Midland Project at the
22 same time they were putting on the information that
23 they were generating?

24 A Not really. They sent us a bar diagram

1 of all of the people involved. Whether they
2 conformed to it, I don't know -- bar graph.

3 Q Do you have a copy of that bar graph?
4 Does one exist in the Northern Division?

5 A Yes.

6 Q We might as well get into that now.
7 What is the filing system over in the Northern
8 Division? You produced your personal files, I take
9 it.

10 A They are not personal files, these are
11 the Midland NRC files. Any memos that I had would
12 be in there.

13 Q Is it your testimony that what you
14 produced to us yesterday, approximately an inch to
15 two inches of documents, is all of the documents
16 in the Northern Division with regard to the
17 Midland Project?

18 A Yes. We have several more documents,
19 but these are ones that came from Detroit. And I
20 think we were instructed as to repetitive documents,
21 you know, that went from one structure to another.
22 You didn't really need them. Isn't that true?

23 MR. JONES: No. I am not sure. Off the
24 record.

1 (WHEREUPON, discussion was had
2 off the record.)

3 MR. JONES: Let me make a statement on the
4 record.

5 There evidently was a misunderstanding
6 of exactly what documents Mr. Simpson should produce.
7 There evidently is not a great deal in number to be
8 added. And he believes he can get ahold of those
9 during lunch.

10 BY MR. FARNELL:

11 Q Does Mr. Norton maintain his own file of
12 documents with regard to Midland Project?

13 A No.

14 Q How about Mr. Smith?

15 A No.

16 Q He did not?

17 A No.

18 Q Did Mr. Kubinski ever tell you he attended
19 a NRC orientation meeting in Bethesda, Maryland, on
20 November 7th and 8th of 1979?

21 A Did he ever tell me personally?

22 Q Yes.

23 A I don't recall, but probably he did.

24 We have records of most of the meetings.

1 Q The records of the meetings, would they
2 be within your documents?

3 A No. They will be ones that I will bring
4 to you.

5 Q Mr. Simpson, do you know that Mr. Kubinski
6 did attend such a meeting? Did he tell you or not?

7 A I can't be certain that he did attend,
8 but I am sure he did.

9 Q Did he or anyone else ever tell you that
10 it was the NRC view that with regard to Midland or
11 some portion of Midland the NRC had to be politically
12 safe with regard to greater safety factors than to
13 be technically safe?

14 A I remember reading that, yes.

15 Q Did he ever tell you that?

16 A Not personally, no.

17 Q Do you remember reading such a statement?

18 A Yes, I believe.

19 Q Have you ever heard such a statement
20 from anyplace to that same design, the fact that it
21 had to be politically safe rather than technically
22 safe?

23 A No. Not that I recall. There is other
24 wording that was used, you know.

1 Q Why don't you tell me the other wording.

2 A It has no political connotation to it.
3 Like it's Category 1 structure. After Three-Mile
4 Island, we can't allow anything to happen to this
5 building. We have to be absolutely sure it is right.
6 That is about it.

7 Q Who told you that?

8 A These are -- no one really told me. These
9 are general conversations as we talked things over.

10 Q General conversations you had with the
11 NRC?

12 A No. Among myself and Detroit District
13 people.

14 Q Did you tell them that, or did they tell
15 you that?

16 A I would say I might have -- I told them
17 that, but it's kind of a mutual thing.

18 Q You felt they had the same view, also?

19 A Yes.

20 Q Where did you get that -- how did you
21 manage to get that view, or where did you get that
22 view from?

23 A This is engineering judgment.

24 Q Did anybody from the NRC tell you after

1 Three-Mile Island that they had to be absolutely
2 sure?

3 A No.

4 Q This is just your own view -- your own
5 personal view?

6 A My own view and maybe Detroit District's
7 view, too.

8 MR. FARNELL: Would you read -- go back to that
9 time there about absolutely sure.

10 (WHEREUPON, the record was read
11 by the reporter as requested.)

12 BY MR. FARNELL:

13 Q Have you ever seen the December 6, 1979,
14 order, "Modified Construction Permits" with regard to
15 the Midland Plant?

16 A Yes.

17 Q Do you know if within that document it
18 talks about being absolutely certain that the
19 affected safety portions of the plant would operate
20 safely?

21 A I don't recall reading that. It could
22 be there.

23 Q Do you recall --

24 A I read this sometime ago, and I am not sure.

1 Q Do you recall the standard within that
2 document of being reasonable assurance?

3 A I really don't remember the details
4 of this document. It was sometime ago, and I have
5 read a lot of documents.

6 Q Has anyone from the NRC explained to you
7 what reasonable assurance means?

8 A No.

9 Q You never asked anyone from the NRC?

10 A No, no.

11 Q But you are right now operating -- you
12 have been operating under the assumption that you
13 have to be absolutely certain it is right after
14 Three-Mile Island?

15 A Well, I think you can connect the
16 two; reasonably sure and absolutely certain. You
17 can never be absolutely certain, but there is some
18 reason -- they are really different plays on the
19 words. And they really mean the same thing.

20 Q Reasonably certain, reasonable assurance
21 and absolutely certain are the same, just different
22 words?

23 A The meanings are more or less the same.

24 Q What do you mean by, "being absolutely

1 certain"?

2 A You have to be -- to the best of your
3 engineering ability and judgment, you have to be
4 certain with all of the steps taken -- all of the
5 steps that you can, that it is correct.

6 Q You have to take all of the steps that
7 you can?

8 A Right.

9 Q You have to get all of the information
10 you probably can?

11 A Right, right.

12 Q Does cost enter into that factor at all?

13 A Sure. I would say take all of the steps
14 you can within reasonable cost, too, because you
15 can put a thousand borings down and that would be
16 unreasonable, you know, and very costly.

17 Q Do you recall Mr. Gurdston working on
18 the Midland Project?

19 A Yes. He might have in the beginning,
20 but he was switched to the Bailly Plant. And at
21 some point -- and I think his efforts are entirely
22 on the Bailly Nuclear Plant now.

23 There is another person involved, too,
24 from the waterways experimentation. This is

1 Paul Hadala.

2 Q Hadala?

3 A That's right. He looked at the earthquake --
4 the dynamic aspects of the problem.

5 MR. JONES: May we take a break, please.

6 MR. FARNELL: Sure.

7 (WHEREUPON, there was a
8 short interruption.)

9 BY MR. FARNELL:

10 Q According to Exhibit 4 -- turn to
11 Exhibit 4 for the moment. Have you ever been told
12 what safety related structures are?

13 (WHEREUPON, the document was
14 tendered to the witness.)

15 BY THE WITNESS:

16 A In connection with the Midland Plant?

17 BY MR. FARNELL:

18 Q Yes.

19 A Yes.

20 Q Have you been given a definition of that?

21 A Yes.

22 Q What is the definition?

23 A I believe it is structures that have to
24 keep on working when the -- regardless of the -- well,

1 for a certain degree of earthquake. I think it's --
2 I'm not sure what degree, but --

3 Q Do you equate safety related structures
4 with Category 1 structures?

5 A Yes.

6 Q They are the same to you?

7 A Yes.

8 Q Did someone within the NRC tell you this?
9 How did you come to learn it?

10 A I believe at the orientation someone
11 mentioned it.

12 Q What orientation are you referring to?

13 A Several meetings we had in the beginning with
14 Consumers, Bechtel and their consultants.

15 Q Did you ever attend any orientation
16 meetings where only NRC and Corps of Engineers
17 personnel were involved?

18 A Yes. We have had premeetings before
19 some of the meetings with the other people.

20 Q When you first became involved in the
21 Midland Project, did you have any meetings down in
22 Bethesda or any other place with the NRC?

23 A They were always in conjunction with the
24 other bigger meetings as I recall.

1 Q Do you remember the cooling pond dike at
2 Midland to be a safety related structure?

3 A I haven't really studied it that much.
4 The Detroit District has. But if you want my
5 opinion --

6 A Sure.

7 Q -- I would say at least part of it near
8 the intakes -- near the water intakes were probably --
9 in my opinion, would be safety related. The rest of
10 it, I am not sure.

11 Q When you first began working on the
12 Midland Project, did you think the dike -- a portion
13 of the dike was safety related?

14 A You put me in a position I am not in.
15 I haven't really worked on it. I have reviewed
16 what Detroit has done on it.

17 Q So if Detroit said it was safety related,
18 you said it was fine?

19 A No. I may or may not agree with them.

20 Q When was the first time they told you
21 they thought it was safety related?

22 A I am not sure when, but this, you know,
23 was in a general area that we talked about. I am
24 not sure what meeting or when it was.

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Q Was it an internal meeting with the NRC and Corps of Engineers?

A It could -- yes. Probably one of the premeetings, you know.

Q Were there meeting notes kept, do you know, of that meeting or any of these other meetings that you referred to?

A I don't believe there were, no.

Q Apparently, you must have agreed with the Detroit District that at least part of it was safety related when you authorized them to request borings at Consumers Pwver, is that correct?

A Yes.

Q How did you go about analyzing whether the dike or portions of it was safety related?

A How did I go about analyzing?

Q How did you go about making the decision it was safety related?

A Mainly proximity to the intakes and what could happen if it were to slide and block the intakes.

Q Why don't you tell me exactly why you think it is safety related?

A I think it just did. If the intakes are blocked, it could shut off water which might be

1 needed for a safety shutdown.

2 Q What intakes are you talking about?

3 A Intakes of cooling water from the pond.

4 Q How many intakes are there?

5 A I am not sure.

6 Q Do you know where they are located?

7 A I can point it out to you on the diagram.

8 Q The different types of intakes?

9 A I am not sure of type either. You say
10 are there different types? I am not sure.

11 Q I am saying are you talking about all
12 intakes, now, to the cooling pond or one intake
13 less than all?

14 A I am not sure that it includes all because
15 I am not sure how many there are. But I would say --
16 did I answer that enough?

17 Q What is your basis for requesting borings
18 from Consumers Power in the area of the dike
19 embankments?

20 A We have been over this one before; guilt
21 by association. We have one bad fill, maybe this
22 is not too good either.

23 Q Just a maybe? You are not sure?

24 A That's right.

1 Q Is there anything else besides so-called
2 "guilt by association"?

3 A I think that is it. That is the principal
4 reason. There could be others.

5 Q That in your mind is sufficient to do the
6 borings?

7 A Right.

8 Q Are you aware that the dike was constructed
9 by a different contractor than the contractor that
10 put down the fill in the diesel generator building?

11 A Yes. I knew that, but the quality
12 assurance people were the same, I believe.

13 Q Are you sure?

14 A It was Bechtel who had both quality
15 assurance for both the dike and the embankment, I
16 believe. I am sure of that.

17 MR. FARNELL: Mark this as the next exhibit.

18 (WHEREUPON, said document was marked
19 CPCO(Simpson) Deposition Exhibit
20 No. 5, for identification, as
21 of 11/19/80.)

22 BY MR. FARNELL:

23 Q I will now show you what has been marked
24 as Exhibit 5, "Discussion of the Applicant's position

1 on the need for additional borings for Midland Plant
2 Units 1 and 2," and ask if you have read this
3 document.

4 (WHEREUPON, the document was
5 tendered to the witness.)

6 BY THE WITNESS:

7 A Yes. I have read it.

8 MR. JONES: Let me see it.

9 (WHEREUPON, the document was
10 tendered to counsel.)

11 BY MR. FARNELL:

12 Q Mr. Simpson, prior to requesting the
13 borings, did you realize that heavy equipment was
14 used to construct the dike, whereas, in other areas
15 around the plant small hand-held equipment was
16 utilized?

17 MR. JONES: Read the question back, please.

18 (WHEREUPON, the record was read
19 by the reporter as requested.)

20 MR. JONES: By "around the plant," you are
21 talking about the plant area?

22 BY MR. FARNELL:

23 Q Power block -- power block area.

24 A Certainly. I read it in there. And it

1 is reasonable that this is the way it should have
2 been done.

3 Q What I am saying -- my question was:
4 Prior to the time you requested the borings, were you
5 aware of that fact?

6 A I never -- no one told me specifically,
7 but it would be my engineering judgment that this is
8 probably the way it was done, you know. I was never
9 sure of the heavy equipment -- how heavy it was or
10 anything like that.

11 Q That factor did not enter into your
12 view regarding the need for the borings?

13 A This is one falsehood of it. Any fill --
14 if heavy equipment was used with the left of two or
15 three feet, that this would have no -- heavy equipment
16 would have no means -- you still wouldn't have your
17 fill. Or if the water content of the fill was not
18 correct, your heavy equipment wouldn't really help
19 you. So you could have a bad fill with the heavy
20 equipment or with the hand equipment. It's how it
21 was used.

22 Q Do you have any evidence with regard to
23 either of those two items you just pointed out?

24 A The only evidence I would have would be

T4

1 for the plant area where you did have the
2 settlement.

3 Q Do you have any concrete information
4 whatsoever that the fill in the dikes was improperly
5 compacted or placed?

6 A No.

7 Q Would it be fair to say all you have is a
8 suspicion?

9 A Yes.

10 Q That is enough for you to request
11 borings?

12 A Yes. The borings are relatively simple
13 and cheap. And I think to dispel your fears, they
14 should be done.

15 Q Do you know how much it will cost to take
16 those borings?

17 A Around the fill?

18 Q Yes.

19 A I would say under -- you know, this is
20 off the top of my head -- under 50,000.

21 Q Does that include testing?

22 A Well, I am speculating here.

23 Q You have been provided information
24 regarding the cost of the borings or boring program?

1 A I beg your pardon?

2 Q You have been provided with information
3 regarding the projected cost of the overall borings
4 that you requested?

5 A Yes.

6 Q You consider that cost to be cheap?

7 A Are we talking about the whole plant or
8 just the --

9 Q I am talking about the whole plant.

10 A I would say it's cheap for the assurance
11 you get that everything is right. We have our own
12 estimates, and I think Consumers has theirs.

13 Q Do you have any reason to doubt
14 Consumers estimate?

15 A I am not sure whether they modified theirs
16 or not. I think ours was maybe two or \$300,000,
17 but I believe theirs was up in the millions. I would
18 go along with our estimate.

19 Q Why do you think Consumers' is so high
20 compared to yours?

21 A I think they might have misunderstood
22 what we really wanted, you know. They had borings
23 within some of the buildings that I think -- the
24 electrical generator building -- we didn't really

1 think that -- well, they could be there, but it was
2 unreasonable to put them there. So I think we put
3 ours as near as possible without going to the
4 concrete of the buildings. And I believe that is it.

5 There could have been some disagreement
6 on the amount of testing, too. I think they were
7 going to test all of the samples, and we were
8 testing just select samples.

9 Q Have you ever communicated prior to today
10 the fact that you think Consumers misinterpreted
11 your request to Consumers?

12 A Communicated to Consumers?

13 Q Yes. The fact that you think maybe they
14 misunderstood what you wanted?

15 A No. We have no relationship with
16 Consumers. It would be to NRC directly. Whether
17 NRC did -- or contacted Consumers, I don't know.

18 Q You don't care?

19 A Sure. But it's not our -- it's not in
20 the chain of command to tell Consumers.

21 Q Did you tell NRC?

22 A Yes.

23 Q Who did you tell?

24 A I imagine, Joe Kane.

1 Q You imagine? You're not sure?

2 A No. Take the imagine out -- Joe Kane.

3 Q When did you tell him that?

4 A At one of the meetings, I think, in
5 Bethesda.

6 Q Has the Corps of Engineers completed an
7 FSAR in draft form or final form for the Midland
8 Project?

9 A They have been working on it. I am not
10 sure whether the Detroit District has completed it
11 or not. I would say no.

12 Q Does that have to be cleared by you?
13 Do you have to read it?

14 A Yes. It will come through.

15 Q Have you seen any drafts yet?

16 A No.

17 Q What other task is the Corps presently
18 working on now with regard to the Midland Project?

19 A I am not sure because they have the
20 overall working -- you know -- whatever they are
21 working on right now. But I am sure it does include
22 this within the report -- the FSAR you mentioned.
23 Other than -- I don't really know what other tasks
24 they have.

1 Q They have not asked you to review
2 anything?

3 A When they are finished, usually it comes
4 up for review.

5 MR. FARNELL: Mark this one as the next
6 exhibit.

7 (WHEREUPON, said document was marked
8 CPCO(Simpson) Deposition Exhibit
9 No. 6, for identification, as
10 of 11/19/80.)

11 BY MR. FARNELL:

12 Q I will now show you what has been marked
13 as CPCO's Exhibit No. 6: "Geotechnical Engineering
14 Assistance to NRC-Trip Report to NRC Office," dated
15 February 1, 1980, by Mr. Kubinski and ask you -- I
16 note also on Page 6 that your name apparently appears
17 as having concurred in the report. I ask if you
18 have ever seen this report before?

19 (WHEREUPON, the document was
20 tendered to the witness.)

21 BY THE WITNESS:

22 A I don't recall specifically seeing it,
23 but all of these reports are funneled through our
24 office. I am sure I read it.

1 BY MR. FARNELL:

2 Q Did you look at the last page? Did you
3 concur in it?

4 A Well, I would rather not give it a
5 blanket concurrence. I would rather you be specific
6 on what part.

7 Q What does the last page -- concurred --
8 mean with your name thereafter? What does that mean?

9 A Well, that would mean that I probably
10 concurred on his opinion, but I would -- I am not
11 really sure. You know, sometimes they write these
12 things and every detail you don't really concur on.
13 And there could be details in here that I am not
14 sure -- I don't recall what is in it even.

15 Q Page 1 of the document talks about what
16 they consider "Meeting 1." It indicates that you
17 attended this meeting. Page 2, Item 6 is stated,
18 "It is imperative that we identify concerns and
19 state clearly what is needed with respect to these."

20 Do you recall that being stated at that
21 meeting?

22 A I believe that is true.

23 Q By that is meant that you had -- "you"
24 being the Corps -- had to identify concerns and state

1 clearly to Consumers Power or Bechtel what is needed
2 with respect to this, is that right?

3 A We have no relationship with Bechtel or
4 Consumers. Anything we -- any of our communications
5 would go directly to NRC.

6 Q This means you have to identify concerns
7 and state clearly to the NRC?

8 A Right.

9 Q Have you, to the best of your knowledge,
10 or has the Corps, to the best of your knowledge,
11 done that?

12 A Yes. I believe they have.

13 Q So at present, you have identified --
14 the Corps has identified all of their concerns with
15 regard to the Midland Project?

16 A I believe so, yes.

17 Q And it's your opinion that the Corps has
18 stated clearly what is needed with respect to these
19 concerns?

20 A I believe so, yes.

21 Q Has the NRC passed on these concerns to
22 Consumers Power?

23 A I have no direct knowledge of this. But
24 I believe our report was -- did come to Consumers.

1 Q With certain modifications, I mean, with
2 requests for borings?

3 A Yes. There was another report, too.

4 Q Was it your testimony previously that not
5 all borings had to have tests taken after the
6 borings were made?

7 A I think it was my statement that we would
8 put down the two borings together and identify the
9 soils that we did want to test, and then we would
10 test them, you know, not everything from that one
11 hole, but the ones we identified that we needed
12 tests. And we could show this would be selected
13 testing of material from that second boring.

14 Q What is the first boring and the second
15 boring?

16 A The first one is exploratory to find out --

17 Q Are you familiar with a recent request
18 for an additional boring with regard to the Baffle
19 Dike at the Midland Plant?

20 A Did this come through the Detroit -- you
21 will have to show me.

22 Q I am just saying are you familiar with
23 concerns or requests for an additional boring in
24 addition to the borings you have previously requested

1 with regard to the Baffle Dike at Midland?

2 A No. I am not familiar. Detroit District --

3 Q Well, if the Detroit District were
4 concerned about that and wanted a boring, wouldn't
5 they have to confirm it with you prior to submitting
6 it to the NRC?

7 A If it's done in writing. It wouldn't
8 come through our organization if it was conversation.
9 It might be direct.

10 Q But that would not be in the proper chain
11 of command, would it?

12 A No. I would say this probably originated
13 within NRC rather than the Corps, or it would have
14 come through us because I haven't really heard about
15 it. There could have been a slip-up. And it didn't
16 come through. I can't be reasonably sure.

17 Q Have you ever heard anyone in the Corps
18 of Engineers or the NRC express an opinion as to
19 whether it was wise for Consumers Power to request
20 a hearing with respect to the December 6, 1979,
21 order concerning Midland Plant?

22 A I have an opinion on it, and I have
23 talked it over with --

24 Q Why don't you tell me your opinion.

1 A I may have mentioned it to the other
2 people. I would say it was unwise.

3 Q Why is that?

4 A Because they are putting -- they are
5 really putting us in the category of intervenor,
6 and they are really handing ammunition to the wrong
7 people by not complying with a reasonable request
8 for more information.

9 MR. FARNELL: Would you read back that
10 answer, please.

11 MR. JONES: Would you read back the question
12 along with it, please.

13 (WHEREUPON, the record was read
14 by the reporter as requested.)

15 BY THE WITNESS:

16 A I would like to strike that answer.

17 MR. ZAMARIN: You cannot do that.

18 BY MR. FARNELL:

19 Q That is not your prerogative. I am sorry.

20 MR. ZAMARIN: Even we cannot do that.

21 MR. JONES: You can correct it if there is
22 an error.

23 BY THE WITNESS:

24 A I think I answered it wrong. The hearing

1 itself between -- regarding the shutdown -- I really
2 have no opinion. What I answered was on whether
3 people should go on and do some more exploration
4 to see whether the buildings were safe for operation.

5 BY MR. FARNELL:

6 Q So you have no opinion as to whether it
7 was wise or not to request -- for Consumers to
8 request the hearing?

9 A No, no.

10 MR. JONES: Which hearing are you talking
11 about?

12 MR. ZAMARIN: There is only one.

13 MR. JONES: Well, some people call the meeting
14 with Vollmer a hearing. And I just want to make sure
15 we are talking about the right -- make sure he
16 understands what you are talking about when you say
17 hearing.

18 BY MR. FARNELL:

19 Q Did you understand the hearing referred
20 to the appeals meeting with Mr. Vollmer regarding
21 the --

22 A Yes. That is what I answered. Really,
23 I think you are talking --

24 Q My questions are referring to the December
 6, 1979, order.

1 A Yes. See, I have no opinion of that.

2 Q Have you heard anyone within the NRC
3 or Corps of Engineers ever discuss whether it was
4 a good idea of Consumers to request this hearing
5 regarding the December 6, 1979, order?

6 A No. Not that I recall.

7 Q Have you ever heard anyone from the
8 Corps or the NRC state something to the effect that
9 they were going to be very tough on Consumers Power
10 during that review of Midland Project?

11 A No. I think we are all pro-Nuke, and we
12 already are very visible. But we must be firm with
13 the safety aspects.

14 Q Have you ever had any experience with
15 regard to a nuclear power project prior to Midland
16 Project?

17 A No.

18 Q Does that trouble you at all?

19 A No.

20 Q You think you can do an adequate job
21 without having any background in nuclear power?

22 A Problems are basically the same with
23 the many large buildings and large industrial
24 complexes. I have done a lot of foundation

1 engineering on some of the high-rise buildings
2 around Chicago even. So it doesn't bother me a bit.

3 Q Does it bother you that you are at odds,
4 as it were, with Dr. Peck and Dr. Hendron and
5 Dr. Davisson on some technical issues?

6 A We are not really at all odds. We would
7 like to go -- we more or less agree with what they
8 did and proposed--but we would like to go one step
9 further and back check the results. And here there
10 is a difference. Dr. Peck doesn't want another
11 check, and we would like to check. There is no man
12 infallible, I would think, and it would be very
13 simple to check on Dr. Peck and end the matter
14 because it is a very important building -- safety-
15 related structure. And this check should be made.

16 Q To your knowledge, is any Corps of
17 Engineers personnel ever constructed a settlement
18 versus log time curve with regard to the preloaded
19 diesel generator building?

20 A Not to my knowledge.

21 Q Has any Corps of Engineers person reviewed
22 a settlement versus log time curve regarding the pre-
23 loaded diesel generator building?

24 A You have to ask Detroit District about this.

1 Details like this I am not really familiar with.
2 They might have or they might not have.

3 Q Would you expect that information -- if
4 they hadn't, would you expect that information to be
5 transmitted to you?

6 A Perhaps, but not necessarily.

7 Q Could you explain why you say, "Perhaps,
8 but not necessarily"?

9 A They might transmit to me their results
10 and without curving and everything.

11 Q But you have never seen such a curve?

12 A No.

13 Q Did you ever review a settlement versus
14 log time curve prepared by Consumers Power and
15 Bechtel?

16 A Yes. I have seen it. You are talking
17 about the preload?

18 Q Yes. Has any Corps of Engineers personnel
19 ever stated that settlement versus log time curve
20 exhibits a standard secondary consolidation curve?

21 THE WITNESS: Go ahead and repeat it.

22 MR. FARNELL: Read it back.

23 (WHEREUPON, the record was read
24 by the reporter as requested.)

1 BY THE WITNESS:

2 A The curve does exhibit secondary
3 consolidation and primary very clearly.

4 BY MR. FARNELL:

5 Q Has any Corps of Engineers personnel
6 ever indicated that the required degree of
7 consolidation was achieved during preloading?

8 A Here we have some reservations. It may
9 or may not have been.

10 Q My question was, has anyone ever stated
11 that the required degree of consolidation was
12 achieved during preloading?

13 A I have never seen any or heard anyone
14 make that statement.

15 MR. FARNELL: Would you mark this the next
16 exhibit, please.

17 (WHEREUPON, said document was marked
18 CPCO(Simpson) Deposition Exhibit
19 No. 7, for identification, as
20 of 11/19/80.)

21 BY MR. FARNELL:

22 Q I now show you what has been marked as
23 Exhibit No. 7 for identification, a document entitled,
24 "Trip Report Regarding the Midland MI Nuclear Power

1 Including a Tour of the Plant and a Conference on
2 construction Difficulties," dated March 17, 1980.

3 It appears it went to the files, and it
4 was from "Chief, Geotechnical Branch, Simpson/Norton."
5 The first page of the document is, "Facsimile Header
6 Sheet," which indicates it was from J. W. Simpson to
7 Neal GeHring as released by Mr. Simpson. This
8 document came from Mr. Simpson's files.

9 Have you seen this document previously?
10 (WHEREUPON, the document was
11 tendered to the witness.)

12 BY THE WITNESS:

13 A Yes.

14 BY MR. FARNELL:

15 Q Are you the co-author of this document?

16 A Yes.

17 Q What was the purpose of this document?

18 A It's really a memo to files which puts
19 on record what we saw or what transpired at this
20 one trip.

21 Q And it is your comments on that trip?

22 A Yes. These are mine and Mr. Norton's
23 comments.

24 Q On the first page of the document, 4A deals

1 with the diesel generator building. The second sentence
2 reads, "The information from the preload appears
3 correct."

4 What information were you referring to?

5 A To the curves that Bechtel or Consumers
6 presented at the meeting.

7 Q These settlement versus log time curves?

8 A Right.

9 Q Were you also referring to piezometer
10 data?

11 A We saw the piezometer data, I think,
12 here. Personally, I never really studied the
13 piezometer data that much. So I think it's mainly
14 the curve here we are referring to.

15 MR. FARNELL: Could you read that last
16 answer back.

17 (WHEREUPON, the record was read
18 by the reporter as requested.)

19 BY MR. FARNELL:

20 Q Do you believe the fill underneath the
21 diesel generator building is currently in secondary
22 consolidation?

23 A Yes. But we would like additional
24 information to ensure that it is -- backup information.

1 MR. FARNELL: Would you just read that back.

2 (WHEREUPON, the record was read
3 by the reporter as requested.)

4 BY MR. FARNELL:

5 Q Do you have any concern with regard to
6 boring capacity under the service water structures?

7 A Of boring capacity? Of what?

8 Q Of the buildings -- of the soil, excuse me.

9 A The main part of the building which is on
10 the fill, not really. On the cantilever portion,
11 which is on fill, I would have some concerns.

12 Q What is your concern based on?

13 A Inadequate compaction of the fill.

14 Q On Page 2 of Exhibit 7 under C2, you
15 said, "The pile support plan appears satisfactory."

16 Do you today agree with that statement?

17 A If you leave out the word "appears," I
18 would agree with it. But here again, we need some
19 collaborating information to be sure.

20 Q Have you requested all of the additional
21 information that you need from Consumers Power?

22 A I believe so. We have expressed our
23 concerns to NRC. Whether they have been communicated
24 on down, I am not -- I have no knowledge..

1 Q Do you know if the Corps presently plans
2 to ask the NRC to submit to Consumers Power additional
3 requests for information regarding Midland Project?

4 THE WITNESS: Would you read that back.

5 (WHEREUPON, the record was read
6 by the reporter as requested.)

7 BY THE WITNESS:

8 A It's not quite clear. All of our borings
9 have been requested, everything that we think is
10 necessary, and they have been sent to NRC. We have
11 no plans for other borings or tests.

12 Q Disregarding borings or tests, have any --
13 do you know of any other requests for information
14 that you plan to ask the NRC to in turn ask Consumers
15 Power to provide?

16 A I don't know of any. This would be on the
17 operational level of Detroit. They might have other
18 requests for other information which I wouldn't know
19 about.

20 Q But that would have to be cleared through
21 to you, wouldn't it, prior to the time they would
22 ask for it?

23 A No. They would ask directly, then the
24 results would come to us. We were not in the

1 day-to-day operation of what they do.

2 MR. FARNELL: Let's break for lunch.

3 (WHEREUPON, the deposition was
4 recessed until 2:00 p.m., this
5 date, November 19, 1980.)
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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IN THE MATTER OF:) Docket Nos. 50-329-OL
) 50-330-OL
CONSUMERS POWER COMPANY) 50-329-OM
(Midland Plant, Units 1 & 2)) 50-329-OM

November 19, 1980,

2:30 p.m.

The deposition of JAMES WALLACE SIMPSON
resumed pursuant to recess at Suite 4300, One First
National Plaza, Chicago, Illinois.

PRESENT:

MESSRS. ISHAM, LINCOLN & BEALE,
(One First National Plaza,
Chicago, Illinois 60603), by:
MR. RONALD G. ZAMARIN and
MR. ALAN S. FARNELL,

appeared on behalf of Consumers
Power Company;

MR. BRADLEY JONES,
(United States Nuclear Regulatory Commission,
Washington, D.C. 20555),

appeared on behalf of the United States
Nuclear Regulatory Commission.

REPORTED BY: TOBY ANNE SLUTZKY, C.S.R.

1 JAMES WALLACE SIMPSON,
2 called as a witness herein, having been previously
3 duly sworn and having testified, was examined and
4 testified further as follows:

5 EXAMINATION (Resumed)

6 BY MR. FARNELL:

7 Q Returning to Exhibit No. 7, Page 1,
8 Item 4A 1 in the third sentence is stated, "It is
9 suggested that additional borings" be taken.

10 Why did you use the word "suggested"
11 there instead of demand or another term?

12 A It really is demand -- or my polite form.
13 It wouldn't be a stringent demand. It would be
14 something they could think over. If they didn't
15 agree, they could come back and tell us, you know,
16 because really we don't have all of the information
17 that Detroit has. And for this reason, you know,
18 you can't say do it because it may be -- maybe they
19 have other information that indicates otherwise.

20 Q On the same page of Exhibit 7, Item 7
21 under 4A right at the bottom of the page, "Conclusions"--
22 do you see that on the first page?

23 Stated there, "If consolidation numbers
24 are in general agreement, it would appear that the

1 preload fix for this building is adequate."

2 What do you mean by the term "consolidation
3 numbers"?

4 A Taking new borings and comparing the
5 new consolidation tests -- comparing them with what
6 was accomplished already. And if they are reasonably
7 close, why that is good. That is good.

8 Q So consolidation numbers are the results
9 of tests?

10 A Of the new tests after the preload.

11 Q From the borings taken after the preload.
12 And you said if they were reasonably
13 close, then you would consider preload to be adequate?

14 A Right, right.

15 Q What would your opinion be if the
16 consolidation numbers were not in general agreement?

17 A Well, then we have to evaluate what
18 happened and try and find -- make a study, you know,
19 to see that -- try and find the differences.

20 Q Find the differences between --

21 A Between the preload curves and the new
22 test curves.

23 Q Would you use the consolidation numbers
24 to make an independent estimate of the amount of

1 settlement?

2 A Yes.

3 Q Would you expect to get a scatter of
4 different consolidation numbers from different
5 borings?

6 A You might. But I think there would be
7 enough there that you could evaluate and make --
8 come to some conclusions.

9 Q Based on the heterogeneity of the fill,
10 would you expect a scatter of test results?

11 A There would be some scatter. How wide
12 the limits on it, I am not sure.

13 Q If you did get such a scatter, would you
14 apply a case analysis?

15 A No, no. I would give more credence to
16 the preload curves than I would to what was -- what
17 we found out with the new borings.

18 Q Do you believe that there is an issue
19 with regard to boring capacity in the diesel generator
20 building?

21 A It should be checked, yes. Do I believe
22 there is an issue?

23 Q Yes.

24 A Not really. I think it's probably

1 perfectly okay. But I would like a check.

2 Q Why would you like a check if you think
3 it is probably perfectly okay?

4 A Well, everything you do in engineering --
5 you run a test, you run an analysis, you run -- you
6 have a check. You can't -- it's almost imperative,
7 you know, that you check everything you do,
8 especially for a building of this importance -- of
9 Category 1. A building of lesser importance I
10 probably wouldn't bother checking, but this one,
11 I would.

12 Q If this was not a nuclear power plant,
13 would you check this type?

14 A Probably not.

15 Q Is that with regard to boring capacity?

16 A And settlement.

17 Q And settlement, also?

18 A Yes.

19 Q Turning to Page 2 of the same Exhibit 7
20 under Item 2C: "Service water structures," Number 1
21 stated therein: "If consolidation is not complete,
22 some differential settlement could occur between
23 the pile supported sector and the remainder of the
24 building."

1 Could you describe to me how this could
2 occur?

3 A Yes. The pile supported -- once you put
4 it on piles, it's there -- firmed up, you know.
5 And the other end is not on piles. It's on fill
6 which is probably -- which probably can settle and,
7 therefore, you have one end held and the other end
8 going down.

9 Q Isn't the part of the service water
10 structure that is not going to be unpinned on
11 glacial fill?

12 A It could. I think it is, but I am not
13 sure about this. It could be natural soils, but
14 I am not sure it's glacial till.

15 Q Do you consider this a real problem or
16 just a probable problem?

17 A A probable problem.

18 -Q Again this is something because of the
19 safety implications of the building? You want to
20 be absolutely certain?

21 A As reasonably close as you can be certain.

22 Q On the same page again, Exhibit 7, this
23 is under D, "Auxilliary Building: 1, Supporting --"
24 where it is stated in there, "Supporting the two

1 electrical penetration areas on jacked caissons and
2 the control tower footing appears feasible providing
3 the structural frame and the tower -- control tower
4 footing (also on fill) can handle it."

5 Do you have any information to lead you
6 to believe that structural frame in the control tower
7 footing could not handle it?

8 A No. But this should be checked. I have
9 no information.

10 Q This is a suspicion on your part?

11 A Well, it's a loose end. It is not a
12 suspicion. It should be looked into.

13 Q What do you mean by "loose end"?

14 A It is something possibly that could go
15 wrong. It should be investigated.

16 Q Is it your position that you have to
17 look into everything that is possible?

18 A No. If it's -- the possibility was
19 beyond reason, you would not look into it. But
20 if it can reasonably happen, you take a look at
21 it.

22 Q What is your criteria for "reasonably can
23 happen"?

24

1 A I knew you were going to ask that.

2 Well, if it could happen and, you know,
3 is not ruling anything out -- but checking into this
4 is maybe a one-day job. Why not do it. It's no
5 big thing. The analysis is a one-day job, but I am
6 not sure about the piezometer test. Whether they
7 have those or not, if they don't have them, it could
8 be a little bigger job.

9 Q Do you go through the process by thinking --
10 do you think of everything that could possibly
11 happen with regard to Midland Project and then
12 eliminate certain things, or do you just lay out
13 everything that could possibly happen and ask for
14 information on it?

15 A I think the engineering approach is to
16 look at everything that can happen and maybe
17 eliminate some of them and investigate others.

18 Q Have you eliminated anything with regard
19 to the Midland Project that you decided could not
20 happen?

21 A I don't recall, but I don't recall
22 specifically anything was eliminated; maybe the
23 boring capacity of the reactor building or something
24 like that which more than that it would --

1 Q That has been eliminated? You are not
2 worried about that?

3 A No, no. But there are other things.
4 I don't really recall right now. You go through
5 your thought process, you know, in your thinking --
6 when you are thinking about it.

7 Q You do this thinking of things that could
8 probably happen -- you do that to a greater detail
9 than you would with a non-nuclear type building?

10 A Yes, yes. With Category 1 buildings
11 there should be a difference there between the
12 safety-related structures and the ones that are not.

13 Q The ones that are not safety-related,
14 you would not go through such a detailed analysis?

15 A Not the same detail.

16 Q Turning to Item E on the same page,
17 Exhibit No. 7; "Borated water tanks," near the
18 bottom.

19 A Yes.

20 Q You say there, "Take continuous borings
21 as close to cracks as possible." Are there cracks
22 in the borated water tanks?

23 A Yes. In the ring foundation, there was
24 some cracks there.

1 Q The next sentence is, "Compute bearing
2 capacity and settlement." You have an issue with
3 regard to bearing capacity for the borated water
4 tanks?

5 A Yes. But it's no big thing. It's not
6 really a big issue. It is an issue though. It
7 should be looked into.

8 Q It's kind of like your other thing for
9 bearing capacity? Do you think that it is not
10 a problem?

11 A What building? The diesel generator --

12 Q Diesel generator building.

13 A Yes. I don't think it's a problem there
14 either, but you should look at it.

15 MR. ZAMARIN: Off the record for a minute.

16 (WHEREUPON, discussion was had
17 off the record.)

18 BY MR. FARNELL:

19 Q Do you have any inter-office communication
20 with Water Waste Experimental Station?

21 A Yes.

22 Q Do you communicate with them with regard
23 to the dewatering at the Midland Plant?

24 A Yes.

1 Q Are they the chief reserve?

2 A For?

3 Q For dewatering?

4 A Yes. Because this is seismic related;
5 which aspect they handle.

6 Q Is the Detroit Corps of Engineers also
7 looking at dewatering?

8 A They are probably looking at the process
9 of dewatering, but not the basic fact, you know,
10 whether you should dewater or not. They are
11 reviewing the techniques, but not the basic need
12 of dewatering like for the seismic event which
13 people at WES are doing.

14 Q Is there a communication between WES and
15 Detroit Corps of Engineers, do you know?

16 A Yes, yes.

17 Q WES does report to you?

18 A They send copies of their communications
19 to Detroit to us.

20 Q You do not have to approve of any of
21 their activities before they submit them to the
22 NRC?

23 A Before they go to the NRC, yes.

24 Q You do have to approve them?

1 A Yes. But I wouldn't say approve because
2 Wes is the authority on this. And I would really
3 hesitate to find something wrong with them. They
4 all have doctors' degrees and studied this all over
5 the country. So it's just as a matter of routine.
6 They do send it to us, and they may be back from
7 Detroit or however.

8 Q They are also checking the seismic issue
9 with regard to Midland Project?

10 A Yes. This is their thing; seismic --
11 Wes.

12 MR. FARNELL: Mark this as the next exhibit,
13 please.

14 (WHEREUPON, said document was marked
15 CPCO(Simpson) Deposition Exhibit
16 No. 8, for identification, as
17 of 11/19/80.)

18 BY MR. FARNELL:

19 Q I now show you a document that has been
20 marked as Exhibit No. 8 for identification called
21 "Telephone or Verbal Conversation Record dated
22 April 22, 1980; person calling, Jim Simpson; person
23 called, N. A. GeHring." This document came from the
24 Detroit Corps of Engineers' file.

1 I ask you if you recall calling
2 Mr. GeHring on or about April 22, 1980?

3 (WHEREUPON, the document was
4 tendered to the witness.)

5 BY THE WITNESS:

6 A Yes. I am sure I did. I call him on
7 numerous occasions.

8 BY MR. FARNELL:

9 Q Is the occasion of this all of the
10 Northern District's comments on the interim report?

11 A Yes, yes.

12 Q Part of the first page of this document
13 reads, "Still under consideration; Otto must yet
14 review Willis Walker, Tulsa District, input."

15 What input was Willis Walker giving at
16 that time?

17 A It's contained in the new documents.

18 Q Could you briefly look through those
19 documents?

20 (WHEREUPON, discussion was had
21 off the record.)

22 MR. FARNELL: Will you please mark these next
23 three exhibits.

24

1 (WHEREUPON, said documents were
2 marked CPCO(Simpson) Deposition
3 Exhibit Nos. 9, 10 and 11, for
4 identification, as of 11/19/80.)

5 BY MR. FARNELL:

6 Q I now show you Exhibit No. 9 for
7 identification; a ten-page document, handwritten,
8 entitled -- the first page is entitled, "Diesel
9 Generator Building Settlement Question;" and
10 Deposition Exhibit No. 10, a multi-paged handwritten
11 document, first page entitled, "Dewatering Questions;"
12 and Deposition Exhibit No. 11, for identification,
13 a five-page document, handwritten, the first page
14 entitled, "Service Water Structure-Pile Support
15 Questions."

16 (WHEREUPON, the documents were
17 tendered to the witness.)

18 BY MR. FARNELL:

19 Q I ask you if Exhibits 9, 10 and 11 are
20 documents that were in your files that you believe
21 came from Mr. Willis Walker?

22 A Yes.

23 Q Are those, to the best of your knowledge,
24 the only documents that you have ever seen with regard

1 to Mr. Willis Walker?

2 A Yes. They are the only ones. There
3 could be others, though-- like I say, which might
4 run into when you get to the Detroit District and
5 documents --

6 Q Would Mr. Willis Walker submit his input
7 to Mr. Otto?

8 A Yes, yes.

9 Q And would Mr. Otto pass that on to you,
10 or would he pass part of it on, or how would it work?

11 A I think they would send most of it on
12 unless there was something that they ironed out
13 themselves and decided it wasn't important.

14 MR. FARNELL: Make this the next exhibit.

15 (WHEREUPON, said document was marked
16 CPCO(Simpson) Deposition Exhibit
17 No. 12, for identification, as
18 of 11/19/80.)

19 BY MR. FARNELL:

20 Q I now show you Deposition Exhibit No. 12
21 for identification; a May 27, 1980, cover letter and
22 enclosures from Mr. Willis Walker to Mr. Otto.
23 This document came from Detroit Corps of Engineers'
24 files.

1 I ask you if you have ever seen this
2 document previously,

3 (WHEREUPON, the document was
4 tendered to the witness.)

5 BY THE WITNESS:

6 A No.

7 BY MR. FARNELL:

8 Q You have not seen this document?

9 A No, no.

10 Q To the best of your knowledge, Mr. Otto
11 did not send you a copy of this document?

12 A No, no.

13 MR. FARNELL: Mark this as the next exhibit,
14 please.

15 (WHEREUPON, said document was marked
16 CPCO(Simpson) Deposition Exhibit
17 No. 13, for identification, as
18 of 11/19/80.)

19 BY MR. FARNELL:

20 Q I now show you a document, Deposition
21 Exhibit No. 13, a routing and transmittal slip
22 dated May 9, 1980, from Robert Erickson to
23 Jim Simpson. This document came from your file.

24

1 (WHEREUPON, the document was
2 tendered to the witness.)

3 BY MR. FARNELL:

4 Q I ask you if you have seen that document?

5 A As I recall, yes.

6 Q Mr. Erickson writes -- attached is an
7 item -- it is, "Comments by Willis Walker of
8 Tulsa District."

9 Are Exhibits 9, 10 and 11 the comments
10 by Mr. Willis Walker of the Tulsa District as
11 referred to in Exhibit 13?

12 A I believe so, but I am not certain.

13 Q Do you know what the comments by
14 Willis Walker related to? What did they relate to?
15 A document? Or did they relate --

16 A They related to the different features
17 of the Midland Plant, I think.

18 Q Features that were proposed design specs?
19 Is that what they related to?

20 A Right. And dewatering.

21 Q Proposed remedial fixes?

22 A Right.

23 Q Why was he given the assignment to
24 comment on these remedial fixes?

1 A You would have to ask Mr. Otto in
2 Detroit. And see, it's a little too far removed
3 from our office to know, you know, who the work was
4 assigned to and why.

5 Q Did you read over Exhibits 9, 10, and 11?

6 A Yes.

7 Q Do you consider Mr. Willis Walker to be
8 a competent geotechnical engineer?

9 A I can't make a statement on that, I have
10 never met the man.

11 Q Based on reading Exhibits 9, 10 and 11,
12 can you make a determination as to whether he is a
13 competent geotechnical engineer?

14 A I would say to a certain degree. There
15 are some things I agree with and some I don't in
16 there.

17 Q Did you ever communicate to Mr. Walker
18 or Mr. Otto proposed fixes of Exhibits 9, 10 and 11
19 you didn't agree with?

20 A These were more or less working papers,
21 and I am not sure Mr. Otto really agreed with them
22 either entirely. The main -- our main review would
23 be the final conclusions which came out of Detroit
24 District, and it might not reflect what is in here.

1 Did I answer?

2 Q I will put it to you another way. When
3 you read Exhibits 9, 10 and 11, did you call up
4 Mr. Otto or did you call up Mr. Walker and say,
5 "Hey, I think some parts of these exhibits are wrong"?

6 A No.

7 Q Did you think they were wrong, or you just
8 didn't agree with portions of them?

9 A Well, these are background opinions. And
10 what you really need to consider are the final
11 opinions which come out. And I didn't really
12 communicate with him because the thing I was
13 interested in was the final answers which came out,
14 not different opinions of different people.

15 Q You are not interested in different
16 opinions of different people?

17 A Yes. As background material, but making
18 a conclusion from them, I would hesitate to do that
19 without looking at all of the other opinions, too.

20 Q Do you know why you were sent Exhibits 9,
21 10 and 11?

22 A As background material to study in regard
23 to --

24 Q Did you just read them? You didn't do

1 anything else with them?

2 A No, no.

3 Q Do you recall which portions of
4 Exhibits 9, 10 and 11 you didn't agree with?

5 A No. That would entail studying them
6 out again.

7 Q Nothing really strikes you right now?

8 A No, no.

9 Q Do you know if Mr. Otto disagreed with
10 any portions of Exhibits 9, 10 and 11?

11 A I don't really know.

12 Q Do you know if Mr. Otto disagreed with
13 any conclusions that Mr. Walker may have made?

14 A I have no idea.

15 Q Would you be interested in the fact
16 that perhaps Mr. Walker had a different opinion than
17 Mr. Otto or other people in the staff with regard
18 to some of the remedial fixes?

19 A Sure. Any opinion I would be interested
20 in and why.

21 Q Do you know whether Mr. Walker had a
22 different opinion from Mr. Otto or any other people
23 in the staff with regard to any of the proposed
24 fixes at the Midland Plant?

1 A Not specifically, no.

2 Q How about generally?

3 A Generally, there is always differences
4 between engineers. I would say there was probably
5 some differences, you know.

6 Q Do you know of any differences of opinion
7 within the Corps of Engineers or the NRC with
8 regard to Consumers' proposed remedial fixes?

9 A No. I think we are in agreement that
10 the fixes are necessary; that they will do the job.
11 If we get our investigation and they turn out -- our
12 final checks -- and if we get this, then everything
13 should be okay or should be in agreement.

14 Q Did anyone within your knowledge ever
15 think that the staff should not request additional
16 borings from Consumers Power?

17 A I have never heard that opinion in the
18 Corps of Engineers.

19 Q How about within the NRC?

20 A I am not aware of any opinion like that.

21 Q Did anybody to your knowledge express
22 doubts as to whether they should express --

23 A I haven't heard any doubts.

24 Q Everyone said it was a great idea?

T6

1 A I have never heard anything nonaffirmative.

2 Q How about with regard to the dike; nothing
3 nonaffirmative with regard to the dike, also?

4 A No. Well, let's see. We did talk over
5 some of the borings for the dike which were away
6 from the water intakes, you know.

7 Q Who is "we"?

8 A I think perhaps Mr. Otto and I talked it
9 over.

10 Q What was the substance of your discussions?

11 A If we took the other borings first near
12 the water intake, and we might be able to eliminate
13 some of the others if everything looked okay -- some
14 of the others, not all of them. This is in the dike
15 area.

16 Q To your knowledge, has anyone within the
17 Corps of Engineers or staff expressed any opinion
18 that any of Consumers Power arguments set forth in
19 Exhibit No. 5 had merit?

20 MR. JONES: Can I hear that question again,
21 please.

22 (WHEREUPON, the record was read
23 by the reporter as requested.)

24

1 BY THE WITNESS:

2 A It's a broad question. I have never really
3 talked this over with anyone, but I have studied it.
4 And I have to look at it closely now to bring out
5 the part that had merit, and maybe there was -- if
6 any had merit.

7 BY MR. FARNELL:

8 Q Do you recall just from looking at it right
9 now quickly whether any part of it has merit?

10 A I have to skim read.

11 Q Fine. Why don't you. In fact, take your time.

12 (WHEREUPON, there was a
13 short interruption.)

14 BY THE WITNESS:

15 A Well, this is a broad question. It's
16 hard to answer.

17 Like the surcharge of the diesel generator
18 building, it's a good idea. There is nothing wrong
19 with it.

20 Is that what you mean by "merit"?

21 BY MR. FARNELL:

22 Q Yes. This refers generally to the
23 arguments for not taking borings?

24 A Yes.

1 Q That had not convinced you?

2 A No, no. If that is what you mean, borings
3 are still necessary.

4 MR. FARNELL: Would you mark this as the next
5 exhibit, please.

6 (WHEREUPON, said document was marked
7 CPCO(Simpson) Deposition Exhibit
8 No. 14, for identification, as
9 of 11/19/80.)

10 BY MR. FARNELL:

11 Q I now show you Deposition Exhibit No. 14
12 for identification, the first page which is a
13 Facsimile Header Sheet from J. W. Simpson to
14 Neal Gehring, dated 5/21/80. Attached thereto is
15 a two-page document entitled, "North Central Division;"
16 at the bottom, "Reviewer's comments, dated May 21, 1980;
17 reviewer, James W. Simpson and John W. Norton."

18 A John F. Norton.

19 Q John F.

20 Have you seen this document previously?

21 A Yes.

22 Q This Facsimile Header Sheet indicated
23 that you transmitted these comments to Mr. GeHring?

24 A Yes.

1 Q He is in the Detroit District, is that
2 right?

3 A Right. He is Project Manager.

4 Q For Midland?

5 A Yes.

6 Q Will you point out from your documents --
7 show me which document this is commented on -- this
8 interim report is commented on.

9 MR. JONES: Can I hear the last question again,
10 please. I am sorry.

11 (WHEREUPON, the record was read
12 by the reporter as requested.)

13 BY THE WITNESS:

14 A We commented several different times, you
15 know, on the same reports. Getting the right
16 sequence might take a minute or two.

17 (WHEREUPON, there was a
18 short interruption.)

19 BY THE WITNESS:

20 A Well, the dates are about right, the
21 24th of March and 21st of May. So I think this is
22 it. Now, without studying it --

23 MR. FARNELL: Mark this as the next exhibit.
24

1 (WHEREUPON, said document was marked
2 CPCO(Simpson) Deposition Exhibit
3 No. 15, for identification, as
4 of 11/19/80.)

5 BY MR. FARNELL:

6 Q I now show you Deposition Exhibit No. 15
7 of March 24, 1980. It is a multi-page document
8 entitled, "Interagency Agreement; Midland Plant,
9 Units 1 and 2," subtask being No. 1: "Letter
10 report (interim)."

11 I ask you if this is the document to
12 which you just referred to which you believe
13 Deposition Exhibit No. 14 comments on?

14 (WHEREUPON, the document was
15 tendered to the witness.)

16 BY THE WITNESS:

17 A I believe it is, but there were several
18 sets of comments, you know, in the same report.
19 And I can't be sure that this is -- that this was
20 it, that they read the comments and they go back
21 and revise it and it would come back again. So
22 probably it is according to the dates, but I am
23 not --
24

1 BY MR. FARNELL:

2 Q Not 100 percent sure?

3 A No. I have to study it and study all of
4 the other comments to be sure.

5 Q Turning to Page 2 of Exhibit No. 14 --
6 I believe it is Comment No. 8, Page 4, Paragraph C1(A) --
7 there is a note, "Don't discount the consultant's
8 plan until it's submitted and studied. These guys
9 are pretty sharp."

10 You co-authored this comment, didn't you?

11 A I wrote this comment here.

12 Q What did you mean by that?

13 A I think there were some remarks in the
14 report that some of the ideas that Peck and Hendron --
15 they were criticizing them without really studying
16 what they were doing.

17 I think probably this referred to the
18 bearing capacity of some of the piles and caissons
19 and fix-up.

20 MR. JONES: Off the record.

21 (WHEREUPON, discussion was had
22 off the record.)

23 BY THE WITNESS:

24 A So having all of the respect that I do

1 for Drs. Peck and Hendron and the rest, you have to
2 be careful about any adverse comments because you
3 have to respect their opinion because of their
4 experience and education. This is what we were
5 getting at.

6 BY MR. FARNELL:

7 Q And you were telling your reviewers?

8 A I was telling the people in Detroit,
9 "Take a closer look out and don't criticize them
10 without really studying it out."

11 Q Did they follow your advice, do you know?

12 A I hope they did. I am not sure.

13 Q Did you ever check?

14 A Not specifically. They mentioned the
15 remark to me a couple of times, and I would say
16 probably they did take it into account.

17 Q The reviewers have mentioned this remark
18 to you at a later date?

19 A Yes. Not reviewers, but the people
20 doing the work in Detroit.

21 Q They are not -- I thought they were
22 reviewers.

23 A They are, but I -- when you say reviewers,
24 I am -- the bridge reviewers -- these people are

1 doing most of the work, you know, but they are
2 also reviewing.

3 Q You review their review? Is that what
4 you said?

5 A Right. Review on top of review.

6 Q Have you had occasion to review any work
7 done by Mr. Harry Singh?

8 A Harry Singh is the project engineer now.
9 And I am not sure of the degree of his input and
10 communications that come through. And I am sure
11 he adds some of the input. So I would say yes, but
12 I am not certain which is his and which is someone
13 else's work.

14 Q Does he have responsibility with regard
15 to the structural aspect of fixes at the Midland site?

16 A No. We are only concerned with foundations.

17 Q You do not have any responsibilities with
18 regard to structural aspects?

19 A No.

20 Q As the Corps of Engineers, you do not
21 have any responsibility with regard to structural
22 aspects?

23 A Not when you get above ground, no.

24 Q Do you have any responsibilities -- do you,

1 meaning the Corps, with regard to any mechanical aspect?

2 A No.

3 Q To your knowledge, has the Corps ever
4 submitted or asked for the NRC to submit information
5 to Consumers Power on the structural aspect of the
6 proposed fixes at the Midland site?

7 A I don't know if any -- of any such
8 requests. I think the NRC structural people have
9 the structural aspects all together, you know. They
10 may have another consultant.

11 THE WITNESS: Do you know?

12 MR. JONES: It is okay.

13 BY MR. FARNELL:

14 Q Would the same be true with regard to
15 mechanical aspects?

16 A Yes.

17 Q Have you ever reviewed any of
18 Mr. Harry Singh's work?

19 A Well, I think I answered this. His work
20 is incorporated in the communications between us
21 and Detroit.

22 Q You do not know?

23 A I am not sure of his input into what
24 comes through.

1 Q So you cannot identify which is his work
2 and which is someone else's work?

3 A No. But I am sure part of it is his.

4 Q Has anyone ever expressed an opinion to
5 you as to the quality of Mr. Singh's work?

6 A No. Not that I recall.

7 Q Do you know whether Mr. Singh qualifies
8 to do the work he is doing?

9 A I would say he is. But his technical
10 involvement, I am not sure. He is project -- he is
11 a manager for this one; the Midland Plant, you know.
12 And I am not sure what his technical input is.
13 It depends on his degree of input whether he is
14 capable, you know.

15 Q Have you ever had any direct communications
16 with Mr. Joseph Kane regarding the proposed fixes
17 at the Midland Plant?

18 A By direct; do you mean telephone or --

19 Q Letters.

20 A Letters? Not letters. The informal
21 communication, yes.

22 Q What was the substance of these
23 communications?

24 A The various details of fixes and whether

1 there are actually things that could be wrong with
2 them and things like that.

3 Q To your knowledge, do you and Mr. Kane
4 have any disagreements with regard to adequate --
5 say of any Consumers proposed fixes at the Midland
6 site?

7 A No. I don't believe there is any
8 differences.

9 Q Do you know of any differences with regard
10 to anybody in the Corps or the NRC?

11 A No.

12 Q To your knowledge, has anyone within the
13 Corps of Engineers ever suggested that the NRC
14 withdraw any of its requests for information to
15 Consumers Power with regard to the proposed fixes
16 at the Midland Plant?

17 A Not to my knowledge, no. There is really
18 no disagreement with the fixes. They are adequate,
19 but they need to be checked and that is --

20 Q That is your disagreement with Consumers
21 Power?

22 A Right.

23 Q You want additional checking?

24 A Checking.

1 Q Okay.

2 A And so far, they have only sent us a
3 conceptual plan, you know. We want the detailed
4 analysis to look into.

5 Q Is that with regard to pilings and
6 caissons?

7 A Pilings and caissons.

8 MR. JONES: Do you want to take a break for
9 five minutes.

10 MR. FARNELL: Yes. Why don't we do that.

11 (WHEREUPON, there was a
12 short interruption.)

13 BY MR. FARNELL:

14 Q Have you ever heard the term "acceptance
15 criteria" with regard to the December 6, 1979, order
16 modifying construction permits?

17 A I have read them; the order. And I think
18 it does say something about acceptance, doesn't it?

19 Q Yes.

20 A Yes.

21 Q Has anyone told you what the acceptance
22 criteria is with regard to the diesel generator
23 building at the Midland site?

24 A You are talking about acceptance of the --

1 to the NRC?

2 Q Acceptance criteria with regard to the
3 building.

4 A I know something about NRC's acceptance.
5 I think they limit it to settlement, a half inch,
6 or something like that. I am not sure exactly
7 whether it is half an inch, but it is not very much.

8 Q Do you mean the NRC has to have -- has
9 to be certain that there is going to be less than
10 one-half inch settlement over the 40 years lifespan
11 of the building?

12 A I think this is one of their criteria,
13 but I am not an authority on it.

14 Q Have you ever seen any document referring
15 to that?

16 A No, no.

17 Q How did you come to gain that understanding
18 just imparted to us?

19 A Do you have the order there? It could
20 be written in there.

21 Q It is definitely not.

22 (WHEREUPON, the document was
23 tendered to the witness.)

24

1 BY THE WITNESS:

2 A Appendix A, but it is on the next page,
3 I think.

4 BY MR. FARNELL:

5 Q You are referring to Appendix A?

6 A Yes.

7 (WHEREUPON, the document was
8 tendered to counsel.)

9 BY MR. FARNELL:

10 Q You consider that to be acceptance
11 criteria?

12 A I am not sure but --

13 Q That is a notice of violations. It does
14 not -- it says, "Structure." It has here, "Structural
15 Acceptance Criteria."

16 But you do not know whether that
17 acceptance criteria the NRC is using today?

18 A No. Joe Kane could probably tell you.

19 Q Have you and Joe Kane ever had any
20 conversations with regard to acceptance criteria
21 for the proposed fixes at the Midland Plant?

22 A Not really. Not specifically. We have
23 talked about, you know, the fixes and things like
24 that, but I can't recall any specific, you know,

1 half-inch settlement or anything like that.

2 Q Do you know how long the preload was in
3 place on the diesel generator building?

4 A Generally, I think it went in in April
5 and came off in August, but I am not sure.

6 Q Do you have any concern for how long the
7 preload was on the diesel generator building?

8 A Yes. I would say there is some piezometer
9 readings -- or are rather funny. They don't conform
10 to what you would expect. And for this reason,
11 there could be a little -- an element of doubt there
12 on whether it was on long enough or not although
13 the curve looked good.

14 Q I thought you testified this morning
15 that you had not read the piezometer data.

16 A I haven't really. But this is something I
17 got from Joe Kane in communications.

18 Q Did you ever check the piezometer data
19 to see if Joe Kane was correct?

20 A He showed me -- when he studied it, he
21 showed me the curves and what he found out. But I
22 never really studied it myself.

23 Q When did he show you the curves, and
24 what did he find out?

1 A I think in one of our meetings prior to
2 the meeting with the Consumers and Bechtel people.

3 Q Do you have any concern outside of the
4 concern that Mr. Kane may have expressed with regard
5 to piezometers regarding how long the diesel
6 generator building preload was in place?

7 A Was in place? Yes. I would like to know
8 the strength of the soil as you compress it. And the
9 longer it is on, the stronger it gets for bearing
10 capacity. And I would like to have our borings
11 and tests run; the ones we asked for to see if we
12 do have enough strength for bearing capacity.

13 Q Is that the only concern you have for
14 how long it was on?

15 A Let's see. I think I don't recall any
16 others.

17 MR. FARNELL: Would you mark this as the
18 next exhibit.

19 (WHEREUPON, said document was marked
20 CPCO(Simpson) Deposition Exhibit
21 No. 16, for identification, as
22 of 11/19/80.)

23 BY THE WITNESS:

24 A Another concern about how long it was left

1 on was the water table. It was raised and lowered
2 and it could have affected results.

3 BY MR. FARNELL:

4 Q How?

5 A Well, it depends on the character of the
6 soil there and whether it was saturated or not
7 saturated before and how long the water table was up
8 in order to resaturate it and if it wasn't saturated.
9 All that went in. If it would have been constant
10 during the whole preload, why it might not have been
11 that much of a concern.

12 Q Did you get that concern from conversations
13 with Mr. Kane?

14 A I wouldn't say I got it from him, but
15 we have talked it over. It may have come from him,
16 and it may have evolved mutually in talking it
17 over. I am really not sure.

18 Q Could you explain the mechanics of how
19 you consider the lack of constant level of the water
20 table could have affected the soils during the
21 preload?

22 A The part that is non-cohesive of the
23 sands -- the water -- to raise the water table would
24 be good because it would take away the capillary

1 attraction between particles and allow the sand to
2 settle. And the amount of time it was up wouldn't
3 matter. You know, it would just be a matter of a
4 day or two for the sands. But when you come to their
5 class, if they were put in dry of optimum, the
6 particles of clay there could be spaced between
7 different clods of clay and if the water table was
8 up long enough, why maybe these pieces could be
9 pushed together and there would be no void between.
10 But if it wasn't long enough, why there still could
11 be voids there, too.

12 If it was dry of optimum, you might not
13 have the normal consolidation that you would expect
14 because consolidation which was done here is
15 squeezing the water out of the pores of the soil.
16 And if it were dried, you bring the water table up
17 and water would have to saturate and squeeze out,
18 and it wouldn't be the normal process of consolidation.

19 Q Do you have any basis to believe that the
20 soil was placed dry of optimum?

21 MR. ZAMARIN: Excuse me a moment.

22 (WHEREUPON, discussion was had
23 off the record.)
24

1 BY MR. FARNELL:

2 Q Why don't we strike the last question.

3 If the clays were not placed dry of
4 optimum, would your concern regarding the water
5 table be eliminated?

6 A I can answer your previous question if
7 you want it answered.

8 Q Just answer this one first.

9 A Oh, if they were wet of optimum.

10 MR. FARNELL: Why don't you read back the
11 question and answer on that one.

12 (WHEREUPON, the record was read
13 by the reporter as requested.)

14 BY THE WITNESS:

15 A If they were optimum -- wet of optimum is
16 largely eliminated, yes, because then you would have
17 the normal process of consolidation.

18 BY MR. FARNELL:

19 Q You said you considered the process of
20 consolidation that occurred or the preload not to be
21 normal, is that correct?

22 A No. It could have not been normal. And
23 I really don't -- I really don't know if it were
24 placed wet or dry of optimum, but I did see when we

1 were going through Dr. Afifi's documents he handed
2 us, I saw one document where 23 out of 48 tests
3 showed it dry of optimum.

4 Q 23 out of 48 tests of what?

5 A Soil tests.

6 Q Boring tests?

7 A Compaction tests.

8 Q When were these tests taken?

9 A I have no idea. This was in his
10 documents we were given.

11 Q Do you remember the date of the documents?

12 A No.

13 Q Where were the tests located? Do you
14 remember that?

15 A No.

16 Q Is that the only information you have
17 that would lead you to believe that the fill might
18 have been placed dry of optimum?

19 A Yes.

20 Q And you are certain that these tests
21 showed soil being dry of optimum?

22 A In this one area, it doesn't mean the
23 whole fill or a large part of it was.

24 Q What area?

1 A I don't know.

2 Q So it might not even be under the
3 diesel generator building, is that right?

4 A That's correct. I skim read it, you know.

5 Q Isn't this potential concern of yours
6 regarding the water table being soils -- being
7 placed dry of optimum another one of these
8 possibilities which you have talked about?

9 A Yes. It's another fear that could be
10 dispelled by getting in there and getting some
11 samples out and testing.

12 Q Even though you might not have any
13 information that indicates that the soils were
14 placed dry of optimum?

15 A It wouldn't matter. It's what is there
16 now and it's strength and compressibility, how it
17 was originally placed, what it is now and what is
18 the intake.

19 Q If it is true, isn't it true, also, how
20 they were placed? It doesn't make any difference
21 because you already had some results from the
22 preload tests?

23 A Preload. Only superficial measurements,
24 you know. You don't have any information from the

1 soil directly.

T7 2 Q Do you consider the preload to be
3 superficial? Is that what you are saying?

4 A No, no. It is an excellent idea.

5 Q Do you believe the soil -- do you believe
6 the results of the preload tests would be more
7 accurate than information taken from borings?

8 A If I weigh them both -- if I had both
9 information--the information from both, I would
10 probably weigh them -- give more weight to the pre-
11 load.

12 Q I now show you Deposition Exhibit No. 16
13 for identification; a July 25, 1980, bimonthly
14 letter with regard to the Inneragency Agreement
15 from P. McCallister to Mr. Robert Jackson. This
16 document came from your files.

17 (WHEREUPON, the document was
18 tendered to the witness.)

19 BY MR. FARNELL:

20 Q I ask you if you have seen this document
21 previously?

22 A Yes.

23 Q Under the paragraph entitled, "Efforts
24 completed during the period 20, May to 20, July, 1980,"

1 with regard to Midland states: "The seismic analysis
2 was received from the USAE Waterways Experiment
3 Station on June 3, 1980."

4 Have you ever seen that seismic analysis?

5 A Yes.

6 Q Do you have it within your documents?

7 A It should be there.

8 THE WITNESS: Did you return it?

9 MR. ZAMARIN: I did not see it.

10 Off the record a minute.

11 (WHEREUPON, discussion was had
12 off the record.)

13 BY MR. FARNELL:

14 Q On Deposition Exhibit No. 16, it also
15 stated that on 14, May and 20, June, 1980, "Draft
16 letter reports were informally furnished to NRC and
17 our North Central District Office for comment."

18 Have you ever seen either or both of
19 these draft letter reports?

20 A Yes. They should be there.

21 Q Were these letter reports done by the
22 Waterways Experiment Station?

23 A It should be in the file.

24 MR. FARNELL: Off the record.

1 (WHEREUPON, discussion was had
2 off the record.)

3 MP. FARNELL: We will look through Mr. Simpson's
4 documents and if we cannot locate a copy of these
5 documents, we will make -- you can consider this a
6 formal request to furnish these documents to us.

7 MR. JONES: Off the record.

8 (WHEREUPON, discussion was had
9 off the record.)

10 MR. FARNELL: Why don't we mark this as the
11 next exhibit.

12 (WHEREUPON, said document was marked
13 CPCO(Simpson) Deposition Exhibit
14 No. 17, for identification, as
15 of 11/19/80.)

16 BY MR. FARNELL:

17 Q I now show you a document marked as
18 Deposition Exhibit No. 17; a one-page yellow sheet
19 written in pencil, the top caption being, "Liquifaction
20 Potential," and I ask you is this document in your
21 handwriting?

22 (WHEREUPON, the document was
23 tendered to the witness.)

24

1 BY THE WITNESS:

2 A No. This was written by Mr. Norton --
3 John Norton.

4 BY MR. FARNELL:

5 Q Do you know what the purpose of the
6 document is?

7 A Yes. I told him to do a literature
8 research on earthquake liquifaction potential. And
9 he looked through these books and this is what he
10 found.

11 Q What is this reference, "ER 1110"
12 et cetera?

13 A This is our Engineering Regulations.
14 This would be one of your Corps of Engineers'
15 publications.

16 Q Do you know what it is entitled?
17 What it deals with generally?

18 A Foundation investigations.

19 Q You consider that a standard reference
20 work for your work on Midland Project?

21 A No. This is a broad guidance for any
22 project. Whether it applies to Midland, I really
23 have to study it.

24 Q Did Mr. Kane give you -- or anybody from

1 NRC give you -- suggest any books or periodicals or
2 guidelines or anything along that line that you
3 should use in your review of proposed remedial
4 fixes at Midland?

5 A Are we in the seismic area?

6 Q Just generally.

7 A Generally, no, no. Not to me. He might
8 have to people in Detroit, but not to me. These are
9 only quotes from books which he found.

10 Q Does that document referred to as
11 ER 1113 -- can that be found in public libraries?

12 A No. It's one of our publications.
13 I could furnish it to you. This is of no consequence.

14 MR. ZAMARIN: Off the record.

15 (WHEREUPON, discussion was had
16 off the record.)

17 BY MR. FARNELL:

18 Q Is the Corps of Engineers working on any
19 other nuclear projects besides Bailly or Midland?

20 A The North Central District is not. Other
21 districts are. They have other contracts.

22 Q Do you know whether the NRC is considering
23 using the Corps of Engineers for any other nuclear
24 project in the North Central Division area?

1 A I don't know. We are on the Bailly
2 Project.

3 (WHEREUPON, Mr. Zamarin left the
4 deposition proceedings.)

5 BY MR. FARNELL:

6 Q Have you ever heard of the term of a
7 "division level review by the Corps of Engineers'
8 standard"?

9 A Yes.

10 Q Is that applied to you?

11 A We are the division who does the reviewing.
12 And we have certain standards and documents that
13 we go by. That would imply that this would be done
14 by the standard that we have set for our projects.

15 Q Is the divisional level review different
16 than district level review?

17 A The district -- well, we were talking
18 about the Corps of Engineers' work. They don't really
19 review.

20 Q They do the work and then the division --

21 A Does the review, yes.

22 Q Do you recall anyone within the NRC
23 or Corps of Engineers expressing concern for intake
24 and outlet pipes at the cooling pond at Midland?

1 A Yes.

2 Q Who were those people?

3 A We talked this over with Joe Kane, I
4 believe, and Hyman Heller.

5 Q Do you know who first expressed concern
6 for these intake and outlet pipes?

7 A Specifically, I don't recall who said
8 what.

9 Q You do not recall whether it was the
10 Corps of Engineers or the NRC?

11 A No, no.

12 Q Did you ever express any concern to the
13 Detroit Corps of Engineers that they were not
14 reviewing the proposed remedial fixes at the
15 Midland site as quickly as you would like?

16 A I don't recall any speed. We did talk
17 somewhat about the quality of their review. That is
18 it.

19 Q What did you talk about -- the quality
20 of review?

21 A Well, the first interim report, I think,
22 which came, which you have, we didn't really like it.
23 And we didn't like what was done.

24 Q Who was "we"?

1 A Myself and John Norton. He is in my
2 office.

3 Q What didn't you like about it?

4 A It wasn't really done to what we thought
5 it should have been done. I think you might have
6 the underlined copy marked up and everything.

7 The quality of this one report, yes.
8 But the speed -- I don't think we were concerned
9 about the speed.

10 Q Do you recall any specifics, why you
11 thought the quality was not up to Corps standards?

12 A Not specifically. But it is their
13 approach to the whole problem. They were-- when
14 they started out, they approached it like NRC does.
15 They were asking questions. And their report
16 reflected the questions, you know. Whereas, we
17 were consultants, and we should be asking questions.
18 I think we remarked something like -- to that effect.

19 Then there were numerous other items.
20 I don't really recall all of them, but they are all
21 there; all of our critiques of their work and there
22 were several of them. You have them.

23 Q Did the work of Detroit's Corps of
24 Engineers finally end up in a document that was

1 submitted to the NRC?

2 A Yes.

3 Q Was that document then later revised a
4 bit by the NRC and forwarded to Consumers Power?

5 A I don't know how much they revised it,
6 if any. They might have. I have no idea.

7 Q Did it take several months from the
8 time that the first draft of this report was
9 generated until the time the final project was
10 sent to the NRC?

11 A Yes, yes.

12 Q Do you know how many months that was?

13 A Oh, I don't know. Maybe two. I am not
14 really sure.

15 Q Has anyone to your knowledge within the
16 Corps of Engineers ever expressed an opinion that
17 the surcharge on the diesel generator building was
18 left in place long enough to accomplish its purpose?

19 A That it was or wasn't?

20 Q That it was left on long enough?

21 A There are these doubts about the way the
22 piezometer reacted which we have talked over between
23 us. And we have talked over about the wet and dry
24 of optimum. And we have talked over about the lack

1 of the soil strength to know what the real bearing
2 capacity is. So if you consider these doubts, I
3 would say yes, we have. We have these doubts which
4 we would like to disspell by a few more borings and
5 tests.

6 MR. FARNELL: Could you read back my question,
7 please.

8 (WHEREUPON, the record was read
9 by the reporter as requested.)

10 BY THE WITNESS:

11 A The last part, I think answered it.
12 The last part of my answer.

13 BY MR. FARNELL:

14 Q Has anyone expressed an opinion that it
15 was left on long enough?

16 A That it wasn't left --

17 Q That it was left on?

18 A Yes.

19 Q Yes?

20 A Oh, no. We more or less all had the
21 same conclusions. We have these nagging doubts
22 which I just mentioned.

23 Q Do some have more nagging doubts than
24 others?

1 A I would say no. Just no.

2 Q Has anyone within the Corps of Engineers
3 or the NRC, to your knowledge, expressed the opinion
4 that the piezometer behaved in a manner as they were
5 expected to behave during the diesel generator
6 building preload?

7 MR. JONES: Can I have that question again,
8 please.

9 (WHEREUPON, the record was read
10 by the reporter as requested.)

11 BY THE WITNESS:

12 A No. We have all talked about the same
13 point that Joe Kane brought up about the grays in
14 some little blips in the piezometer readings. And
15 we all were not sure what happened.

16 BY MR. FARNELL:

17 Q Even though Dr. Peck has expressed the
18 opinion that they have behaved the way they should,
19 that does not alleviate your doubts?

20 A Dr. Peck never really explained what we
21 were picking up. One part of it was explained
22 which was the negative pore pressures as the piezometer
23 dipped down after taking off the load. But the
24 raise of the piezometer -- he didn't really get

1 into that. I think Dr. Afifi, on his drawings, has
2 a question there, too, of why it was raised -- came
3 up.

4 Q Did Dr. Peck alleviate your concern with
5 regard to negative pore pressures?

6 A Negative?

7 Q His explanation?

8 A Sure.

9 Q He did?

10 A Yes.

11 Q So the only thing you are left with now --
12 this raises doubt of this rise?

13 A The rise above the normal level.

14 Q Do you think Dr. Peck is concerned about
15 this?

16 A I don't know the degree of his concern,
17 but he didn't satisfactorily answer it.

18 Q In your opinion?

19 A Yes.

20 Q Did anybody within the staff of the
21 Corps of Engineers express the view that Dr. Peck
22 had satisfied their concerns with regard to this
23 rise?

24 A No.

1 Q You attended the appeal meeting of
2 Mr. Vollmer regarding the borings question?

3 A I believe so.

4 Q After that meeting, did you have any
5 conversations with any of the Corps or staff
6 personnel with regard to what transpired in that
7 meeting?

8 A There were conversations, I think, in a
9 general tone. I am not sure specifically what was
10 talked over.

11 Q Has anyone within the Corps or the staff
12 to your knowledge expressed any views with regard
13 to whether this litigation involving the order
14 modifying construction permits should be settled
15 between Consumers Power and the NRC?

16 A I have heard talk. They didn't really
17 understand why it wasn't settled.

18 Q Who said that?

19 A I think Joe Kane.

20 Q Do you recall more specifically what
21 he said?

22 A I think not. I think maybe I shouldn't
23 say this, but Bill Paton, too.

24 MR. JONES: Hang on a second.

1 (WHEREUPON, discussion was had
2 off the record.)

3 MR. JONES: I am instructing the witness
4 not to answer questions that relate to conversations
5 between counsel and staff.

6 MR. FARNELL: Okay.

7 BY MR. FARNELL:

8 Q With that instruction, can you answer
9 that question?

10 A I beg your pardon?

11 Q With Counsel's instruction, can you answer
12 my question?

13 A You can put Joe Kane down.

14 Q What I am asking: Do you recall anything
15 more specific than the general --

16 A No. It was general, you know.

17 Q Did he suggest that the staff should
18 perhaps compromise with Consumers regarding the
19 litigation?

20 A What do you mean by "compromise"?

21 Q Not demand all of the information that
22 you have been seeking in exchange for Consumers
23 providing some information?

24 A I don't recall anything like that.

1 Q Has Joe Kane indicated to you or anyone
2 else within the staff, excluding Mr. Paton or
3 Mr. Jones, whether you are going to be a witness
4 at the OM hearing?

5 A No. No one mentioned that to me.

6 MR. FARNELL: Okay. Let me check my notes.
7 This could be it.

8 BY MR. FARNELL:

9 Q A couple of last questions.
10 Have you reviewed the settlement data
11 at Consumers Power supplied with regard to the
12 time period after the preload of the diesel generator
13 building?

14 A Yes. I think so.

15 Q What did this data show you?

16 A As I remember, there is very little of
17 additional settlement.

18 Q It is a slight line?

19 A This is after?

20 Q Yes.

21 A Yes.

22 Q There was a slight line?

23 A Yes.

24 Q Did you see any evidence that there was

1 anything wrong?

2 A No.

3 MR. FARNELL: I have no further questions.

4 MR. JONES: Okay. Just for the record, there
5 are copies of the exhibits from this deposition.
6 Mr. Farnell is making copies and sending them to us.

7 Also, the original documents brought in
8 this afternoon, you have the only copies that exist.
9 I will request both copies for myself and the
10 originals back to Mr. Simpson.

11 MR. FARNELL: I will also keep this until I
12 can make clear copies for you. This is the document
13 produced yesterday. I will return them all at once
14 to Mr. Simpson.

15 THE WITNESS: No big burry. Monday will be
16 all right.

17 MR. FARNELL: Okay. Signature is not waived.

18 FURTHER DEPONENT SAITH NOT.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:)	Docket Nos. 50-329-OL
)	50-330-OL
CONSUMERS POWER COMPANY)	50-329-OM
(Midland Plant, Units 1 & 2))	50-330-OM

I hereby certify that I have read the foregoing transcript of my deposition given at the time and place aforesaid, consistings of Pages 1 to 142, inclusive, and I do again subscribe and make oath that the same is a true, correct and complete transcript of my deposition so given as aforesaid, and includes changes, if any, so made by me.

JAMES WALLACE SIMPSON

SUBSCRIBED AND SWORN TO
before me this _____ day
of _____, A.D. 1980.

Notary Public

1 STATE OF ILLINOIS)
) SS:
2 COUNTY OF C O O K)

3 I, TOBY ANNE SLUTZKY, a Notary Public
4 within and for the County of Cook, State of Illinois,
5 and a Certified Shorthand Reporter of said state, do
6 hereby certify:

7 That previous to the commencement of the
8 examination of the witness, JAMES WALLACE SIMPSON,
9 he was first duly sworn to testify the whole truth
10 concerning the matters herein;

11 That the foregoing deposition transcript
12 was reported stenographically by me, was thereafter
13 reduced to typewriting under my personal direction,
14 and constitutes a true record of the testimony given
15 and the proceedings had;

16 That the said deposition was taken before
17 me at the time and place specified;

18 That the reading and signing by the witness
19 of the deposition transcript was not waived;

20 That I am not a relative or employee or
21 attorney or counsel, nor a relative or employee of
22 such attorney or counsel for any of the parties hereto,
23 nor interested directly or indirectly in the outcome
24 of this action.

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IN WITNESS WHEREOF, I do hereunto set my
hand and affix my seal of office at Chicago, Illinois,
this 26th day of November, 1980.

Ther. Anne Soutter
Notary Public, Cook County, Illinois

My commission expires May 14, 1983.

C.S.R. Certificate No. 84-2282.