

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

Deposition of DARL S. HOOD

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

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In the Matter of:	:
CONSUMERS POWER COMPANY	: Docket Nos. 50-329-OL
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7735 Old Georgetown Road
Bethesda, Maryland

Wednesday, October 8, 1980

Deposition of DARL S. HOOD, called for examination
by counsel for Consumers Power Company in the above-entitled
action, pursuant to recess, the witness being previously
sworn under oath, at the offices of the Nuclear Regulatory
Commission, 7735 Old Georgetown Road, Bethesda, Maryland, at
9:30 a.m., Wednesday, October 8, 1980, and the proceedings
being taken down by Stenomask by Marilyn Shockey and
transcribed under her direction.

1 APPEARANCES:

2 On behalf of Consumers Power Company

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12 On behalf of the U.S. Nuclear Regulatory Commission

13 WILLIAM D. PATTON, ESQ.
14 BRADLEY JONES, ESQ.
15 U.S. Nuclear Regulatory Commission
16 7735 Old Georgetown Road
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18 Also Present:

19 SHERIF AFIFI
20 Bechtel Associates, P.C.21 GILBERT KEELEY
22 Consumers Power Company23
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C O N T E N T S

Examination by
Counsel for Consumers

Witness:

Darl S. Hood (Resumed)

158

E X H I B I T S

Exhibit Number

Identification

Consumers

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P R O C E E D I N G S

1

2 MR. ZAMARIN: Before we begin, you understand you
3 were under oath yesterday and you are still under oath
4 today. You understand that.

5 MR. HOOD: Yes, I understand that.

6 MR. ZAMARIN: Let the record show this is the
7 continuation of the deposition of Darl Hood, continued from
8 yesterday.

9 Whereupon,

10

DARL S. HOOD,

11 called for examination by counsel for Consumers Power
12 Company, having been previously sworn, was further examined
13 and testified as follows:

14 EXAMINATION BY COUNSEL FOR CONSUMERS POWER COMPANY

15 BY MR. ZAMARIN:

16 Q As we concluded yesterday, you had indicated that
17 Mr. Fiorelli, Branch Chief of I&E, Region 3, had felt that
18 the December 6 order wasn't necessary as the most prudent
19 approach, and that he felt civil penalties would be better;
20 is that correct?

21 A I don't know whether that is exactly the way I
22 phrased it. I do recall saying that he felt some other
23 approach might have been more appropriate.

24 Q What was that other approach, specifically?

25 A It wasn't clear to me what other approach he had

1 in mind. I do know at the time I&E had under consideration
2 a civil penalty, and I assumed that it was something tied in
3 with that. Just what else was included with that, I don't
4 know.

5 Q Apart from his perhaps feeling some other approach
6 might be better or might be more appropriate, do you know if
7 he had any particular objection or any particular problem
8 with the order approach?

9 A No, I don't know with any specificity what his
10 problem was. I deduced from his comment that he had some
11 difficulty with it. That is all I know.

12 Q And was, in fact, the civil penalty approach
13 considered by I&E, Region 3, to your knowledge?

14 A Yes, it was considered by Region 3.

15 Q Do you know whether that approach was rejected by
16 I&E, Region 3?

17 A I do not know the outcome nor the current status
18 of that decision. I am under the impression that the
19 decision may not have been made. It may still be a
20 consideration.

21 Q That they are still considering seeking civil
22 penalties as a result of the soil problems at Midland?

23 A Yes, I believe that is still a viable decision.

24 Q What is it that leads you to believe that?

25 A I attended meetings where that subject was

1 discussed.

2 Q Do you recall the dates of any of those meetings?

3 A No, I do not recall the exact dates. I know
4 generally the timeframe. There were meetings just a week or
5 two prior to the issuance of the order itself, sometime,
6 probably in November of '79 or thereabouts.

7 Q Do you recall any meeting more recent than
8 sometime around November of 1979 at which the discussion or
9 suggestion was that Region 3 was still considering or at
10 that time considering seeking civil penalties?

11 A No, I do not recall any specific meeting where
12 that was the topic of conversation.

13 Q Do you recall whether there were meeting notes of
14 the meeting at which this consideration of civil penalties
15 was discussed, sometime around November of 1979?

16 A No, to the best of my knowledge I'm not aware of any
17 meeting notes that were taken. I know I did not take any
18 such notes. Whether someone else might have taken notes, I
19 don't know.

20 Q Was that meeting in Glen Ellen?

21 A No. The meeting to which I refer was held at I&E
22 headquarters in East-West Towers here in Bethesda.

23 Q Do you recall who else was present at that meeting
24 besides yourself?

25 A I believe Mr. Keppler. I believe Mr. Knop. I'm

1 not sure of that. I believe Mr. Knop was present and Mr.
2 Fiorelli was present, and Mr. Shewmaker. Again, I'm not
3 absolutely certain that Mr. Shewmaker was present, but I
4 believe he was present. Mr. William Olmstead was present.
5 I am not absolutely certain, but I believe Mr. Thornberg was
6 also present at least for a part of that meeting. I'm sure
7 there were others but I cannot recall just who at this time.

8 Q Do you recall what the stated purpose for that
9 meeting was?

10 A Yes. It was an internal meeting to discuss, for
11 the purpose of coordinating where we were on the soil
12 settlement matter with Midland. It was an effort to
13 coordinate the YRR review and the review status with that of
14 the Office of Inspection and Enforcement, and recognize that
15 there was a pending decision, that which is implied by
16 SOS4(f), which implies a decision as to whether or not the
17 construction permit should be modified, suspended or revoked.

18 Q Was there a decision made at that meeting as to
19 whether that implied action or the issuance of an order
20 should, in fact, be undertaken at that time?

21 A Yes. That meeting was held for a decision.

22 Q That decision was to issue the December 6th order?

23 A The decision was that the order was proper.

24 Q Other than Mr. Fiorelli, was there anyone else at
25 that meeting, to the best of your recollection, who indicated

1 any reservation or difficulty with issuing the order?

2 A I do not recall any comment or impression that I
3 had that would lead me to believe that was the case. To the
4 best of my knowledge, I am not aware of any others.

5 Q Do you recall seeing anyone other than yourself at
6 the meeting taking notes?

7 -A No, I do not remember.

8 Q Have you ever seen any notes or any minutes at any
9 time of that meeting?

10 A No.

11 Q Yesterday we talked about the ratchet with regard
12 to the acceleration value with regard to the Midland
13 Project, and the possible increase from .12 to some higher g
14 value. What I want to ask you is whether the staff has a
15 position with regard to the application of some value in
16 excess of .12 to existing plants and existing structures
17 within the Michigan basin.

18 MR. PATON: Wait a minute. Just a minute. Okay,
19 go ahead and answer.

20 THE WITNESS: Could you repeat the question,
21 please?

22 MR. ZAMARIN: I don't think I can. Could the
23 reporter read the question back?

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

25 THE WITNESS: I understand the question to be

*See Notes
in front*

1 directed to plants other than Midland. I am not familiar
2 with any such position with regard to other plants.

3 BY MR. ZAMARIN: (Resuming)

4 Q Do you know whether that issue has been considered
5 by anyone within the staff or any consultants for the staff?

6 A No, I do not.

7 Q Do you know whether that position or issue has
8 been considered with regard to existing structures at
9 Midland?

10 A Now I don't understand. Would you rephrase the
11 question? You asked me has the staff considered the impact
12 of the new seismic design input on the structures at
13 Midland. Is that the question?

14 Q Yes.

15 A I feel quite certain that the staff has probably
16 at least minimally tried to make some estimate of the impact
17 of the decision. I say that because that is kind of
18 inherent in the decision process that the staff goes
19 through. But I am not aware that it is done in any formal
20 or deliberate sense. If it has been done, I am not aware of
21 it.

22 Q If such consideration were to be done, who would
23 be responsible for initiating that consideration and for
24 actually then accomplishing that consideration?

25 A My feeling is that it would have been done as a

1 result of communication between Mr. Jackson and people under
2 him in their communication with geotechnical and structural
3 engineering branches.

4 Q Who would make a decision or initiate a
5 consideration of whether a decision was to be made with
6 regard to whether some acceleration value of greater than
7 .12 g's should be applied to other operating plants that
8 already existed in the Michigan Basin?

9 A Before I answer that, let me further clarify a
10 point that needs to be made. My understanding is the
11 decision is not on the result, and the decision of whether
12 or not to apply it is ^{not} based on the expected outcome of some
13 seismic analysis, hypothetical seismic analysis. Rather, it
14 starts with the viewpoint of what is the expected credible
15 earthquake for that region or area.

16 So the decision rests largely with Bob Jackson.
17 It is a matter of what is the history and what we know of
18 the region to support and what is the methodology to
19 support, and the results flow from that decision. It is not
20 the other way around, where you first examine the results
21 and then back into whether you want to make a decision.

22 Q Let me perhaps clarify this. If a decision is
23 made that the acceleration value because of that area is
24 greater than that which the staff had heretofore believed it
25 to be, .12, would the staff's position then be that all

all notes in front

1 existing structures, even in operating plants in that area,
2 had to be reexamined on the basis of a higher acceleration
3 value?

4 A I can see where that would be a possible outcome
5 of that decision. I am not aware of any consideration or
6 discussion of that subject.

7 Q You - you can see that is a possible outcome.
8 Does that imply that you can also see where it is possible
9 that that wouldn't happen?

10 A Yes, I can see where it is possible that that
11 would not happen. There are indeed differences in the
12 regulations that apply to a plant under construction and a
13 plant that is operating.

14 Q Would there be any other reason why you could see
15 the possibility of that not happening?

16 A No, I cannot.

17 Q The difference in regulations to which you refer
18 with respect to plants that are under construction and
19 existing plants, can you tell me what the differences in
20 regulations are that you are referring to?

21 A I don't know the specific regulation. It goes --
22 no, I can't. I would have to go back to the regulation. I
23 am just aware that there were indeed differences in
24 decisions made with regard to operating plants and
25 construction plants, and indeed, that are written out in the

1 regulations.

2 Q Did you say the regulations deal with
3 decisionmaking with regard to existing plants and plants
4 under construction? Can you give me more of an idea of what
5 kind of decisionmaking those regulations refer to or apply
6 to to make it easier for us to find those regulations?

7 A No, I'm sorry, I can't offer you any guidance.

8 MR. ZAMARIN: I have here what I would like marked
9 as Consumers Exhibit 5 for identification, of yesterday's
10 date. What we will do, unless you have some objection, is
11 we will continue to mark exhibits for this deposition in the
12 same style as yesterday, so they will be under the date
13 10/7/1980 as opposed to marking them with today's date.

14 MR. PATON: I don't see why you were doing that.
15 Why don't we just put today's date on it?

16 MR. ZAMARIN: By having the same date, it will be
17 easier to recognize these as one package of exhibits,
18 because we are going to have a lot of depositions with
19 different dates.

20 MR. PATON: But you are going to have a transcript
21 for yesterday and a transcript for today. If you try to
22 match up the transcript with the exhibit, it is going to be
23 easier if this says 10/8, but I don't object if you want to
24 call it 10/7.

25 MR. ZAMARIN: This may not necessarily be in a

1 separate volume.

2 MR. PATON: Oh, yes, it will. They are not going
3 to combine yesterday's and today's.

4 MR. ZAMARIN: Why not?

5 MR. PATON: I have never seen it done yet.

6 MR. PATON: Can we go off the record?

7 (Discussion was held off the record.)

8 MR. ZAMARIN: Back on the record.

9 I am having marked as Consumers Exhibit Number 5
10 for identification as of today's date, Hood Dep, a
11 marked-upon photocopy of a letter dated October 16, 1979, in
12 the form of a summary of July 18, 1979 meeting.

13 (The document referred to was
14 marked Consumers Exhibit
15 Number 5 for identification.)

16 BY MR. ZAMARIN: (Resuming)

17 Q It appears on page 3 to be over the signature of
18 Danl Hood. Would you take a look at that and tell me if
19 that is a summary that was set over your signature?

20 A Yes, I prepared this meeting summary.

21 Q Was this meeting summary prepared from notes that
22 you made or took at the July 18, 1979 meeting?

23 A Yes, it was.

24 Q Do you still have the original of those notes?

25 A No, I do not.

1 Q Was this summary prepared based upon anything
2 other than your notes of that meeting and your recollection
3 of what went on at that meeting?

4 A Say I refer to the summary again?

5 Q Surely.

6 A I believe there were --

7 MR. PATON: Just a minute. Let me look at that.

8 THE WITNESS: I believe there were two other
9 documents that I used that were of assistance to me which
10 helped me recall the comments that were made at the
11 meeting. One of the documents is a handwritten note that
12 was received from Mr. John Gilray. It is consistent with
13 the comments that he made at the meeting.

14 The issue in question at the time during the
15 discussion during the meeting was related to the QA aspect
16 of the deficiency, and during the meeting, if I recall,
17 Bechtel was giving a presentation as to the root causes of
18 the problem in a discussion.

19 The point was made by Bechtel, as I recall, that
20 what I will loosely call the people problem was not a root
21 cause. I believe they were pointing out that they
22 considered the people to be qualified and that this was not
23 a contributing cause. Staff noted its disagreement with
24 this point, and the note which I received from Mr. Gilray
25 pointed this out further. Indeed, he disagreed with that

1 statement and noted his intent to pursue that aspect further.

2 That document is in the stack of documents I have
3 made available to you as you requested me to produce
4 documents.

5 Another document I had in my possession at the
6 time I wrote this summary reflects comments by Mr. Gene
7 Gallagher. I believe those two comments go to subparagraph
8 numbers 1 and 2 on page 3 of this summary. It is my
9 recollection that those comments were also made at the
10 meeting, so that document was of assistance to me during
11 preparation of the meeting summary.

12 That document from Mr. Gallagher is also in the
13 package of documents that I made available to you.

14 Q You indicated that by his note to you, Mr. Gilray
15 indicated his disagreement with the stated position that
16 personnel qualification was not a contributing cause of the
17 QA problems. I have before me a note signed "Gene
18 Gallagher" dated 2/19/80. Subject, minutes of meeting, soil
19 settlement, dated November 19, 1979 and November 26, 1979.

20 It says: "Attached for your info are the above two
21 minutes of meetings that are of interest to Midland
22 regarding the site settlement." I have another handwritten
23 note that is signed, appears to be signed "J. Gilray." Oh,
24 this is G. Gallagher. Excuse me. This one is Gene
25 Gallagher.

1 With regard to the Gilray note, I have before me
2 what is marked Consumers Exhibit Number 6 for identification.

3 (The document referred to was
4 marked Consumers Exhibit
5 Number 6 for identification.)

6 This is marked as of today's date.

7 I ask you if that is what you referred to as being
8 the handwritten note that was provided to you by Mr. Gilray.

9 A Yes. That is the document to which I referred on
10 behalf of Mr. Gilray.

11 Q When you say that he indicated that he was going
12 to pursue it further, you are referring, I take it, to the
13 last portion of this note which says "I intend to question
14 and challenge them in this area."

15 A Yes, I believe that goes to the Personnel
16 Qualifications Performance ~~BOOK~~ comment, what he calls in
17 the memo the people problem.

18 Q Did you discuss the contents of that note with him
19 any further?

20 A If I did, I do not recall it.

21 Q At the time of the meeting on July 18, 1979, did
22 you agree with his statement that is contained in that note
23 as it relates to the people problem, as it styles it?

24 A Yes. I believe my impression at the time was that
25 I tended to agree with this observation.

1 Q Do you know whether Mr. Gilray followed up his
2 intention to question Consumers in this area?

3 A It is my impression that there is further inquiry
4 reflected in the record on behalf of Mr. Gilray in this end,
5 but my memory bears some checking in this case.

6 Q When you say further inquiry, are you referring to
7 something that would have been presented to Consumers over
8 the signature of Mr. Gilray?

9 A I believe there are further requests to the
10 applicant -- that is what I want to check -- which go to
11 that matter, whether it is specifically from Mr. Gilray or
12 whether it is from I&E, which he is supporting. There is an
13 overlap. There is related concern, for example -- I believe
14 it is expressed in the I&E investigation report -- which
15 reveals that at the time of the soil placement activities,
16 there was no geotechnical person on the site, and indeed,
17 the job foreman was conducting the activities and taking
18 directions from others who were not located on the site.
19 Whether the further communication is directed from Mr.
20 Gilray or whether it is ~~reflective~~ ^{directed} to the I&E inquiries, I
21 am not certain at this point.

22 Q What we have here, though, is a statement by this
23 note to you from Mr. Gilray in August or July of 1979 that
24 he intended to question and challenge Consumers in this
25 area. I am wondering if you are aware of anything he did in

1 reasonable proximity to that date with regard to pursuing
2 the intent of this statement.

3 A At this particular point in time I am not sure of
4 what I feel. With a quick check to the more recent events,
5 I might be able to demonstrate that that indeed happened,
6 but I have difficulty at this particular point, without
7 checking the record, to remember specifically what
8 activities ensued from that concern.

9 Q But as you sit here right now you can't recall
10 anything in particular that Mr. Gilray initiated shortly
11 after that July 18, 1979 meeting with regard to his intent
12 to question Consumers on their "people problem"?

13 A That is correct.

14 Q I have here what has been marked as Consumers
15 Exhibit Number 7 for identification, of today's date.

16 (The document referred to was
17 marked Consumers Exhibit
18 Number 7 for identification.)

19 This appears to be a memo or some form of
20 correspondence. It appears to be over the signature of E.J.
21 Gallagher to Mr. Fiorelli. I believe this also indicates at
22 the top, D. Hood, then it has the notation Phil. 116-A. Can
23 you tell me what that D. Hood, Phil. 116-A means?

24 A D. Hood indicates that it is addressed to me to
25 our special mail routing circuit. It is addressed to me at

1 the Phillips Building in room 116-A.

2 Q You recall having seen a copy of this memorandum
3 on or about the date it bears, January 21, 1980?

4 A I do not recall the date at which I received it.
5 Whether or not I received it about this date, January 21, I
6 do not know. I do know that I am in receipt of that
7 document.

8 Q It indicates in this Exhibit Number 7 that a
9 meeting was held on January 16, 1980 with Consumers and
10 Bechtel regarding the fill settlement issue, the main
11 purpose of which was to discuss Consumers' response to
12 50.54(f) questions, Questions 24 through 45. It indicates
13 that the following observations were made during the meeting.

14 I would like to call your attention to number 2,
15 which states that since transfer of lead responsibility from
16 I&E to NRR was made on November 17, 1978, no progress has
17 been made in the technical review for the outstanding plant
18 fill safety issue.

19 Do you agree with that statement or disagree with
20 that statement as of January 21, 1980?

21 A I disagree with a literal interpretation of the
22 words. I interpret it to mean that instead of saying no
23 progress, I interpret this to mean insufficient progress is
24 being made. I would accept that interpretation, but not as
25 it is written here to mean no progress.

1 Q All right. You say you would accept that
2 interpretation. Would you agree with that statement so
3 interpreted, that is, as of January 19, 1980 meeting, that
4 insufficient progress had been made with regard to the
5 technical review since the transfer from ICE to NRR?

6 A Yes, I accept that as a satisfactory
7 characterization of the way the review progress is
8 developing. It is not developing in a manner satisfactory
9 to the staff. I believe that is what he is trying to say,
10 and I agree with that.

11 Q In paragraph number 3 of Exhibit 7, he states that
12 "Since the Corps had been contracted" -- he said contacted
13 by NRR -- "to review the issues on October '79, no progress
14 has been made regarding a technical review." Do you agree
15 or disagree with that statement as of January 1980?

16 A May I see the comment, please?

17 Q Yes.

18 A You are referring to subparagraph 3?

19 Q Yes, number 3.

20 A My recollection of this is at the point in time
21 our efforts were directed at the establishment of an
22 acceptable contract with the Corps of Engineers and that it
23 was at a later point in time when that effort was
24 consummated; nevertheless, there were certain activities
25 going on in anticipation of the final signing of the

1 contract.

2 I would have to disagree with a literal
3 interpretation of the passage where it says no progress has
4 been made. Again I believe the intent of the passage is to
5 say that insufficient progress has been made with regard to
6 the actual performance of the technical review.

7 Q Do you agree, then, that insufficient progress was
8 being made with regard to the technical review?

9 A Yes. At that point in time there was insufficient
10 review attention being given to the matter.

11 Q Insufficient review attention being given to the
12 matter by whom?

13 A On the part of the staff. We were experiencing
14 resource difficulties, and of necessity, we are operating on
15 a priority system relative to attention given Midland as
16 opposed to higher priorities in other plants. I believe
17 that comment by Mr. Gallagher, that and his previous
18 comments, were intended to bear that out. The staff is
19 operating under these difficulties.

20 Q With respect to the Midland plant fill issue, do
21 you know for how long a period prior to January 20, 1980
22 that this condition that you have just described existed?

23 A Yes. The condition that you are referring to was
24 the condition of limited resources,?

25 Q Yes.

1 A The problem originated on March 28, 1979.

2 Q What happened on March 28, 1979?

3 A There was a rather severe accident at Three Mile
4 Island.

5 Q So, from the time of the Three Mile Island
6 incident, the manpower of the staff with respect to Midland
7 was such that they were not able to provide sufficient
8 review of the Midland fill issue, is that correct, at least
9 up until January 21, 1980?

10 A Would you repeat the question?

11 Q She will have to read it back. I can't read it
12 back.

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

14 MR. PATON: I object to the question specifically
15 with reference to the use of the word "sufficient" as being
16 so indefinite as to not let the witness know what is being
17 asked for. By that I mean it could be sufficient for many
18 different purposes, and I don't think the question lets the
19 witness know for what purpose it is sufficient or
20 insufficient.

21 BY MR. ZAMARIN: (Resuming)

22 Q You can answer subject to that objection.

23 A I would like to add that --

24 Q Before you add -- do you mean add to a previous
25 answer?

1 A I think it is consistent with the question.

2 Q Just the way you started out, I thought you wanted
3 to go back to something. I'm sorry.

4 A All I was doing is providing a clarification which
5 I think is necessary to answer the question. I feel that
6 the staff resource problem was impacted more severely in
7 some branches than in others. In the engineering divisions,
8 which typically deal with matters such as geotechnical,
9 hydrology, structure and mechanical, the areas are impacted
10 to a lesser degree than are those branches that are systems
11 oriented, such as reactor systems branches, electrical
12 systems branches, et cetera.

13 The staff made the decision that it would continue
14 to apply resources to this area, the Midland review, this
15 soil settlement matter. That decision was made, to the best
16 of my knowledge, on the basis of recognition of the severity
17 of the problem, its potential impact and its relationship to
18 safety, on those bases.

19 I feel the point I'm trying to make is that while
20 the impact of the decision -- while the impact of the
21 accident makes our resources more severe than it otherwise
22 was, the decision is made, nevertheless, to proceed to give
23 this matter high priority and to continue the review in this
24 area, although it was necessary to suspend the overall
25 review of the Midland Plant and other areas as of March 15th.

1 Q You agreed, however, with statements that as of
2 January 21st, 1980, insufficient progress had been made in
3 technical review of plant fill safety issues since the
4 responsibility from I&E to NRR, and that since contact with
5 the Corps in October of 1979, insufficient progress had been
6 made regarding technical review. You have testified that
7 you believe this insufficient review resulted from a
8 manpower, a resource problem, as you termed it. You said
9 that that resource problem resulted from the event of March
10 28, 1979.

11 What I am asking you, then, is did this resource
12 problem exist with respect to the technical review of the
13 outstanding plant fill safety issues at Midland from March
14 28, 1979 at least through January 21, 1980?

15 MR. PATON: I object to the form of the question,
16 which I will withdraw if you ask him does he agree with your
17 very long characterization of what he stated.

18 MR. ZAMBIN: He damn well better. It is in the
19 record from his answers.

20 MR. PATON: And will you ask him that? If you do,
21 I will withdraw my objection.

22 MR. ZAMBIN: I will let the record stand.

23 MR. PATON: You refuse to ask him if he agrees
24 with your long characterization of his testimony? I can't
25 imagine anything more fair than that. Your characterization

1 went on and on and on.

2 All right. I object to the question on that basis.

3 MR. ZAMARIN: Fine.

4 MR. PATON: You say go ahead and answer.

5 THE WITNESS: I have lost track of the question.

6 MR. ZAMARIN: That is what I was afraid was going
7 to happen.

8 Could you read back the question?

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

10 MR. PATON: You and I agree that my prior
11 objection remains on the record, is that correct?

12 MR. ZAMARIN: Of course.

13 THE WITNESS: I do not accept that
14 characterization of what I said.

15 BY MR. ZAMARIN: (Resuming)

16 Q Tell me why not.

17 A I specifically object to the reference that
18 insufficient progress resulted from a staff resource
19 problem. That is misleading. I think it doesn't really go
20 to the heart of the matter.

21 Q Why don't you tell me that or what you mean when
22 you say that you agree with the statement that insufficient
23 progress had been made? I will let you have Exhibit 7
24 back. You can take a look at 2 and 3 and recall what you
25 testified to a few minutes ago.

1 A The insufficient progress is made more severe by a
2 resource problem, but that is not the cause of the
3 insufficient progress. The insufficient progress that I am
4 referring to goes to our obtainment of the information we
5 need, the acceptance criteria we need to judge the
6 acceptability of the proposed remedial actions in a timely
7 manner before they are undertaken, such that other
8 alternatives are not foreclosed ~~before~~ ^{or} we find ourselves
9 in an irretrievable situation.

10 So, what I am referring to goes back to the
11 information that is made available to us from the
12 applicant. It has to be coupled with the construction
13 progress as it is planned at that time, and there is
14 increasing concern on the part of the staff that we are,
15 indeed, approaching points where those considerations become
16 real factors and we don't have the sufficient information on
17 the progress in review had not progressed to the extent that
18 our concerns about foreclosing alternatives or encountering
19 irretrievable situations had been resolved.

20 Q Tell me what the Corps had done with the
21 information that it did have available and that the staff
22 had available from October 1979 to January 20, 1980, in
23 terms of a technical review, if anything.

24 A Your question is what has the Corps done --

25 Q From October '79 through the date of that Exhibit

1 Number 7, to the date of the meeting to which it refers,
2 which I believe is January 16, 1980, with the information
3 that the staff had during that time and with regard to the
4 technical review of the fill problems at Midland.

5 A At that point in time my impression was they had
6 done little or nothing with that information. They were
7 coming up to speed as of October 1979 or just beginning to
8 get on board.

9 Q Are you aware of any efforts on the part of
10 Consumers to push the staff or to request that the staff
11 hold meetings in order to obtain a timely resolution of
12 differences with respect to information that the staff
13 needed so that this technical review could progress?

14 A Yes, there have been numerous requests by the
15 applicant for meetings throughout the entire period on this
16 matter.

17 Q The period of March 28, 1979 through January 16,
18 1980, had these requests been, in your opinion, met in a
19 timely fashion by the staff?

20 A I recall that on several occasions it was
21 necessary to reschedule meetings. It was for reasons of
22 availability of central personnel who, indeed, have other
23 obligations other than Midland. I think under the
24 circumstances the staff response to meetings was reasonable.

25 Q I didn't ask you whether it was reasonable. That

1 is not the question. I am simply asking whether the
2 requests by Consumers for meetings in order to resolve these
3 informational issues that perhaps the staff felt was
4 impeding their ability to continue with their technical
5 review in the fashion they chose were complied with by the
6 staff on a timely basis, whether or not the reason for that
7 was reasonable.

8 A I don't understand the question. Are you saying
9 that you feel a factor in the timely review was a staff
10 denial of meetings requested by the applicant? Is that your
11 question?

12 Q I will ask you that. Do you feel that is the case?

13 A No, I do not feel that that is the case.

14 Q The question I had asked was, with regard to the
15 request by Consumers for meetings to resolve the questions
16 that the staff had, is it your opinion that each of those
17 requests were complied with by the staff in a timely fashion?

18 A The requests for meetings. I thought I answered
19 that.

20 Q You did, but you qualified it. You said "in a
21 reasonable fashion" at the end of your answer before. That
22 was not my question. I don't care whether it was reasonable
23 at this point or not. What I want to know is, when a
24 meeting was requested, was it complied with promptly by the
25 staff?

1 A I don't now how to answer a question that says
2 "promptly" without saying that it was replied in a
3 reasonable fashion. I think each request for a meeting by
4 the applicant was honored at some point by the staff, and in
5 my opinion it was timely and it was not a contributing
6 factor to the rate of progress that was being made in the
7 review.

8 Q In the statement in Exhibit Number 7, in paragraph
9 2 thereof where you agreed with the statement that
10 insufficient progress had been made in the technical review
11 since the transfer of lead responsibility from I&E to NRB,
12 were you referring to insufficient progress in the technical
13 review by the staff?

14 MR. PATON: I object to the form of the question in
15 which you stated that he agreed with something, unless you
16 ask him first did he in fact make that characterization. I
17 instruct the witness not to answer the question until we
18 resolve the issue.

19 Are you telling him to first -- you are not going
20 to ask him if he agrees with your characterization?

21 MR. ZAMARIN: No.

22 MR. PATON: Go ahead.

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

24 MR. ZAMARIN: Would you read it back, please?

25 (The pending question was read back by the

1 reporter.)

2 THE WITNESS: Yes, I was so referring to progress
3 by the NRB staff. I also had in mind the progress associated
4 with the quality assurance concern.

5 BY MR. ZAMARIN: (Resuming)

6 Q Do you recall a meeting on September 27, 1979 in
7 Washington at which you were in attendance as well as Mr.
8 Rubenstein?

9 A Is this the meeting with the applicant?

10 Q Yes. And in particular, I will ask if you recall
11 a meeting at which Mr. Rubenstein stated that he had trouble
12 getting technical staff to review soils.

13 A The date of this meeting was September '79,
14 September what?

15 Q September 27, 1979.

16 A I am having difficulty in my notes finding
17 reference to that particular meeting. Do you have any
18 meeting summary or anything that would help refresh my
19 memory?

20 Q We have a meeting summary but we don't have it
21 with us.

22 A Are you quite certain that that was the date?

23 Q 9/27/79.

24 A That was the meeting and not the date of the
25 meeting summary?

1 Q I believe it is the date of the meeting, and it
2 was a meeting on general licensing issues.

3 MR. KEELEY: That is when we had the bomb scare.

4 THE WITNESS: That is when we had the meeting,
5 when the principal subject was not the soil settlement
6 matter, but rather that discussion in that meeting happened
7 to mention some aspect of it. I don't recall. That
8 explains why I don't have that particular document, that
9 particular meeting summary in my notes.

10 BY MR. ZAMARIN: (Resuming)

11 Q Who is Mr. Rubenstein?

12 A Mr. Lester Rubenstein was my branch chief at the
13 time. It was at that time Licensing Branch Number 4.

14 Q Do you recall Mr. Rubenstein stating at that
15 meeting that he had trouble getting the technical staff to
16 review soils?

17 A I don't recall the particular comment, no. I
18 would not be surprised by that comment.

19 Q Were you aware as of the time of that meeting that
20 Mr. Rubenstein was having trouble getting his technical
21 staff to review soils?

22 A Yes. I am aware of the staff review difficulties
23 and the rather severe hardships within the staff that exist
24 by virtue of limited resources and other priorities.

25 Q Referring now to Exhibit Number 5, which is the

1 summary of the July 18, 1979 meeting, on page 2 in the first
2 paragraph it states that the staff noted that the response
3 to its 50.54(f) requests for acceptance criteria for
4 remedial actions had not resulted in identification of
5 criteria in advance of the remedial action.

6 Rather, the reply notes that the criteria will be
7 determined during or after the remedial action. In your
8 opinion, why is it insufficient that criteria be determined
9 during or after the remedial action?

10 A Quite the contrary. In my opinion it was to be
11 determined. From our view, the need existed to determine
12 elements of that prior to undertaking of remedial action.

13 Q Why? On what do you base that?

14 A Let me first address it as a practical matter. It
15 is prudent engineering and it is prudent regulation to think
16 about the results of your actions prior to your undertaking
17 them. It is really as simple as that. In the review,
18 sufficient attention was not being given to the up-front
19 matters.

20 From an applicant's viewpoint you may be spending
21 a lot of money to save a building which is not worth saving
22 in the first place, or you may be subjecting a building
23 which is going along for the ride to latent effects such as
24 further inducing stress that would not become obvious until
25 that structure is actually hit by an earthquake or by a

1 tornado.

2 So, as a prudent matter, one has to give careful
3 thought in advance of those actions. In our opinion, there
4 is ⁱⁿ sufficient detail to those up-front matters now being
5 given to this area.

6 Q With respect to, in the applicant's viewpoint, the
7 possibility of the applicant spending money to save a
8 building that might not be worth saving, that is simply
9 something the applicant does at his risk, isn't it?

10 A That is correct. It is an element to us from the
11 standpoint of selection of options. There would have to be
12 some justified basis for the staff to even expend resources
13 to justify an option, ^{one} or option versus another option. That
14 is an internal matter for the staff.

15 For example, it would be somewhat foolish of me as
16 a project manager to recommend to my management that we
17 ^e expand staff resources directed to one option if the
18 situation existed where another option might provide a more
19 positive fix and, indeed, would be just as cheap or no more
20 expensive. We did pursue that line of questioning from the
21 standpoint of selection processes.

22 Q Are you saying that the staff would make a
23 determination that if the applicant wanted to spend a little
24 more money on a proposed fix than some other alternative,
25 that the staff would not allocate the manpower to review

1 that because they felt it was a waste of the applicant's
2 money?

3 A No, I did not say that.

4 Q Tell me again what you said.

5 A What I said was it was clear from the outset that
6 there were several options that could be taken for the
7 diesel generator building. Eventually the options were
8 narrowed down to two, based on recommendations of Dr. Peck,
9 consultant to Bechtel in this case. The question that the
10 staff had confronted to it is in view of its other
11 priorities, should it allocate its manpower resources for
12 the particular option that was selected by the applicant,
13 which was to follow a surcharge approach as opposed to
14 another option, which was to remove and replace the
15 structure after having assured a satisfactory ~~reconstruction~~
16 ~~on the part~~ of its replacement. Those are the two options.

17 The staff did ask a line of questioning inquiring
18 about the financial aspects of the various options. That, I
19 believe, is what I said.

20 Q I believe you added some more, but let me ask you
21 this. Was the purpose of asking those questions was so that
22 the staff could take this cost-benefit type of consideration
23 that is inherent in all this decisionmaking into account?

24 A There is some element of that inherent in a
25 decisionmaking process.

1 Q I am asking why the staff asked for that financial
2 information.

3 A To determine if, indeed, it should expand its own
4 resources to review the particular options selected by the
5 staff as opposed to another option that was available at
6 that time which required little or no staff resources,
7 namely, the removal and replacement options.

8 Q I see. What you are saying is if the option that
9 would require little staff resources was relatively
10 comparable in cost to the applicant as an option that would
11 require more staff resources, that the staff would insist on
12 the prior option?

13 A Simply put, is there a reason for the staff to
14 ^eexpand the review resources for that option as opposed to
15 the other option?

16 Q Rather than a reason. Again, you are kind of
17 sliding around on me on this.

18 MR. PATON: I object to that comment.

19 MR. ZAMARIN: He is.

20 BY MR. ZAMARIN: (Resuming)

21 Q I understood you to say that the reason the staff,
22 or at least a reason that the staff wanted that financial
23 information was to determine the relative costs of the two
24 fixes which were proposed by Dr. Peck, and because taking
25 the building down and replacing it would have required a

1 significantly lesser resource commitment on the part of the
2 staff that had the two options been closer, equal and closer
3 to the applicant, the staff would have rejected the
4 surcharge because it would have required an increased
5 commitment of resources by the staff as compared to removal
6 and replacement. Is that what you are saying?

7 A No. I reject that characterization.
8 I ~~would~~^{wouldn't} say that we would have rejected that on
9 that basis. This is not the sole basis for such a judgment.
10 It would have been one of several factors, in my opinion.

11 Q When you say it would have been, the effort
12 required, the investment required by the staff, then, is it
13 a factor or one of the criteria upon which the staff
14 evaluates proposed fixes at Midland with regard to the soil
15 settlement? Is that correct?

16 A I think when we are confronted with a situation
17 where there are several options available to us, yes, that
18 is one of the factors to consider.

19 Q I also asked whether that information with regard
20 to the financial aspects of the proposed fixes was used by
21 the staff in any way in some kind of cost-benefit
22 consideration or analysis with respect to the proposed fixes.

23 A I am not familiar with any such usage.

24 Q You indicated that it is prudent engineering to
25 have identification of criteria in advance of remedial

1 action. What do you base that statement on?

2 A I thought I had already answered that question.

3 Q What you have told me is you have answered it by
4 saying the staff likes to use this two-pronged approach that
5 allows you to look at whether you are spending money with
6 the building or saving it. Were these the basis for your
7 statement that it is not prudent engineering?

8 A I don't believe I said that the staff likes to use
9 the two-prong approach. I think all of our procedures and,
10 indeed, the regulations themselves are all founded upon a
11 two-step licensing approach. I think there are good, sound,
12 practical reasons for that being the case. I am attempting
13 to relate to you some of the more practical aspects why that
14 should be done.

15 Q You said one of them was prudent engineering
16 dictates that two-step approach. What I want to know is
17 upon what do you base your statement that prudent
18 engineering dictates that approach?

19 A To me it is an obvious statement that one doesn't
20 go out and undertake such an enterprise without giving
21 thought to its consequence.

22 Q I am not talking about not giving thought. I am
23 talking about not necessarily having identification of final
24 criteria in advance of some action that will be taken and
25 then observed through field testing.

1 A I'm not sure exactly sure what it is you are
2 asking me with regard to my difficulty with the approach.

3 Q You made a statement. You said it is not prudent
4 engineering practice to not have identification of final
5 criteria in advance of the remedial action. I am asking you
6 upon what you base that. In other words, is there some law
7 of engineering that says that? Is there some learned
8 professor who has told you that? I just really want to know
9 what you base that on. That seems to me to be a somewhat
10 technical statement. I just want to know what you base it
11 on.

12 A I believe I answered it by saying I believe it is
13 an obvious statement.

14 Q It is not to me. I am not an engineer, so tell me
15 what you base that on.

16 A The question of concern is are you building in
17 latent effects by your actions? That may be detrimental.
18 If it is, you need to know that in advance, and by giving
19 proper attention to your actions before you condone those
20 actions, you may be able to determine that in advance.

21 Q Are you saying that any absence of the
22 identification of all final criteria in advance of the
23 remedial action is the same as giving inadequate attention
24 to what you are doing?

25 A No. I think what I am saying we infer that

1 inadequate attention is being given to the matter from the
2 specific requests that we have made, and those specific
3 requests are oriented toward the attainment of appropriate
4 criteria. And the fact that we don't get those criteria
5 lead us to believe that the attention which should be given
6 has not ensued.

7 Q This inference is drawn notwithstanding the fact
8 that the presentation has been made to the staff setting
9 forth the reasons why Consumers believes that the approach
10 they are taking with regard to the surcharge and the field
11 testing is not only acceptable but the best approach?

12 A That is correct. It is made recognizing that the
13 information has been presented to us.

14 MR. ZAMARIN: Why don't we take five minutes?

15 (A brief recess was taken.)

16 BY MR. ZAMARIN: (Resuming)

17 Q Mr. Hood, are you aware that on December 4, 1978,
18 there was a meeting held at the Midland site at which time
19 the surcharge method with regard to the diesel generator
20 building was told to the staff?

21 A Yes, I recall that meeting. I believe I was in
22 attendance.

23 Q Do you recall what, if any, specific concerns with
24 regard to the surcharge method were expressed to Consumers
25 by the staff at that meeting?

1 A As a result of the December 4, 1978 meeting, I
2 issued a meeting summary dated January 12, 1979. My
3 recollection of that meeting is that it is reflected in this
4 meeting summary.

5 Q May I see your copy of that for a moment?

6 A I would also point out that the staff has in its
7 possession a letter from Mr. Tom Cooke, project
8 superintendent, to Mr. P.A. Martinez of Bechtel dated
9 December 7, 1978, which also speaks to that meeting. It is
10 my understanding that this letter is also in the package
11 that I made available to you. I am referring now to the Tom
12 Cooke letter.

13 Q What is the date of that letter?

14 A December 7, 1978.

15 Q At the meeting on December 4, 1979 -- I am sorry
16 -- 1978, as reflected in your summary of January 12, 1979,
17 there was a discussion of the instrumentation for the diesel
18 generator building that would include optical survey
19 measurements as well as monitoring of cracks using
20 electrical devices. It indicates the location for the
21 devices and it also indicates the foundation monitoring
22 would include devices to measure settlement and pore water
23 pressure.

24 It makes reference to Borros anchors and
25 piezometers. Would that kind of monitoring and

1 instrumentation provide any information with regard to the
2 possible stresses to which the building would be subjected
3 during the preload, in your opinion?

4 A Yes. That instrumentation produces measurements
5 as they are occurring, some of which can be translated to
6 the stresses in the structures.

7 Q Based upon information obtained, would it then be
8 possible to determine or calculate the stresses to which the
9 building had been subjected?

10 A Yes. I believe after the fact that ^{de} termination
11 can be made.

12 Q Would this then provide the same type of
13 information or results that you had indicated a little
14 earlier was required by the staff with regard to possible
15 effects to the diesel generator building as a result of the
16 preload?

17 A It goes to the type of information but not the
18 timeliness of the information.

19 Q But nevertheless it provides the same kind of
20 information, doesn't it?

21 A No.

22 Q In what way would it not provide the same kind of
23 information?

24 A We are still missing from that the certain element
25 that one needed from the outset. Those elements are needed

1 for the basis of judgments. A crucial element that is still
2 missing from that approach is an understanding of what has
3 been done to the available margins of the plan, what
4 stresses have you put into the structure. That aspect,
5 which stresses you have actually introduced by your actions,
6 or made available by the technique to which you are
7 referring; and what is not made available by that technique
8 is an understanding of what or just how much stress the
9 structure is capable of withstanding, and an understanding
10 as to what you have done, therefore, to the available
11 margins. We see that as a crucial missing element.

12 Q Are you saying that if you had had what you style
13 acceptance criteria with regard to the preload program prior
14 to the preload, that you would now have more information
15 with regard to what happened to that building than you have
16 after having observed it and after having monitored and
17 measured the stresses and settlements of pore water
18 pressures?

19 A Yes. I am saying one would then be in a position
20 to make a judgment as to the acceptability of the results.
21 Without that, you are not.

22 Q What piece of information is missing, then?

23 A How much settlement or differential settlement can
24 you indeed induce in the diesel generator building before it
25 fails or before it will be incapable of fulfilling its

1 essential function of surviving an earthquake, which is just
2 one example, to name a specific structure. Of course, there
3 are many other structure and components involved in
4 remedial meteorological action.

5 Q We are just talking now about the diesel
6 building. Are you saying that the staff to date has no
7 information with regard to the extent of differential
8 settlement that the diesel generator building can withstand?

9 A Staff does not have reasonable assurance at this
10 point -- I'm answering your question -- at this point in
11 time that that structure in its present condition can
12 fulfill its essential function.

13 Q That wasn't my question. My question was are you
14 saying that the staff doesn't have information with regard
15 to the amount of differential settlement that that building
16 can withstand?

17 A That is correct. We do not have that information.

18 Q What do you mean when you say you can't determine
19 what has been done with regard to the available margin with
20 respect to the diesel generator building?

21 A The preload program has subjected the structure to
22 stress. The preload program has itself induced some
23 differential stresses, of differential settlement, which is
24 translated to stresses in the structure. Those stresses
25 will be available when that structure is hit by the

1 earthquake or by the tornado. The acceptance criteria that
2 you use before assessing the adequacy of a structure
3 involves consideration of load combinations.

4 Some consideration has to be given to that
5 differential settlement that is present in those load
6 combinations. We have received a response from the
7 applicant as to how he proposes to include that factor. The
8 staff is not yet in agreement that that particular proposal
9 is sufficiently conservative.

10 Q Why not?

11 A The combination proposed provides zero margin in
12 its consideration. My understanding of the disagreement is
13 that it centers around the fact that some margin should be
14 provided for that term ⁱⁿ and the combination of loads.

15 Q Who is it in the staff who is making this
16 determination?

17 A Concern comes from the structural engineering
18 branch, and the reviewer in that branch is Frank Rinaldo.
19 He was preceded by Abdul Hafiz, who also shared that concern.

20 Q So long as acceptance criteria are at some point
21 provided to the staff, why is it of concern to the staff
22 whether that is provided before or after the field test data
23 is obtained?

24 A The fact that you may be inducing latent effects
25 to the structures by virtue of this remedial action.

1 Q Couldn't you determine that after the field test,
2 whether that had occurred, as well as before?

3 A Regulations are written toward determining that in
4 advance and thereby avoiding that situation.

5 Q But apart from the regulations saying that you do
6 that in advance, wouldn't you have the same information if
7 you obtained the acceptance criteria at some later time and
8 then applied that to the observations and measurements taken
9 during the field test?

10 A Possibly that is one outcome, to eventually get
11 the data after the fact and say, "Yes, I ^{was} ~~would~~ lucky enough
12 ~~The situation did, indeed, pan out as I had hoped.~~ I have
13 ~~considerable difficulty with that approach.~~

14 Q You have considerable difficulty with that
15 approach for some reason apart from the fact that it is not
16 consistent with the two-step approach? What I am asking is
17 does it give you any data that is less reliable than the
18 predictive data that you would get from the first step of
19 the two-step approach?

20 MR. PATON: I object to the form of that question.
21 That is not the same question you asked him before.

22 MR. ZAMARIN: That is why I am asking now.

23 MR. PATON: All right.

24 THE WITNESS: I believe ^{the concern} ~~each one~~ I have is tied to
25 the two-step approach. The difficulty I have is that I can

1 envision myself in a number of undesirable situations at the
2 point I acquired that result.

3 BY MR. ZAMARIN: (Resuming)

4 Q But you would know it at the time you acquired the
5 result, wouldn't you?

6 A I would know it at the point when it is too late
7 to do anything about it. I may find myself -- let me
8 illustrate my point.

9 Q I see. You may find yourself with a structure
10 that won't perform its intended function, is that right?

11 A That is right. And by the process, I may have
12 denied myself other alternatives that were available to me
13 at the outset. May I illustrate?

14 Q Sure.

15 A I can conceive of a situation where I do a group
16 load test ^{on} in caissons that have been placed under the ^{penetration}
17 ~~artillery~~ ^{auxiliary} building, specifically, under the ~~administration~~
18 area of that ^{auxiliary} ~~artillery~~ building, and the results of that
19 group load test indicate to me that maybe I should have used
20 a 40-inch caisson rather than a 30-inch diameter caisson.

21 I ask myself at that point, ^{"So} ~~if~~ now I have gotten
22 that unacceptable result, what can I do about it?" I have
23 denied myself, by virtue of placing the caissons, I have
24 denied myself further access to that area, but certainly the
25 removal of those caissons is a considerable effort. At that

1 point there is nothing I can do.

2 Q Can you give me a similar illustration with regard
3 to the diesel generator building and the surcharge program?

4 A The concern of the diesel generator building may
5 go to a latent factor that I don't know about. They may
6 have induced stresses in that structure that may be present
7 and I am not aware of it until the structure is actually
8 confronted with the event, such as the earthquake or the
9 tornado.

10 Q In taking the two-step approach, however, wouldn't
11 you have the same information at the end of the surcharge
12 program as you have now after having observed the
13 measurements and observing the field testing?

14 A I think it is a question of the confidence you
15 have in what you have in those results. The situation that
16 we had before for the diesel generator building centers
17 around the question, have you indeed achieved secondary
18 consolidation. The staff has reasonable doubt to question
19 whether that is the case.

20 Once a plant goes into operation, assuming the
21 staff is correct, the settlement will continue. At what
22 point that becomes obvious, it is speculation.

23 Q Let's go back a minute to your problem with the
24 surcharge program. Possibly having induced latent stress or
25 stress the effects of which are latent, assuming that you

1 had the first step acceptance criteria prior to the preload
2 program, and you still have the same results, the same
3 measurement, the same data that you had, as we have now,
4 after having done the field testing and after having done
5 the preload, you wouldn't know any more about those possible
6 latent effects by having taken the two-step approach than by
7 having done the field testing, would you?

8 A I think there is a considerable difference in that
9 one of the approaches may have caused me to take an entirely
10 different approach, but your question goes to the fact that
11 had I indeed -- do I arrive at a point in time later on when
12 I am at the same point. I believe I said it is one possible
13 outcome.

14 Q For example, if acceptance criteria with regard to
15 the preload program or the diesel generator building had
16 been to the effect that there were only certain excess pore
17 pressures that were allowable and there were only certain
18 strains that will be determined by the strain gauges and
19 things we talked about at that meeting that would be
20 allowable, there is only a certain amount of differential
21 settlement as indicated by these Borros anchors and so forth
22 and strains that will be allowable.

23 The building, in fact, after the preload program
24 exhibited behavior all within what the criteria would have
25 been had you had it up front. How could you then draw any

1 distinction between whether there might be latent effects
2 from the preload or any distinction between the results you
3 achieved and the reliability of those results, if you can go
4 back afterwards and look at what happened and observe that
5 as being within whatever the criteria is that is provided
6 here?

7 MR. PATON: I object to the form of the question
8 in that I think you are asking the witness to assume that he
9 could learn no more under his suggested method of analysis
10 than he could by following your learn-as-you-go approach.
11 If I have misconstrued the question, then I will withdraw
12 it, but that is the way I view the question.

13 MR. ZAMARIN: There is no element of that in my
14 question.

15 BY MR. ZAMARIN: (Resuming)

16 Q Would you answer that?

17 A I am of the opinion that one would have more
18 information available to him with the prior approach that
19 you referred to than with a second approach, and at this
20 later point in time to which you are referring, you would be
21 in a much better position to understand the result and to
22 provide the correct interpretation of it.

23 Q At the meeting we referred to a little while ago,
24 however, there was discussion of precisely what consumers
25 intended to do with regard to obtaining data during the

1 preload program with regard to the Borros anchors, with
 2 regard to the piezometers, with regard to the strain
 3 gauges.

4 The staff was there, you were there, Mr. Heller
 5 was there. Nobody raised any question as to whether there
 6 should be additional data that were to be obtained during
 7 that time, so from that one could assume that at least to
 8 the people who were present on behalf of the NRC staff, it
 9 would provide sufficient data.

10 Really, my question to you is: in your opinion,
 11 how in the world would it make a difference as to whether
 12 you said all of these have to be within x range before the
 13 program or all of these have to be within x range after the
 14 program, so long as they were all within that x range?

15 A For one thing, if I had ~~entered into~~ ^{Understood} the
 16 acceptability ^{range} and crossed over into an area where the
 17 structure would no longer be acceptable, by one approach, I
 18 think I would know that at the time, and certainly ^{there are} ~~the~~
 19 advantages of knowing that in a timely manner; whereas with
 20 the other approach, I would not realize that and may not
 21 ultimately realize that due to an oversight.

22 In the one case you are forcing an approach which
 23 places you on your own without any staff review. In the
 24 other case you are providing a method which the staff can
 25 follow.

1 Q But in both instances, assuming no oversight that
2 is ignoring some point in data, I suppose, or failing to
3 observe that point in data, you would end up with precisely
4 the same information and results, wouldn't you?

5 MR. PATON: I instruct the witness not to answer
6 that question. You have asked him three or four times if
7 you have the same data from one that you have from the
8 other, what different data are you going to have? The
9 question answers itself. He has given you his answer three
10 times, and I am instructing him not to answer this question
11 again.

12 MR. ZAMARIN: I am going to keep asking him until
13 he answers it.

14 MR. PATON: Well, I am going to instruct him not
15 to answer it, so we are at an impasse, then.

16 MR. ZAMARIN: What is your objection?

17 MR. PATON: You have asked the question three
18 times, if you have the same data from either method, are you
19 going to have the same data? The question is does 1 equal
20 1. He has given you an answer three times, and if you are
21 going to keep —

22 MR. ZAMARIN: Let's go back and have her read it
23 back. I have not gotten an answer to that question. I am
24 not asking him if 1 equals 1.

25 MR. PATON: Let's go off the record.

1 (Discussion was held off the record.)

2 MR. ZAMARIN: Could you read back the question,
3 please?

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

5 THE WITNESS: It is clear at this point you have
6 asked the question three times and I have answered the
7 question each time based on my understanding. By the fact
8 that you don't accept the answer indicates to me I don't
9 understand the question, and I would have to ask you to
10 restate the question.

11 BY MR. ZAMARIN: (Resuming)

12 Q Before that, let me tell you why I have asked it
13 again. You have added things in your answer. You have
14 qualified my question. As a deponent, you don't have a
15 right to do that; okay?

16 MR. PATON: I disagree with that instruction. I
17 don't think you can instruct my witness how to answer
18 questions. I don't want you instructing my witness what he
19 can do and what he can't do.

20 MR. ZAMARIN: Fine. To the extent that you do
21 that, I am going to keep asking questions and I am going to
22 keep doing that until you have answered the question within
23 the parameters of my question.

24 MR. PATON: I am going to instruct the witness to
25 answer the questions in reference to what he thinks is

1 appropriate and not what he is instructed to do by counsel
2 for Consumers Power.

3 MR. ZAMARIN: He is going to answer my questions
4 as I ask them.

5 BY MR. ZAMARIN: (Resuming)

6 Q What you did was you added a qualification. You
7 said you might drop or you might omit a piece of
8 information, and that qualified your answer. So I am saying
9 that assuming that there is no point of data which is
10 overlooked, wouldn't you -- I am going to have to have my
11 question back. Would you please read it back?

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

13 Q Assuming there is no oversight, wouldn't you end
14 up, whether you utilized the first step of the two-step
15 approach or the field testing, the learn-as-you-go approach,
16 as you term it, with the same results and therefore the same
17 information, regardless of which method you use?

18 A The difficulty I am having with your question is
19 it requires me to postulate whether one of those approaches,
20 namely, where you provided the information up front, would
21 possibly have caused you to request further information or
22 change your approach. I don't know whether or not that
23 would have been the case. I can conceive of a situation
24 where you might eventually wind up at the same point in time.

25 Q My question is if we are talking about the

1 information and results that you get, we could conclude, I
2 suppose, that if that criteria later on would have raised
3 some questions, then it would raise the same questions if
4 you did it at a point x in time as if you had that criteria
5 at a point y in time.

6 So my question is limited, assuming there is no
7 oversight, whether either of the two methods would
8 ultimately present you with the same information and
9 therefore the same results.

10 MR. PATON: Can I ask you to clarify what you mean
11 by results? If you don't, I would object to the form of
12 your question. I don't know what you mean by results.

13 THE WITNESS: That is part of my difficulty, too.

14 BY MR. ZAMARIN: (Resuming)

15 Q I took that out of one of your answers. Why don't
16 you tell me what you mean by results.

17 MR. PATON: I object to the form of that. In what
18 context? Do you mean in the context of the discussion of
19 today and yesterday?

20 MR. ZAMARIN: Yes.

21 MR. PATON: That is not a fair context. In the
22 context of everything, I guess.

23 THE WITNESS: Are you waiting for an answer from
24 me for what I mean by results? Is that where we are?

25 MR. PATON: In the context of all the discussion.

1 MR. ZAMARIN: He used it earlier in the context of
2 obtaining information and having certain criteria which you
3 would then compare to see what the result of that is, what
4 the resultant effect is. I will withdraw my question as to
5 what you understand results is.

6 MR. PATON: You are just going to make that a
7 statement? You are not going to ask him if he agrees with
8 it?

9 MR. ZAMARIN: I am telling him that is what I mean
10 by results.

11 MR. PATON: Okay.

12 MR. ZAMARIN: There is a question pending with
13 regard to the two methods. Do you remember what the
14 question was?

15 THE WITNESS: I am sorry. With all the jumping
16 back and forth, I don't remember what the question was.

17 BY MR. ZAMARIN: (Resuming)

18 Q Here is the question again. Assuming that there
19 is no oversight, wouldn't the two methods provide you with
20 the same information?

21 A I need a moment to think about that. I do not know
22 how to answer the question other than I already have, and I
23 refer specifically to my reply that goes to the
24 acknowledgment that that is a possible outcome. However, I
25 have difficulty with the acceptance of the postulation that

1 one of the approaches might have caused me to take a
2 different route.

3 I acknowledge that I could with either approach
4 possibly arrive at the same point in time, not the same
5 point in time but with the same data.

6 Q Assuming that you didn't or wouldn't have taken
7 some other approach, assuming that the same approach would
8 have been taken, would there be any difference in the
9 information obtained, and again assuming no oversight?

10 A You are postulating that the other approach of
11 putting the matters up front would have been found to be
12 acceptable and so forth. I think that is correct. Having
13 acquired the information and agreeing with it, then we would
14 have pursued the approach that indeed has been proposed or
15 has been taken and may have arrived with the same
16 information. That is the question I am understanding you to
17 be asking.

18 Q That is correct. You say may have arrived.

19 A I acknowledge that it is a possibility.

20 Q You say may have arrived with that same
21 information. What would cause you, other than oversight, not
22 to have arrived at the same information?

23 A I don't know, that is hypothetical; but I am
24 agreeing with you that if we acquired the information
25 earlier and we found it acceptable as it is, and if it was

1 of the character that did not cause us to change the
2 approach, we would have arrived at the same data that we
3 ultimately wound up with with the other approach. Yes, I
4 accept that as a possible outcome, as a probable outcome.

5 Q Are you aware of anywhere in the regulations that
6 this two-step approach, that is, the up-front criteria and
7 then the implementation and evaluation, is mandated?

8 A I have difficulty with the word "mandated." I
9 think it flows in a number of areas in the regulations.

10 Q Such as?

11 A 50.37 or 33. It is the part that goes to the
12 required findings for issuance of a construction permit.
13 There there is a 50.37 that goes to the required findings --
14 excuse me, I believe it is 57 which goes to the required
15 find^{ing}s for issuance of an operating license. There are
16 other parts of the regulation that refer to the fact that in
17 determining whether or not to issue an amendment to a
18 construction permit, the staff will be guided by this same
19 criteria that is applicable for the original issuance.

20 These are examples of the regulations which refer
21 to that matter, but I don't know that they specifically
22 mandate the approach.

23 MR. ZAMBIN: I would like to mark this Exhibit 8,
24 Consumers Exhibit 8.

25 (The document referred to was

1 marked Consumers Exhibit
2 Number 8 for identification.)
3

4 BY MR. ZAMARIN: (Resuming)

5 Q That is Consumers Exhibit 8 as of this date, the
6 summary of the December 4th meeting on structural
7 settlements that you provided us a few moments ago and which
8 is over your signature. In particular, it is dated December
9 12, 1979, referring to a December 4, 1978 meeting.

10 If you could look at that and tell me if in fact
11 -- I'm sorry, did I say January 12, 1979? If I didn't, it
12 is dated January 12, 1979, referring to a December 4, 1978
13 meeting.

14 A I would caution you the copies I am providing you
15 for this meeting are working copies and are not necessarily
16 complete, and that they may not include, for example, the
17 service list. You might prefer to have a more complete copy.

18 Q I am really concerned with the substance of the
19 copy rather than any service list. This is an accurate copy
20 of the substance of the summary that was prepared by you.

21 A Yes, it is.

22 Q Is it your understanding that the customary
23 procedure for designing the building to withstand settlement
24 is to predict settlement and then ensure that the
25 structure's design can withstand that settlement?

1 A Are you referring to preloading in general?

2 Q No. I am talking -- I am referring to the design
3 of the structure. When you go about designing a building,
4 particularly when a utility goes about designing a building,
5 that it is designed so as to have a particular settlement
6 predicted, and then the design ensures that the structure
7 can withstand the predicted settlement.

8 A I believe in the normal course of events, in the
9 two-stage licensing process one attempts to account or
10 should attempt to account for the forces to which the
11 structure will be subjected and include those in its design
12 effort and then proceed with the design accordingly.

13 Q Is it your understanding, however, that the normal
14 and customary procedure for designing the building to
15 withstand settlement is to predict a certain settlement and
16 then ensure that the structure as designed can withstand
17 that settlement?

18 A Your question is did they include the settlement
19 in advance and then proceed with the design?

20 Q That is correct.

21 A And your question goes to is it my understanding
22 that that should be done or was done, or what?

23 Q Is it your understanding that that should be done?

24 A It is my understanding that that should be done,
25 yes.

1 Q And is it your understanding that that is
2 customarily done?

3 A Yes, it is my understanding that that is
4 customarily done. But I would have to acknowledge that the
5 ⁱⁿ ~~con~~clusion of different^{ial} settlement is not that explicit, and
6 there is some question of the manner in which it is to be
7 accounted for in the process.

8 Q What do you mean by that?

9 A Concern goes to the specificity of the codes in
10 accounting for differential settlement. It has been pointed
11 out to us by Bechtel during meetings that they have designed
12 all of their structures for zero differential settlement. I
13 believe it goes to an interpretation of what the codes
14 mean. I believe it is the practice generally to include
15 differential settlement as part of the consideration of dead
16 load. I believe the Bechtel statement to be based on a
17 literal reading of the Code, which did not provide as part
18 of the dead load a consideration for differential settlement.

19 Q Do you know of architects and engineers who use
20 different approaches than that which you just described
21 Bechtel has used?

22 A I cannot give you specific names. I was present at
23 meetings when this was discussed, and the comment made by a
24 member of the regulatory staff led me to conclude that it
25 was generally done this way by other firms like Bechtel,

1 although not Bechtel.

2 Q You say generally done this way. Do you mean not
3 assuming zero differential settlement?

4 A That provision was made in the consideration of
5 the dead load term to provide margins for differential
6 settlement.

7 Q Who was that individual who made that statement?

8 A That individual was Abdul Hafiz.

9 Q Do you recall when that meeting was?

10 A No, I do not.

11 Q Do you recall approximately when it was?

12 A I believe it was approximately in 1979, probably
13 in the earlier part.

14 Q Was the stated purpose of that meeting to discuss
15 soil settlement issues?

16 A I believe it was.

17 MR. ZAMARIN: I have here what I am marking as
18 Consumers Exhibit Number 9 for identification as of today's
19 date.

20 (The document referred to was
21 marked Consumers Exhibit
22 Number 9 for identification.)

23 BY MR. ZAMARIN: (Resuming)

24 Q It is a summary of February 27 and 28, 1980
25 meeting and site tour, the substance of which, excluding

1 enclosures and service lists, is contained in three pages.
2 Since I have got my notes on this, I am going to hold my
3 hand over that portion of those notes and just ask you to
4 take a quick look at this and tell me if in fact this is the
5 summary that was prepared by you and sent out over your
6 signature.

7 MR. PATON: Take all the time you want to satisfy
8 yourself that that is what it is supposed to be.

9 THE WITNESS: I recognize the document as a
10 summary of a meeting prepared by me, yes.

11 BY MR. ZAMARIN: (Resuming)

12 Q Did you prepare this document based upon your
13 notes and your recollection of that meeting?

14 A Yes, I did.

15 Q There is reference on page 3 of Exhibit 9 to a
16 presentation by Mr. C.H. Gould. Do you recall that
17 presentation?

18 A Vaguely. May I refer to the meeting summary?

19 MR. PATON: Do we have your response to that? He
20 wants to refer to the meeting summary.

21 BY MR. ZAMARIN: (Resuming)

22 Q Before we do that, I want to simply indicate to
23 you what they were talking about and see if you can recall
24 it without refreshing your recollection. It indicates in
25 here that Mr. Gould had described placement of caissons

1 beneath the electrical penetration area, and at the wing
2 walls of the aux building and within the feedwater isolation
3 valve pit area.

4 I can give you now a clean copy of this Exhibit
5 Number 9. The first full paragraph on page 2 describes Mr.
6 Gould's presentation.

7 A Is there a question before me or where are we?

8 Q I think I asked if you recall the presentation
9 made by Mr. Gould during that meeting.

10 A I believe I answered that. I said vaguely.

11 Q If that is the case, then I don't remember what
12 the next question was either.

13 A I don't believe there is a question before me,
14 which is why I asked.

15 Q Okay.

16 After having reviewed a copy of Exhibit Number 9,
17 do you now have a better recollection of what Mr. Gould's
18 presentation was?

19 A Yes, I do.

20 Q On page 3 of Exhibit Number 9, in the second
21 the last paragraph, you have indicated that the staff noted
22 that the presentation by Mr. Gould included the
23 specification of some quantitative criteria to be applied
24 during the remedial action for the auxiliary building. Is
25 that quantitative criteria to which you refer acceptance

1 criteria?

2 A I don't know the answer to that question. I do
3 recall that this paragraph is based upon a question raised
4 by Mr. Lyman Heller at that meeting, at which he noted that
5 during the presentation, the staff had heard, and I believe
6 for the first time, certain quantitative aspects of the
7 remedial action for the caissons, and his purpose in raising
8 the question was to inquire as to whether there was also
9 information available of a quantitative nature with regard
10 to other proposed remedial actions, such as the piles for
11 the service water structure.

12 I recall the answer that was given at the meeting,
13 which was a negative reply that no, the other criteria were
14 more subjective.

15 Q In a qualitative, subjective nature is the way you
16 described it in your memo.

17 A That is correct.

18 Q What do you understand the difference to be
19 between quantitative criteria and qualitative, subjective
20 natured criteria as you use them in this summary?

21 A Quantitative data would be that data encountered
22 in an engineering approach through an assessment of the
23 proposed action. I can give you specific illustrations like
24 what the diameter of the caisson would have been. That one
25 goes to the caisson. Nevertheless, it is indicative of an

1 example, what is the diameter of a caisson, on what is that
2 based. That is a quantitative number.

3 A subjective criterion would be we are going to
4 talk about piles. A subjective criterion would be we are
5 going to drive the pile to the till. A quantitative
6 criterion would go to the understanding of the nature of the
7 till to support the applied load.

8 I believe that was the thrust of the question, the
9 understanding of the ability of the till in its upper
10 layers, let's say the first 5 to 10 feet, in which the pile
11 is to be located: what is the understanding of the ability
12 of that till to provide adequate support. Does the
13 information that is available to you support an
14 understanding of the glacial till in the area of interest,
15 or is it at such deeper levels?

16 Q Would you tell me what the quantitative criteria
17 that Mr. Gould presented consisted of?

18 A I do not recall what the specific information
19 given at that time by Mr. Gould as referred to by Mr.
20 Heller. I submit that it might be a question you want to
21 raise later to Mr. Heller. I note that he is to be deposed
22 following me.

23 I also recall that the presentations by these
24 consultants were also submitted on the record and were
25 documented. I believe there is a reference in this meeting

1 summary, discussions by the Bechtel consultants will be
2 submitted as an amendment to the FSAB. I believe that
3 discussion is on the record, and it is possible that the
4 reference to that might indicate that information, but at
5 this point I do not recall.

6 Q I was really looking for which of the information
7 provided by Mr. Gould did you consider to be quantitative,
8 but I take it you simply don't recall.

9 A That is correct.

10 Q Do you recall that the information that was
11 presented by the Bechtel consultants at this meeting on
12 February 27 and 28, 1980 was, in effect, a recapitulation of
13 information that had been provided to the staff in July of
14 1979 but was being presented again in order to bring the new
15 staff people up to speed?

16 A That is correct. That is my understanding.

17 Q Do you recall also that the docketing with respect
18 to the reports from the consultants was done shortly after
19 the July meeting than after the meeting to which this
20 summary refers?

21 A I believe that is correct.

22 Q I just didn't want to confuse you.

23 In your opinion, will the pile load test to be
24 performed prior to actual construction of the underpinning
25 provide the type of quantitative data that you referred to

1 earlier in your illustration?

2 A I would have to refer to my previous reply about
3 the timeliness of the operation, but if I understand your
4 question to go to will it ultimately provide the
5 information, yes, it will ultimately provide information.

6 Q Information of the quantitative nature, as you
7 view it?

8 A Of a quantitative nature.

9 Q Would the results of the pre-load of the diesel
10 generator building provide quantitative criteria?

11 A I don't know that I would say it would provide
12 quantitative criteria. It would certainly provide data
13 which is quantitative.

14 Q Does the soil boring itself provide data which is
15 qualitative or quantitative?

16 A It is quantitative.

17 Q Is it quantitative with respect to what is
18 contained in the boring as opposed to the performance of the
19 structure?

20 A It is quantitative in both of those instances.

21 Q How is it quantitative with respect to the
22 performance of the structure?

23 A The results of the boring is the information
24 acquired from the boring, probably from a lab test on those
25 samples that were taken, can be used in a quantitative sense

1 in performance analysis.

2 Q You can predict things from those. Is that what
3 you are saying?

4 A Yes, predict or understand things.

5 Q Would you expect to obtain more reliable results
6 with regard to prediction of future performance of the
7 diesel generator building at Midland by taking soil borings
8 under the diesel generator building, recognizing the
9 heterogeneity of the fill than by actual field testing such
10 as the preloa and seeing how the structure actually
11 performs at a particular load, and predicting from that
12 field test data?

13 A Your question goes to the reliability of the
14 predictions derived by the two different methods. I have an
15 opinion on the subject and that opinion is based on the
16 comment of experts. I don't consider myself to be qualified
17 to have anything other than an opinion.

18 Q I understand. What is your opinion?

19 A My opinion is that the preload program would
20 provide a more reliable prediction of the predicted
21 settlement.

22 I would like to qualify my statement. I believe I
23 said a more reliable prediction. To be more accurate I
24 should have said would provide a more accurate prediction.
25 There is a difference.

1 Q What is the difference between it being a more
2 reliable prediction as opposed to it being a more accurate
3 prediction?

4 A Reliable goes to how well you understand what you
5 are really dealing with. That is, for example, are you
6 indeed in secondary consolidation, and therefore can you
7 rely on those results as an indicator that you will not
8 return to a point of more rapid settlement.

9 To my mind, accuracy goes to the techniques of
10 measurement as typically would be put into the prediction
11 process and methodology. I think with the latter approach
12 of obtaining soil properties by sampling in borings, I think
13 clearly one is confronted with greater inaccuracies than
14 would be provided by the preloading result or approach.

15 Q In terms of methodology, wouldn't the known
16 existence of heterogeneity in the soil beneath the diesel
17 generator building affect the reliability, the anticipated
18 reliability of the predictions based upon data obtained from
19 those borings?

20 A Yes. I recognize that as a factor.

21 MR. ZAHARIN: Why don't we break for lunch for 50
22 minutes.

23 (Whereupon, at 12:55 p.m., the deposition
24 recessed, to reconvene at 1:45 p.m. the same day.)

25

AFTERNOON SESSION

1

2

BY MR. ZAMARIN: (Resuming)

3

Q Do you know why the staff was aware that Consumers
4 intended to surcharge the diesel generator building in
5 advance of their undertaking that activity? The staff failed
6 to submit any 50.54(f) questions prior to their initiating
7 the surcharge program.

8

A I'm not sure that is a correct characterization.
9 Before I answer it I would like to check the chronology of
10 it.

11

Q Do you have in mind the date of that meeting that
12 we were talking about just before we broke for lunch?

13

A We talked about several meetings I am not sure
14 which one you are referring to.

15

Q December 3rd and 4th, 1978.

16

A My notes of the chronology indicate your
17 characterization is correct. Indeed, the placement of the
18 fills for the diesel generator started in February 1979, and
19 the first 50.54(f) requests were issued by the staff on
20 March 21, 1979.

21

I am not aware of any specific reasons other than
22 the fact that the decision processes entail an enormous
23 amount of time to arrive at.

24

Q The decision process entails what amount of time?

25

A A certain amount of time.

Note to Bill Paton

On page 225, line 25 and on page 226, lines 1 through 10, I replied to a question as to whether I was aware of any staff communication to Commons between 12/4/78 or earlier and the beginning of February 1979 regarding the question specifically directed to ~~the~~ reservations or concern of the staff or its members about the purchase program for the diesel generator building. I replied that I could not recall any such communications related to that expression of concern for the diesel generator based upon the information available to me being that deposition.

However, as I now check the record of the Millard docket, I find that the staff asked CPCO questions before the beginning of February 1979 on the purchase program for the diesel generator building and which, in my opinion, imply "a reservation or concern". Examples of this include Mr. A. Vargas's letter of December 11, 1978 bearing the subject, "Staff Position and Requests for Additional Information (Part I)" and forwarding ^{in part} staff requests numbered 130.21, 362.12 and 362.13.

I also find that A. Vargas's letter of January 18, 1979, by question 40.106 enclosed thereto, implies our concern for the interplay between the fuel oil lines and the diesel generator building and asked for criteria in this regard. Question 362.17 from the

January 10, 1979 letter also implies a concern for the
all-time settlement rates for the diesel generator building
once the correct foundation configuration is used.
There were other questions raised in these early
letters by the staff related to soil settlement concerns,
but these others do not go to the sanding
program for the diesel generator building and
thus are not relevant to the disposition question
as framed by Mr. Zanoin.

My subsequent review of the Midland pocket record
also reveals that on November 17, 1978 the
NRC staff issued an "Order Extending Construction
Completion Date - Midland Plant". The staff's
evaluation of ^{that} extension request stated a
reservation that "... in the event of unusual
difficulties in correcting the settlement of certain
structures recently discovered to be occurring at
the site, this estimate [of construction completion date]
may have to be revised." At the time of this
statement, a sanding program was one of the
alternatives then under consideration by CPCo for
remedial action for the diesel generator building.

I believe the above correction should be submitted
for the record and the fact that staff questions on soils
were raised before the SO. 54(F) Darl Ford
question was stated is important to 11/19/80
the record.

1 Q Do you recall any communication within the staff
2 between the beginning of December 1978 and February 1979
3 with regard to the intended surcharge as Consumers had
4 communicated it to the staff?

5 A Would you give me those dates again?

6 Q Yes. It was December 4th and 5th -- I'm sorry,
7 3rd and 4th -- of 1978, and February of 1979, when the
8 surcharge was in fact implemented.

9 A Your question was was there any communication
10 between the applicant and staff during that period? Is that
11 the question?

12 Q No. Was there any communication among the staff
13 with regard to Consumers' intention to surcharge the diesel
14 generator building?

15 A Prior to February of '79, between the meeting of
16 December 4th and prior to February of '79. The question
17 goes strictly to meetings among the staff.

18 Q Communications among the staff, whether it is
19 meetings or memos, whatever.

20 A I have difficulty recalling just off the top of my
21 head if there was any such communication. I am not aware of
22 any. It could be if I were to refer to documents I have
23 given you, I might find such; but if it exists, I cannot
24 recall it at this point.

25 Q Are you aware of any communication by the staff to

1 Consumers between December 4th, 1978 or earlier than that
2 date and the beginning of February, 1979 with regard to any
3 reservations or concerns that the staff or any of its
4 members had with regard to the surcharge program for the
5 diesel generator building?

6 A No. From the information available to me I cannot
7 recall any such communications which were related to the
8 expression of concern, as you framed the question.
9 Obviously there was communication between the applicant and
10 staff, but not to the end which you address.

11 Q Do you recall the nature or were you aware of the
12 nature of any communication between the staff and Consumers
13 at that time with regard to the surcharge program?

14 A My notes remind me that there was a communication
15 from Consumers to the staff dated December 21, 1978.

16 Q Which is SO.55(e)?

17 A Yes, in which they advised us in ^{that} notification that
18 the preload is to be the corrective action that they intend
19 to implement. My notes also show me that on December 14,
20 1978, a special prehearing conference was conducted for the
21 OL review, and I am aware that conference involved related
22 matters. That does not remind me other than those.

23 Q When you said that the 12/14 prehearing conference
24 with regard to OL involved matters related to what, you mean
25 the surcharge program?

1 A Excuse me just a moment. I guess by February of
2 '79 you mean till the end of February '79. I see that there
3 are indeed meetings --

4 Q This was to February of '79.

5 A Fine.

6 Q My question was you had indicated that the
7 12/14/79 prehearing conference with regard to the OI, that
8 it concerned related matters, referring to matters relating
9 to the surcharge.

10 A Yes. There were contentions in that hearing that
11 go to the full settlement matter.

12 Q Did they address the ~~closed~~ ^{preload} surcharge at that
13 time, to your recollection?

14 A No, I don't believe that the contentions, that
15 they are framed to go to the remedial action as such as it
16 does to the general concern.

17 Q The general concern with the condition of the
18 soils.

19 A With the condition of the soil settlement matter.

20 MR. ZAMARIN: I have here what I am marking as
21 Consumers Exhibit 10 for identification as of today's date.

22 (The document referred to was
23 marked Consumers Exhibit
24 Number 10 for identification.)

25 .

1 BY MR. ZAMARIN: (Resuming)

2 Q It is a group of documents, the first page of
3 which is a letter dated December 7, 1979, purporting to bear
4 the signature of William J. Olstead, the second page of
5 which is a letter dated December 6, 1979, purporting to bear
6 the signature of Victor Stello, Jr., and the third through
7 concluding pages of which contains a document styled "Order
8 Modifying Construction Permits."

9 Had you seen that document package before in the
10 form in which it appears there but for my markings on it?

11 A I am familiar with the December 6th order.

12 Q Have you ever seen that letter?

13 A I am not sure I am familiar with the forwarding
14 letter dated December 6 from Mr. Olstead.

15 Q To the members of the licensing board?

16 A To the members of the licensing board.

17 Q When you finish reading that, why don't you flip
18 over to the next page and read Mr. Stello's letter.

19 MR. ZAMARIN: You guys are looking at it like
20 you've never seen it before.

21 MR. PATON: I have seen the order a thousand
22 times, but I have never seen this letter.

23 THE WITNESS: The question is am I familiar --

24 BY MR. ZAMARIN: (Resuming)

25 Q Have you seen the letter --

1 A Jointly signed by Mr. Victor Stello and Mr. Edson
2 Case. Yes, I am familiar with this letter.

3 Q I would like you to turn to page 2 of the order.

4 A This copy you have given me is the same as that
5 you have? Is it the same document?

6 Q Yes, it is, except mine has visuals. There is a
7 statement on page 2 of the order which is contained in the
8 only full paragraph on that page, to the effect -- the
9 statement that I am interested in begins right in the middle
10 of that paragraph. It starts with "This statement is
11 material." Do you see that?

12 A Yes.

13 Q It says "This statement is material in that this
14 portion of the FSAR would have been found unacceptable
15 without further staff analysis and questions if the staff
16 had known that Category I structures had been placed, in
17 fact, on random fill rather than controlled, compacted,
18 cohesive fill as stated in the FSAR."

19 Can you explain to me why the staff would have
20 further analyzed or questioned the use of random fill rather
21 than controlled, compacted, cohesive fill as those terms are
22 used in this paragraph of the order?

23 A Let me first point out that the criteria for
24 materiality go first to not whether indeed we did do that,
25 but whether -- let me rephrase that -- whether or not we did

1 indeed rely on the statement, but rather the test is whether
2 or not it is of the caliber that it could have caused us to
3 do a less probing analysis. Is the question of why that is
4 the case and why we would have done a less probing analysis
5 if we had relied on the statement?

6 Q No. I think what you did in thinking about my
7 question, I think in part you have added a little more to it
8 than was there.

9 A Please restate the question.

10 Q I will have to have it read back.

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

12 A You will be talking to others who are such more
13 qualified to answer this question than I am, but I will be
14 happy to give you my impression of what that position is.

15 Q If you would, please.

16 A It is my understanding that the use of random fill
17 is not a normal practice. Seismic Category I structures are
18 typically built in what is known in the trade as structural
19 fill. To my understanding that means something very
20 specific to the geotechnical people, and that if they
21 understand that a structure is placed upon material as it is
22 described here or which is referred to as random fill, they
23 would have done a such more probing analysis than they
24 otherwise would have done.

25 Q Do you know what that such more probing analysis

1 would have consisted of?

2 A No, I do not. That is getting away from my
3 experience.

4 Q When you say that they would have done a more
5 probing analysis, are you surmising that?

6 A Yes, I am surmising that. That is my
7 understanding of what they would have done.

8 Q What is that understanding based upon?

9 A Conversations and attendance at meetings, that
10 kind of thing, where these kinds of matters were discussed.

11 Q Conversations with whom?

12 A Internal discussions with the staff.

13 Q Who in particular?

14 A Discussions as to the materiality of the
15 statement. You have in the documents that I have made
16 available to you a summary of an internal meeting that was
17 held to discuss the materiality of five statements presented
18 to us by our Office of Inspection and Enforcement. The
19 memorandum indicates the criteria that we used for judgment,
20 and it indicates the decisions that were made at that point
21 in time. It also goes on to indicate that there are certain
22 preliminary aspects of that decision at that point in time.

23 Q Do you recall, in addition to the meeting to which
24 you have referred at which the discussion was had as to
25 whether in fact the five alleged misstatements were

1 material, to any other conversations or communications that
2 you had with anyone with regard to that issue?

3 A I had a follow-up conversation with Mr. Cal Moon,
4 who was acting, at least that day on behalf of my branch
5 chief or at some point hence, during which there was to be a
6 follow-up meeting. The nature of that discussion was as to
7 whether or not he ever documented the results of that
8 meeting. It is my understanding that he has not, but the
9 result of the subsequent meeting was to uphold the previous
10 decisions that were reached without change.

11 I am referring to previous decisions as they are
12 reflected in the document I am referring to.

13 Q I have here what appears to be notes of a meeting
14 dated 8/1/79. This came from Lyman Heller's file. And I
15 see in here that there are several possible definitions or
16 descriptions of the term "material false statement."

17 Do you recall having attended that meeting in Mr.
18 Knight's office? It says in attendance was Legal, ICE and
19 NRR.

20 A I have not seen the document. I have not seen the
21 Lyman Heller document to which you are referring, but it
22 sounds to me like they refer to the same meeting.

23 Q Was the subject of discussion at that meeting how
24 material false statement would be defined?

25 A No. The subject of the meeting was were the

1 specific statements or findings by I&E material to the
2 review. In order to answer that, the meeting began with a
3 definition of what material means, and in my summary that I
4 issued, I repeated the criteria that were used for that
5 decision.

6 Q From where did those criteria come?

7 A They came from the discussion that ensued from our
8 legal types at the meeting. It included Mr. Lieberman,
9 another individual, Mr. Dick Bachman, and I believe Mr. Bill
10 Paton was also present but I'm not sure of that. It seems
11 to me there was someone else present. I think if I could see
12 the document to which I am referring -- or the document to
13 which you are referring -- I can better recall.

14 MR. ZAMBIN: I will show you the one to which you
15 are referring.

16 I have what has been marked as Consumers Exhibit
17 10 for identification, which consists of -- I am sorry.
18 This is Exhibit 11 for identification, which bears the date
19 August 9, 1978. It is a memorandum for file from Darl Hood.

20 (The document referred to was
21 marked Consumers Exhibit
22 Number 11 for identification.)

23 BY MR. ZAMBIN: (Resuming)

24 Q Is that what you refer to as your summary of that
25 August 1st, 1979 meeting?

1 A Yes, that is the document to which I refer.

2 Q On that it indicates just Mr. Liebermann and Mr.
3 Bachman from OELD.

4 A I believe the definition, while it may involve
5 discussion by others, largely resulted from comments by Mr.
6 Bachman and Mr. Liebermann.

7 Q There is an enclosure, too, along with this
8 Exhibit Number 11. Could you look at that and tell me
9 whether that was something that you had prepared?

10 A Yes, it is part of the summary and it presents the
11 results of the decision that was reached with regard to each
12 of the five specific candidate statements.

13 Q It then accurately reflects the best of your
14 knowledge in the determination made by the staff present at
15 that meeting on August 1, 1979; is that correct?

16 A Yes, it does. But I might point out that there
17 were certain qualifications raised in the memorandum itself
18 at that time going to the fact that some of the members
19 present had not had an opportunity to review fully the
20 matters in question. It is my understanding that that led
21 to a follow-up meeting at which I was not present, which was
22 attended on my behalf by Mr. Cal Moon.

23 Q At the August 1st, 1979 meeting, do you recall
24 anyone dissenting or disagreeing with the stated conclusion
25 that the candidate's statement as referred to in paragraph

1 number 1, that is, with regard to the fill type used, was a
2 material statement?

3 A No, I do not recall any differences in view on
4 that statement.

5 Q In your opinion, was the fill used at the building
6 site the wrong type?

7 A I don't think I have sufficient background to
8 judge what a wrong type and a right type is. It is just too
9 far removed from my area of expertise.

10 Q In your memorandum that is marked Exhibit 11, you
11 say OELD defined materiality of the FSAB statements. Do you
12 recall that?

13 A Yes.

14 Q Do you know upon what they based the definition of
15 materiality that they gave to you?

16 A I do recall they ^{cited} ~~decided~~ several previous cases.
17 My memory is somewhat vague. The references to some
18 specific decisions have been made. I can't remember such
19 more than that.

20 Q The bottom of the handwritten notes that you
21 received from Mr. Heller's file, it says, "Read the 4/3/79
22 memo (Darrell will organize)." It's spelled D-a-r-r-e-l-l.
23 Do you know if that was referring to you?

24 A Would you read that again?

25 Q If you don't have any objection, I'll let him read

1 it. I want to mark it as an exhibit here. But right there
2 it just says "Read the 4/3/79 memo (Darrell will
3 organize)." Does that have any meaning to you at all? The
4 4/3/79 memorandum was from Keppler to Thornberg identifying
5 the five statements from the FSAR regarding the backfill
6 deficiency at Midland which I&E considered to be false.

7 A It seems to me you just answered your own question.

8 Q No. Does this "Darrell" refer to you where it
9 says Darrell will organize? Do you know?

10 A I assume that it does. I am not sure what the
11 comment refers to and what it is I am going to organize, but
12 it probably refers to me.

13 Q But you don't recall having done anything with
14 regard to organizing something in conjunction with this
15 April 3, 1979 memorandum?

16 A What I organized was a meeting to get a decision
17 made on the materiality of those five contentions or
18 candidates' statements, and that is what is reflected in the
19 meeting summary that I gave you. I don't recall organizing
20 anything else.

21 Q The meeting that you said you organized was the
22 August 1st meeting.

23 A That is correct. Now, it is conceivable that the
24 comment refers to a later meeting that was to ensue, which
25 was handled for me by Mr. Moon ^{as} I had some conflict in

1 schedule.

2 Q Was there any discussion, do you recall, at that
3 meeting with regard to the civil penalties versus what is
4 referred to as second chance?

5 A Yes, I do recall that that element was discussed.

6 Q Can you tell me everything you recall about that
7 discussion?

8 A That is very little. In my opinion it didn't go
9 to the primary purpose of the meeting, which was to obtain a
10 resolution of those five items, and I don't know that I was
11 that attentive to that particular discussion.

12 Q Tell me as best you can recall what you recall.

13 A There was some definition of clarification of what
14 second chance meant, and there was some case or something
15 was cited by Mr. Liebermann or someone from OELP. Some
16 relevance of that matter was made to the discussion, but I
17 just don't recall the details.

18 MR. ZAMARIN: I have here what has been marked
19 Consumers Exhibit 14 for identification. This is June 14,
20 1979 comments. It appears to be over the signature of
21 Harold D. Thornberg, Director of the Division of Reactor
22 Construction Inspection, I&E.

23 (The document referred to was
24 marked Consumers Exhibit
25 Number 14 for identification.)

1 BY MR. ZAMARIN: (Resuming)

2 Q Could you take a look at that and tell me, is that
3 something you recall that you provided from your file?

4 A Yes, this is an earlier memo by Mr. Thornberg.
5 The subject matter are the five candidates' statements,
6 which also includes other matters such as consideration of
7 civil penalties.

8 MR. PATON: Could I see that, please? Could you
9 wait just a second.

10 MR. ZAMARIN: I just wanted to ask him if he
11 recalls receiving that in its own time.

12 BY MR. ZAMARIN: (Resuming)

13 Q Does it show you being copied?

14 A I believe I may be in possession of that memo. It
15 may be in the package that I provided to you.

16 MR. ZAMARIN: That is where we got it.

17 MR. PATON: Could you wait just a moment?

18 MR. ZAMARIN: I am laying a fundati for it.

19 BY MR. ZAMARIN: (Resuming)

20 Q Do you recognize Harold Thornberg's signature on
21 it?

22 A I acknowledge his signature on it, yes.

23 MR. ZAMARIN: I have here what has been marked
24 Exhibit 12 for identification on today's date.

25 (The document referred to was

1 marked Consumers Exhibit
2 Number 12 for identification.)

3 BY MR. ZAMARIN: (Resuming)

4 Q This also is a document that you provided us from
5 your files on Monday, dated September 27, 1979. It is a
6 two-page document that also appears to be over the signature
7 of Harold Thornberg.

8 I would ask you to look at that and tell me if you
9 recognize that as Harold Thornberg's signature and recall
10 this as having come from your files or having been received
11 by you from Thornberg.

12 A Yes, I recognize the document signed by Harold D.
13 Thornberg, and I note by my name in the upper right-hand
14 corner that it comes from my files.

15 MR. ZAMARIN: I have here what has been marked
16 Consumers Exhibit 13 for identification.

17 (The document referred to was
18 marked Consumers Exhibit
19 Number 13 for identification.)

20 BY MR. ZAMARIN: (Resuming)

21 Q It is a memorandum bearing the date October 4,
22 1979. It appears to be over the signature of G.C. Gover,
23 G-o-o-v-e-r. Could you take a look at that and tell me if you
24 recognize that as being the signature of Mr. Gover and that
25 as having come from your file and as having been received by

1 you from Mr. Gover?

2 A Yes, I recognize this as a document from Mr.
3 Gover, and I further recognize that it comes from my file.
4 Whether or not I received this from Mr. Gover I do not know.

5 Q You are shown on the second page as being copied
6 on there with a little mark around that. Do you recall
7 having received that sometime on or after the date which it
8 bears?

9 A Yes, I acknowledge that I was in receipt of the
10 document. I merely question how I came to be in receipt of
11 it. I do acknowledge that this copy came from my files.

12 Q On page 3 of the order, the December 6th order,
13 about the third sentence in the first full paragraph on that
14 page, it says "The information provided by the licensee
15 fails to provide such criteria," referring to acceptance
16 criteria. Is that what you read that to say?

17 A Yes.

18 Q With respect to the diesel generator building,
19 could you tell me what your understanding is of the specific
20 criterion which Consumers had failed to provide? Before you
21 make reference to the 50.54, can you answer without
22 referring to documents? Do you have any recollection?

23 A Yes, I have recollection.

24 Q Let me have that recollection first.

25 MR. PATON: You are entitled to look at it. You

1 have to answer his question, but you are entitled to look at
2 it sometime.

3 MR. ZAMBIN: That is right, after I get his
4 present recollection.

5 THE WITNESS: I would have to ask a question as to
6 the acceptability of that proposal, going into several
7 aspects. My recollection is that it was information of a
8 nature that one needs to judge at the outset the extent to
9 which the program has succeeded. It goes to concerns,
10 although it might not be explicitly stated this way,
11 concerns to what amount of settlement will be acceptable,
12 and on what basis is this determined.

13 I believe there are questions that go to what is
14 happening to the structure under the preload program. I
15 believe there were questions as to -- not necessarily
16 written formally, but as to meetings as to how one derives a
17 particular preload, as to how that load was derived at, what
18 it was based upon, and there were questions as to the time
19 duration for the surcharge program, how long would the
20 program be left and how would you know when it is done what
21 ^{you} ~~do~~ expect it to do.

22 MR. PATON: I would like to instruct the witness
23 when he gets done with his answer that he is entitled if he
24 wants to continue his answer by referring to some document,
25 that he can do that.

1 MR. ZAMARIN: Not yet he is not, unless I exhaust
2 his present recollection.

3 MR. PATON: That is why I say when he gets through
4 with his answer.

5 MR. ZAMARIN: But I asked him three questions.

6 MR. PATON: No, you asked him a question, he
7 started referring to a book, and you said you wanted his
8 present recollection.

9 MR. ZAMARIN: That is right. That is all I want
10 for now.

11 MR. PATON: You are amending his question. All
12 you want now is his present recollection. You don't want
13 him to give any complete answer that he could give by
14 referring to another document.

15 MR. ZAMARIN: No. I asked him what he recalled.

16 MR. PATON: Fine.

17 THE WITNESS: Those are the things that I recall.

18 BY MR. ZAMARIN: (Resuming)

19 Q You told us that one was the amount of settlement
20 that was acceptable and on what basis that was determined,
21 and that was one of the acceptance criteria that the staff
22 had requested; is that correct?

23 A When you say one that we had requested, I don't
24 know that that was one we had requested specifically in
25 written form. My recollection goes really to a discussion

1 that was held at a meeting. I remember at least on one
2 occasion the answer we got from Dr. Peck was he would not be
3 surprised to see a settlement of somewhere between 6 and 16
4 and 18 inches, something of that magnitude. It seemed to be
5 a rather large number at the time. That was one reason I
6 remembered it, I suppose.

7 Q Did you take that to be a response to a request
8 for information?

9 A The response was given at meetings used by the
10 staff as a request for information. It is a verbal request
11 and you get a verbal answer. It is something used by us in
12 decisions.

13 Q Your understanding of that comment by Dr. Peck was
14 that that was providing information in response to a staff
15 question, is that correct?

16 A I believe the reply was associated with a specific
17 question, but again, I am mindful of the way the question
18 was framed, that he would not be surprised, which means to
19 me it is not necessarily the result of any long, exhaustive
20 analysis but just a matter of his professional judgment.

21 Q Let me take you back a bit because my previous
22 question was directed to the criteria that Consumers had
23 failed to provide in response to requests directed by the
24 staff. You went through -- let me just touch on the areas
25 that you went through, and then I will ask you to direct

1 your answer to the criteria that had been requested that the
2 staff said was not provided and that therefore led up to
3 that December 6, 1979 order.

4 You mentioned the amount of settlement acceptable
5 and on what basis that was determined, what was happening to
6 the structure under the preload program, how the load for
7 the preload as determined, the amount of the load, and how
8 long the surcharge would be left in effect and how it would
9 be known when the surcharge had done its job.

10 With that in mind, let me ask you which of those
11 items was not criteria that was requested by the staff and
12 not provided by Consumers.

13 MR. PATON: Could I hear that question, please?

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

15 THE WITNESS: I would like to clarify my response
16 somewhat. The difficulty I am having with the question is
17 that as I sit here today, it is difficult for me to sort out
18 the origin of the specific questions or concerns without
19 citing some were the result of meetings, and others may be
20 the results of documented questions to the applicant, or
21 there may have been various other options, discussions or
22 whatnot. That gives me some difficulty in answering the
23 question without knowing the origin of the questions.

24 I do know that we have asked questions like number
25 4 in our 54(f) questions, which go ^{To} our difficulty with

1 acceptance criteria with regard to the diesel generator
2 building. I know we have discussed a matter during
3 meetings, as well.

4 Further, I would point out that concerns and the
5 need for criteria do not originate from me personally but
6 originate from the technical disciplines in which, whose
7 efforts I coordinate. I am sure during other depositions
8 you will get more definitive responses as to what criteria
9 are needed.

10 BY MR. ZAMARIN: (Resuming)

11 Q Are there any acceptance criteria, to your
12 knowledge, that have not been documented in questions to
13 consumers?

14 A I don't know how to answer that. I do know that
15 there are further requests coming from some of our
16 consultants. I don't know what they contain. It may be
17 that they indeed reflect a need for acceptance criteria, but
18 I cannot judge that in advance without seeing the question.

19 Q You have indicated, I guess it was yesterday, that
20 ETEC is one of those consultants who are putting together
21 further requests; is that right?

22 A Yes.

23 Q Better yet, why don't you tell me what
24 consultants, to your knowledge, are having further requests?

25 A I believe I made a ~~request~~ ^{reference} to ETEC, and I believe
1

1 I also may have made reference to the Naval Surface Weapons
2 Center. I believe in both cases there may be further input
3 coming to the staff, which is essentially requests for the
4 staff to acquire information from Consumers.

5 Q As you sit here today, do you know whether the
6 staff knows today what the total acceptance criteria is for
7 the remedial measures with regard to the Midland plant fill?

8 A That question goes to do we know all of it. It is
9 my opinion that there is not in existence a composite list
10 which I can point to and say these are the criteria, if I
11 had this, this would be it, and it would be nothing more. I
12 guess my answer to your question is no, I am not at all
13 convinced that the staff at this point in time knows what
14 all of that criteria really is.

15 Q You say at this point in time. I take it, then,
16 at no previous point in time would the staff in all
17 probability have had an idea of what all the acceptance
18 criteria issues should be.

19 A I accept that as following the statement that I
20 made.

21 Q Are you aware of any acceptance criteria that the
22 staff wants that has not been heretofore documented in a
23 written question?

24 A I have to think about that a moment. I know the
25 specific difficulties the staff is having with specific

1 areas of the proposal. I am trying to think as to whether
2 or not that really translates to acceptance criteria or
3 not. In my opinion, the matters of which I am aware go to
4 the acceptability of the remedial action. In somewhat of a
5 loose sense they are acceptance criteria, or they certainly
6 are somewhat related to acceptance criteria.

7 Without seeing the specific framing of your
8 concern, I really can't say yes or no, they are that
9 caliber. So, in that sense I am not aware of any specific
10 criteria needed by the staff that have not been documented.

11 Q I have here what has been marked Consumers Exhibit
12 Number 15 of today's date.

13 (The document referred to was
14 marked Consumers Exhibit
15 Number 15 for identification.)

16 BY MR. ZAMARIY: (Resuming)

17 Q This is a photocopy that was provided us from your
18 files. Can you tell me what in the world that is? It is a
19 separate sheet. It may have been attached to something
20 before it was photocopied by counsel for staff.

21 A Yes, I recognize that document as a document
22 prepared actually by myself and by Mr. Lester Rubenstein, my
23 branch chief, on preparation for a briefing to our
24 management on or about sometime in late November or early
25 December of 1979.

1 Q What was the purpose of your briefing for your
2 management?

3 A As I recall, we were approaching a decision date
4 and the meeting was planned with the Office of Inspection
5 and Enforcement and NER for the purpose of arriving at a
6 decision on the 50.54(f) matter, coordinating our mutual
7 reviews with I&E and NER.

8 Q This reference in Exhibit 15 to a meeting on
9 November 28 in which at least I&E personnel attended. Did
10 you attend that November 28 meeting?

11 A May I see the reference, please?

12 Q Yes. It is in paragraph numbered 6.

13 A I recall attending a meeting in which this subject
14 matter that is identified here was indeed discussed and I
15 therefore assumed that that was the November 28 meeting, and
16 on that basis I reply in the affirmative.

17 Q Do you know whether you have any minutes or
18 summary of that November 28 meeting?

19 A No, I do not recall any notes or minutes that I
20 took during that meeting.

21 Q In this paragraph number 6 you quote, "In a
22 meeting on November 28" -- I assume that refers to November
23 28, 1979, is that correct?

24 A Yes.

25 Q "-- that I&E developed a new position." How was

1 it developed that I&E developed a new position?

2 A May I see the statement again, please?

3 Q Surely. How was it the fact that I&E had
4 developed a new position communicated at that meeting?

5 A As I recall that meeting, it was a discussion
6 primarily of their findings of the overall quality assurance
7 performance of this applicant.

8 Q And do you recall what their conclusion was with
9 regard to the overall quality assurance performance of
10 Consumers?

11 A I am having some difficulty isolating this
12 particular meeting from other meetings. I trust that is not
13 ~~referring to~~ ^{resulting in} an improper response on my part. My memory of
14 that specific meeting is somewhat vague.

15 Q I am interested in the statement on Exhibit 15,
16 6.A., that describes the new I&E position as overall QA
17 performance acceptable because it identifies QA deficiencies.

18 A That was the bottom line of the I&E decision as to
19 whether or not the quality assurance program of Consumers
20 was working.

21 Q Do you recall who stated that at that meeting?

22 A It was stated by Mr. Jim Keppler, as I recall.

23 Q At that time, what was Mr. Keppler's position?

24 A I believe he was the director of Region 3, the
25 same as now.

1 Q In paragraph 5 of Exhibit 15, you state that "To
2 date, utilities' five replies to 50.54(f) have not described
3 acceptance criteria for remedial action prior to such
4 action. The applicant views the remedial actions as 'proof
5 tests' which preclude need for such criteria. Staff
6 decision as to acceptability of remedial action must await
7 completion of the program, and applicant must proceed
8 entirely at his risk."

9 Do you recall from where you got all of that
10 information?

11 A Yes. That is a characterization by me of our
12 difficulty with the review as it was proceeding. It results
13 from not one specific input but from various inputs that I
14 received during the course of the review from a large number
15 of my technical reviewers.

16 Q Did it trouble the staff that for Consumers to
17 view the remedial actions as proof tests, that Consumers
18 would therefore be proceeding entirely at its own risk?

19 A No. I think the thrust of the concern is that the
20 results are rear end loaded rather than up front, and they
21 don't present the information to the staff that is needed up
22 front.

23 Q I am referring specifically to your statement that
24 applicant must proceed entirely at his risk. What was the
25 purpose of putting that statement in?

1 A It was just adding the logical result. The thrust
2 of that concern is that we are not getting the information
3 we need up front.

4 Q Which is to say that if the remedial action is
5 going to be viewed as a proof test, it doesn't test out
6 okay, and Consumers has a problem.

7 A It goes deeper than that. It goes to the question
8 of prudent regulation and our responsibilities to that end.

9 Q You are saying the thing that goes to your
10 responsibilities is somehow referred to in the statement
11 that applicant must proceed entirely at his risk. That is
12 really all I am focusing on.

13 A Not the fact that you are proceeding at your risk,
14 the fact that you are proceeding in areas that may
15 constitute significant departures from the provision of the
16 construction permit. The question is should such departures
17 be taken without these up front matters first being decided.

18 Q When we issue significant areas of departure --

19 A When we issue ^{of the construction permits} ~~significant departures~~, our concept
20 was of a structure that derives its support from the soils
21 underneath it, but under the proposed action we ^{will} ~~don't~~ have a
22 different configuration. You ^{all} have structures that derive
23 their support in part from the soils underneath but in part
24 from another means such as through ~~weight~~, ^{pile} or column,
25 or caisson?

1 The question to the staff is does the reasonable
 2 assurance that existed at the time of the issuance of the
 3 construction permit still exist today, and we had some
 4 serious questions to our mind as to whether or not that was
 5 still the case. And the fact that we are asking such
 6 questions or having those kinds of doubts are troublesome
 7 because those are flags to us that if we have those kinds of
 8 doubts, that CP modifications are in order.

9 Q You also indicated in this Exhibit 15 that I&E now
 10 raises question as to acceptability of the design fix. When
 11 did I&E first raise the question as to their acceptability
 12 of the design phase?

13 A I&E has been involved with our meetings ^{with} ~~for~~ the
 14 applicant and in review of this matter from the beginning,
 15 and indeed, NRE became involved in the matter by virtue of a
 16 request from I&E to support them in this matter. That
 17 support goes to the adequacy of the remedial fix, so they
 18 have been involved all along.

19 I don't know at what point in time the concerns of
 20 ~~the generator~~ ^{was generated} as to the ~~accuracy~~ ^{adequacy} of the fix.

21 Q In Exhibit 15 you have the statement that in the
 22 meeting of November 28, 1979, I&E developed a new position.
 23 In one of those, as you say, I&E now raises the question as
 24 to the acceptability of the design fix. Was it on November
 25 28, 1979 that I&E first raised that question?

1 A I don't know the answer to that question, but it
2 is my impression that the concerns that they have had
3 existed prior to that time.

4 Q Take a look at 6.B. and tell me what that means.

5 A This document was prepared mutually with Lester
6 Rubenstein and myself. More accurately, it was prepared by
7 Mr. Rubenstein ^{based on} because of a discussion I had had with him.
8 To the extent your question is going to what time would the
9 concerns of I&E have developed, I don't know the answer to
10 that.

11 Q Do you recall June 18, 1979 meeting with Consumers?

12 A What was that date again?

13 Q June 18, 1979. No, strike that. July 18, 1979.

14 A Yes, I do recall such a meeting.

15 Q Do you recall what the subject matter of that
16 meeting was?

17 A Yes. It reviewed the soil settlement matter as of
18 that date.

19 Q Do you recall what was discussed specifically at
20 that meeting?

21 A On October 16, 1979, I issued a meeting summary
22 for the July 18 meeting. To the extent that meeting is
23 documented in this summary, I recall the content of that
24 meeting.

25 Q Tell me what you recall based upon reviewing that

1 summary.

2 A ^{as} I recall, there was a very detailed
3 presentation given on the part of the applicant by his
4 consultants, and he in turn documented the presentations
5 that were given in a letter dated August 10, 1979, which was
6 forwarded to us as part of SO.55(e) notification. And
7 indeed, this is cited in the order.

8 I further recall that there were some specific
9 concerns discussed by the staff at that meeting going to the
10 fact that the service water lines and the lines from the
11 ^{borated} ~~void~~ water storage tank pass under tracks and may otherwise
12 be subjected to stresses from trains and other such
13 traffic. The staff inquired as to how such lines are
14 protected from what could be excessive loads. I recall
15 there was also a follow-up question documented ^{by} ~~in~~ ~~the~~
16 sometime after the meeting.

17 I further recall that there was a discussion of a
18 strange phenomenon occurring at the site which entailed
19 corrosion pitting of stainless steel piping. That is a
20 strange phenomenon because stainless steel is not supposed
21 to corrode. There was an inquiry as to the status of that
22 investigation as to what was causing that corrosion pitting.

23 I recall that the concern was that although the
24 line in question was not itself a safety-related line, I
25 believe specifically the line in question was a line from

1 the condensate storage tank, but nevertheless it was
2 indicative of concern that could exist for stainless steel
3 piping which was Category I or safety-related. That was of
4 concern and that was a matter of ongoing investigation by
5 I&E as well as on the part of Consumers.

6 There were questions raised as to the effects on
7 the soils in the tank farm area as a result of air
8 discharged from underground pneumatic lines which had
9 broken. There was an indication, I recall, that I&E would
10 have favored more forceful action or would have expected a
11 more forceful action to be taken from a proper quality
12 assurance program in regard to the resolution of that matter.

13 Shall I continue? Is this what you want to hear?

14 Q Sure.

15 A Essentially I am looking at the meeting summary
16 and telling you what I recall based on the review, as you
17 requested that I do.

18 Q In addition to the things that you told us about
19 now, I think you mentioned a detailed presentation was made
20 by Consumers, and its consensus was that the hose design
21 fixes were described in detail by Consumers and its
22 consultant, is that right, at that meeting?

23 A That is correct. It was understood at that time,
24 and it is documented in the August 10th letter by the
25 applicant.

1 Q Sometime after that July 18, 1979 meeting, or July
2 31st, 1979, do you recall the telephone conversation with
3 ^{Gil} ~~Gail~~ Keeley and Mr. Zabritski of Consumers, at which time,
4 among other things, the July 18, 1979 meeting was
5 discussed?

6 During the meeting, ^{Gil} ~~Gail~~ Keeley said, among other
7 things 00

8 A I recall the only discussion I had with Mr. Keeley
9 and Mr. Zabritsky related to dual reporting documentation.
10 I don't know whether that was the substance of the
11 particular discussion in question or not.

12 Q Part of that discussion might have dealt with the
13 caseload panel and the detention, and you and your branch
14 chief and the caseload panel members to attend a caseload
15 panel visit the second week in September at the site?

16 A Yes. I accept that.

17 Q And during that conversation did ^{Gil} ~~Gail~~ Keeley
18 advise you that the 5055(e) report documenting the July 18
19 meeting would not be coming out until the end of the
20 following week; that this was due primarily to late receipt
21 of consultant's writeup in finalizing the amendment?

22 A Yes, I remember that discussion.

23 Q Do you recall having stated to him that you could
24 use that report then?

25 A Yes, I did.

1 Q Do you recall also having stated that the staff
2 said the positive aspects of the meeting was the design
3 fixes?

4 A Yes. As I recall, it was a meeting in which there
5 were some rather significant statements made as to the
6 proposed fix, and it was our feeling that that information
7 should be documented and should be on the record. I believe
8 a suggestion was made to that extent, as I recall, by Mr.
9 Knight.

10 Q When you say the staff said the positive aspects
11 of the meeting were the design fixes, who on the staff said
12 that?

13 A Mr. Jim Knight.

14 Q Do you know specifically what he meant by that?

15 A My understanding of that comment refers to his
16 statement at the end of that meeting that the information
17 that had been given us was significant and should be
18 reflected on the record.

19 Q Didn't he also report that the principal technical
20 solutions proposed by Consumers to the major structures
21 appeared to be basically sound, such that properly
22 implemented, they could be expected to provide for adequate
23 structural foundations?

24 A I believe that was what he said, yes.

25 MR. ZAMARIN: Why don't we take a few minutes?

1 (A brief recess was taken.)

2 BY MR. ZAMARIN: (Resuming)

3 Q A bit earlier, you were referring to a document
4 answering questions about the substance of a July 18, 1979
5 meeting on soil deficiencies at the Midland plant site. To
6 refresh your recollection as to that, that was the meeting
7 after which you had the telephone conversation with Messrs.
8 Zabritzky and Keeley that we talked about, and also during
9 which the statement by Mr. Knight that we referred to was
10 made.

11 I have before me what has been marked Consumers
12 Exhibit Number 5 for identification, and I just want to show
13 that to you and ask you if that is a copy of the document
14 which you were referring, and it is in fact a summary of the
15 meeting about which we have been talking.

16 A Yes, it is.

17 MR. ZAMARIN: I have here what has been marked a
18 Consumers Exhibit Number 16.

19 (The document referred to was
20 marked Consumers Exhibit
21 Number 16 for identification.)

22 BY MR. ZAMARIN: (Resuming)

23 Q I would like to show you this. It appears to be
24 two-page memo with regard to an internal meeting on the
25 status of the Midland soils status on August 16, 1979,

1 containing Enclosure 1 headed "Background Documentation,"
2 Enclosure 2 headed "Attendees," and the final sheet, which
3 is handwritte, agenda, dated October 1, 1980, which say or
4 say not go with the foregoing sheets.

5 Could you take a look at that and tell me what, in
6 fact, that is?

7 A This document is a memorandum to file which I
8 prepared on August 24 concerning an internal meeting which
9 was held on August 16, 1979 involving members of NRR, ICE
10 headquarters, and members of CELD. Enclosure 1 is entitled
11 "Background Documentation." It lists documents. It
12 mentions documents that are pertinent to the subject
13 matter. It is provided for background information.

14 Enclosure 2 is a list of attendees at this August
15 16th meeting. The following document is not related to the
16 meeting in question, but rather it refers to a much later
17 meeting that was held on October 1, 1980, which was another
18 internal meeting involving NRR and which was also attended
19 by U.S. Army Corps of Engineers. That was a meeting to
20 discuss Revision 8, which, among other things, includes
21 additional borings and in part includes some of the
22 information that was requested by our Question number 37 in
23 a letter dated June 30, 1980.

24 Q A bit earlier you were talking about a December 6,
25 1979 order, and I was inquiring as to what kind of

1 acceptance criteria had been requested from Consumers, and
2 which Consumers had failed to provide to the staff. We had
3 gone through generally some of those areas with regard to
4 the diesel generator building.

5 Do you recall the four main areas that we
6 discussed, the amount of settlement acceptable, the basis
7 for its determination, what is happening to the structure on
8 preload, how the load was determined and how long the
9 program would be left and how one would know when, in fact,
10 its purpose was accomplished?

11 A Yes, I recall that discussion and subsequent
12 comments I made about the difficulty with the origins of
13 those specific items.

14 Q Do you consider those four items to be items of
15 acceptance criteria? In particular I direct your attention
16 the comment that what is happening to the structure under
17 the preload, how is that an acceptance criteria?

18 A As that particular item is framed, it is what is
19 happening to the structure under the preload. I would have
20 to say that that is not an acceptance criterion, but rather
21 in terms of the acceptance criteria, the more appropriate
22 wording would be what can one reasonably expect to happen
23 under the preload?

24 Q So in terms of stress or something else?

25 A That is right. The question goes to what is the

1 additional weight that is being added by virtue of the
2 surcharge and which is therefore leading to stresses in the
3 structure that would not otherwise be present? What is the
4 doing to the available margins, stress margins in that
5 structure, and what does it mean in terms of the ability of
6 that structure to fulfill its essential function?

7 MR. ZAMARIN: Would you read that answer back?

8 (The answer was read by the reporter.)

9 BY MR. ZAMARIN: (Resuming)

10 Q Is one of the intended purposes of the Corps'
11 consultation to provide structural engineering consultation
12 to the staff?

13 A We get that as a byproduct. I believe your
14 question goes to the essential function of the Corps. I
15 would have to answer no. They are engaged in support in
16 geotechnical area.

17 Q Is the expertise that they are providing, then,
18 concentrated in the geotechnical discipline as opposed to
19 structural engineering discipline?

20 A That is correct.

21 Q Are there any other acceptance criteria that you
22 are aware of besides those which you told us about in the
23 four areas that the staff had requested of Consumers and
24 which Consumers had not provided as indicated in the
25 December 6th order?

1 MR. PATON: Are you asking him for a recollection
2 as opposed to anything he might be able to find from some
3 other source?

4 MR. ZAMARIN: That is what I said.

5 THE WITNESS: In the previous question you put to
6 me, you restricted the question to the diesel generator
7 building. Is that still the intent?

8 BY MR. ZAMARIN: (Resuming)

9 Q Yes, it is. And I was going to say that before
10 Bill asked for clarification. Why don't I strike that and
11 start again with a straight-out question.

12 Are there any acceptance criteria in addition to
13 these four that you have already told us about with respect
14 to the diesel generator building that were requested of
15 Consumers by the staff and that Consumers failed to provide
16 as indicated on page 3 of the December 6, 1979 order?

17 A I would point out that I am still talking from
18 memory and have not made reference to specific documents at
19 this point. I believe some of the criteria that I have
20 mentioned as I defined them in that are stated somewhat
21 broadly and would encounter other areas of which I am
22 aware. For example, the concerns for the measurements to be
23 taken after completion of the programs to obtain the soil
24 properties, I think it would be encompassed in one of the
25 four I have already covered, so to that extent I think I

1 have covered them adequately from notes which I am aware of.

2 Q Let me stop you there. Are you referring to
3 additional borings after the preload program?

4 A Yes.

5 Q Had those been requested prior to December 6,
6 1979, to your knowledge?

7 A No, they had not been requested prior to
8 December 6.

9 Q You seem to have about exhausted your present
10 recollection with regard to the acceptance criteria for the
11 diesel generator building fix. I take it there is some
12 document or documents to which you have referred that would
13 refresh your recollection that I suspect may be contained in
14 Volumes 1 and 2 of Consumers' responses to 50.54(f).

15 A There have been a number of 50.54(f) requests that
16 were made by the staff. Those are the specific requests
17 that were made in the formal sense. I believe there were
18 other requests made at meetings and during discussions, and
19 in my prior discussion I have not attempted to isolate the
20 concerns to just questions that may have been asked by
21 virtue of this 50.54(f) route.

22 I have tried to give you an appreciation of the
23 concerns as I understand them and not fully recognizing the
24 exact origin of the question.

25 Q Would you refer to whatever you wish in order to

1 provide us with, to the best of your knowledge, those
2 acceptance criteria related to the diesel generator building
3 that had been requested by the staff and which Consumers had
4 failed to supply as of December 6, 1979?

5 If you wish, in responding to the question you can
6 break it down two ways. You can give me acceptance criteria
7 which have been asked of Consumers and then indicate whether
8 that was as of December 6, 1979 or subsequent to December 6
9 1979, because later on I am going to ask you what has been
10 asked after 1979, or December 6th.

11 So, as you go through, if you see some that we ar
12 after, don't hold off on it. Tell us what it was, but just
13 say that was after December 6, 1979.

14 A The record indicates that prior to December 6,
15 1979, there had been three sets of individual requests that
16 have been made on the basis of 50.54(f). The first set was
17 issued April 24, 1979, and it goes from questions 1 to 22.
18 The second set was issued the 9th month, 11th day, 1979, and
19 it contained one question numbered Request number 23,
20 dealing with the subject of quality assurance.

21 The third set of 50.54(f) questions was asked on
22 November 19, 1979, and the order notes that as of December
23 6th, reply had not yet been made regarding this latter set
24 The question numbers for the November request begin with
25 question number 24 and end with question number 35.

1 So, in the sense that the question goes to those
2 requests that had been formally submitted to the applicant,
3 and in the sense that it goes to the questions that were
4 asked prior to December 6, then the appropriate questions
5 were questions number 1 through 35.

6 Q Would you identify the specific acceptance
7 criteria that were asked Consumers and which were required
8 by staff?

9 A For the diesel generator building?

10 Q For the diesel generator building.

11 A I go first to question number 4, which asks to
12 specify and justify the acceptance criteria for which you
13 will use to judge the acceptability of the fill, structures
14 and utilities upon conclusion of the preload program. The
15 question also continues, and in the continuation it makes it
16 clear that the concern is not limited to just the diesel
17 generator building but we will skip that aspect because that
18 is outside your question.

19 The question asks for a comparison of those
20 criteria, that to which the material was to have been
21 compacted by the original requirements set forth in the
22 PSAR. It asks that the response consider all areas --
23 excuse me. That aspect is not relevant here.

24 It asks for a description of how conformance with
25 these criteria will result in ^{as} assurance that unacceptable

1 residual settlements cannot reasonably be expected to occur
2 over the life of the plant, and it asks that for each such
3 area, a statement as to the extent of residual settlement
4 which can be permitted and the basis for each limit.

5 Q Let me stop you for a moment. Do you consider
6 each of those elements to be acceptance criteria? By
7 elements I mean description of how conformance will result
8 in assurance that unacceptable settlements cannot reasonably
9 be expected and the extent of residual settlement which will
10 be permitted and the basis for each one of them.

11 A No, I do not believe each element of the request
12 goes to acceptance criteria per se.

13 Q That is really what I am interested in now, just
14 the acceptance criteria that was requested of Consumers and
15 which they failed to provide.

16 A Then the thrust of this question is to ask the
17 applicant just what its criteria is to that end.

18 Q The applicant responded that load combinations and
19 allowable stresses were specified in FEAR Section 3.8, and
20 special load combinations including the effects of
21 differential settlement which are addressed in other
22 questions, questions 14 and 15 with regard to structures.

23 Would you consider those responses to constitute
24 provision of acceptance criteria?

25 A I do not accept your characterization of the

1 response as an accurate indication of that response as it
2 existed at the time. The reply as it existed at that date
3 was provided by Revision 3 which was submitted in September
4 of 1979. It notes that the criteria and the extent to which
5 residual settlements will be permitted will be provided by
6 December 1979.

7 I would like to relate pertinent chronologies to
8 you to give you a better appreciation of the difficulties
9 the staff has with that. I would point out, for example,
10 that in February of 1979, the fill was first placed at the
11 diesel generator building. It began at that date.

12 The question to which we were referring was issued
13 on March 21, 1979. There was a meeting held with the
14 applicant and this matter was discussed, the preload program
15 was discussed, on July 18, 1979. That meeting was further
16 documented by the applicant's letter of August 10, 1979. On
17 August 30, 1979, the fill was completely removed. I think
18 it had commenced -- removal had commenced 15 days prior to
19 that date on August 15, 1979, and completion of removal
20 occurred on August 30, 1979.

21 So the record reflects that the criteria that we
22 had asked for in this question number 4 had not been
23 provided, and indeed, the answer that we had was that it
24 would be provided in December of '79, which is the date that
25 occurs after the removal of the surcharge program of the

1 sand.

2 Just to complete the chronology, we have received
3 this answer in 9/79, the ninth month of 1979. Of course, we
4 issued the order December 6, 1979. After issuance of that
5 order, specifically in February of 1980, we received by
6 *Revision* Division 5 an amended response to Question 4, which contains
7 the information to which you just referred.

8 Q Does that information to which I have referred
9 constitute acceptance criteria with respect to the diesel
10 generator building surcharge?

11 A Yes, it does.

12 Q Does it contain or constitute all of the
13 acceptance criteria with respect to the diesel generator
14 building surcharge which had been requested as of February
15 1980?

16 A I don't know the answer to that. Your question
17 goes to the completeness of the response. We got all of the
18 information that we had asked for that was of an acceptance
19 criteria nature. I believe it does go to the heart of the
20 matter as far as providing the applicant's response. I
21 believe there may have been some difficulty the staff had
22 with the response, but as far as the completeness of a
23 response to the request for acceptance criteria, the
24 information may be here.

25 Q You say it may be here. In all probability is it

1 there?

2 A I don't know if I could say that. I am not aware
3 of the need for other criteria for the diesel generator
4 building that may not be contained in this response.

5 Q That would also be true using December 6 of 1979
6 rather than February 2, 1980 as the date upon which the
7 requested acceptance criteria is measured; is that true?

8 A I didn't follow the question.

9 Q Really what I am after is there were no requests
10 for acceptance criteria which were withdrawn between
11 December 6, 1979 and February 1980, so therefore if this
12 provided the scope of the acceptance criteria with regard to
13 the diesel generator building that had been requested as of
14 February 1980, it would also cover the scope of the
15 acceptance criteria which had been requested as of December
16 6, 1979. Is that correct?

17 A That would seem to follow. You are quite correct
18 that we did not withdraw any of our previous requests.

19 Q Have there been any requests for additional
20 acceptance criteria with respect to the diesel generator
21 building subsequent to February 1980?

22 A Yes, there have been requests concerning the
23 diesel generator building subsequent to February of 1980.
24 Yes, surely there had been. Let me work back starting with
25 the more recent requests because I am more familiar with the

1 recent events.

2 On August 4, 1980 and June 30, 1980, we issued a
3 request regarding additional borings. Those requests in
4 part are concerned with the diesel generator building.

5 Q What specific acceptance criteria does that ask
6 for with regard to the diesel generator building?

7 A Those questions go to the understanding of the
8 results of the preload program, and the borings are viewed
9 by the staff as necessary to that end. Your question goes
10 to acceptance criteria. The question ^tis raises is is that
11 acceptance criteria per se?

12 My reply was directed to an understanding of the
13 information that is needed by the staff to approve the
14 remedial actions. Whether or not the information is needed
15 to understand the results ^{is} and characterize ^d acceptance
16 criteria is not that clear to me. I would certainly
17 characterize it as an up-front matter, and it seems to me
18 that it is acceptance criteria, although I think there is
19 room for debate on the subject.

20 Q When you say an up-front matter, do you mean
21 information that is in the staff scheme of things belongs in
22 that step one process?

23 A Yes, that is relevant -- it is a matter which the
24 staff would normally use as part of the original issuance of
25 the construction permit, if indeed such a scheme had been

1 proposed in that process, or rather that step.

2 Q In that step you wouldn't have expected to have
3 had the diesel generator building already constructed, would
4 you?

5 A No, you clearly would not.

6 Q Were there any other requests for acceptance
7 criteria, names other, assuming arguendo that those
8 additional boring requests were requests for acceptance
9 criteria after February of 1980?

10 A There were requests issued by the staff concerning
11 the dewatering system. I need to check the dates of those
12 requests. I seem to recall that they were within that
13 timeframe. I note that the request by the staff with regard
14 to dewatering to which I just referred was issued on the 8th
15 month, 27th day, 1980. I see that that matter is relevant
16 to the diesel generator building and that there is sand
17 located under the diesel generator building, and one of the
18 purposes of the dewatering system is to keep that sand dry
19 so that liquefaction does not become a concern.

20 The questions on dewatering are numbered number 40
21 through 53. They go to the adequacy of the applicant's
22 plans regarding that dewatering system, and they center
23 around information that we need to judge the adequacy of
24 those plans. So we definitely see this as an up-front
25 matter. Again, whether or not you wish to define this as

1 acceptance criteria per se, it is a matter that should be
2 given further thought.

3 I would further note, regarding my comment
4 previously regarding the request for additional borings,
5 that that request is amplified in our letter of August 8 by
6 Question number 40 therein.

7 Q What was the year?

8 A 1980. The question, as amplified therein, may be
9 broader stated than I characterized it at this time.

10 Q I'm sorry. Would you explain? You say the
11 question as amplified therein may be broader stated than
12 characterized at this time. Oh, I understand; it may be
13 broader than just the issue that you are addressing at this
14 time.

15 A No. That request is directed only to the diesel
16 generator building.

17 Q Oh.

18 A But that specific request goes to a number of
19 concerns about the diesel generator building which are
20 termed broader than the narrow issue I am addressing here.

21 Q You indicated that these dewatering questions
22 number 49 through 53 are of that up-front nature. Again, by
23 up-front you are referring to what staff styles as step one
24 of the two-step licensing process; is that correct?

25 A Yes.

1 Q You indicated that whether that constitutes
2 acceptance criteria as that term is used in the December 5,
3 1979 order might be subject to further thought. What is
4 Darl Hood's opinion as to whether that in fact constitutes
5 acceptance criteria as that term is used in your December 6,
6 1979 order as it sits here today?

7 A I see it not constituting acceptance criteria
8 itself but rather it is information you have to have before
9 you can accept acceptance criteria that is proposed. It
10 goes, for example, to the level you propose to maintain, the
11 water level, and, for example, is that indeed a proper
12 level. It notes, for example, there are several apparent
13 inconsistencies or errors in the equations that were used
14 and questions indeed as to whether that is a proper
15 equation, and all sorts of matters.

16 It goes to the capacity, the required pumping
17 capacity of that system, and it translates to a number of
18 wells that will be required. In Darl Hood's opinion these
19 are up-front matters and they relate closely to the adequacy
20 of the proposed criteria.

21 MR. PATON: Mr. Jones wanted the record to
22 indicate that he departed just prior to Mr. Hood's last
23 answer.

24 MR. ZAMARIN: He didn't depart; he left the
25 deposition.

1 (General laughter.)

2 MR. PATON: I would like to amend that to say he
3 left the deposition.

4 THE WITNESS: I would like to further supplement
5 the answer to point out that you will be talking to
6 individuals more knowledgeable on this subject matter than
7 I, and you might reserve that question for later.

8 MR. ZAMARIN: This refers to Questions 49 through
9 53, which were presented to Consumers on August 27, 1980,
10 and I have what is marked Consumers Exhibit Number 17 for
11 identification as of today's date.

12 (The document referred to was
13 marked Consumers Exhibit
14 Number 17 for identification.)

15 BY MR. ZAMARIN: (Resuming)

16 Q I ask you if this document constitutes what is
17 regarded as a submittal with regard to dewatering, and that
18 is Questions 49 through 53 to which you just referred.

19 A Yes, this is the document to which I referred.

20 Q Do you know who originated the request for the
21 information sought in Questions 49 through 53?

22 A Yes, I do.

23 Q Who was that?

24 A I received the request from Mr. George Lear,
25 Branch Chief of the Hydrology and Geotechnical Branch. I am

27
1 not under the impression that Mr. Lear prepared the request
2 himself but rather it represents the work of the reviewer
3 the Hydrology Branch for the Midland Branch, whose name is
4 Ray Gonzales.

5 Q Is Ray Gonzales, to your knowledge, possessed of
6 expertise in the area of subsurface water?

7 A I know he is charged with that function. I don't
8 know. I assume he is possessed of expertise, yes.

9 Q In that particular area?

10 A Yes. That is his responsibility. Mr. Gonzales
11 also works with Mr. Bill Bivens, who may have had input.

12 Q When answers to questions are submitted to
13 Questions 49 through 53, assuming that they are, who will
14 reviewing those answers and who will be determining the
15 accuracy of those answers?

16 A The adequacy of the answers will be determined
17 Mr. Lear's branch and will result primarily from the review
18 of Mr. Gonzales.

19 Q On December 11, 1979 at 12:55 p.m., it is my
20 understanding that you had a telephone conversation,
21 apparently a conference call, with Gil Keeley, Mr. Zabrit
22 and Mr. Rutgers with regard to the soil settlement issue
23 which, among other things, Mr. Keeley asked you if the order
24 eliminated the need to respond to the latest SO.S4(f)
25 questions, and asked if there was a hearing on this issue

1 and it doesn't get scheduled for a while, is everything dead
2 in the water as far as technical discussions go; stated that
3 it was agreed at previous meetings on this issue that
4 Consumers would keep the NRC updated via 50.54(f) and
5 50.55(e) reports, and when the issue was resolved, put it in
6 the PSAR, and with this in mind, could the order be modified
7 to allow this activity to go on?

8 You responded that you would have to discuss those
9 issues with your management before you could respond. Do
10 you recall that conversation? I am just giving you this
11 background to refresh your recollection of the conversation.

12 A Yes, I do recall such a conversation. There are
13 elements that you just read that are somewhat confusing to
14 me, but I do recall the conversation.

15 Q I am not going to ask you about those. I am just
16 trying to bring that conversation to your mind. I am also
17 of the understanding that Mr. Keeley asked you how much
18 design detail, analysis detail and commitments would be
19 required to satisfy the staff's order, and that you
20 responded that Consumers should not get the order and the
21 50.54(f) questions mixed up, and that the staff doesn't need
22 the complete analysis to resolve the order.

23 You elaborated by postulating the question,
24 to-wit: what if the subsurface conditions were known at the
25 time of the PSAR review? All the staff would have asked for

1 was the acceptance criteria. In other words, what is our
2 yardstick for acceptability, and how did we arrive at that
3 criteria?

4 Do you recall those comments by Mr. Keeley and
5 those responses from you?

6 A I do have a vague recollection of such a
7 conversation. The version of that conversation as you just
8 read it is somewhat confusing.

9 Q Can we break it down? Did you state to Mr. Keeley
10 that the staff does not need the complete analysis to
11 resolve the order?

12 A I have difficulty with that question without
13 knowing what the complete analysis refers to.

14 Q What it seems to refer to is a complete analysis
15 versus acceptance criteria. You are quoted as saying that
16 the order is asking for acceptance criteria. Therefore,
17 Consumers should not get the order and the 50.54(f)
18 questions mixed up.

19 A Your statement is not consistent with the
20 discussion that I recall.

21 Q Okay, why don't you tell me what you recall in
22 that regard?

23 A I recall it as an effort on my part to clarify to
24 Mr. Keeley that not everything that the staff had asked for
25 in the 50.54(f) request was relevant to the order. There

1 were some of the requests that go beyond the CP modification
2 issue. As I recall, I did not give any specificity to that
3 but rather the statement was somewhat general.

4 I seem to recall some discussion about the extent
5 to which detailed seismic analysis would be required. I
6 believe I made a reference that one would not necessarily
7 require final results of the seismic analysis for purposes
8 of the order. I believe that is what that statement goes to.

9 I also recall during the discussion that there was
10 an effort to clarify where we go from here in terms of
11 documentation. Specifically, Mr. Keeley related a concern
12 that they indicated their intent to update the FSAR at a
13 later date, and they indicated their intent to respond to
14 the request at some later date.

15 The main thrust of the call was to determine the
16 extent to which the issuance of the order was to alter the
17 ~~plant's~~ ^{planned} sequence of events, and I attempted to clarify to
18 Mr. Keeley that there is the ongoing review which is
19 directed both to the up-front as well as to subsequent
20 matters. That is, if it entails a matter relevant to the
21 order but it also includes matters relevant to the ongoing
22 normal review, which we call the OL review which is in
23 progress.

24 I believe I related to Mr. Keeley that the order
25 made reference to the fact that information had been

1 requested that was not yet available to us, and in that
2 sense the information was still needed. That is the essence
3 of the conversation as I recall it.

4 Q Do you recall stating to Mr. Keeley that the order
5 is simply asking for acceptance criteria, giving as an
6 example that the diesel generator fuel oil tank had no
7 advanced criteria of what degree of settlement was
8 acceptable and what Consumers needed to do was set the
9 criteria, get the staff to agree to it, then go perform the
10 work and see if it meets the acceptance criteria?

11 A Yes, I believe I did cite that as an example of
12 our need.

13 Q I believe that Mr. Keeley told you that Consumers
14 didn't necessarily agree with that.

15 A That is quite possible. I don't recall
16 specifically if he said that.

17 Q You mentioned that you had related to Mr. Keeley
18 that in your view, something less than a full seismic
19 analysis would be required in order to satisfy the order.
20 Can you tell me what less than a full seismic analysis would
21 be required to satisfy the order?

22 A No, I really cannot. It gets too far away from my
23 level of expertise. That decision will rest in the seismic
24 analysis branch. My comment is just based on my
25 observation, comments that had been passed along from that

1 branch

2 Q Can you tell us what you had in mind when you made
3 that statement?

4 A I had in mind the kind of analyses that are done
5 at the CP stage versus the kind of analyses that are done by
6 an FSAR. For the most part they consist -- for the FSAR
7 they consist of the development of the models and staff
8 agreement for the models that would be applied, and relates
9 to the input that will go into that model and the agreement
10 by the staff that those were proper inputs.

11 In the typical application, the actual results of
12 the analysis are not required for purposes of issuance of a
13 construction permit. I believe that is what I had in mind
14 at the time of the discussion. I believe I had comments on
15 this matter yesterday which indicate that this may not be
16 typical, the Midland situation may not be typical, and it is
17 not clear to me as to whether more by way of application
18 might not be required in this case.

19 Q Do you agree with Mr. Keeley's statement in that
20 telephone conversation on December 11, 1979 that it had been
21 agreed at previous meetings between the staff and Consumers
22 that Consumers would keep the NBC updated by 50.54(f),
23 50.55(e) reports, and that when the issues resolved, then
24 put them into the FSAR by amendment?

25 A Our discussion, as I recall it, related to the

1 fact that dual reporting was -- not this discussion, but I
2 believe it had been preceded by a prior discussion -- this
3 probably should be checked -- but I believe at that point in
4 time we had already agreed that it was not necessary to
5 maintain the dual reporting by both 50.55(e) and the 54(f)
6 documents.

7 If I am correct on that assumption, the response
8 would go only to the 54(f) response.

9 Q Does that accurately state the understanding
10 between Consumers and the staff that the information would
11 be provided via 50.54(f) responses and then at some later
12 time incorporate them into the FSAR?

13 A That is correct.

14 Q What, if any, was your involvement in the
15 inspection reports cited on page 2 of the December 6, 1979
16 order? You see that highlighted in green on my copy.

17 A None.

18 Q Were you consulted before those reports were
19 issued?

20 A I don't recall, but it is not at all unusual for
21 me to receive a report such as this before it is issued in
22 final form.

23 Q Do you recall whether you commented on any of these
24 prior to their issuance in final form?

25 A No, I do not recall at this time. I believe to

1 give you a more definitive answer I would need to refer to
2 the latter report in particular as to whether that was the
3 case.

4 Q Why don't you identify the latter report?

5 A It was the one issued on March 19, 1979 and
6 identified as Inspection Report Number 50-329-78-20, and
7 50-330/78-20.

8 MR. ZAMARIN: I have here what has been marked as
9 Consumers Exhibit 18 as of today's date.

10 (The document referred to was
11 marked Consumers Exhibit
12 Number 18 for identification.)

13 BY MR. ZAMARIN: (Resuming)

14 Q I ask you if this is, in fact, a copy of a
15 document from your files, as I believe it to be since we got
16 it from you on Monday, and if in fact you did receive this
17 in the normal course as indicated by showing you a copy with
18 enclosures on the second page.

19 A I notice in referring to the subject matter of
20 those reports that they do contain matters that we discussed
21 earlier when we were discussing the materiality of certain
22 comments. We discussed that earlier in this deposition and
23 my involvement in that matter.

24 To the extent that that discussion goes to this
25 matter, yes, I was involved in that effort. You have given

1 me a document dated January -- is that the 3rd?

2 Q That was produced --

3 A It looks like January 3, 1980.

4 Q Yes.

5 A And you asked me a specific question about this
6 document?

7 Q I just asked if you recognized that as a document
8 coming from the files which you received in the normal
9 course of business.

10 A I do recognize this as a document from my file. I
11 am not sure how I came by it, but I will accept the fact
12 that I received it during the course of normal business.

13 Q That is all I want to ask you about that document.

14 Who is Roger Fortuna, F-o-r-t-u-n-a? He is
15 identified here as Assistant Director for Investigation, OIA.

16 A OIA stands for the Office of Internal Audit. I'm
17 not sure whether that is the acronym or not. I need a
18 telephone directory. I think it is Office of Internal
19 Affairs.

20 Q Office of Inspector and Auditor?

21 A Yes, that is the one.

22 Q To your knowledge, why was a copy of this Exhibit
23 Number 18, this January 3rd memorandum, sent by Harold
24 Thornberg to Roger Fortuna?

25 A It is my belief that this matter has to do with an

1 aspect of the material fault statement as to whether or not
2 there existed willful intent, and that was a matter that was
3 reviewed by OIA.

4 Q Do you know if anything as a result was done?

5 A I recall a prior conversation that I had with some
6 member of OIA by telephone. I do not recall his name nor
7 the date, except the fact that it was probably around the
8 day of this letter. The question was put to me, as I aware
9 of anything that leads me to believe that there was a
10 question of willful intent in regard to the material false
11 statement.

12 I recall that my reply was no, I am not aware of
13 anything that leads me to conclude that that was the case.

14 Q To your knowledge, is OIA finished with its
15 investigation of this willful matter?

16 A I do not know the status of that investigation.

17 Q On the second page of Exhibit Number 7, which is a
18 January 21, 1980 memorandum from E.J. Gallagher to Mr.
19 Fiorelli, which we have talked about earlier, the last
20 paragraph states that in view of the above, I believe that
21 measures should be taken to preclude further construction of
22 the remedial measures of the plant fill until a technical
23 review as to suitability is complete.

24 Do you recall Mr. Gallagher as having taken that
25 position?

1 A Yes, I do so recall.

2 Q Do you recall whether the determination was made
3 by the NRC to either accept or reject that position as
4 stated by Mr. Gallagher?

5 A In my opinion, Mr. Gallagher's concern goes to
6 2.204. I see that as a fait accompli and therefore
7 requiring little action. It goes to the immediate
8 effectiveness of the order and it goes to a decision that
9 had already been made. In my view it raises no concern for
10 a departure from that previous decision.

11 Q That previous decision being what?

12 A That the effectiveness of the order would rest
13 with the board pursuant to 2.204.

14 Q Is the staff satisfied, to your knowledge, with
15 the crack analysis that Consumers has provided with regard
16 to the auxiliary building?

17 A Would you repeat the question, please?

18 Q Yes. Is the staff satisfied, to your knowledge,
19 with the crack analysis that Consumers has provided with
20 regard to the auxiliary building?

21 A No, I do not know if the staff is presently
22 satisfied with that analysis.

23 Q Do you know whether the staff is satisfied with
24 the crack analysis provided with respect to the service
25 water building?

1 A No, I do not.

2 Q Do you know whether the staff is satisfied with
3 the crack analysis that has been provided with regard to the
4 diesel generator building?

5 A No, I do not.

6 Q Do you know whether the staff is satisfied with
7 the crack analysis that has been provided with regard to the
8 borated water storage tank foundation?

9 A No, I do not.

10 Q Do you know if the staff is satisfied with the
11 crack analysis which has been provided by consumers with
12 regard to the valve pit?

13 A No, I do not.

14 Q Do you know if the staff is conducting an
15 evaluation of the analyses with respect to those
16 structures? In other words, are they doing anything about
17 it now?

18 A About the review of the crack analyses?

19 Q Yes.

20 A Yes. It is my understanding that they are
21 reviewing it.

*ADP
Construction*

22 Q Is ETEC reviewing that?

*Given related by
NSWC -*

23 A Yes.

WRONG

24 Q And have you received any preliminary response or
25 report from ETEC with regard to the crack analysis?

1 A Not to my knowledge. I believe there may be
2 something in-house that could possibly speak to that issue.
3 I am not aware that it does.

4 Q What are you referring to, this thing that might
5 be in-house?

6 A There might be some recent input from our
7 consultants as a result of their review of that. I believe
8 I made some previous references to some request for some
9 additional information that consultants would like us to
10 acquire from Consumers on whether or not that goes to the
11 aspect of the crack analysis. I do not know.

12 Q Are you referring now to some statements you made
13 yesterday on ETEC maybe comparing the questions and asking
14 for additional information from Consumers?

15 A Yes, that is right. My difficulty is I am just
16 aware of the existence of something within NRC from those
17 consultants, and I do not know its content.

18 Q Do you know where within the NRC that document
19 resides today?

20 A It resides with the technical coordinator. In the
21 case of the Naval Surface Weapons Center, that individual is
22 Frank Rinaldi. In the case of ETEC, if such a document
23 exists it resides with Tony Cappucci.

24 Q Have you ever discussed the adequacy of the crack
25 analysis with anyone at ETEC?

NO II
NSWC

1 A No, I have not.

2 Q Is the approach that Consumers ^{proposes} ~~approaches~~ with
3 regard to the borated water storage tank and diesel fuel oil
4 tank sufficient for the staff to determine the acceptability
5 of those structures?

6 A My understanding is that it is not.

7 Q Do you know why it is not?

8 A I believe the difficulty the staff is having is
9 that it doesn't go to the concerns that the staff has
10 expressed. For example, the borated water storage tank
11 rests on a ring-type support which is filled with soil
12 materials. In doing our review, questions have been raised
13 about consequences of stresses in the tank from various
14 sources.

15 It is my understanding that the staff is not
16 satisfied that that area receives sufficient amount of
17 support.

18 Q Has there been any evidence of differential
19 settlement in the ring support for the borated water storage
20 tank?

21 A Yes, there has been. It is small, but it does
22 exist, particularly with regard to the tank for Unit 1.
23 There have also been cracks in that ring structure.

24 Q Have those cracks been the subject of the crack
25 analysis that has been provided by Consumers?

1 A I believe their investigation of cracks has
2 included that structure, yes. I know that they are being
3 monitored. I know that the staff's concern with cracks
4 appeared at a very early stage, before the tank was even
5 constructed, certainly before it was fully constructed,
6 before the load was applied. That is of some concern to the
7 staff.

8 The question also goes to the diesel generator
9 fuel storage tank. The staff has expressed some concerns
10 there, as well. It is my understanding that they are not
11 satisfied with the responses they have received to date.
12 One of the more recent concerns that has been raised with
13 regard to that tank goes to its proximity to a nonseismic
14 retaining wall. The staff is questioning the consequences
15 of the failure of that nonseismic retaining wall on the tank
16 and the fuel line that goes to the tank.

17 The concerns as I understand them go to whether or
18 not the earthquake that removes the wall and which,
19 incidentally, is presently exhibiting an overturning moment,
20 can fail in such a way that it leads to a sliding mode of
21 the soils in which those tanks rest and thereby also affect
22 the ability of those tanks to deliver their fuel for the
23 emergency diesels.

24 C Is that concern or that question to which you just
25 referred documented anywhere in the submissions ^{to} of Consumers

1 A Yes, it is contained in the August 4th letter.

2 Q August 4, 1980?

3 A Yes. There are other concerns associated with the
4 diesel generator storage tank. Concerns go to the
5 possibility that differential settlement of the tank might
6 cause disconnection of the connecting fuel oil lines, but it
7 is not clear to me whether the staff presently accepts that
8 response from the applicant. That essentially says that the
9 fuel lines are capable of a great deal of stress and
10 essentially will go along for the ride. That may be an
11 unfair characterization, but that is the type of response
12 that I recall.

13 I believe the staff has general difficulty with
14 the approach taken by the staff with regard to both tanks,
15 the borated water storage tank and the diesel generator fuel
16 storage tank, from the standpoint of criteria. More
17 specifically, it is the determination of the duration by
18 which the water is to be left in those tanks for the
19 purposes of the proposed proof test.

20 The staff has difficulty that there is no
21 quantitative criteria as to what constitutes an acceptable
22 amount of settlement. For example, if the borated water
23 storage tank were to settle six inches ^{after} ~~without~~ filling it
24 with water, would that be acceptable? Similarly, what
25 constitutes an acceptable settlement for the diesel fuel

1 storage tanks?

2 These matters don't seem to have been thought out
3 in advance, but rather it is a learn-as-you-go approach. My
4 interpretation of the applicant's approach is, well, let's
5 do it, let's measure the results and then tell NRC where we
6 are. We have difficulty from the standpoint that from a
7 practical matter, that doesn't seem to us to be a prudent
8 approach and is not consistent with our two-step licensing
9 process.

10 Q Recognizing that that may not be consistent with
11 your two-step licensing process, would you disagree with the
12 statement that the observation method of soil mechanics is
13 the best method where various kinds of soils exist?

14 A Would you repeat that, please?

15 Q Yes. The statement is that the observational
16 method of soil mechanics is the best method where various
17 types of soils having various types of properties exist.

18 MR. PATON: Best method? For what? You don't
19 have to answer that if you don't want to, but the question
20 seems --

21 MR. ZAHARIN: You have to keep in mind his answer
22 to the previous question when he talked about investment in
23 the two-step licensing process.

24 MR. PATON: Let me just ask him: do you understand
25 the question?

1 THE WITNESS: I think I do.

2 MR. ZAMARIN: Good.

3 THE WITNESS: I don't consider that I'm qualified
4 to answer the question from a substantive standpoint. I
5 have opinions on the matter and they have to be recognized
6 as opinions.

7 BY MR. ZAMARIN: (Resuming)

8 Q What is your opinion on the matter?

9 A I accept the statement or condition on the highly
10 variable nature of the soil. I understand that it exists at
11 the Midland site. I recognize the difficulty in obtaining a
12 sample that can truly be said to be representative of a
13 given condition. Because of this, I accept the statement.

14 Q I will take you back to January 16, 1980. There
15 was a meeting, and after that meeting there was a telephone
16 conversation among you and Mr. Keeley and Mr. Zabritski at
17 8:15 in the morning. The subject of that telecon was the
18 comment that Lyman Heller made toward the end of the
19 previous day's meeting with regard to dewatering.

20 Let me give you a little bit more of what I
21 understand the conversation entailed. Lyman Heller's
22 comment at the end of the meeting that dewatering was not
23 the preferred technical solution, and that during the
24 January 17th telecon with Gil Keeley asking what the staff
25 had in mind, since Consumers had spent considerable time and

1 money pursuing that option, they considered it the most
2 conservative way to go; that if dewatering wasn't
3 acceptable, what was?

4 You replied that it was rather unfortunate the way
5 the issue was raised, and it needs to be put in the proper
6 perspective. You had a discussion between Walter Ferris of
7 Bechtel and Lyman Heller. Heller was talking as an
8 individual; that his opinion did not necessarily represent
9 staff consensus, and this type of discussion, however,
10 should be valuable to Consumers since it indicates that
11 there were fragmented views on the subject within the
12 staff. But you also indicated that Consumers probably had a
13 right to be concerned since Lyman Heller was the principal
14 staff reviewer in this area.

15 Do you recall that conversation?

16 A I recall such a conversation, but there were
17 several elements of the conversation to which you just
18 referred that I do not agree with as a correct
19 characterization of that conversation.

20 Q Point them out for us.

21 A You said I made a statement to the effect that it
22 would be of value to Consumers to know that the staff was
23 fragmented.

24 Q Let me repeat that. It said that it would be
25 valuable to us since it indicated that there were fragmented

1 views on the subject within the staff, us being Consumers.
2 You said valuable to Consumers.

3 A No, I do not recall making any such remark as
4 that, and I do not accept that as a statement that I made.

5 Q What is your best recollection of the statement
6 that you made in that --

7 A Before we get away from that, let me make my
8 second objection; not an objection, but I understand that my
9 second point, that differs from that. I understood the
10 concern, the basic concern did not go to the dewatering
11 system per se but went to the selection of the preload
12 program as the alternate as opposed to the alternate of
13 removal and replacement. That was the thrust of Mr.
14 Heller's concern that I recall discussing.

15 I believe that it was related to a discussion of
16 the dewatering system in that the reason for the thrust of
17 Mr. Heller's opinion went to the existence of sand
18 underneath that structure and the difficulty of knowing
19 where those sand pockets were and other difficulties
20 associated with the permanent dewatering system.

21 Mr. Heller's concerns were basically oriented to
22 the option selected to preload the diesel generator
23 building. There is a certain amount of consistency, but I
24 think the main thrust of his comment was the option to ~~in~~
25 surcharge ~~in~~ program, and that results from the fact that

1 it now must be tied to permanent dewatering systems, and
2 there are difficulties associated with that system.

3 Q Do you recall Mr. Heller having made some type of
4 statement that might be construed as an insinuation that the
5 dewatering option was not the consensus opinion of
6 Consumers' consultants?

7 A No. That statement was -- the statement that I
8 recall that I made to Mr. Keeley -- it went to the fact that
9 the selection, in the opinion of Mr. Heller, to the effect
10 that the option of using the surcharge program was not -- I
11 forget exactly how it was framed at the time. I don't want
12 to say it was a better option. Perhaps that is the way it
13 was said, it was the better option or whatever; that that
14 opinion did not represent staff view and should not be taken
15 as such.

16 Again I would refer back to the decisions ~~made~~
17 development process on which I have made prior references
18 during this deposition. There was a comment made at a
19 meeting for the first time and had not been subjected to the
20 staff decision process. That was the nature of the
21 discussion.

22 Q Do you recall during the telephone conversation of
23 January 17 with Mr. Keeley and Mr. Zabritsky stating that
24 the soils review has been difficult for the staff from a
25 continuity and scheduling aspect and the staff has not

1 provided timely feedback to Consumers, and Consumers has
2 taken action at its own risk in pursuing the fixes to the
3 soils issue?

4 A No, I do not recall that element, but I will
5 accept it as part of the discussion.

6 Q Do you also recall indicating that you understood
7 that Lyman Heller felt that caissons were a more positive
8 approach to the diesel generator fix as opposed to
9 dewatering, but that you indicated that it was your opinion
10 -- excuse me -- you indicated that it was Lyman Heller's
11 opinion and that you could not yourself see that that option
12 was necessarily any better than the dewatering contract?

13 A Yes, I accept that. I would further comment on
14 the telephone call. The central thrust of that call was to
15 request an immediate follow-up meeting, and my comments were
16 by way of indicating that I did not feel that the meeting
17 had the sense of urgency and did not share Mr. Keeley's
18 feelings on the sense of urgency for such a meeting.

19 Q Are you aware of Professor Hendron's bearing
20 capacity calculations, the existence of them?

21 A I have heard a description of that calculation
22 during meetings, a very recent meeting.

23 Q A description by Professor Hendron or by someone
24 on the staff?

25 A I believe it was Professor Hendron who was giving

1 the presentation.

2 Q ^{Do you} ~~did he~~ have any previous experience with bearing
3 capacity and bearing capacity calculations?

4 A No, I have not.

5 Q Technical reviewers of yours have, I assume.

6 A Yes, they have.

7 Q Who is your technical reviewer with regard to
8 bearing capacity calculations as presented by Professor
9 Hendron?

10 A Lyman Heller and Joe ^{Kane} ~~Gain~~, and, of course, you
11 understand they are being supported by the Corps of
12 Engineers. All of those to be involved.

13 Q Have they discussed with you their views of the
14 acceptability of Professor Hendron's calculations?

15 A I have heard discussions to that end, discussions
16 which I do not fully recall. I do recall comments about the
17 adequacy of bearing capacity as relates to the diesel
18 generator building. We know that the view of Mr. Joe ^{Kane} ~~Gain~~
19 is that bearing capacity may not be a problem in this regard.

20 Q When you say "in this regard," is this regard --

21 A The diesel generator building. ^{Kane's}

22 Q Do you know what the basis for Mr. ~~Gain's~~ opinion
23 is?

24 A No, I do not.

25 Q Are you aware of any bearing capacity failures

1 with regard to any nuclear power plant structures?

2 A No, I am not.

3 Q Are bearing capacity failures usually associated
4 with very tall, narrow buildings like grain elevators and
5 things of that nature?

6 A I don't know.

7 Q In your opinion, is it necessary to know the
8 compaction of soil underneath the structure in order to
9 predict future performance of that structure or the behavior
10 of that structure with regard to the soil?

11 MR. PATON: I didn't hear that first part. Was it
12 necessary -- what was the start of that?

13 BY MR. ZAMARIN: (Resuming)

14 Q I think in your opinion is it necessary to know
15 the compaction of soil beneath a structure in order to
16 predict the future performance or behavior of that structure
17 on the soil?

18 A In my opinion -- more specifically, it is
19 necessary to know whether or not you have a primary
20 consolidation or a secondary consolidation.

21 Q That is different than compaction, isn't it?

22 A I don't recognize the defined term that a
23 geotechnical engineer may draw in that regard. To me, I
24 refer to it whether or not you are talking about
25 consolidation of the soil as might be present if the soils

1 or clays were placed such that air space existed between the
2 clumps of the soil.

3 In such a situation, I understand the concerns to
4 be primary consolidation, which results in rather rapid
5 settlement. That is contrasted to the kind of consolidation
6 where the individual grains, or clumps, if you will,
7 redistribute themselves such that there is some further
8 consolidation of the soil but which translates to a such
9 slower type of settlement, gradual over a long duration.

10 Q So when I asked you that question, you consider
11 the term "compaction" to be synonymous with the term
12 "consolidation"?

13 A Yes, recognizing one results from the other.

14 Q That consolidation could result in compaction?

15 A You compact the soils in order to achieve
16 consolidation.

17 Q Do you know if Lyman Heller shares ^{Kane's} Joe Cain's view
18 that bearing capacity with respect to the diesel generator
19 building is not a likely problem?

20 A No, I do not know Mr. Heller's opinion on that
21 subject.

22 Q Do you know what Joe Cain's view with regard to
23 bearing capacity on other structures ^{Kane's} founded ~~on~~
24 ^{partially} ~~personally~~ on fill at the Midland site?

25 A No, I do not.

1 Q Is it your opinion that the compaction
2 requirements of the PSAR have to be met before you would be
3 satisfied with the prediction of performance of the diesel
4 generator building?

5 A I would characterize that as a decision that would
6 be made by others more knowledgeable on the subject. I
7 would certainly go along with their recommendations rather
8 than make any statement myself.

9 Q Do you have an opinion as you sit here now?

10 A No, I do not.

11 Q Do you know whether the soil beneath the diesel
12 generator building could be consolidated; that is, could be
13 made a secondary consolidation even though the soil had not
14 been compacted according to the original PSAR specification?

15 A Do I know whether it could be? I have difficulty
16 with that. Sure, it could be.

17 Q I'm asking physically could.

18 MR. PATON: He had not finished his answer.

19 MR. ZANABIN: He had answered the question. I
20 think he thought I wanted more, and that was all I wanted.

21 MR. PATON: If you want to finish your answer,
22 finish your answer.

23 THE WITNESS: I was going to indicate that staff
24 -- I am also aware of the difficulties that staff has in
25 arriving at that conclusion.

1 BY MR. ZAMARIN: (Resuming)

2 Q Not the conclusion that it could be but the
3 conclusion that it is in secondary consolidation.

4 A As it exists after the preload program.

5 Q That was the thrust of my question. I knew that
6 is where it was going.

7 With regard to the request for additional borings
8 around the diesel generator building, if the borings show
9 the wide scatter of results as a result of the heterogeneity
10 of the fill, what would the staff do with those results?
11 Would they apply a worst case analysis?

12 A I have difficulty with the question from the
13 standpoint that it goes to the relative degree of the
14 variance. But to the extent that the question refers to a
15 very wide variance from the expectation, I think it is
16 entirely conceivable that those results would cause the
17 staff to request further borings.

18 Q Is the purpose of the request for additional
19 borings with regard to the diesel generator building in
20 order to calculate soil properties and therefore make
21 predictions concerning future settlement?

22 A I do not understand the thrust of the staff's
23 request for additional borings to go to the prediction of
24 future settlement. Rather, I understand it to go to
25 understanding of the data that we now have and to go to such

1 issues as whether or not we are indeed now in secondary
2 consolidation.

3 Q Is that what you mean by understanding the data
4 that we now have: in other words, to verify the data?

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1 A Data would go to the results of the piezometer
2 readings, particularly those readings at the removal of the
3 surcharge and the behavior the pore pressure at that time,
4 which I understand is a matter that is pertinent to the
5 issue of whether or not we are in secondary consolidation or
6 whether or not we are merely seeing a response to a
7 piezometer that is being controlled by the pond level.

8 Q When you refer to your understanding of the staff
9 are you referring in particular to Messrs. Heller and Gair
10 views in this regard?

11 A Yes, I am, but I believe it is also shared by
12 others, like the Corps of Engineers.

13 Q You were going to say "Mr." Did you have another
14 name in mind?

15 A I almost made a reference to a Mr. Gonzales, but
16 as I think about it, I am not sure I am sure enough about
17 to mention him in that regard.

18 Q Is the sole concern, then, with regard to the soil
19 under the diesel generator building a question of whether or
20 not that soil is undergoing secondary consolidation at this
21 time, leaving liquefaction aside?

22 A My comments are limited to the diesel generator
23 building area. I don't know that I can say it is the sole
24 concern. I can say it is the only one that I can recall.

25 Q Is that to say, then, if it could be established

1 that the soil with regard to the diesel generator building
2 is, in fact, experiencing secondary consolidation, that that
3 would satisfy the staff's concerns in this area?

4 A Again, I don't know I can say it would satisfy all
5 of the concerns. I should think it would go a long way to
6 resolving the major difficulty that we are having with the
7 data.

8 Q The liquefaction question aside, you are not aware
9 of any other difficulty you are having with the data, are
10 you, other than with regard to whether it is a primary or
11 secondary consolidation?

12 A My response was going to the fact that my
13 knowledge is limited to that matter, with recognition that
14 there may be some concern.

15 Q In your opinion, should the cooling pond dike have
16 been safety grade?

17 A My opinion is that at least portions of the
18 cooling pond need not be safety grade, and a high quality of
19 dike will suffice. By portions, I refer to portions of the
20 cooling pond dike that are not in near proximity to the
21 inner ponds. That is referred to as the emergency portion.

22 Q Why is that? Let me rephrase that. Why is it
23 that you don't feel that way about those areas that are in
24 proximity to the inner pond?

25 A My response is going -- it is not that I am saying

1 the portion is just the inner pond. To me it is more
2 questionable. I guess as you approach ~~to~~ the vicinity of
3 the inner pond, traditional concerns arise that may or may
4 not be of concern if you are not in close proximity to that
5 pond.

6 Q For example, what kind --

7 A In the vicinity of the pond, in the vicinity of
8 the emergency pond, there are concerns for the failure mode
9 which could jeopardize the inner pond. There were certain
10 sliding modes of failure which, if they would occur, could
11 cause loss of the essential volume of the inner pond at the
12 same point that deprives you of the normal source of water.

13 Q Is this concern related to plant fill?

14 A There is a relationship to plant fill in it,
15 whether or not that particular mode of failure is credible
16 ^S ~~is~~ related to the question of whether or not the same
17 deficiencies that led to the difficulties with the plant
18 fill are present in the placement of the dike.

19 Q What information, if any, do you have that that is
20 the case?

21 A I don't have any information that indicates to me
22 that that is the case.

23 Q Let me show you what has been marked as Consumers
24 Exhibit Number 19, perhaps for the second time, perhaps not,
25 and ask you if you provided this to us from your files. I

1 don't believe I have showed it to you yet.

2 (The document referred to was
3 marked Consumers Exhibit
4 Number 19 for identification.)

5 BY MR. ZAMARIN: (Resuming)

6 Q I will call your attention to a handwritten
7 notation that appears to say: received from Wayne someone,
8 4/16/79 on there. What Exhibit 19 consists of is an April
9 3, 1979 memorandum for Harold Thornberg from James Keppler,
10 the subject of which is enforcement action re the Midland
11 diesel generator building and plant fill area, that letter
12 being two pages and there being several attachments to it,
13 Attachment 1 consisting of four pages headed Midland FSAB
14 statements, and Attachment 2 being headed Appendix A, Notice
15 of Violation, consisting of eight pages, although I note
16 that the numbering on those eight pages, every other page is
17 numbered. So they are only numbered up to page 4 on
18 Appendix A.

19 Can you tell me if that was a document that was
20 produced for us from your files and if you have received
21 this in the course of your normal business?

22 A Yes, I recognize this document as a document that
23 I had in my possession. I notice a notation -- I am not
24 sure whose notation it is, to the effect that this was
25 received from Wayne Belauth.

1 Q Spell Reiauth.

2 A E-e-i-a-u-t-h. He was with our Office of
3 Inspection and Enforcement.

4 Q That is not your handwriting in that notation?

5 A The handwriting is not mine, and I don't recognize
6 its source. I recognize this as a document which proceeded
7 an earlier internal meeting which was held to discuss the
8 materiality of five specific candidate statements.

9 MR. ZAMARIN: I have here what is marked as
10 Consumers Exhibit Number 20 for identification as of today's
11 date.

12 (The document referred to was
13 marked Consumers Exhibit
14 Number 20 for identification.)

15 BY MR. ZAMARIN: (Resuming)

16 Q This appears to be a photocopy of a page from some
17 sort of diary which you keep, and I want to direct your
18 attention to the notation thereon following the date
19 10/2/80. I believe it says to talk to Jerry Gettel, with a
20 phone number, the Michigan Department of Natural Resources,
21 about their area of responsibility for the dikes in view of
22 our concern as to their integrity. He will call back early
23 next week.

24 Did you initiate your first contact with Michigan
25 D&R or did they contact you?

1 A I contacted them.

2 Q What was the purpose of your initial contact with
3 DER?

4 A To inquire as to whether or not they had any
5 responsibility going to the integrity of the dikes. Our
6 purpose was to coordinate with other agencies so as to
7 eliminate redundancy in responsibility if it exists, but
8 really it was to inquire as to whether there were such
9 responsibilities so that I could determine if there was a
10 redundancy in responsibility.

11 Q You were trying to find out if they had any
12 information with regard to the integrity of the dike?

13 A No. It was not doing to whether they had
14 information with regard to the integrity of the dike; it was
15 going to whether or not they had responsibilities as an
16 agency associated with the integrity of the dikes.

17 Q Did he call you back early this week?

18 A No, he has not. I have been preoccupied with
19 other matters.

20 MR. ZAMARIN: I just want to identify a document
21 that is marked as Consumers Exhibit Number 21 for
22 identification as of today's date.

23 (The document referred to was
24 marked Consumers Exhibit
25 Number 21 for identification.)

1 BY MR. ZAMARIN: (Resuming)

2 Q I ask you if this document represents your minutes
3 or meeting notes of the 10/1/80 meeting to brief R. Vollmer
4 and James^m Knight on the results of additional borings and
5 information provided by Consumers by Volume 8. This is a
6 four-page document.

7 A Yes, I do recognize this document as the notes
8 which I took as part of that meeting on October 1 of '80 for
9 the cited purpose.

10 Q With regard to the statement therein about waiving
11 six SPTs, do you know whether that extends beyond simply the
12 SPT and goes to the borings or is restricted solely to the
13 lack of necessity of certain SPTs?

14 A It is restricted to the six standard penetration
15 tests that were requested in the June 30th letter. The
16 staff^s reviewed^{of} additional information provided in Revision 8
17 indicates that the information includes SPTs corresponding
18 to those requests for those six SPTs, and on that basis,
19 that portion of the request as limited to those six SPTs is
20 waived.

21 MR. ZAMARIN: I have before me a stack of papers
22 that has been marked in the aggregate Consumers Exhibit
23 Number 22 for identification (group) as of this date.

24 (The documents referred to
25 were marked Consumers

1 Exhibit Number 22 (Group)
2 for identification.)

3 BY MR. ZAMARIN: (Resuming)

4 Q I will identify them and then ask if, in fact,
5 each of these represent documents that were produced by you
6 from your files for inspection and represent copies of
7 documents that had been accumulated by you in the course of
8 your normal business.

9 There is a two-page letter in draft to Mr. J.W.
10 Cooke, subject, the seismological input for the Midland
11 site, over the typed name of Robert L. Tedesco.

12 MR. PATON: You indicated a draft. You indicated
13 that is not final. You did say draft. All right.

14 BY MR. ZAMARIN: (Resuming)

15 Q A one-page letter dated March 18, 1980, directed
16 to Mr. William Lawhead, over the signature of Lyman Heller
17 for Robert E. Jackson; subject: transmittal of seismic input
18 for Midland review.

19 A memorandum dated March 17, 1980 for Robert A.
20 Jackson from Sandra A. Wastler, W-a-s-t-l-e-r; subject:
21 seismological input parameters for use in Army Corps of
22 Engineers geotechnical review of Midland 1 and 2. That is a
23 two-page memorandum dated March 17, 1980, including a
24 one-page attachment headed "Earthquake Recording Site and
25 Reference Information," and a second enclosure headed

1 "Midland Plants, Units 1 and 2, Consumers Power Company,
 2 referencing docket numbers in geotechnical engineering
 3 review considerations, prepared by Joseph ^{Kane} ~~Cain~~, that being a
 4 two-page enclosure, a four-page memorandum dated August 7,
 5 1980 for Robert Jackson through Leon Reiter, R-e-i-t-e-r,
 6 from Jeff Kimball, K-i-m-b-a-l-l; subject: seismological
 7 input parameters, et cetera.

8 A two-page document dated January 19, 1979, note
 9 to Darl Hood and Heller; subject: list of open items on
 10 Midland 1 and 2, the second page of which includes three
 11 numbered paragraphs.

12 A letter dated March 13, 1980, to Mr. William
 13 Lavhead, over the signature of Lyman W. Heller for Robert E.
 14 Jackson.

15 A March 17, 1980 memorandum for Robert E. Jackson
 16 through Leon Reiter, R-e-i-t-e-r, from Sandra Wastler,
 17 W-a-s-t-l-e-r; subject: seismological input parameters, et
 18 cetera.

19 As an enclosure 1 to the March 13, 1980 letter
 20 from Jackson to Lavhead, that enclosure 1 consisting of
 21 three pages, and enclosure 2 to that letter, a document
 22 headed "Midland Plants 1 and 2, Consumers Power Company
 23 Document Reference." We have already identified that.

24 Geotechnical engineering review considerations
 25 prepared by Joseph ^{Kane} ~~Cain~~, that being a two-page enclosure.

1 A memorandum dated January 23, 1980 for James P.
2 Knight through Robert E. Jackson from L.W. Heller; subject:
3 status of geotechnical review of Midland and Bailey plants
4 by Corps of Engineers. As stated, a two-page memorandum.

5 A two-page memorandum dated January 19, 1979 for
6 S.A. Varga, V-a-r-g-a, from J.C. Stepp, S-t-e-p-p; subject:
7 open items in the geology and seismology review of Midland 1
8 and 2.

9 An executive correspondence letterhead memorandum
10 for Al Schwencer, S-c-h-w-e-n-c-e-r, through James Knight
11 from Robert Jackson; subject: regulatory staff position on
12 seismological input parameters in relation to Midland 1 and
13 2, transmitting a two-page document headed "Geosciences
14 Branch" with the notation 361.0 and 361.8 (2.5)(RSP).

15 A two-page memorandum dated March 23, 1979 for Sol
16 Levine, L-e-v-i-n-e, from Harold R. Denton, D-e-n-t-o-n;
17 subject: user request for research initiation --
18 earthquake-induced foundation settlement.

19 Do you recognize each of these documents that I
20 have described and referenced as having come from your files
21 and as having found their way to your files through the
22 normal course of business?

23 A Yes, I do.

24 MR. ZAMARIN: With that, we will adjourn the
25 deposition of Darl Hood sine die. That means without

1 specifying a future date, subject to resuming the deposition
2 at some future date if, in fact, in our judgment that is
3 necessary.

4 (Whereupon, at 7:36 p.m., the deposition
5 concluded.)

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Darl S. Hood, Deponent

SUBSCRIBED AND SWORN to before me this _____ day of
_____, 1980.

Notary Public

My commission expires:

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CERTIFICATE OF REPORTER

UNITED STATES OF AMERICA
STATE OF MARYLAND

I, Marilyn Shockey, the officer before whom the foregoing deposition was taken, do hereby certify that the testimony of the witness in the foregoing deposition was taken by me by Stenomask and thereafter reduced to typewriting under my direction; that I am neither counsel for, related to nor employed by any of the parties to the action in which this deposition was taken, and further that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.

Marilyn Shockey

Notary Public in and for the State of Maryland

My commission expires: *July 31, 1952*