
PRESIDENT'S COMMISSION ON THE
ACCIDENT AT THREE MILE ISLAND

DEPOSITION of NUCLEAR REGULATORY COMMISSION
by JAMES EDWIN FOSTER, held at the offices of the
President's Commission on the Accident at Three
Mile Island, 2100 M Street, N.W., Washington, D.C.,
on the 6th day of July, 1979, commencing at 2:00 p.m.,
before Stephen McCrystal, a Notary Public of the
State of New York.

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10 PRESIDENT'S COMMISSION ON THREE MILE ISLAND:

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Deputy Chief Counsel

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GARY M. SIDELL, ESQ.

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Associate Counsel

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16 ALSO PRESENT:

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WILLIAM BLAND

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JAMES EDWIN FOSTER, having been first duly sworn by the Notary Public, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KANE:

Q Would you state your full name for the record, please?

A James Edwin Foster.

Q Mr. Foster, did you bring a resume with you today?

A Yes, I did. It is somewhat brief. We had limited time.

Q I had really only requested a statement of your educational and work experience.

MR. KANE: Let's have this marked as Foster Exhibit No. 1.

(The above-described document was marked Foster Exhibit 1 for identification, this date.)

Q Mr. Foster, does that resume that we have marked as Exhibit 1 accurately state your educational and work background in summary fashion?

A Yes, it does.

Q And I see it is referenced here that from 1976 to 1978 you were an investigation specialist with

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2 the NRC. Are you still ^{AN} investigation specialist?
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3 A Yes, I am.

4 Q So the reference to 1976 to 1978, really
5 means to the present date?

6 A Right. That was the date when the resume was
7 made up.

8 Q The resume states that you performed
9 investigations of accidents, incidents, and allegations
10 relating to violations of NRC regulations and coordinate
11 work of technical specialists assigned to investigative
12 duties.

13 Are you called upon to investigate matters
14 which come to your attention which do not constitute
15 violations of NRC regulations, or is it only in that
16 context of regulation violations?

17 A If I understand correctly, matters that would not
18 indicate violations of NRC regulations are not investi-
19 gated by us, no.

20 Q Let me ask, have you ever had your deposition
21 taken before?

22 A No, this is the first time.

23 Q Then I should briefly review the procedure
24 that we will follow here today.

25 I have administered the oath to you and

2 you should understand that although we are sitting here
3 in the relative informality of a conference room, your
4 testimony has the similar force and solemnity as if you
5 were testifying before a court of law, and you are
6 testifying under oath.

7 My questions and your answers will be taken
8 down by the reporter here and put into a booklet form.
9 You will be presented with the original of that booklet
10 and requested to sign it as at least a portion of what
11 your testimony may be upon the subject matter being
12 investigated by the Commission.

13 You will be permitted to make any changes
14 in the booklet that you deem necessary. However, you
15 may anticipate that comments may be made upon those
16 changes which, if we deem it important, may be adverse
17 to your credibility. For that reason it might be
18 important to avoid the necessity of making changes and
19 to be as accurate as you can.

20 As I mentioned, my questions and your
21 answers will be taken down by the reporter and for
22 that reason I would ask you to please, if at any point
23 you mishear a question or you are unsure as to what is
24 being requested of you, or you need a clarification,
25 please stop me and indicate that and I will either

2 rephrase the question or we will clear up the problem,
3 and in that way we will minimize the necessity for any
4 changes in the transcript later on.

5 Also, please try to observe the basic
6 ground rules of a deposition, which are really two in
7 number. Number one, that the reporter cannot take
8 down both of us at the same time. So if I am asking
9 a question, please allow me to finish before you
10 respond, even if you know what the question is going
11 to be; it is a natural tendency to try and speed it
12 up a bit, but the reporter can't take us both down at
13 the same time. And the other thing is please answer
14 audibly to my questions because the reporter can't
15 take down a nod of the head or a gesture.

16 A Fine.

17 I would like to say before we get started that I
18 intend to cooperate completely with you. Anything
19 you want to know that I am aware of, I would be happy
20 to inform you of.

21 Q That is great. Thank you, Mr. Foster.
22 And I appreciate that attitude on your part and I must
23 say that it has been indicative of all of the people I
24 have dealt with at the NRC so far.

25 At any time in 1978 or 1979 did it come to

2 your attention that there was a concern within the
3 NRC, and specifically Region 3, which is where you are
4 employed, about the level of water in pressurizers in
5 B&W nuclear reactors?

6 A Yes, sir. That was a concern on the part of
7 Inspector James Creswell.

8 Q Is Mr. Creswell an inspector within Region 3?

9 A Yes, he is.

10 Q And what kind of duties does he have as
11 inspector?

12 A He is an operations inspector, reviews the
13 operations of various power plants.

14 Q Within Region 3?

15 A Within Region 3.

16 Q What did you learn about Mr. Creswell's
17 concern in the regard I just mentioned?

18 A If I may refer to a couple of notes, chronology,
19 that I made, at least partial --

20 Q Surely.

21 A On December 19, 1978, Mr. Creswell prepared a
22 memo to his supervisor on his concern relative to
23 pressurizer level indication and possible voiding of
24 the pressurizer, specifically in the Davis-Besse PWR
25 manufactured by Babcock & Wilcox.

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2 He indicated that besides this he had a concern
3 relative to the undervoltage relay set points, two
4 concerns, which he thought worthy of an NRC investiga-
5 tion rather than an inspection.

6 Q How did you learn about that memorandum
7 prepared as of 12/19/78?

8 A It was provided to me. I believe Mr. Creswell
9 provided it to me.

10 Q So you had direct discussions with
11 Mr. Creswell about this concern?

12 A Oh, yes, indeed.

13 Q And what did you respond to Mr. Creswell
14 when he brought this to your attention?

15 A Initially I did not understand the concern.

16 You will have to recognize my background is not
17 in reactor operations. As an investigator, I am a
18 generalist.

19 We spent quite some time in discussing with him --
20 by "we," at first initially it was myself only -- his
21 two concerns, and my initial problem was first under-
22 standing what was needed as far as an investigation.

23 To do my job, I have to know what additional
24 information is needed, what possible violations of NRC
25 regulations are indicated by the concerns.

2 I had a great deal of difficulty initially under-
3 standing exactly what was to be the mission of the
4 investigation.

5 Q Did that difficulty arise out of the fact
6 that you felt you didn't have the technical background
7 necessary to assess the points Mr. Creswell was bringing
8 forth, or for some other reason?

9 A No, in direct answer to your question. Not
10 having the technical background is not something that
11 would preclude an NRC investigation.

12 By policy it is a two-man investigation. I,
13 myself, do not have the technical expertise, at least
14 educationwise, that I can point to. As such, the
15 investigation is a team effort by myself and a technical
16 specialist in whatever area it pertains. I often
17 perform investigations of things which technically I
18 don't have the background to look into.

19 Q And you work with a teammate, then?

20 A That's right. It is a good policy. It also
21 lets you have two people looking at one subject and
22 it gives you a complete and thorough look.

23 My initial problem seemed to be one of communica-
24 tion rather than technical understanding, understanding
25 what was going to be the mission of the investigation.

2 It seemed that there was a great body of information
3 already available, especially on the undervoltage
4 relay setpoint, and my initial problem was understanding
5 why that had ~~to be~~ ^{NOT BEEN} a citation against NRC regulations
6 and what additional information was needed for the
7 investigation.

8 Q What about the pressurizer level concern,
9 was that the same situation?

10 A Somewhat along the same lines. I understood
11 that situation much better than I did the undervoltage
12 relay setpoint.

13 Q What was Mr. Creswell's concern, what did
14 he tell you he saw the problem as being?

15 A He appeared to believe that loss of pressurizer
16 level indication was an unresolved safety issue.

17 Exactly what constitutes an unresolved safety
18 issue, I am really afraid I can't discuss because I am
19 not familiar with that.

20 He had reviewed transients at the Davis-Beese
21 facility, and in at least one of them there was an
22 indicated loss of pressurizer level for several minutes.
23 He believed that there was a possibility that due to
24 overcooling transients at B&W facilities there would
25 be a shrinkage of the reactor coolant system, that the

2 pressurizer might void completely, thereby introducing
3 voids into the reactor system itself.

4 Q Was there any discussion with Mr. Creswell
5 about the fact that an operator might rely upon water
6 level in the pressurizer to indicate level of coolant
7 in the primary system itself?

8 A I don't recall any discussion along that line.

9 Q So Mr. Creswell's primary concern was
10 creation of voids in the primary cooling system as a
11 result of pressurizer running dry.

12 All right. Now, was this a situation, as
13 you saw it at that time in December of 1978, that there
14 was a good deal of background information already
15 available in the NRC on this kind of thing?

16 A Yes, at the time.

17 Now, perhaps I should clarify just a little bit
18 before we go further. The technical information on
19 loss of pressurizer level indication apparently was
20 present. The scope of the investigation regarding
21 pressurizer level indication was a very narrow one as
22 far as we were concerned. It was to determine whether
23 the licensee, whether Toledo Edison had performed
24 a timely evaluation of the loss of pressurizer level
25 indication that had occurred during the transient at

2 their facility, not to assess the total technical
3 adequacy of that particular review.

4 Q And the technical adequacy would address
5 the question of whether or not it was an unresolved
6 safety issue?

7 A Yes.

8 Q And so you saw the focus of your investiga-
9 tion as not including that; is that what I understand
10 you are saying?

11 A The primary focus of the investigation was the
12 timeliness of Toledo Edison's evaluation. In other
13 words, you have a transient at your facility and you
14 have certain things which result from that transient.
15 Have you looked at them to fully understand the reaction
16 of your system to it, have you identified weaknesses in
17 the system; a timely evaluation, in our terms.

18 Q Fine.

19 A Mr. Kohler and I were interested in the technical
20 aspects of the evaluation but did not see our mission
21 as providing a technical review of that because we were
22 already aware that this had been passed on to NRR, and
23 that people much more qualified in the technical field
24 had reviewed this.

25 Q You were aware then in December of 1978

2 that the technical adequacy of the evaluation of
3 loss of pressurizer level had already been passed on
4 to Nuclear Reactor Regulations in Bethesda?

5 A Yes. I participated, sat in on, a telephone
6 call to NRR and to Davis-Besse 1, I believe, on the
7 same day -- 12/19 is what my notes indicate -- discussing
8 whether there was an unresolved safety question in
9 allowing them to go back up to power at the time.

10 Q That is Davis-Besse 1 after a particular
11 transient?

12 A I am afraid I don't recall what their status was.
13 For some reason they were not at power at the time.

14 Q It has come out in previous documents that
15 we have seen that there were two transients, at Davis-
16 Besse 1 in the latter half of 1978 which involved
17 aberrations with the pressurizer level, if you will,
18 which occurred on September 24, 1977 and November 29,
19 1977.

20 In this conversation in December 1978, were
21 you focusing on those transients in talking about the
22 fact that it had already been taken up with NRR?

23 A Right. We were principally focusing upon the
24 November 29 transient. I don't believe at the time of
25 the discussion with Creswell that we were aware of the

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2 earlier one. I am sure that within the operations
3 branch they were, but I don't believe that was mentioned
4 to us as a concern.

5 Q This telephone conversation with NRR, who
6 were you speaking with?

7 A The conversation that I participated in was with
8 Davis-Besse 1, I was aware that it had been passed on
9 to NRR.

10 Q How were you made aware that it had been
11 passed on to NRR?

12 A Mr. Creswell advised me, and I believe I was in
13 with Mr. Richard Knop, who was then in Operations.

14 Q He was at that time in Operations with
15 Region 3?

16 A Right. He is now with Construction.

17 But he advised me that this had been passed on,
18 that they wanted to assure that there was no unresolved
19 safety question before the plant went back to power.

20 Q So it was your understanding then that
21 there was no unresolved safety issue at the time the
22 plant went back to power?

23 A That is correct.

24 Q And it was your understanding that this had
25 been thoroughly reviewed by NRR and they had come to that

2 determination?

3 A Yes.

4 Q And it was your view that the investigation
5 that you were to conduct involved only the timeliness is-
6 sue and was not one which included an unresolved safety
7 issue?

8 A Yes.

9 Q So it was your understanding that
10 Mr. Creswell was requesting an investigation that would
11 not include an investigation into the area of it being
12 an unresolved safety question?

13 A Again, we were looking at the timeliness of the
14 evaluation, not the actual evaluation itself.

15 Q That was Mr. Creswell's only concern, as
16 you understood it?

17 A Yes. I think that he was concerned about the
18 adequacy of the evaluation, but we advised him that,
19 you know, Joe Kohler and myself, although we would
20 look at the work that had been done on it, did not have
21 the total technical knowledge to do a full evaluation.
22 We did not look at the computer codes, we did not take
23 part in the evaluation. We were simply looking at,
24 first of all, generic occurrences at other B&W plants
25 and second, the chronology of the evaluation at

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2 Davis-Besse. Joel and I were interested in the evaluation
3 to see what it did indicate.

4 Q You were interested to see what it indicated
5 in order to determine whether or not this problem
6 constituted a generic safety issue?

7 A I would have to say no.

8 Q Did you explain to Mr. Creswell that you
9 would not be looking into the question of whether or
10 not there was a generic safety issue?

11 A No, I can't say that we had that discussion.

12 Q Did you leave Mr. Creswell with the
13 impression that your investigation would not address
14 the safety of the problem being raised by him?

15 A I am going to have to -- I can't answer that
16 yes or no. Let me try to elaborate.

17 Q Please.

18 A And I have some notes also.

19 Q Please feel free to make reference to those.

20 A I didn't know what to bring, so I brought quite a
21 bit.

22 Q I see you have a brown folder with all
23 papers in there. Are those all notes which refer to
24 the loss of the pressurizer level indication question?

25 A The majority of them, yes.

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2 Q Are those notes that you maintain
3 personally in your office?

4 A Yes, and I have some field notes of the February 14
5 meeting which I made extra copies of and will be happy
6 to present to you.

7 Q I believe you also stated you prepared a
8 chronology there which you have in front of you?

9 A A very rough one, yes.

10 Q When did you prepare that chronology?

11 A The day before yesterday.

12 Q In preparation for this deposition?

13 A Yes.

14 Q And would there be any difficulty in us
15 having a copy of that chronology?

16 A Certainly, you may have that.

17 Q I was actually addressing the question to
18 your counsel as well.

19 Fine. Why don't we come back to it.

20 A It is a very short one. It is not that good.

21 Q All right.

22 A After talking with Mr. Creswell, and again we
23 had somewhat of a communication problem -- I don't
24 know how else to describe it -- understanding what ~~you~~^{HE}
25 wanted of the investigation immediately. ^

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2 On January 29, 1979, Joel Kohler and I interviewed
3 James Creswell. I don't know the exact time. I would
4 say that it was probably two hours minimum.

5 After that we went to Mr. Kohler's office and we
6 sat down and said, "All right, what do we understand as
7 being the concerns?" We had that much of a communica-
8 tion problem.

9 Q Well, did Mr. Creswell, in this two-hour
10 interview you had with him, indicate basically that he
11 felt there was a safety issue?

12 A No, not during that interview. He was concerned
13 with the timeliness of the evaluation. He was aware
14 that it had already been reviewed.

15 Q Did he indicate why he was concerned with
16 the timeliness of the evaluation?

17 A He felt that the utility had not done a timely
18 evaluation of the transient. He felt that they had
19 not performed many evaluations on a generic basis in a
20 timely fashion. Indeed, overall, he seemed to feel
21 that they had been lax in all evaluations regarding
22 the facility.

23 Q Did he feel that they had been lax in
24 evaluating the question as a generic issue, applicable
25 to more than just the Davis-Besse facility?

2 A They would not be responsible for doing a generic
3 review. They are responsible for reviews pertaining
4 to their own facility.

5 Q Did Mr. Creswell feel that a generic review
6 should be done by someone?

7 A I don't believe we discussed that subject.

8 Q Did you and Mr. Kohler feel that a generic
9 review should be done?

10 A It was our understanding that it had been, based
11 on the fact that NRR had reviewed it.

12 I don't believe I have answered your earlier ques-
13 tion yet. I have my notes here that we made up
14 immediately after the interview with Creswell.

15 Our understanding of his concerns -- this is
16 written by Mr. Kohler on January 29. This is the
17 original copy. The first one was the timeliness of
18 the implementation of Amendment 7 to Davis-Besse.
19 This is the undervoltage relay setpoint.

20 The information that I understood was to be
21 gathered by the investigation was the chronology of
22 the implementation and the reasons for same.

23 The second item was the timeliness of the
24 evaluation of Davis-Besse on the pressurizer level issue
25 and information regarding possible generic occurrences

2 at other older operating B&W plants.

3 The information to be gathered, one, was "previous,
4 if any", ~~no word~~ "experiences at other plants," and two,
5 "chronology of the evaluation for Davis-Besse."

6 Q And these are notes that were taken on
7 your meeting on January 29, 1979 with Mr. Creswell and
8 Mr. Kohler?

9 A No, notes that we made directly after that meeting
10 as to our understanding of the concerns. I did not
11 ask James Creswell for a written indication of exactly
12 what his concerns were. I would say that in retrospect
13 perhaps I should have done that. Within the agency,
14 we usually do not do that.

15 Q Were you aware of the fact, as of January 29,
16 1979, that Mr. Creswell had already written a memorandum
17 to Mr. Streeter of Region 3 on January 8, 1979 in which
18 he expressed this concern of his about the Davis-Besse
19 incident?

20 A I would say that at the time of the discussion I
21 was only aware of the December 19, 1978 memo.

22 Q Do you still have a copy of that memorandum?

23 A I am not certain I do.

24 I have the January 8 and December 19.

25 MR. KANE: May I see those?

2 A (Handing.)

3 Q Is this December 19 memorandum part of the
4 documents for which you have brought copies today?

5 A No, I didn't know that you would want those.
6 We certainly will provide them, I am sure.

7 Q I would like to make arrangements to get
8 copies of your entire file relating to loss of
9 pressurizer level indication, but I am sure we can
10 take that up with your counsel afterwards.

11 I see these memorandum do refer to exactly
12 what you are referring to, Mr. Foster, the timeliness
13 of the evaluation.

14 I see it also refers to the fact that
15 Mr. Creswell wanted to know about the licensee's
16 performance regarding any corrective actions associated
17 with the issue in terms of regulatory requirements.

18 I take it what he means there is to find
19 out what the licensee did once they identified what the
20 problem was and to determine the adequacy of that action
21 under regulatory requirements?

22 A I believe what you say is correct. As a matter
23 of fact, we had some discussions in the office before
24 we went down, to try and decide what would be a failure
25 on the part of the licensee to do a timely evaluation

2 because the regulations, at least the ones I am familiar
3 with, do not speak to, for example, a time limit during
4 which you have to do an evaluation. That would have
5 been pretty much an objective decision on our part.

6 Q Is it your understanding then that neither
7 Mr. Kohler nor you would be called upon, in connection
8 with this investigation, to make any determinations
9 as to whether or not the problem involved a safety
10 issue?

11 A That is correct.

12 If I may do something here -- I am aware that
13 this may be unusual -- I am not familiar with the
14 procedures for depositions. Am I allowed to ask a
15 question?

16 Q Please.

17 A Have you read our report?

18 Q I am not sure I know which one you mean.

19 A The investigation report regarding Mr. Creswell's
20 concerns.

21 Q Yes, I believe that would be Report No. 50-346
22 dated -- let me ask you if this is the report you have
23 been referring to. It is marked as Exhibit 4 to the
24 deposition of Mr. Anderson conducted this morning.
25 It appears to be a letter dated April 25, 1979,

2 transmitting to Toledo Edison from Mr. Keppler a
3 U.S. Nuclear Regulatory Commission Office of Inspection
4 and Enforcement Report No. 50-346/79-06, which appears
5 to bear signature dates all falling in April, 1979.

6 As I understand it, that is the inspection
7 and enforcement report prepared on the basis of the
8 investigation conducted by you and Mr. Kohler; is that
9 correct?

10 A That is correct.

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11 Q I am curious then because this report does
12 state that Mr. Kohler, and I take it -- I don't see
13 your name signed on the front, so I guess it would be
14 Mr. Kohler who would take initial responsibility, for
15 the report at least, but I do see it stated in this
16 report at Page 4 -- I show you that reference here
17 under "Conclusions," No. 2 is that B&W personnel advised
18 that LOPLI -- which I take it is a Loss Of Pressurizer
19 Level Indication -- I am getting up on the terminology --

20 A Yes.

21 Q "Had been analyzed, and was not a safety
22 problem."

23 And third, that "NRR has reviewed the B&W
24 analysis and concurred with its conclusions."

25 That statement there, No. 3, "NRR has

2 reviewed the B&W analysis and concurred with its
3 conclusions" was not based on your investigation, then?

4 A No. That was based on the discussion with NRR
5 back in -- I will have to refer to it. There is a
6 section of the report which refers to our discussion
7 with NRR and their advice to us that they had no open
8 items concerning this.

9 Q Can you find where that is concerning this?

10 A Just a moment. Page 9, top of the page, last
11 sentence in what appears to be the first paragraph,
12 "As of March 13, 1979, NRR advised Region 3 that they
13 had no more questions regarding LOPLI at Davis-Beese
14 Unit 1." That was based on the telephone call between
15 Mr. Kohler and NRR.

16 Q Do you know who Mr. Kohler spoke to at NRR?

17 A No, I do not.

18 Q Did you take that indication then, that NRR
19 had no more questions, to mean that NRR concurred in
20 the licensee's evaluation, B&W's evaluation, that this
21 question did not raise any safety concern?

22 A Yes.

23 Q Did Mr. Kohler make any inquiry of NRR as
24 to what they had done in connection with determining
25 whether or not a safety concern was involved?

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2 A I did not participate in that conversation, I'm
3 sorry. I can't answer.

4 Q In these conversations that you had with
5 Mr. Creswell, the conversation which you had as of
6 January 29 indicated that he still had some problems
7 with the way this whole situation had been handled in
8 terms of the timeliness, if nothing else, and therefore,
9 these notes were prepared, that you made reference to,
10 based upon his concerns which you have there in front
11 of you, and did you and Mr. Kohler then make the deter-
12 mination that you would do something further to satisfy
13 Mr. Creswell?

14 A - We determined that we would perform an investi-
15 gation of his concerns.

16 Q What did you do?

17 A All right. On January 30, 1979, we called B&W to
18 set up a meeting with them. Based on that call, we
19 sent them a letter formally advising them of the
20 information we wished to gather. I have a copy of that
21 letter.

22 Q Let me ask you -- we have a letter here
23 which has been marked as Exhibit 3 to the Anderson
24 deposition which appears to bear your signature. Let
25 me show you that and ask you if that is the letter you

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2 are referring to?

3 A That is the letter.

4 Q And that letter was designed, then, to
5 set up a meeting with B&W and also to obtain certain
6 information from B&W's licensees?

7 A Yes, indeed. When we initially asked for this
8 information to be provided, they advised us that they
9 could not provide it without consulting their various
10 customers, and we said, "Fine. In order to comply
11 with your request to do that, we will set our meeting
12 back and enable you to contact them."

13 As we had originally planned to go to B&W and
14 discuss with them and meet, the meeting was put back.

15 We made a site visit instead on 2/6/79 -- and I
16 would like to point out at this time that I have
17 discovered an error in the cover page of the report in
18 which it indicates dates of January 1979, and that is
19 an error. If you change the date from January to
20 February, it is correct. Apparently there was an
21 error in making up the report.

22 Q There was a report based upon an on-site
23 inspection that you made to Davis-Besse?

24 A Yes. The investigation report which you are
25 referring to here, this date January 6, 14, and 29, also

2 appear, is in error. These are all dates in February.

3 Q And just for the record then, let's make
4 reference to the fact that the witness is looking at
5 the third page of the document which has been designated
6 as Exhibit 4 to the Anderson deposition. It is the
7 first page of the I&E report itself.

8 A Yes. I can't explain the error, but it is there.

9 Q So in any event this first page reflects a
10 trip to the Davis-Besse facility on February 6 to make
11 an on-site evaluation?

12 A Right. And the second date, the February 14, is
13 the visit to B&W, the Lynchburg facility. The 29th is
14 a second visit to the site to gather some more informa-
15 tion and hold the exit interview with them.

16 Q So you went to the site twice?

17 A That is correct.

18 Q And once to B&W?

19 A Right. The majority of the time at the site was
20 spent researching questions on the undervoltage relay
21 setpoint question. We touched on pressurizer level
22 only briefly.

23 Q Did you question the operators as to what
24 had occurred in these particular transients on November 29,
25 1977 as to what they observed in connection with the

2 pressurizer level?

3 A No, we did not.

4 Q Did you run any tests of any kind to deter-
5 mine how the pressurizer level functioned under these
6 kinds of circumstances?

7 A No, we did not.

8 Q What did you investigate in connection with
9 the pressurizer level during the on-site investigation?

10 A During the on-site investigation, we questioned
11 what discussions had taken place between licensee
12 personnel and B&W to evaluate the effect of the transient.

13 Q What did you learn about those discussions?

14 A They advised us that there had been a B&W repre-
15 sentative on site at the time, that they had held verbal
16 discussions with him concerning loss of pressurizer
17 level indication, and that apparently some of this had
18 been discussed by telephone with B&W.

19 There was no documentation available to reflect
20 those discussions. We requested it and they were
21 unable to provide it.

22 Q Did these personnel indicate to you what
23 the result of those discussions was?

24 A They simply indicated that they had not seen it
25 as an important facet of the transient and did not believe

2 that there was an unresolved safety issue connected
3 with it.

4 Q Did he tell you why they had made that
5 determination and on what they based it?

6 A I don't believe I recall.

7 Q Did they tell you that they thought it was
8 not of safety concern because, in fact, their test
9 showed that the water remained in the pressurizer not-
10 withstanding the fact that the level indication was
11 lost?

12 A Perhaps I can do better. I think I have a note.

13 MR. KANE: Let's have marked as next in
14 order for the Foster deposition documents that
15 have been produced here.

16 The first one we will have marked as, I
17 believe it is, Exhibit 2, a memorandum dated
18 December 19, 1978 from, apparently, Mr. Creswell
19 through Mr. Streeter for Mr. Fiorelli, who is
20 Chief, Reactor Operations and Nuclear Support
21 Branch.

22 As No. 3, a memorandum dated December 20,
23 1978, from Mr. Streeter to Mr. Creswell, the
24 subject being technical evaluation Davis-Besse 1.

25 Then, lastly, a memorandum dated January 29,

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1979 from Mr. Creswell to Mr. Streeter, subject being technical evaluations at Davis-Besse 1.

These are the copies you have provided to us here today.

(The above-described documents were marked, respectively, Foster deposition Exhibits 2, 3, and 4 for identification, this date.)

(Discussion held off the record.)

MR. KANE: Back on the record.

Q You were going to refer to your notes, Mr. Foster, in connection with the determination by the on-site personnel you spoke to on these investigations to the effect that loss of pressurizer level indication was not an important facet of the transient and did not involve a safety concern.

A The one note that I have relative to the site discussion with a Jack Lingenfelter -- I'm sorry, I can't spell it -- the nuclear performance engineer, was that B&W personnel were on site at the time of the transient, that it was not a real -- that if it had not been a real concern there would not be a letter documenting the discussions to B&W. He indicated that it was not a concern at the time of the transient. He characterized it as an operational inconvenience, not

2 a safety problem. He indicated that he knew that
3 other B&W plants had had similar problems, meaning
4 loss of pressurizer level indication, in the past.

5 I do not have any notes regarding the reason
6 for that determination.

7 Q The phraseology, "an operational incon-
8 venience, not a safety concern," is that, as far as
9 your notes reflect, a quote from Mr. Lingenfelter?

10 A Yes.

11 Q Was that the first time you had heard that
12 terminology used in connection with this transient at
13 Davis-Besse 1?

14 A I believe so.

15 Q Did Mr. Lingenfelter explain any further
16 why he was concluding that this was an operational
17 inconvenience and not a safety concern?

18 A I have no note, and it has been a while. I
19 cannot recall any other details from that conversation.

20 Q Did you or Mr. Kohler question Mr. Lingenfelter
21 or anyone else at Davis-Besse 1 any further about that
22 particular conclusion that it was an operational
23 inconvenience and not a safety concern?

24 A I don't believe so. We saw a majority of our
25 information as having to be obtained at the B&W

2 Lynchburg facility.

3 Q So at least for the on-site evaluation you
4 were simply gathering information in a relatively
5 passive function, just taking it in and then to go to
6 B&W with it?

7 A Correct. And at the time we assumed that we
8 would have to return to the site, our initial idea
9 having been to go to B&W first. We knew that there
10 would be more information to gather.

11 Q Did you make any further inquiry at that
12 time on these on-site investigations at Davis-Besse 1
13 about the loss of pressurizer level indication?

14 A Other than inquiring whether they had any tele-
15 phone records, memoranda, speed memos, almost anything
16 that would indicate documentation of their evaluation,
17 no.

18 Q You made this on-site evaluation then
19 February 6th, and then you returned for a meeting at
20 B&W on February 14?

21 A That is correct.

22 Q Did you, in connection with that, request
23 that other operators -- that is other licensees -- be
24 present at the meeting?

25 A I beg your pardon, please repeat that.

2 Q Let me rephrase it.

3 In connection with the meeting on
4 February 14 that you were scheduling at B&W, did you
5 request that licensees other than Davis-Besse be present
6 at the meeting on February 14?

7 A No, we didn't.

8 Q Your sole thought in writing this particular
9 letter that we have marked as an exhibit -- that has
10 already been marked as Exhibit 3 to the Anderson depo-
11 sition -- was to obtain information from B&W about its
12 licensees; is that correct?

13 A That is correct. We were somewhat surprised
14 when we arrived there to find that representatives from
15 the other utilities were present.

16 The letter -- and I think you will find it -- says
17 specifically, "We request that this information be made
18 available." At the time I wrote it, I presumed that
19 they would get in touch on the telephone with the various
20 licensees, that they would get approval to give this
21 information to us and we would sit down with B&W
22 personnel at the Lynchburg facility and go over it.

23 So Mr. Kohler and I were somewhat surprised when
24 we arrived and found utility representatives waiting for
25 us.

2 Q In fact, you had 15 or 16 people there.
3 You weren't anticipating such a large meeting, I guess.

4 A That is correct.

5 Q Did the licensees register any dissatisfac-
6 tion with the way this meeting had been set up or
7 scheduled?

8 A I would have to say yes. I think the initial
9 question that they had for us was, "If this was going
10 to be a normal method of doing business" -- in other
11 words, where people from the various regions other
12 than Region 4 were going to request information from
13 vendors -- and we advised them that, "No, this was not
14 the normal circumstances, that this was a Region 3
15 investigation. It concerned a Region 3 inspector and
16 a Region 3 plant and we considered it our responsibility
17 to look at it, that this was an unusual case."

18 Q And the only reason you were cutting across
19 lines, so to speak, was because it was a B&W plant and
20 you felt you ought to take a look at other B&W licensees
21 as well, right?

22 A Right, and to answer as much as we could
23 Mr. Creswell's questions, one of which was, "Had there
24 been generic occurrences at other B&W plants."

25 Q I am aware of the LER process and I think

2 I understand something of how that works.

3 Why wasn't it more convenient to simply
4 check to see if other LER's had been filed in connec-
5 tion with this subject matter rather than going through
6 B&W and the licensees directly?

7 A I am not sure that I can totally answer that
8 question, but my experience with the LER process is
9 that that information would not be that readily avail-
10 able.

11 Q A cumbersome process?

12 A Indeed. Later on, and prior to the TMI accident,
13 I requested two LER's having to do with TMI, Three Mile
14 Island, which had to do with pressurizer level. I
15 received one from the system and the other one apparently
16 got waylaid, and by that time the report was out and it
17 was no longer important.

18 It was something that was of interest to me and
19 I sometimes pursue things even after the report is
20 out.

21 Q In any event then you and Mr. Kohler had
22 come into this meeting on February 14. What time did
23 the meeting start?

24 A 9:00 o'clock in the morning.

25 Q And you had some 15 or 16 people there which

2 kind of surprised you. Who did most of the talking
3 at the meeting?

4 A I would say that the licensees and the B&W people
5 did the majority of the talking. We asked some
6 general questions and tried to elicit their comments.

7 Q Again, your function and Mr. Kohler's
8 function being to receive information rather than to
9 impart it?

10 A That is correct.

11 Q Did B&W give a presentation which illustrated
12 how this problem had arisen with charts and things of
13 that nature?

14 A They had a presentation -- I would say it was
15 particularly well advanced -- they were aware that we
16 were coming. They had, I believe, met with the utility
17 representatives the day before. There was some indi-
18 cation of that. They, of course, were interested in
19 putting forward their position and describing to us what
20 they thought about it.

21 Essentially the meeting began with a quick discus-
22 sion of chronology of the evaluation and the analysis
23 that they had done for Davis-Besse. Afterwards, we
24 had a presentation by the various utilities, and each
25 utility would make a brief presentation of their

2 experience of loss of pressurizer level indication at
3 their facility. Dates, in some cases they were firm,
4 and in some cases they would give us the year and
5 month and answer our questions as to whether this had
6 been reported to the NRC and evaluated.

7 Q In fact, there were letters which were
8 written to B&W memorializing how it was reported.
9 Have you seen those letters?

10 A From the various utilities?

11 Q Yes.

12 A No, I have not.

13 Q Let me show you a document which I will
14 represent to you has been obtained from the files of
15 B&W which appears to be a memorandum prepared by
16 Mr. Willse of the Licensing Division of Babcock & Wilcox
17 in which he memorializes this particular meeting as
18 of February 14. It is dated March 9 and it has
19 previously been produced in connection with Mr. Willse's
20 deposition.

21 Let me ask you if you have ever seen that
22 document before.

23 A No, I have not. Mr. Willse was present and I
24 believe was sort of moderator at times during the
25 meeting.

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2 May I have time to look at this?

3 Q Sure. Just take a few minutes. Frankly,
4 since I am on a limited time budget here with both
5 you and Mr. Kohler, if you haven't seen the document,
6 there isn't much point in going into it with you.

7 A I am going to skim it quickly.

8 Q I think you will find attached at the
9 back the letters that I made reference to, and I would
10 like to ask you if you have ever seen those letters
11 which are attached at the very end of this memorandum.
12 There are three of them.

13 A No, I have not.

14 Q Fine. Was there some comment you wanted to
15 make on this document?

16 A Yes, indeed.

17 Q All right.

18 A I see on Page 2 and on Page 3 what purports to be
19 a statement by me that as far as I was concerned loss
20 of pressurizer level indication was merely an operational
21 inconvenience. I do not believe that is a correct
22 characterization of my closing statement.

23 I stated to the various utilities' personnel and
24 B&W personnel that I understood their position that
25 this was an operational inconvenience.

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2 Q Did you understand at that time that the
3 NRR had also concluded that it was not a safety problem?

4 A Yes, I did understand that.

5 Q Therefore, at that time, at that meeting,
6 did you agree with that characterization being
7 advanced by the utilities?

8 A Could you rephrase that?

9 Q What is the problem with the question?

10 A Okay, the determination of whether the position
11 of the utilities was proper was not mine to make in
12 any case, and I would not do that.

13 Q What I am asking is you knew at the time
14 of this meeting, you had been informed that the NRR
15 in Bethesda had no further questions concerning this
16 matter.

17 A That is correct.

18 Q And therefore that meant to you that as
19 far as the NRR was concerned this matter of loss of
20 pressurizer level indication did not raise any safety
21 concern.

22 A That is correct.

23 Q You went to this meeting on February 14
24 and at the time B&W and the various licensees present
25 were advancing the position that this was an operational

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2 inconvenience only and not a safety problem.

3 What I am asking you is at the time did
4 you agree with that position, did you feel it was a
5 valid position based on what you knew?

6 A I felt it was a valid position based on what I
7 knew. I don't believe that I would -- because under
8 normal circumstances I certainly would not advise any
9 utility that I had made this decision. I would play
10 back to them their position on it because it was certainly,
11 as I have indicated, not Mr. Kohler's and my intention to
12 approve or disapprove their position on whether there
13 was a safety concern or not, and as indicated, we did
14 not do an extensive analysis.

15 Q That had already been done as far as you
16 understood it by NRR?

17 A That is correct.

18 Q Are you aware of any documentation prepared
19 by NRR that reflects this evaluation made by them?

20 A I have seen something -- and I am afraid I could
21 not direct you to it -- on their evaluation of
22 Mr. Creswell's concerns on several points, one of which
23 is the loss of pressurizer level indication. I don't
24 believe I have copies of that.

25 Q What kind of document would that be, a

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2 memorandum? Is there some name for that kind of
3 form?

4 A Staff evaluation, I believe.

5 Q And that would be of the NRR? When did
6 you see that document?

7 A I can't answer that.

8 Q Let's see. You were having discussions
9 with Mr. Streeter as early as December 19, 1978.
10 Would you have seen that document before you first
11 spoke to -- not Mr. Streeter, Mr. Creswell?

12 A No, I did not see that before I spoke to
13 Mr. Creswell.

14 Q So it would have been sometime after
15 December 19, 1978?

16 A It was quite a bit after that; I can state that.
17 And I believe it was some months subsequent to the
18 meeting at B&W.

19 Q On February 14?

20 A Yes, that is correct.

21 Q So as of February 14 you had been orally
22 advised only that the NRR had no unresolved safety
23 issues with regard to this incident?

24 A That is correct.

25 Q And then after the meeting by several

2 months you saw a writing which memorialized that
3 determination by the NRR; is that correct?

4 A That is correct. The exact date, I could not
5 tell you.

6 Q In what connection did you have occasion
7 to see this written evaluation?

8 A I was interested. I pursued it. I said I
9 would like to see it. Mr. Kohler obtained it, I
10 believe, from Mr. Streeter.

11 Q Do you know if that documentation is cited
12 at all in the inspection enforcement report that was
13 actually prepared by you and Mr. Kohler based upon
14 your investigation?

15 A I don't believe so. Only our discussion with
16 them on the telephone that I pointed out to you several
17 minutes ago.

18 Q Did you see this documentation, the staff
19 evaluation report, before this inspection and enforce-
20 ment report was prepared in final form?

21 A I believe I did.

22 Q And this appears to be dated, based on the
23 signatures, between 4/18/79 and 4/20/79. Did you see
24 this staff evaluation report on this potential safety
25 aspect of this incident before March 28, 1979?

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2 A I don't know. I am afraid I can't tell you.

3 Q In any event then, coming back to the
4 February 14 meeting, at that time you felt that, based
5 on what you had already been told about the prior
6 activity of the NRR, and based on what was presented
7 at the meeting itself, that the characterization of the
8 utilities was an acceptable characterization from the
9 point of view of the NRR?

10 A That is correct, other people having responsibility
11 for reviewing such things having looked at it.

12 Q Fine. Did you prepare any documents of
13 any kind in preparation for the February 14 meeting
14 once you knew it was going to be scheduled?

15 A No, I did not.

16 Q Other than the inspection and enforcement
17 report we have been referring to, which is marked
18 part as Exhibit 4 to the Anderson deposition, did you
19 prepare any other documentation after the meeting in
20 connection with the meeting?

21 A By "formal documentation," no, and I will clarify
22 that in just a second.

T3 23 Following the investigation, first of all we
24 prepared a draft report, but even before that we held
25 discussions with Mr. Creswell and some of our management

2 people, and then we held a second, much more formal,
3 discussion with Mr. Creswell and management people in
4 order to resolve what we saw then as differences of
5 interpretation.

6 He indicated that he was not satisfied with some
7 aspects of the investigation.

8 When Mr. Kohler and I put together a very detailed
9 package, a copy of which I happen to have with me and
10 will be happy to provide to you, which we presented
11 during that meeting which lasted three or four hours --

12 Q With Mr. Creswell?

13 A With Mr. Creswell present.

14 Q When was that meeting?

15 A That was 3/16/79.

16 Q And if I understood you this was a meeting
17 with Mr. Creswell, yourself, Mr. Kohler, and anyone
18 else?

19 A There were several other people, Charles Norelius,
20 my immediate supervisor, Les^e Spessard -- he is the
21 assistant to the director, and Tom Tambling, the
22 Davis-Beese inspector, Mr. Kohler and myself.

23 Q Who is Mr. Tambling?

24 A Mr. Tambling is the project inspector for Davis-
25 Besse 1.

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2 Q Within Region 3?

3 A Within Region 3.

4 Q Did Mr. Creswell at this meeting on
5 March 16, 1979 indicate why he was still dissatisfied
6 with the investigation?

7 A It was somewhat difficult to put into words:
8 I will try.

9 He seemed to feel that we should have expanded it
10 into other areas and he questioned whether we had looked
11 at the performance of the once-through steam generators.
12 **I**n connection with the undervoltage relay setpoint,
13 whether we had looked at their procedure for Facility ~~is~~
14 Change Requests, and whether all aspects of that
15 procedure had been adhered to.

16 He questioned whether we had looked at the
17 "sanctity" of the ECCS actuation time, and questioned
18 why or what we were going to cite as violations of NRC
19 regulations.

20 Q Were you going to cite any violations of
21 NRC regulations?

22 A That was the subject to be discussed during that
23 meeting.

24 Q Did Mr. Creswell feel that you should cite
25 certain violations?

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2 A He seemed to feel that the undervoltage relay
3 setpoint should be a citation, yes.

4 Q Did he feel that there was any citable
5 violations in connection with loss of pressure level
6 indication?

7 A Not that I can recall, no.

8 Q What was Mr. Creswell's concern with what
9 you call the sanctity of the ECCS actuation time?

10 A I really can't even speak to that. He seemed --
11 and I have to say this as a totally personal opinion
12 because he did not amplify -- another communication
13 problem, I believe -- he seemed to feel, and I believe
14 it was a 10-second ECCS actuation, that perhaps that
15 10 seconds was not technically adequate. A violation
16 of that was totally beyond our scope and expertise.

17 Q "10-second ECCS actuation" meaning 10
18 seconds before the ECCS would come on?

19 A That is correct.

20 Q He felt it should be a shorter period?

21 A Apparently. Again, he did not amplify.

22 Q And that would be actuation of the ECCS
23 as a result of loss of pressure level?

24 A No.

25 Q What was the triggering event that he was

2 focusing on?

3 A I am going to have to drop back just a little bit.
4 The undervoltage relay setpoint is designed to trip
5 when there is less than, I think it is, 90 percent --
6 it has been some time since I reviewed this information.

7 Q Less than 90 percent of what?

8 A Grid voltage.

9 Q Fine.

10 A Keep in mind my technical background. I am
11 doing the best I can on the basis of my recollection.

12 Q Sure.

13 A Following that there has to be some equipment
14 that is switched on. Now, part of that is that with a
15 degraded grid voltage and a simultaneous loss of coolant
16 accident, ECCS would have to initiate within 10 seconds.
17 It is part of the safety analysis report that was
18 performed for Davis-Besse.

19 He seemed to feel that perhaps this 10-second
20 actuation would not occur due to the fact that they had
21 not reset their undervoltage relay setpoints according
22 to Amendment 7, and in addition, seemed to be question-
23 ing whether that 10 seconds, itself, was adequate.

24 We did not address that.

25 Q At this meeting on March 16, 1979, was there

2 any discussion by Mr. Creswell about the possible
3 misleading of the operator as to the status of coolant
4 in the primary system as a result of aberrations in
5 pressurizer level?

6 A I don't believe so. I don't recall ~~that part of~~ ^{ANY SUCH}
7 the discussion. _^

8 Q Was there any discussion on February 14 at
9 the meeting at B&W about the question that an operator
10 might be misled as to the status of the coolant in the
11 primary system or in the core of the reactor as a
12 result of aberrations or abnormalities in pressurizer
13 level indication?

14 A - No.

15 Q Was there any discussion along those lines
16 at this March 16, 1979 meeting by Mr. Norelius on the
17 question of the operator being misled as a result of
18 the status of the pressurizer level indication?

19 A No.

20 Q Or Mr. Spessard?

21 A No.

22 Q Or Mr. Tambling?

23 A No.

24 Q Was there any discussion at this meeting
25 of March 16, 1979 by Mr. Tambling about a prior transient

2 at Davis-Beese 1 which occurred on September 24, 1977
3 in which the pressurizer level went high rather than
4 going low?

5 A No, I don't believe so. As a matter of fact,
6 the second transient was the one that we understood
7 as being the one of concern; the whole concern being
8 pressurizer voiding rather than going solid, if you
9 will.

10 Q Was that also the same situation at the
11 meeting on February 14, 1979, that is there was no
12 emphasis or discussion of going solid, pressurizer
13 level going high?

14 A We did not discuss that.

15 Q Are you familiar with that document record-
16 ing system NP327716? Does that sound like an NRR
17 document designation?

18 A It sounds familiar, but I have no idea what it
19 refers to.

20 Q Let me show you a document that I will repre-
21 sent to you has been produced from the files of the NRC
22 and was provided to me as of yesterday. It has been
23 marked as Exhibit 5 to the Anderson deposition and
24 appears to be dated in handwriting September 26, 1977.
25 It is addressed to the attention of Tom Tambling at

2 Region 3 and my initial question would be whether or
3 not you have ever seen that document before.

4 A I have not seen this document before.

5 Q Fine. This document appears to refer to
6 a transient which occurred on September 24, 1977 at
7 Davis-Besse 1, and again, if I understand your testi-
8 mony here, Mr. Tambling made no reference to this docu-
9 ment or to this transient in connection with the
10 conversations that you had in connection with your
11 investigation?

12 A To the best of my recollection, no.

13 Q Was there any discussion at the February 14
14 meeting or in any of these subsequent conferences that
15 you had about the fact that operators generally around
16 the country in various licensees' plants were relying
17 upon water level in the pressurizer as a primary
18 indication of water level in the core?

19 A No, I don't believe so.

20 Q Was there any discussion about operators
21 relying upon water level in the pressurizer as being
22 indicative of level of water in the primary cooling
23 system, itself?

24 A No.

25 Q Are you familiar with a document that has

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2 been referred to a good deal in the past few months as
3 the Novak memorandum?

4 A No, I am not. I noticed that that was in the
5 documents you requested. There seemed to be a number
6 of memos by Mr. Novak. I am not certain which one it
7 is.

8 Q Who is Mr. Novak?

9 A He works for Toledo Edison and I don't believe,
10 unless he is referenced in my report. I don't know what
11 his position is exactly. He is one of their manage-
12 ment personnel.

13 Q He is an employee then of Toledo Edison
14 as far as you understand?

15 A That is my understanding.

16 Q Let me show you a document which has been
17 produced from the files of the NRC, as far as I can tell,
18 but it does appear to be a note to RSB members from
19 T. M. Novak, subject loop seals in pressurizer surge
20 line, dated -- the Xeroxes are rather bad, but I can
21 represent to you it is January 10, 1979, and ask you
22 if you have ever seen that document before.

23 A I have not seen this document.

24 Q The note at the top is to RSB members.
25 Do you know what the RSB is?

2 A I would say that it is probably a transposition
3 of the Safety Review Board is my guess.

4 Q Safety Review Board? You think it is
5 something like Reactor Safety Board, something like that?

6 A It would possibly be their in-house Safety Review
7 Board, which is supposed to look at the transients and
8 safety problems.

9 Q At Toledo Edison?

10 A I am making a whole bunch of assumptions here
11 trying to help you.

12 Q It says at the bottom, "Contact: Sandy
13 Israel, NRR." Do you know who Sandy Israel is?

14 A No.

15 Q "49-27591," do you know what that number is?

16 A That is a telephone number.

17 Q I was just curious about that because it
18 is hyphenated after the second number rather than the
19 third which is usually --

20 A Our telephone book is so hyphenated.

21 MR. ROTHSCHILD: I can explain that.

22 That is the NRC centric system. You can dial
23 the last five numbers in any NRC phone within the
24 downtown Washington area to get the number. You
25 don't have to dial the "49" just dial the "27."

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You will see that in all NRC numbers.

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Q This appears to be an NRC number then?

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A Yes.

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MR. ROTHSCHILD: Could we clarify some-

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thing?

7

MR. KANE: Yes.

8

THE WITNESS: I see that perhaps I have

9

made an error here. When you questioned about

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who Mr. Novak was here and looking at this, he

11

is Chief, Reactor Systems Branch.

12

Now, there is a Domeck, and I think several

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other people with like names there.

14

Q I wanted to ask you about that, Mr. Foster.

15

A In the "Personnel Contacted" section of that

16

report?

17

Q Yes. I am looking at Page 6 of the docu-

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ment that is marked Exhibit 4 to the Anderson deposition

19

which is the I&E report we referred to before. I see

20

under Toledo Edison the name E. Novak, Superintendent,

21

Power Engineering and Construction.

22

Is that the Novak whom you thought I was

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referring to?

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A Yes. I am sorry, not knowing what memorandum you

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are referring to, I made the error.

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Q That appears to be the document I have been calling the Novak memorandum. This would appear to be a document prepared internally at the NRC; is that correct?

A Yes.

MR. KANE: Let's have this marked as the next in order to the Foster deposition.

(The above-described document to RSB members was marked Foster Exhibit 5 for identification, this date.)

(Discussion held off the record.)

MR. KANE: Back on the record.

Q I believe you stated then that you have not previously seen this Novak memorandum which has now been marked as Exhibit 5 to your deposition?

A I have not previously seen that document.

Q If you would look at it, the second paragraph from the bottom, the last sentence reads as follows: "As a result, under certain conditions where the pressurizer could behave as a manometer, the operator could erroneously shut off makeup-flow when significant void occurs elsewhere in the system or loss of inventory is continuing."

Was there any such concern voiced by anyone

2 in connection with this February 14 meeting we have
3 been discussing or any other conferences that you or
4 Mr. Kohler had in connection with your investigation?

5 A No, I don't believe so.

6 Q Was there something you wanted to state
7 about some documentation you had?

8 A Yes. I have been mentioning our briefing with
9 Mr. Creswell on 3/16 and the others of the staff. I
10 have the package that was presented to each of those
11 people. This one includes one note on Page 2 that was
12 a note to myself as a result of that discussion. I
13 would like to present that to you.

14 MR. KANE: Let me take a moment off the
15 record to look at it.

16 (A brief recess was held.)

17 MR. KANE: Back on the record.

18 Q Mr. Foster, I am looking at Page 2 of this
19 document that you have produced for us, and specifically
20 Point 12 which states that "NRR has reviewed this issue
21 and determined there is no safety question. Discussion
22 with NRR on March 13, 1979 indicated that NRR has no
23 open items on this issue."

24 Who did you speak with on March 13, 1979
25 at NRR who gave you that information?

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2 A That was the conversation previously referred to
3 between Mr. Kohler and a member of NRR. I do not
4 have the name of the individual.

5 Q So this statement is based on what Mr. Kohler
6 was told?

7 A That is correct.

8 I believe that Mr. Streeter may have contacted
9 them at the same time. I am not certain of that.

10 Q Mr. Streeter may have contacted NRR?

11 A At the same time.

12 Q Did you make any determination as to how
13 NRR had come to this evaluation even before you had
14 initiated your investigation? In other words, chrono-
15 logically, it sounds like NRR had been getting into this
16 long before you and Mr. Kohler ever began the investi-
17 gation. Was that your impression?

18 A Yes, indeed.

19 Q And did you make any determination as to
20 how they had already carried the ball that far, so to
21 speak?

22 A No. That would be a normal happening as far as
23 the plant is concerned and NRR is concerned. We came
24 into the picture when an investigation was requested.

25 Q Would that normally come about through LER's

2 which would have been turned into the NRC and then
3 referred to NRR? How would it come about that NRR
4 would do that?

5 A Questions that our inspectors and people in the
6 field see are often referred to NRR. The exact
7 process, I can't speak to, but that would be the
8 mechanism by which this came through.

9 I could not tell you whether LER's are totally
10 reviewed by NRR. I am not that familiar with the
11 system.

12 Q Does NRR, in making these kinds of evalua-
13 tions, interface with the vendor such as B&W, for
14 example, in coming to a determination on safety issues?

15 A I can't speak to that. I would have to assume
16 that they do.

17 Q You did state that subsequently, several
18 months later, you did see a documentation, a staff
19 evaluation report, relating to this?

20 A Yes, I did.

21 Q Which was prepared by NRR.

22 Do you recall who prepared that document,
23 which individual?

24 A No, I don't.

25 Q Did you read that document?

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2 A Yes, I did.

3 Q Was it very lengthy?

4 A No. It seemed to be rather short. It dealt
5 with several issues as I recall. Pressurizer level
6 indication was rather briefly treated, three or four
7 paragraphs maximum.

8 Q And in those three or four paragraphs did
9 the NRR state why it was concluding that the pressurizer
10 level did not pose a safety problem?

11 A Speaking strictly from memory, and probably lacking
12 somewhat detail, I believe that they basically repeated
13 the same position that B&W people had given us, that
14 being that the reactor coolant system pressure would
15 fall below the high pressure injection system setpoint
16 and that so long as the reactor coolant pumps were in
17 operation, there would be the possibility, in the worst
18 case, of small voids forming in the system and being
19 circulated by the reactor coolant pumps, and that the
20 core would remain covered, and there was no safety
21 concern.

22 Q Was there any discussion in those few
23 paragraphs that you recall of the fact that the operator
24 might be deceived by the descending or ascending
25 pressurizer level indication into taking certain manual

2 action which would override the ECCS?

3 A I am sorry. If there was a discussion like that,
4 I don't recall reading it.

5 MR. KANE: Let's have this document that
6 you have provided to us marked as Exhibit 6 to
7 your deposition.

8 (The above-described document was marked
9 Foster Exhibit 6 for identification, this date.)

10 Q Mr. Foster, do you have any understanding
11 of how an operator customarily determines the level of
12 coolant in the primary system during normal plant
13 operations of a nuclear reactor?

14 A No, I don't.

15 Q Are you aware that operators generally look
16 to the water level indication in the pressurizer as
17 indicative of the level of water, or as they call it,
18 the inventory, in the core of a nuclear reactor?

19 A I have become aware since the Three Mile Island
20 accident that is one of the methods used if we are talking
21 about PWR's.

22 Q How did you become aware of that?

23 A I have read and followed some of the analyses
24 and things that followed that accident and made a brief
25 review of the staff generic analysis of feedwater

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2 transients.

3 Q Prior to March 28, 1979 were you aware of
4 that?

5 A No, I wasn't. I have not attended the PWR
6 courses, yet.

7 Q Are you scheduled to do so?

8 A Not to my knowledge.

9 As a generalist, my particular expertise is in
10 questioning and trying to determine what information
11 is needed.

12 The agency apparently does not feel that we need
13 to have all the expertise needed to be an inspector,
14 especially since I look at not only reactors, but
15 radiation exposures and the materials program.

16 Q I see from your resume, which we have marked
17 as Exhibit 1, in terms of your formal education, it
18 lies in the area of psychology, economics, and industrial
19 relations.

20 A That is correct.

21 Q Not nuclear power operating procedures.

22 A That is correct.

23 Q In connection with your position at the NRC,
24 have you taken any formal courses in how a nuclear
25 reactor works, for example?

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2 A No, I have not.

3 Q It has strictly been a matter of on-the-
4 job training, if you will?

5 A Quite a bit of on-the-job training I pick up as
6 I go.

7 Q And when you run across a particularly
8 knotty technical question, you would go to the technical
9 staff on that?

10 A That is the primary reason it is always a two-man
11 operation. The technical man evaluates the technical
12 half of it and I try to direct, guide, and coordinate
13 the investigation.

14 Q Is Mr. Kohler primarily a technical person?

15 A Yes, indeed.

16 Q For that reason you were teamed up with him
17 in conducting this particular investigation?

18 A That's right. I think initially there was some
discussion to having Mr. Creswell participate in it.

20 Management decision was made to have Joel Kohler parti-
21 cipate. I had no problems either way.

22 I think that mangement felt that since Mr. Creswell
23 had raised the concerns, it would be better for total
24 objectivity for someone else to do the review of them.

25 Q Mr. Foster, was there any feeling on your

2 part or Mr. Kohler's part that Mr. Creswell was being
3 a troublemaker in insisting on an investigation on a
4 matter that had already been investigated and reviewed
5 by NRR?

6 A The things that we were looking at were not
7 matters already investigated, the timeliness of the
8 evaluation.

9 This is not the first time I have looked at a
10 concern for the staff, by the way. Normal investiga-
11 tion seemed ^S to be outsiders from the agency raising
12 questions. But no, we did not object to doing the
13 investigation.

14 We were aware that Mr. Creswell had a large number
15 of concerns regarding Davis-Besse and that these two
16 were only a part of them. We did feel that he would
17 probably continue with the remaining number regardless
18 of our findings on these two.

19 Q Did Mr. Creswell ask you to make any
20 determination as to whether or not these aberrations
21 in pressurizer level indication at Davis-Besse and these
22 other B&W plants violated General Design Criteria 13?

23 A That was one of the questions he addressed within
24 the larger area of loss of pressurizer level indication.

25 Q So he really wasn't just after having you

2 determine the timeliness of the reporting of the
3 incident?

4 A Well, I am going to have to explain one more
5 time. Our primary focus was on timeliness of the
6 evaluation. At the same time Mr. Kohler and I hoped
7 to be able to answer as many of his technical questions
8 as we could, based on our review, and based on the
9 information that B&W provided us.

10 We tried to address as many of those concerns
11 in the report as we possibly could. That was one of
12 the things addressed by us. We dealt with it as well
13 as we could with the information on hand.

14 Q Was it also Mr. Creswell's concern as to
15 whether or not there were any unresolved safety issues
16 in connection with the pressurizer level indication?

17 A If so, that was not given to us.

18 Q Because I do see that your I&E makes reference
19 to the NRR determination on that B&W position, and that
20 therefore suggests, in some sense, that your investiga-
21 tion addressed that issue.

22 A That is not true. We did not have the authority,
23 nor the technical expertise, after NRR has made the
24 determination. That was not our intention.

25 Q Was your purpose in setting forth the

2 position of B&W then as to whether or not this
3 constituted a safety problem --

4 A Setting forth? I explained what was told
5 me and the records so indicate.

6 Q And again, just for informational purposes,
7 you also made note of the fact that NRR had concurred
8 in that determination?

9 A That's right.

10 Q And you and Mr. Kohler weren't taking
11 any position on that?

12 A That is correct. I think, again, if you will
13 refer to the position that we put forward at the
14 meeting here, if you will note No. 11 in particular,
15 this was made clear to Mr. Creswell during that meeting.
16 If we hadn't previously, we provided him with a copy
17 of this at that time.

18 Q What was his reaction to your making it
19 clear that you had not judged the technical adequacy
20 of the analysis prepared by B&W?

21 A I would have to say that he was unhappy that we
22 had not done that, but I had thought that was obvious
23 to him at the outset of the investigation, that we did
24 not intend to do that.

25 Q Why was he unhappy?

2 A I am not sure I can answer that.

3 Q Did he articulate why he was unhappy?

4 A Other than what I have said, that we did not
5 expand to other areas, no, I don't believe so.

6 Q He made it clear, however, that he wanted
7 you to judge the technical adequacy of the analysis
8 prepared by B&W, did he not?

9 A I don't believe it was put forward in that clear
10 a fashion. If so, we would have responded to it.

11 Q But you are testifying that he was unhappy
12 with the fact that you had not judged the technical
13 adequacy of B&W's analysis; is that correct?

14 A That is my opinion.

15 Q Was that in connection with his indication
16 to you that he wanted you to do that? See, what I am
17 getting at is why else would he be unhappy that you
18 didn't?

19 A I am trying to answer the question as best I can.
20 You would have to have been present at the meeting to
21 understand my difficulty in responding. Let me make
22 an attempt.

23 I think he was unhappy with the investigation
24 effort overall. Exactly why, I think because we had
25 basically failed to find substance to his concerns, and

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2 I think that was his primary problem. That is a
3 personal opinion now.

4 Secondarily, I think some of the things that
5 he raised, some of the questions that he raised during
6 the meeting, the sanctity of the ECCS criteria, the
7 FCR procedures appeared to be an attempt to find some-
8 thing of importance that we had overlooked, however
9 minor.

10 I do not believe that during that discussion he
11 stated that we should have reviewed the technical
12 adequacy of the review done by NRR. I don't believe
13 that was put forward to us because that would not be
14 within our purview, in any case.

15 Q Mr. Creswell made it clear from the first
16 that he wanted a judgment on the technical adequacy
17 of B&W analysis that could not have been investigated
18 by your office?

19 A No, I don't believe so, no.

20 Q Where would that have gone?

21 A I would have to make a guess. I have never
22 handled such a case. I would have to guess that it
23 would either have to go back to NRR or to the boards
24 reviewing the various plants, or perhaps be bucked to
25 the Commission. I am not aware of the procedure.

2 Q There was, however, a request by
3 Mr. Creswell which you followed up on to determine
4 whether or not, in any sense, this problem was generic?
5 That was the reason for requesting information from
6 other plants?

7 A That is correct.

8 Q What was the reason behind determining if
9 it was generic?

10 A I never asked that question, simply something
11 that he really wanted. He said that that was one of
12 his central concerns, finding this information.

13 Q Did he explain why?

14 A No, I don't believe so.

15 Q Did he explain how that connected with
16 your primary function which was to simply determine
17 the timeliness of the evaluation at Davis-Besse?

18 A I don't recall discussing that.

19 Q Did this meeting on February 14 go on all
20 day, Mr. Foster, that is into the afternoon?

21 A Fortunately, I have a note on when it ended.
22 3:00 o'clock in the afternoon.

23 Q It began at 9:00?

24 A At least 3:00 o'clock is when we held our summary.

25 Q And it began at 9:00?

2 A Began at 9:00. We broke for lunch sometime.

3 Q During that break for lunch -- let me ask
4 you, you were also accompanied at this meeting by
5 Mr. Anderson, were you not?

6 A I don't believe Mr. Anderson was present during
7 the actual meeting itself. I believe he was present
8 only during the close-out and summary.

9 Q You don't believe he was present at the
10 beginning of the meeting at all?

11 A I don't believe so.

12 Q Did Mr. Anderson have a conversation with
13 you and Mr. Kohler during the lunch break?

14 A Both during lunch and I think either after lunch
15 or just prior to it. We met in an office with him and
16 had some discussions with him, yes.

17 Q What was the discussion about?

18 A The majority of the discussion I had with
19 Mr. Anderson had to do with his unhappiness at our
20 presence at the B&W facilities.

21 Q It looks like a lot of people were unhappy.
22 Why was Mr. Anderson unhappy at your presence at the
23 plant?

24 A He seemed to feel that it was an improper procedure
25 for region personnel not in the vendor section to be

2 holding discussions requesting information from a
3 vendor.

4 I explained several times, at length, that this
5 was not the usual method of doing business, that we
6 had coordinated with Region 4, that we hadn't meant
7 to step on anyone's toes, if you will, that since it
8 was our inspector, our plant, our investigation, we
9 felt that in this instance we could make an exception
10 and go down to the B&W facility ourselves.

11 Q Did you indicate to Mr. Anderson in that
12 discussion that the reason that you ~~had~~^{AND} Mr. Kohler
13 were conducting this investigation was to shut
14 Mr. Creswell up?

15 A I do not recall that statement being made. It
16 could have been made, but let me explain the context.

17 Again, we were aware that Mr. Creswell had made
18 a number of statements, a number of concerns regarding
19 the Davis-Besse facility. We hoped that, at least
20 for the two items that we were investigating, that he
21 would be satisfied with the depth and scope of our
22 review and that these two areas would cease to be
23 concerns of his, at least, and that they would not be
24 repeated.

25 If the suggestion ~~had~~^{HAS} been made that we intended

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2 this to be a cover-up, that is totally not true.

3 Q The suggestion has not been made to my
4 knowledge that it was intended to be a cover-up.

5 A suggestion has been made that the investigation was
6 instituted because of concerns voiced by Mr. Creswell,
7 and I think you have testified to the effect that that
8 is true.

9 A Yes.

10 Q The only question becomes what concerns
11 were voiced by Mr. Creswell and the manner in which
12 they were followed up, and I think you have also testi-
13 fied that Mr. Creswell was not satisfied or wasn't
14 happy with the fact that your investigation did not
15 address the technical adequacy of the B&W position on
16 this matter and that to the extent that that position
17 was advanced, it was simply stated in the report which
18 was finally prepared and the notation was also made
19 that the NRR had concurred in that determination.

20 A That's right. Other than the date error on that,
21 I believe it is a good report. I believe it is totally
22 factual and even in light of the TMI accident, I believe
23 it is accurate.

24 Q You have said that this meeting went on
25 until 3:00 o'clock in the afternoon and at that time

2 you had an exit meeting, did you?

3 A Yes.

4 Q And what was stated at that time by you
5 and by Mr. Kohler?

6 A Unfortunately, I didn't take any extensive notes
7 on the summary. I simply have a note here that we
8 did a summary.

9 My best recollection is that first of all we
10 thanked everyone for their participation, which is
11 standard operating procedure. We played back to them
12 in very short form the information they had given to
13 us. We explained the purpose and the reason for the
14 investigation. We indicated that we understood their
15 position that this was not a safety concern, that we
16 had gathered some information relative to Davis-Besse
17 and the chronology of the evaluation. We read that
18 back to the representatives from Toledo Edison and
19 with that we thanked everyone for their cooperation
20 and departed.

21 Q And as far as you can recall, you did not
22 indicate to the licensees that as far as you were
23 concerned this was an operational inconvenience and not
24 a safety problem?

25 A No, that would not be within my purview.

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2 Q But as far as you recall, you did not make
3 such a statement?

4 A No.

5 Q Was there any decision made at this meeting
6 to advise reactor operators around the country of any-
7 thing concerning loss of pressurizer level indication?

8 A No.

9 Q Other than this inspection and enforcement
10 report, was there any report or notice that was prepared
11 as a result of this meeting?

12 A Not to my knowledge, no.

13 Q Do you know who Bert Dunn is? I will
14 represent to you he is an employee of B&W and he was
15 present at this February 14 meeting.

16 A I am afraid I don't recollect the gentleman. It
17 has been several months.

18 Q Was there any discussion that this meeting
19 of operators manually bypassing high pressure injection
20 system of nuclear reactors for any reason?

21 A No.

22 Q According to various documents I have seen,
23 this meeting on February 14 was attended by a SMUD
24 representative, Mr. Dietrich, and I want to know if he
25 mentioned anything about the necessity for the operator

2 of a nuclear power plant to utilize reactor coolant
3 system rather than reactor coolant level indication
4 to assess the state of the coolant in the primary
5 cooling system?

6 A Just a moment. Two little notes I have of
7 the various utilities presentation. No, the only
8 notes I have on his presentation pertain strictly to
9 the loss of pressurizer level indication, generalizations
10 as to when they occurred and whether they had been
11 looked at by NRR and B&W.

12 Q Could I take a look at those notes?
13 You have been referring to several points now.

14 A Certainly.

15 Q These are notes you took on the February 14
16 meeting?

17 A Yes. Those are my field notes. You may have
18 that copy.

19 (A brief recess was held.)

20 MR. KANE: Mark this document we have
21 just been referring to as Exhibit No. 7.

22 (The above-described document was marked
23 Foster Exhibit 7 for identification, this date.)

24 Q Mr. Foster, I have had marked as Exhibit 7
25 to this deposition the notes, a copy of which you have

2 very kindly provided to us, which are notes on the
3 meeting which you had on February 14, 1979 at B&W.
4 If you could turn to Page 4 of those notes, at the
5 very top there appears to be a little star, and then
6 a notation in your handwriting. Can you read what
7 that notation is, those three lines?

8 A Yes. It says "Overcooling more likely due to" --
9 apparently I repeated myself -- "due to overcooling due
10 to design of DB aux feed pumps. Problem is presently
11 unique to Davis-Besse."

12 Q And above that there is the language -- I
13 think I can read this -- "B&W in response to my ques-
14 tion."

15 Did you ask a question of B&W as to the cause
16 for this pressurizer level transient?

17 A We inquired why they appeared to be more severe
18 at Davis-Besse, yes.

19 Q What was your interest in posing that ques-
20 tion?

21 A We had been advised that the overcooling transients
22 were more severe at Davis-Besse than in other facilities.
23 We knew that there was a design difference. Basically
24 we wanted them to confirm our obvious suspicions as to
25 the reason for those overcooling transients at Davis-Besse.

2 Q Did you have those suspicions because you
3 were suspicious about there might be something wrong
4 unique to Davis-Besse or to B&W reactors?

5 A If I understand your question correctly, no, no,
6 we were interested in a specific case, in Davis-Besse.

7 Q Yes, but why did you ask this particular
8 question, because you wanted to know if they were more
9 severe at Davis-Besse than at other plants?

10 A Yes, that is correct.

11 Q Why did you want to know that?

12 A We had been told that already. We wanted to
13 know the reason for it.

14 Q What I wonder is why you were suspicious
15 about that or why that was a matter of concern to you,
16 that it would be more severe at Davis-Besse than at
17 other plants?

18 A Well, if I understand you right, the transients
19 were more severe. We were told that. We already had
20 a very good idea that it was because of the design of
21 the aux feed pump system, and basically we wanted to
22 elicit from them again to confirm our understanding of
23 the problem and find out if they had engineered some
24 sort of a fix for the problem. We wanted to elicit
25 some information from them. I really don't know how

2 to respond otherwise.

3 Q In your mind, did that particular inquiry
4 relate to an analysis of the timeliness of the evaluation
5 of the problem?

6 A Yes, yes.

7 Q In what way does that relate to the timeli-
8 ness of the evaluation?

9 A Directly, very directly. If you have an over-
10 cooling transient and it appears that it is worse at
11 your facility and you realize that it is due to the
12 design of your aux feed pump system, then your evaluation
13 should be aimed at what changes can be made to that
14 system.

15 Q So you were concerned, to be certain, that
16 they had adequately considered changes to the system
17 to remedy this problem?

18 A Within the context of doing an evaluation, yes.

19 Q And to that extent then you would have to
20 reply upon the technical knowledge of Mr. Kohler,
21 wouldn't you?

22 A Yes.

23 Q Because that would require some technical
24 expertise? They could tell you they have taken four
25 or five different steps and you wouldn't understand the

2 steps. That was Mr. Kohler's province?

3 A That is quite true.

4 Q Page 5 there is a reference down here to
5 Midland, and I think I can read part of it but not
6 all of it. Could you read the language that appears
7 on the fourth line next to the word "Midland"?

8 A Yes. "Midland may be exactly like Davis-Besse
9 Unit 1. Have had question from NRR. We are in
10 process of answering this question."

11 That would be a comment from B&W. We questioned
12 them whether there would be any modifications made to
13 the sensing taps, basically spacing them further apart
14 so that there would be greater range of pressurizer
15 level indication as a result of these other identified
16 problems, and they said, "Yes, there was," their
17 response.

18 Q Was there any discussion about the fact
19 that Mr. Creswell expressed concern over the Midland
20 facility?

21 A No, that was never my understanding except that
22 it was going to be a B&W design.

23 Q Are you familiar with an I&E report issued
24 on April 1, 1979 which is Bulletin -- it is an I&E
25 Bulletin 79-05 relating to Three Mile Island?

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2 A I believe I have seen that.

3 Q Let me show you what I will represent to
4 you is an excerpt from that which is entitled -- it
5 is an excerpt from a memorandum entitled "Conveying
6 New Information to Licensing" -- I believe it must be
7 "Boards Davis-Besse Units 2 and 3 and Midland Units 1
8 and 2," dated January 8, 1979 from J. S. Creswell to
9 J. F. Streeter.

10 Specifically what I want to ask you is if
11 you have ever seen that excerpt from that memorandum?

12 A Yes, I have.

13 Q And generally speaking in there Mr. Creswell
14 is discussing his concern about loss of pressurizer level
15 indication, is he not?

16 A Yes, he is.

17 Q And the title of the memorandum indicates
18 that he was also concerned about it in connection with
19 the Midland facility?

20 A Only because it was a similar design.

21 Q To Davis-Besse?

22 A Yes.

23 Q Is Midland also a B&W plant?

24 A Yes.

25 Q But your recollection is that there was no

2 discussion at that meeting on February 14 about
3 Mr. Creswell's concern as to Midland; is that correct?

4 A That is correct. And of course, Midland is not
5 and will not be in operation for some time.

6 Q It didn't appear to be as pressing as
7 the Davis-Besse matter?

8 A Exactly.

9 Q Would you turn to Page 9, please, of these
10 notes that we have marked as Exhibit 7 and look at
11 the very bottom of the page. There is a reference
12 there to a date November 22, 1976, and the rest is
13 "Letter to TECO advising of possibility of level loss,"
14 and then there is something written next to that, and
15 then the number 209. What is that notation right at
16 the end?

17 A I think I once knew what SOM meant, and I am
18 afraid I have forgotten. It is their designation,
19 their method for tracking letters. Each utility has a
20 different method.

21 Q There is a utility designation that is
22 TECO, do you think?

23 A No, this is a B&W memo. I believe you will find
24 it attached to my investigation report, if I am correct.

25 Q I will give you a document marked Exhibit 4

2 to the Anderson deposition. See if you can locate
3 that.

4 A Hopefully it will have the same designation on it.

5 Yes, Exhibit 3, Page 1 of 2 is labeled SOM

6 No. 209.

7 Q And this is a Babcock & Wilcox report.

8 This specific one appears to be addressed to Davis-Besse
9 and is signed by Mr. R. J. Baker, Site Operations Manager
10 for Babcock & Wilcox.

11 Is there a date on this?

12 A It should be November 22, 1976.

13 Q Yes, November 22, 1976.

14 What did you understand to be the purpose
15 of this document?

16 A That was notification to Toledo Edison of
17 previous problems with loss of pressurizer level indica-
18 tion which had to do, as I recall, with main stem safety
19 relief valve tuning, which was one of the causes of loss
20 of pressurizer level indication.

21 This was sent to TECO, and as indicated in our
22 report, apparently its significance was lost upon them
23 and they had not followed that prior to the two transients.

24 Q Are you aware that in August 1978 B&W
25 advised Davis-Besse of the necessity to examine both

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2 pressurizer level and reactor cooling system pressure
3 to determine the level of core inventory?

4 A I am not familiar with that.

5 Q Was there any discussion of that sort of
6 notification at the February 14, 1979 meeting?

7 A Not that I recall, no.

8 Q Did you come to any conclusion concerning
9 loss of pressurizer level as a result of your investi-
10 gation, you and Mr. Kohler?

11 A The conclusions that we reached again are all
12 right there numbered in the report, but I can go through
13 them.

14 We concluded that a timely evaluation had been
15 done by the licensee based on the chronology of the
16 documents we reviewed.

17 Again, the technical adequacy of that review was
18 not addressed by us, and the fact¹⁵ that Toledo Edison
19 has to rely quite a bit on the nuclear steam supplier,
20 the vendor if you like, for the adequacy of the
21 evaluation and their review of it.

22 We were also aware that NRR had looked at all
23 of this.

24 Q But as you say, the primary source of
25 reliance would be with the vendor, itself?

2 A On the part of TECO, certainly.

3 Q Because they wouldn't have the capabilities
4 either, they would refer the question to their supplier?

5 A I would assume that is true. I know they have
6 their own engineers. I would think that the real
7 expertise would lie with the vendor.

8 Q Would the NRR also interface with the
9 vendor in coming to some evaluation of this kind of
10 problem?

11 A Again, I have to assume so. I have never worked
12 with NRR and am not familiar with what they do.

13 Q Could you generally outline the limits you
14 would look at in assessing the timeliness of an evalua-
15 tion of any particular problem at a nuclear reactor?

16 A The most salient, in my opinion, would be, okay,
17 you have a transient, how soon after the transient did
18 you discuss this with the vendor of the equipment, was
19 this information conveyed to them on a timely basis,
20 was it looked at, was there an evaluation performed.

21 Q But you had undertaken this investigation
22 at Mr. Creswell's suggestion. Were you aware that an
23 evaluation had been performed by the licensees as to
24 these events? Specifically what I am referring to is
25 we have already had some testimony about the fact that

2 you were aware there was a certain history to this
3 problem at the time Mr. Creswell presented it to you.
4 I assume that meant you were aware of certain reports
5 made to the NRC about this matter?

6 A Give me a minute, if you will.

7 Q Sure.

8 A If I understand your question correctly, yes,
9 because I was aware that this had been brought up, the
10 possibility of an unreviewed safety question before we
11 were asked to perform the investigation.

12 Q So you knew there must have been some
13 evaluation done.

14 A That's right. I also was aware when we performed
15 the investigation that Mr. Creswell had asked, and the
16 licensee had complied by performing an evaluation of
17 the level of water in the pressurizer during the transient,
18 and I was aware that he had been unsatisfied with the
19 first review and had them change the parameters of that
20 analysis and perform a second one.

21 Q And what was Mr. Creswell's reaction to the
22 second one, as far as you understood it?

23 A I am not certain. I think that he felt that
24 they had overlooked some facts, yet, and I am not sure
25 what they were.

2 Q Well, given the fact that Mr. Creswell was
3 coming to you and to Mr. Kohler with a request to do
4 an investigation on this matter, and given the fact
5 that an investigation or an evaluation had already been
6 done in some fashion, did that indicate to you that
7 Mr. Creswell at the time he was speaking to you was
8 dissatisfied with the evaluations conducted to date at
9 that point?

10 A I would have to say that, yes, I felt that he
11 was dissatisfied. I did not totally understand, nor
12 do I know that he gave us the basis for his dissatisfac-
13 tion.

14 Q What was your understanding of the basis
15 for his dissatisfaction?

16 A Technically I can't speak. He had some problem
17 with whether the makeup pumps were added into the
18 calculations. That is my only recollection of his
19 dissatisfaction.

20 Q Was the source of that dissatisfaction that
21 whatever the technical facets of it were, that it might
22 pose a safety issue which had not been fully resolved?

23 A I ~~don't~~ believe, as both of the analysis indicated,
24 that there was water still remaining in the pressurizer.
25 His only concern, as I understood it, was voiding of the

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2 pressurizer, and that's all that my own review of my
3 notes indicates. I do not find any concerns about
4 accuracy of level indication, about going off scale.
5 My entire understanding of the concern expressed by
6 Mr. Creswell was overcooling transients during which
7 the reactor coolant system reacts and there is a
8 possibility of going off scale when the pressurizer
9 goes low and the low low setpoint trips and water goes
10 completely out of the ~~system~~^{PRESSURIZER} and causes voids in the
11 system.

12 Q Was there any concern Mr. Creswell raised
13 to you about the pressurizer level going in the
14 opposite direction, instead of going low, going high?

15 A I don't recall any such concern.

16 Q Have you ever heard of the Michelson
17 report?

18 A No, I have not. I saw it in your list of
19 requested documents.

20 Q And you are not aware of any documentation
21 that has been preferred to as the Michaelson report in
22 the past?

23 A No, I am not. I have asked the question around
24 the office and people I have spoken with are not familiar
25 with it.

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2 Q Let me show you a document which I will
3 represent to you comes from the files of the NRC, I
4 believe. It is entitled "Decay Heat Removal During
5 A Very Small Break LOCA For A B&W 205-Fuel-Assembly PWR,"
6 C. Michelson, January, 1978.

7 It is a lengthy document. I really only
8 want to ask you if you have ever seen that document
9 before.

10 A No, I have never seen this document before.

11 MR. KANE: Let's have that marked as
12 Exhibit No. 8 to the Foster deposition.

13 (The above-described document was marked
14 Foster Exhibit 8 for identification, this date.)

15 Q Mr. Foster, to your knowledge, did anyone
16 from Region 3 of the NRC ever discuss loss of pressurizer
17 level indication with B&W in November of 1978? I believe
18 we have some earlier memoranda which may bear on that.

19 A What was that date again?

20 Q November of 1978.

21 A Unless it was Mr. Creswell raising this possibility
22 of an unresolved safety issue, I was not aware of it.

23 Q Your notes do not reflect -- I noted in
24 responding you did look at the timetable you have
25 prepared, or the chronology. Does that chronology

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2 indicate a conversation of that kind in November 1978?

3 A It does not. My own chronology here reflects
4 my participation in a phone call 12/19/78. I would
5 have to assume that there had been other discussions
6 and perhaps other communications with Davis-Besse prior
7 to that.

8 Q May I see that chronology?

9 A You certainly may, if you can read my handwriting.

10 Q Let me ask you, the first notation is
11 May 17, 1978, inspection by Creswell. What is that
12 in reference to?

13 A That was the date which I have seen documents
14 pertaining to his inspection on that date wherein he
15 asked for all documentation, all correspondence between
16 the licensee and B&W. He requested this from Toledo
17 Edison and my understanding was that their initial
18 response was, "Without a specific safety concern, they
19 would not provide him all of this correspondence."

20 Q And this was a request that he made then
21 on May 17, 1978?

22 A That is correct.

23 Q And that was in connection with an inspection
24 that he made of Davis-Besse?

25 A That is correct.

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2 Q That was an on-site inspection?

3 A Yes, his review of the transient.

4 Q And the next entry is May 19, 1978 "TECO
5 phone call on document refusal." That is the situation
6 you referred to, the initial refusal?

7 A Yes. They arranged to have those documents
8 available for him during that conversation. I read a
9 phone record of that conversation.

10 Q And moving down a little further,
11 December 19, 1978, "Participated in phone call to DB,
12 Davis-Besse 1, on unresolved safety questions." I
13 believe you testified before this was a telephone
14 conversation you had or participated in with someone
15 from Davis-Besse relating to whether or not there were
16 any unresolved safety questions in connection with the
17 matters raised by Mr. Creswell; is that correct?

18 A By "participated," I sat and listened.

19 Q To whom?

20 A I believe it was Richard Knop and Jim Creswell.

21 Q And they were discussing the question of
22 unresolved safety questions?

23 A Yes, with the licensee. In other words, how
24 they could justify going back into operation with this
25 question still outstanding.

2 Q Was the result of that conversation that
3 Mr. Creswell was satisfied about unresolved safety
4 issues?

5 A I would say not because the chronology, I think,
6 reflects that shortly thereafter he wrote this memo
7 regarding his concern about pressurizer voiding.

8 Q What did Mr. Creswell and Mr. Knop say
9 to each other during that conversation?

10 A I am afraid I really don't recall.

11 Q Do you recall anything about the conversa-
12 tion at all other than the fact that it was on unresolved
13 safety issues?

14 A No, just conversation with representatives from
15 the licensee, "Hey, we have this question raised. Do
16 you have an answer for the question? If you don't,
17 how can you justify going back into operation?"

18 Q What was the question?

19 A The question was the concern over loss of
20 pressurized^R level indication, as I understood it.
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21 Q Were you listening on the line?

22 A This was on a speaker phone.

23 Q So you were sitting in Mr. Creswell's office
24 then?

25 A No, Mr. Knop's office.

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2 Q Mr. Knop is with Toledo Edison?

3 A No, he is NRC Region 3.

4 Q So Mr. Knop, Mr. Creswell, and you are
5 sitting in an office listening to a speaker phone?

6 A It may be that Tom Tambling was party to that
7 too. I really don't remember.

8 Q Tom Tambling might also have been present?

9 A Yes. I am not certain.

10 Q And who was on the other end of the line?

11 A One of the engineering representatives for
12 Toledo Edison, Davis-Besse.

13 Q What was his name?

14 A I have no recollection, I'm sorry.

15 Q At that time did Mr. Creswell -- you have
16 already said Mr. Creswell did raise the question of
17 loss of pressurizer level during that telephone conver-
18 sation. Did Mr. Creswell say why he was concerned
19 about loss of pressurizer level?

20 A I really cannot say that I recall the conversation.
21 I would have to say that he brought the issue of
22 pressurizer voiding up, but I cannot remember any
23 specifics.

24 Q He brought up the question of voiding in
25 the system as a result of loss of pressurizer level, and

2 what response did he obtain from the licensees in that
3 telephone conversation to that concern?

4 A My best recollection is that they said that they
5 would provide an analysis justifying continued operation.

6 Q Did they provide such an analysis?

7 A I believe so, yes. And again, I believe this is
8 the analysis that many months later I got to see that
9 they passed to the staff and the staff reviewed.

10 Q The staff of what?

11 A The NRR, NRC.

12 Q So, in other words, the Davis-Besse people,
13 the licensee, did an analysis, a staff evaluation report,
14 whatever you want to call it, and passed that on to the
15 NRR, and then, in further digging into it, several months
16 later you came across that document?

17 A Yes. Basically my understanding of the entire
18 sequence is that we ~~a~~^Rsked them to justify continued
19 operation and for an analysis of the safety significance
20 of loss of pressurize~~d~~^R level indication. They got in
21 touch with B&W -- exact dates and who, much of this
22 I would not be able to tell you -- B&W provided them
23 with their position on loss of pressurize~~d~~^R level indi-
24 cation and that was conveyed to NRR.

25 Q And then that was the document that you came

2 across?

3 A I believe so. I believe that the document that
4 I finally came across was when Mr. Creswell's concerns
5 were passed on to the hearing board where they were
6 transmitted by letter, I believe, from Mr. Keppler on
7 to the various boards through our own headquarters,
8 that the staff was requested to give a position on those
9 issues.

10 Q When did this happen, Mr. Creswell's
11 concerns being passed on to the various boards?

12 A Let me see. I may have that; I may not.

13 Q In any event, that was after you had
14 completed your investigation with Mr. Kohler; is that
15 correct?

16 A Bethesda had, yes. I don't think that the
17 report had been generated. He advised us, during the
18 meeting when we supplied that package there, and we
19 discussed it with him, and he advised us that he had
20 had his concerns sent on to ACRS.

21 Q To the ACRS?

22 A That is my understanding.

23 Q Is that what you meant by the various boards,
24 ACRS?

25 A Yes.

2 Q Mr. Creswell indicated that he had sent his
3 concerns on?

4 A Certainly. Well, at the meeting he told us it
5 was ACRS. The letter that I saw sent it to the
6 licensing board.

7 Q The licensing board, that would be the
8 Atomic Safety Licensing Board?

9 A Yes.

10 Q When you say "board," was it also sent to
11 the Appeal Board?

12 A I believe that the letter addressed Midland, TMI,
13 and I am not certain, I believe it was Davis-Besse, the
14 various plants concerned.

15 Q This was a letter that Mr. Creswell had
16 written to the various boards?

17 A Yes. Perhaps it would clarify -- I am not
18 sure that I have -- that these would be different boards
19 for different plants, and I am not at all certain that I
20 have.

21 Q I would appreciate your taking a look.

22 In the meantime, can we mark this? This
23 appears to be an original you have generated of this
24 chronology. Can we mark this as an exhibit to the
25 deposition?

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A Yes.

MR. ROTHSCHILD: Will you make a Xerox for us?

MR. KANE: Yes.

Let's have that marked as Exhibit 9 to the deposition.

(The above-described document was marked Foster Exhibit 9 for identification, this date.)

Q Have you found those letters you were referring to, Mr. Foster?

A Yes, I have, and my notes. Now, these were things that I collected not as part of the investigation but I was interested in following through on how the agency was handling this.

The one is from Mr. Creswell to Mr. Streeter conveying or outlining the information he wished to be conveyed to the boards. The second one is from my director, James Keppler, passing this information on with a recommendation that it be sent to the board.

I hope you won't ask me to speak to the other issues other than those of pressurizer level indication there because I am not at all technically knowledgeable of them.

MR. KANE: Let's have this one marked as

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Exhibit No. 10. This is a memorandum identified for the record dated January 19, 1979 from James Keppler to Mr. Mosley, Director, Division of Reactor Operations, Inspection and Enforcement, which the witness has just provided to us.

As Exhibit No. 11, a memorandum dated January 8, 1979 from Mr. Creswell to Mr. Streeter. The subject is conveying new information to licensing board Davis-Besse Units 2 and 3 and Midland Units 1 and 2.

(The above-described documents were marked, respectively, Foster Exhibits 10 and 11 for identification, this date.)

Q You did make note of the fact that these documents we have marked as Nos. 10 and 11, Mr. Foster, are unsigned, appear to be unsigned memoranda from Mr. Creswell. You don't have any reason to think they are any different from the originals, do you?

A Not at all.

Q Was it your understanding then that there were documents engendered by Mr. Creswell further away from the dates during your investigation with Mr. Bohler in which he was sending his concerns on further up the chain of authority at the NRC?

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2 A That is correct.

3 Q And out of curiosity then, in following up
4 on these, you then looked for this document that was
5 the disposition on this matter?

6 A Yes, the staff position, final staff position,
7 that was attached with the contentions going to the
8 various boards.

9 Q And as you understand it, that staff position
10 was then based upon an analysis that was done by B&W and
11 forwarded on to the NRR?

12 A That is my understanding.

13 Q Do you know of any independent investigation
14 conducted by the NRR in connection with that evaluation
15 other than what B&W passed on to NRR?

16 A I am not familiar with one.

17 Q Do you recall what the ultimate disposition
18 of these issues was in that document that we apparently
19 don't have here today, which was the evaluation?

20 A Let me give a quick try. You never know. I
21 gathered everything that I had.

22 (A brief recess was held.)

23 MR. KANE: Back on the record.

24 A (Continuing) I cannot find the staff position
25 in my notes.

2 Q What was the substance of the staff position
3 as a result of these concerns voiced by Mr. Creswell
4 that you ultimately did find?

5 A My recollection of that is that it basically agreed
6 with the B&W position that loss of pressurizer level
7 indication was not a safety concern.

8 Q And you recall finding that staff position
9 before the preparation of the final inspection and
10 enforcement report that you and Mr. Kohler engendered;
11 is that correct?

12 A Before the final copy, yes. I am not certain
13 I read it before the draft was written.

14 Q But I do see here on the third page of the
15 document, Exhibit 4 to the Anderson deposition, are
16 the signatures of yourself and Mr. Kohler and
17 Mr. Norelius and Mr. Streeter, all appear in April 1979,
18 so you would have found this document before that time?

19 A Yes.

20 Q Did you find it before March 28, 1979?

21 I think I asked you that already.

22 A I am afraid I do not recall the date.

23 Q You do recognize the significance of that
24 date? That was the date of TMI 2 which engendered the
25 initiation of this commission.

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A That was the TMI accident?

Q Yes.

A All right. I did. I didn't recognize that was the accident.

MR. KANE: Could you take up with Jim Fitzgerald the possibility of obtaining a copy of that report for us -- I don't think I have seen it -- the staff evaluation report prepared based on Mr. Creswell's concerns about loss of pressurizer level indication?

Q And again, your recollection is that that essentially agreed with the B&W analysis?

A Yes.

Q Let me just say that I have exhausted my questions for you. This is an ongoing investigation, however, and therefore I would prefer to adjourn the deposition rather than to terminate it with the thought in mind that it may be necessary to, at some point in the future, to bring you in for a further session. I will, of course, try to avoid that, and believe me, I have exhausted anything I can think of at this time to ask you. But in an ongoing investigation like this, further questions may come up. So please don't go off to Brazil or anything like that since we may need to

2 speak with you again.

3 I do appreciate your coming in and I thank
4 you for your cooperation.

5 MR. ROTHSCHILD: You wanted copies of
6 the files?

7 MR. KANE: Yes.

8 Q You have had with you here today, Mr. Foster,
9 a rather thick-looking, maybe an inch thick brown folder,
10 which, as I understand it, contains your personal file
11 relating to this investigation with Mr. Kohler. We
12 would like to get copies of everything in that file,
13 and if we can arrange to do that today or as soon as
14 possible, that would be of material assistance.

15 MR. KANE: Do you think we could do that?
16 We have a Xerox machine upstairs which is pretty
17 quick.

18 MR. ROTHSCHILD: Is all that stuff
19 pertinent to this?

20 MR. KANE: It is all pertinent to this
21 investigation, as I understand it.

22 THE WITNESS: I have to take a look at --
23 what I have with me is everything that pertains
24 to the pressurizer level. I didn't anticipate
25 questions on the undervoltage relay setpoint, so

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I didn't bring those notes.

MR. KANE: I do want the pressurizer level notes.

MR. ROTHSCHILD: Let's leave it with us, and I can take the file back and mail it to you.

MR. KANE: I might like to have it in connection with tomorrow's session, assuming we have one tomorrow, with Mr. Kohler. So if we can mark it here --

MR. ROTHSCHILD: Run it off here and you can mail it to me and I will mail it back to him. Is that satisfactory to you?

THE WITNESS: Fine, yes. I think that is acceptable.

MR. KANE: Fine. That adjourns the deposition for this time, and again, I thank you.

MR. ROTHSCHILD: Are you going to send the deposition for him to review?

MR. KANE: It is obviously a situation to be handled any way you like. My general practice, in private litigation, and normal practice, is to provide the original, and if counsel desires, a copy to counsel at counsel's expense, and have counsel arrange for the signing of the original

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and getting it back to me. I can send it directly to Mr. Foster, if that is what is preferred.

MR. ROTHSCHILD: Do that. That is the most expeditious way.

You can review it and make any changes you need to make.

THE WITNESS: Can you send it to the Region 3 office? I am in the process of changing residences, and any address I gave you might be subject to change.

MR. KANE: All right. That would be 799 Roosevelt Road, GlenEllyn, Illinois, 60137?

THE WITNESS: That is correct.

MR. KANE: May I say that given the time pressures we are under in regard to this matter, we like to give the witness five days to read the transcript and make any changes and get it back to us, so we are under a time pressure and we will get it to you by express mail with a letter requesting that you sign it in front of a notary and return it back to us within five days.

That is something we did not discuss this morning. We have the same situation with Mr. Anderson and will have the same situation with

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Mr. Kohler.

MR. ROTHSCHILD: I will mail the transcripts to the individuals involved. Will there be instructions involved telling him to mark up the transcript?

MR. KANE: We will enclose a cover letter.

MR. ROTHSCHILD: The cover letter will explain it?

MR. KANE: I have never used a check list before. I have usually allowed the reporter to handle that matter. Since we will be doing it direct, we will indicate that changes should be made and it should be interlineation rather than eliminating the word. And my hope is there will be very few changes.

If there is anything you want to change, anything you said this afternoon, please do so now if you are aware of anything that you feel needs changing.

THE WITNESS: No, to my knowledge, I have given you completely accurate information.

MR. ROTHSCHILD: If you want to send the thing back to us and we will get it to him.

MR. KANE: Let's go off the record now.

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(The deposition was concluded at 4:20 p.m.)

JAMES EDWIN FOSTER

Subscribed and sworn to
before me this ____ day
of _____, 1979.

Notary Public

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James Edwin Foster	3			

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