

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Georgia Power Company: Vogtle Electric
Generating Plant: Unit 1 and Unit 2

Docket Number: 50-424-OLA-3; 50-425-OLA-3
ASLBP No.: 93-671-01-OLA-3

Location: Rockville, Maryland

Date: Thursday, September 21, 1995

Work Order No.: NRC-322

Pages 14457-14692

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3 + + + + +

4 ATOMIC SAFETY AND LICENSING BOARD

5 HEARING

6 -----X

7 In the matter of: : 50-424-OLA-3
8 GEORGIA POWER COMPANY, et al. : 50-425 OLA-3
9 : Re: License Amendment
10 (Vogtle Electric Generating : (transfer to
11 Plant, Unit 1 and Unit 2) : Southern Nuclear)
12 : ASLBP No.

13 -----X 93-671-01-OLA-3

14 Thursday, September 21, 1995
15 Hearing Room T 3B45
16 Two White Flint North
17 11545 Rockville Pike
18 Rockville, Maryland

19 The above-entitled matter came on for hearing,
20 pursuant to notice, at 9:00 a.m.

21 BEFORE:

22 PETER B. BLOCH Chairman
23 JAMES H. CARPENTER Administrative Judge
24 THOMAS D. MURPHY Administrative Judge

25
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I N D E X

	<u>WITNESS</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RECROSS</u>	<u>BOARD</u>
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2						
3	Pierce Skinner					14499
4	Edward Tomlinson					14518
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6	By Mr. Kohn		14498			14529
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E X H I B I T S

<u>EXHIBIT NO.</u>	<u>DESCRIPTION</u>	<u>IDENT</u>	<u>REC'D</u>
3	GPC II-199 James Bailey affidavit	14463	14465
4	GPC II-200 Paul Rushton affidavit	14465	14465
5	(Exhibits GPC II-199 and II-200 bound into transcript		
6	following page 14466.)		
7	Int II-233 Supplement to this exhibit	14466	14467
8	Int II-235 Supplement - Bockhold depo.	14468	14468
9	GPC II-201 Duncan affidavit	14469	14654
10	Board 11 Calibration sheet	14474	14481
11	Staff II-67 Tape 246 excerpt	14486	
12	Staff II-71 Attachment A - Tomlinson	14490	14497
13	Staff II-43 Attachment B - Skinner	14492	14497
14	(Exhibits Staff II-71 and II-43 bound into transcript		
15	following page 14497.)		
16	Int II-266 NUREG/CR-0660	14515	
17	Int II-267 US Nuclear Plants with		
18	TDI Energy Diesel Generating		
19	Operating Experience Dryer Dew		
20	Point Specs	14519	
21	Staff II-72 Photograph: Diesel Generator		
22	Control Panel	14579	
23	Int II-268 Depo: Michael Hobbs		
24	Page 21 08-04-95	14629	
25	Int II-169 Demonstrative Aid Bound following page 14667.		

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P-R-O-C-E-E-D-I-N-G-S

9:00 A.M.

1
2
3 CHAIRMAN BLOCH: Good morning. Hearing will
4 come to order.

5 MR. BLAKE: There were a number of items that
6 I indicated to the Board at the end of the day on Monday
7 that I thought we ought to take care of. Some of those
8 would be necessary for us to actually complete our case.
9 Some might be necessary for the Intervenor to do the same
10 thing.

11 Although we both have completed our witnesses,
12 there are some documentary items and some proposed
13 stipulations that we really should clean up. Those could
14 be done first thing, or we could get on with witnesses. I
15 called both NRC staff and Mr. Kohn yesterday to pass onto
16 them what I believed was the laundry list of items, both
17 those that I thought we were in a position to complete
18 today, and those where although we were not in a position
19 to complete them today, that they would still be
20 outstanding. I can identify those for the record and we
21 can get as many of those out of the way this morning as
22 are possible. That is what I would propose, unless the
23 other parties have a different approach.

24 MR. MICHAEL KOHN: Your Honor, Intervenor's
25 approach would be to just try to finish off this panel

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1 with the hopes that we would have time at the end of the
2 day to cover these matters. I think it might be just as
3 effective, although I don't have any objection to putting
4 some time at this point. But I think it may just be the
5 wiser way.

6 MR. BLAKE: That would be fine with me too.

7 MS. YOUNG: The staff is flexible also.

8 There's at least one preliminary matter staff would like
9 to take care of before the panel starts.

10 MR. BLAKE: We're all quite amenable then,
11 agreeable, Judge Bloch.

12 CHAIRMAN BLOCH: Let's get started. Given
13 that the staff witnesses are going to be present in
14 Washington tomorrow also, it doesn't make a big difference
15 whether they are first or second.

16 MS. YOUNG: Why don't we do the procedural
17 stuff first.

18 MR. BLAKE: Okay. That's fine.

19 MS. YOUNG: That gives us less procedural
20 stuff to do later.

21 MR. BLAKE: The first item would be the two
22 affidavits which were distributed. I'm not sure of the
23 date, but I think it was months ago, literally at this
24 point. They were Bailey and Rushton affidavits.

25 In the case of the Bailey affidavit, Mr.

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1 Bailey and whether or not he was on the April 19th call
2 had been the subject of considerable attention and
3 discussion. The Board actually suggested why don't we
4 just get an affidavit from Mr. Bailey with regard to
5 whether or not he was involved, and particularly whether
6 or not he could have been a party to the call even though
7 he was in Hawaii at the time. So we do. We have such an
8 affidavit.

9 Mr. Rushton, and whether or not he was a party
10 to the call was also a topic. So we got an affidavit from
11 Mr. Rushton as well.

12 Those have been previously distributed. I
13 would propose to mark those as GPC exhibits and move their
14 admission. The parties having been alerted to them, they
15 may have their own copies and be up to them. I don't know
16 whether the Board remembers them or laid their hands on
17 them or not.

18 CHAIRMAN BLOCH: No problem marking them
19 though.

20 MR. BLAKE: I would propose then to mark the
21 affidavits of James A. Bailey. I should note in the upper
22 righthand corner, the word "Revised" should appear. There
23 is actually an initial affidavit and then a revised Bailey
24 affidavit.

25 The revised Bailey affidavit is signed the

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1 17th day of August, 1995. It has attached to it Bailey
2 Exhibit A, which is a photograph of Mr. Bailey at the Dole
3 Plantation in Hawaii, and a receipt for buying something
4 at the Dole Pineapple Cannery for 16.90.

5 I would ask that this two-page affidavit of
6 James A. Bailey be marked as GPC II-199.

7 CHAIRMAN BLOCH: Granted.

8 (Whereupon, the document was marked
9 for identification as GPC Exhibit
10 II-199.)

11 MR. BLAKE: I would ask for its admission.

12 CHAIRMAN BLOCH: Granted.

13 (Whereupon, the exhibit previously
14 marked for identification as GPC
15 Exhibit II-199 was received into
16 evidence.)

17 MR. BLAKE: Second affidavit is a one-page
18 affidavit by Paul D. Rushton. It was signed by Mr.
19 Rushton the ninth day of August, 1995. It's on the same
20 topic, a topic that is whether he was involved in the
21 conference calls of April 19th. I would ask that it be
22 marked as GPC II-200 and that it be accepted into
23 evidence.

24 CHAIRMAN BLOCH: Granted.

25 (Whereupon, the exhibit was marked

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1 for identification as GPC Exhibit
2 II-200 and was received into
3 evidence.)

4 CHAIRMAN BLOCH: Given the small size of these
5 two, let's bind them into the transcript at this point as
6 well. It will make it easier for me to find them.

7 MR. BLAKE: The next item is some additional
8 pages from Mr. Bockhold's Department of Labor deposition.

9 MR. MICHAEL KOHN: Before we get off the
10 subject of the two affidavits, I think they were sort of
11 snuck into evidence.

12 MR. BLAKE: Snuck in?

13 MR. MICHAEL KOHN: Well, that's maybe not the
14 right adjective or whatever the terminology is, but we
15 originally discussed marking them. I haven't looked at
16 them since I don't know when. I guess other situations
17 have since come up where I think Georgia Power has
18 subsequently objected to putting in testimony of witnesses
19 that weren't present.

20 I think in fairness, we should reserve ruling
21 on such things until the parties have an opportunity to
22 discuss this a little further. I just ask that a ruling
23 be delayed.

24 CHAIRMAN BLOCH: If there's a problem, we'll
25 consider changing the ruling, but we'll make it right now.

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GPC Exh II-199

REVISED

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	Docket Nos. 50-424-OLA-3
	)	50-425-OLA-3
GEORGIA POWER COMPANY, et al.)	
	)	Re: License Amendment
(Vogtle Electric Generating Plant,	)	(Transfer to Southern
Units 1 and 2)	)	Nuclear)
)	
	)	ASLBP No. 93-671-01-OLA-3)

AFFIDAVIT OF JAMES A. BAILEY

I JAMES A. BAILEY, being duly sworn state as follows:

1. I am currently employed by Southern Nuclear Operating Company as Licensing Services Manager for the Vogtle Project in Birmingham, Alabama. In 1990, I was employed by the Georgia Power Company and performed the same function but my title was Manager-Nuclear Licensing for the Vogtle Project.

2. As the Licensing Manager in the corporate office, I would normally have participated in the development of LER 90-006 on April 19, 1990. However, in this particular case, I was vacationing with my family in Hawaii during the time frame in which the LER was being prepared.

3. As evidence of my trip to Hawaii, the attached Exhibit A is a picture of my wife and son as well as a receipt for purchases made on April 16, 1990, while in Hawaii. GPC Exhibit II-123 is a composite exhibit containing: (1) a collection of various credit card statements reflecting purchases made on or around April 19, 1990 by either me or my family members; (2) an employee attendance

NUCLEAR REGULATORY COMMISSION

Docket No. 50-424/425-OLA-3 EXHIBIT NO. II-199

In the matter of Georgia Power Co. et al., Vogtle Units 1 & 2

Staff Applicant Intervenor Other

Identified Received Rejected Reporter SP

record from that time frame indicating that I was on vacation for the week of April 16 - April 20, 1990; and (3) my own personal calendar indicating that I was on vacation during that time frame. Several months ago I attempted to obtain a copy of my detailed hotel bill, but was informed by the hotel that it does not retain records that old.

4. While vacationing in, as well as travelling to and from Hawaii, I did not make any business-related telephone calls, including calls related to correspondence with the NRC. Thus, I am certain I did not participate in any of the conference calls between the corporate office and the Vogtle site on April 19, 1990, regarding LER 90-006.


James A. Bailey
JAMES A. BAILEY

Sworn to and subscribed
before me this 17th day of
August, 1995.

Mary N. Bentley
Notary Public
My commission expires:

BAILEY EXHIBIT A
GPC EXH. II-___

DOLE
PINEAPPLE
CANNERY
04/16/90

PLU #	112851 #
HANES BT W	14.00 T
PLU #	127934 #
HANES BT Y	14.00 T
SUBTOTAL	28.00
SUBTOTAL	28.00
TAX	1.12
TOTAL	29.12
CASH	50.12
CHANGE	21.00



THANK YOU
#176080 C100 R06 T14:22

NPC E4h. II-200

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	Docket Nos. 50-424-OLA-3
	)	50-425-OLA-3
GEORGIA POWER COMPANY, <u>et al.</u>)	
	)	Re: License Amendment
(Vogtle Electric Generating Plant,	)	(Transfer to Southern
Units 1 and 2)	)	Nuclear)
)	
	)	ASLBP No. 93-671-01-OLA-3)

AFFIDAVIT OF PAUL D. RUSHTON

I, PAUL D. RUSHTON, being duly sworn state as follows:

1. I am currently employed by the Georgia Power Company as Unit Superintendent at the Vogtle Electric Generating Plant near Augusta, Georgia. In 1990, I was employed by Georgia Power Company as the Manager-Nuclear Engineering and Licensing for the Vogtle Project in Birmingham, Alabama.

2. I do not recall participating nor do I believe I did participate in any conference calls between the corporate office in Birmingham and the Vogtle site on April 19, 1990, concerning LER 90-006.

Paul D. Rushton

PAUL D. RUSHTON

Sworn to and subscribed
before me this 9th day of
August, 1995.

Juan A. Chandler

Notary Public
My commission expires: Feb. 18, 1997

NUCLEAR REGULATORY COMMISSION

Docket No. 50-424/425-OLA-3 EXHIBIT NO. II-200

In the matter of Georgia Power Co. et al., Vogtle Units 1 & 2

Staff Applicant Intervenor Other _____

Identified Received Rejected Reporter SD

Date 9/21/95 Witness _____

1 They seem to be extremely simple points on which these
2 affidavits are filed. The illustration is particularly
3 persuasive.

4 MR. MICHAEL KOHN: I only wish it was in
5 color.

6 MR. BLAKE: The Bockhold pages are -- when Mr.
7 Bockhold was here, during the course of cross examination,
8 Intervenor used pages from the Department of Labor
9 deposition Mr. Bockhold had given and portions of his
10 cross examination, I believe, in the course of that
11 Department of Labor proceeding. We were offered the
12 opportunity at that point to add to that if we thought it
13 was necessary for context or other purposes.

14 The Intervenor Exhibit number I believe was
15 their 233. To that exhibit, we would add just one page
16 from the trial, testimony of Mr. Bockhold. That would be
17 page 689, adding that to the pages that Intervenor had
18 already put in, which were right around there, 690 through
19 691. We are adding a preceding page to that. That was
20 one of the excerpts that they put in. We are adding one
21 page.

22 CHAIRMAN BLOCH: The motion to supplement that
23 exhibit is granted.

24 (Whereupon, the document was added
25 as a supplement to Intervenor's

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1 Exhibit II-233.)

2 ADMINISTRATIVE JUDGE MURPHY: Excuse me.

3 Exactly what pages are you adding?

4 CHAIRMAN BLOCH: One page, 689.

5 ADMINISTRATIVE JUDGE MURPHY: Are you
6 providing that?

7 MS. YOUNG: Have they distributed the page?
8 Did you grant the motion before they distributed it?

9 MR. BLAKE: We will distribute the page. The
10 deposition from the same proceeding was Intervenor's
11 Exhibit II-235. It was pages 85 to 89, I believe, from
12 that deposition. We propose to add two additional pages,
13 83 and 84, which immediately precede the excerpt.

14 CHAIRMAN BLOCH: Granted.

15 (Whereupon, the document was added
16 as a supplement to Intervenor's
17 Exhibit II-235.)

18 MS. YOUNG: Can we just go off the record and
19 get these documents? It's kind of hard to keep track
20 without having them in front of us.

21 CHAIRMAN BLOCH: Off the record.

22 (Whereupon, at 9:12 a.m. the proceedings went
23 briefly off the record.)

24 CHAIRMAN BLOCH: I'd like to caution the
25 parties in their findings, please to try to cite things in

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1 full context. It is much more helpful to the Board. If
2 there were a consistent pattern of not citing in full
3 context, you could lose the confidence of the Board in the
4 remainders of your filings.

5 That is not intended at all to be critical at
6 this point.

7 (Whereupon, the proceedings went briefly off
8 the record.)

9 CHAIRMAN BLOCH: Back on the record.

10 MR. BLAKE: Next item, Judge Bloch, which I'd
11 like to have identified, but I won't move it until at
12 least some additional time for the parties to study it and
13 for the Board to study it, is the affidavit which was
14 distributed yesterday to the Board and the parties and
15 served in the proceeding. It was an affidavit of Michael
16 Meyer Duncan, signed by Mr. Duncan on the 19th September,
17 1995. A three-page affidavit, has attached to it two
18 exhibits, A, which is a two-page exhibit, and B, which is
19 a five-page exhibit.

20 This all deals with whether or not the Alnor
21 dew point instrument which was VP2466, was used subsequent
22 to this April time frame. Did we have any or otherwise,
23 did we have any sort of as found data on the instrument.
24 This was one of the two requests that the Board made.

25 One request was take a look at your discovery

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1 investigation. This is based on their investigation.

2 Intervenor is going to request the opportunity
3 also to conduct an investigation, which would require some
4 discovery on this matter. I'd like to note that based on
5 the content of the deposition, of the affidavit, there is
6 serious evidentiary problems with the way it is
7 constructed. I'd just like to put that on the record at
8 this time.

9 I think to expedite matters, I'd like to know
10 if the Board at this point would grant Intervenor the
11 right to file some additional discovery on this issue.

12 MR. BLAKE: Why don't we get a chance to
13 respond to the one you already have filed, in which the
14 Board has allowed. You have allowed Judge Bloch questions
15 for about any documents related to this. We are putting
16 that together. Our hope is we'll be able to distribute
17 that as soon as tomorrow, the answers to those outstanding
18 discovery requests, which you just made like on Monday.

19 CHAIRMAN BLOCH: One area I'm unsure of is
20 whether there's documentation that's adequate on the
21 practice of whether or not these instruments are
22 ordinarily sent out for as found calibration, when they
23 expired.

24 There was substantial testimony, I think by
25 two witnesses, that they were sent out for as found

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1 calibrations. I don't think there's any documentation
2 related to that.

3 If there was something different from what
4 they said, I guess we should have it. If in fact they
5 were correct, we can rely on their oral testimony.

6 MR. BLAKE: I can't tell you now whether or
7 not all of that, the documentation that we're providing in
8 response to discovery requests would allow you to glean
9 that or not. I think it's rather peculiar to this
10 instrument and what we knew about this instrument and what
11 we found about this instrument.

12 CHAIRMAN BLOCH: That's why I don't think it
13 would cover that.

14 MR. BLAKE: I think it might be that the NRC
15 staff witnesses would be able to respond to such a
16 question. I think they have looked at that. But if they
17 haven't, we could certainly provide somebody to either do
18 it in an affidavit form or some other way to answer the
19 Board's question.

20 I'm glad that I gave Mr. Kohn time to respond,
21 so that you'll be able to resolve his concerns.

22 MR. MICHAEL KOHN: Yes. And based on the
23 affidavit, the way it's constructed, we would have to have
24 Mr. Duncan live to question him about it.

25 MR. BLAKE: That may be the outcome here, but

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1 all the documents, which is what we are basing everything
2 on, is what we're providing.

3 CHAIRMAN BLOCH: I assume that whether or not
4 Mr. Duncan is going to be called as a witness, the staff
5 is prepared to start its case anyway?

6 MS. YOUNG: Yes.

7 CHAIRMAN BLOCH: Any other matters?

8 MR. BLAKE: Yes. I have some more documents.

9 MS. YOUNG: Mr. Blake, if I can just interrupt
10 you for a second.

11 Judge Bloch, the question you just asked was
12 whether there was documentation of a practice of asking
13 for as found data. I think if you look at Exhibit B to
14 the Duncan affidavit on page one, there's at least a
15 notation that with respect to this instrument, there was a
16 request for such a test.

17 CHAIRMAN BLOCH: One moment.

18 (Whereupon, from 9:20 a.m. until 9:21 a.m. the
19 proceedings went off the record.)

20 MR. MICHAEL KOHN: Your Honor, based on off
21 the record discussions, I think a big problem that
22 Intervenor has is we are unable to -- we have some
23 questions with the documentation that is attached to the
24 affidavit and the interpretation of that documentation by
25 Mr. Duncan, who is not prepared and is not an employee of

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1 Alnor or GE. That has prompted Intervenor for realizing
2 that depositions of the vendor is what is most at this
3 point, what Intervenor thinks is necessary to understand
4 this area. That is an area that we will be looking to
5 conduct discovery on.

6 CHAIRMAN BLOCH: I just urge you to delay
7 deciding whether you need discovery on that until after we
8 see what the staff has found and whether you are satisfied
9 with their work.

10 MR. BLAKE: The next item, Judge Bloch, is
11 really in response to a Board question. I will provide
12 this document to the Board. It has previously been
13 provided to the parties. Let me give you the setting.

14 At transcript page 12,379, in reviewing one of
15 the maintenance work orders in the documents attached to
16 it, you observed a calibration data sheet associated with
17 the EG&G instrument which had been borrowed and brought to
18 the Vogtle site. You said, wait a minute, is there such a
19 calibration data sheet associated with the EG&G instrument
20 which Georgia Power had and took off the shelf in that
21 April time frame to use and pressed into service. That
22 was VP1114. If so, why don't we see what that sheet shows
23 with regard to whether or not, I think specifically you
24 were looking to see whether or not it had the flow meter
25 attached to it or would show that.

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1 Now what we have gone back as found is the
2 calibration data sheet for the 1114. I can give it to the
3 Board. You can make an exhibit or we will if you want.
4 It doesn't help me with regard to it, but it may be
5 helpful to have it for the record.

6 CHAIRMAN BLOCH: We noticed there's another
7 calibration sheet for another instrument that did seem to
8 mention --

9 MR. BLAKE: That was -- I don't remember all
10 that was on your mind at the time, but I do know we have
11 gone back and gotten the document that you were interested
12 in. We'll give it to the Board. If you want to put it in
13 the record --

14 MR. MICHAEL KOHN: Your Honor, I think you
15 should give it to Intervenor.

16 MR. BLAKE: We previously, as I previously
17 indicated, have provided it to the parties, but we can
18 give you another copy if you like.

19 MR. MICHAEL KOHN: Yes, please.

20 MR. BLAKE: If you won't scowl.

21 MR. MICHAEL KOHN: No.

22 MS. YOUNG: Mr. Blake, were you proposing this
23 be marked as an exhibit also?

24 MR. BLAKE: Would I propose this as an
25 exhibit? I am prepared to. It's really whether or not

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1 the Board wants it. It doesn't make any difference to me.

2 CHAIRMAN BLOCH: I think it's hard for
3 Intervenor's counsel not to scowl before 10:00 a.m.

4 MR. BLAKE: I see.

5 MR. MICHAEL KOHN: Well taken.

6 MR. BLAKE: We have been requested, Judge
7 Bloch, to determine whether or not we could locate any dew
8 point measurements that were taken on the 60 pound, the
9 control air portion of the system in that period right
10 after April 6.

11 CHAIRMAN BLOCH: Wait a second. I want to
12 take a look at this document you handed me.

13 MR. BLAKE: I can give you that transcript
14 cite again, if you want to go back.

15 CHAIRMAN BLOCH: No. There are some
16 interesting things in this document.

17 MR. BLAKE: Do you want me to mark it as one
18 of our exhibits?

19 CHAIRMAN BLOCH: Mark it as a Board exhibit.
20 What should it be, Board number --

21 MR. BLAKE: I think it's 11, Judge Bloch.

22 CHAIRMAN BLOCH: Is it 9:

23 MR. BLAKE: I think it's 11.

24 (Whereupon, the document was marked
25 for identification as Board Exhibit

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1 No. 11.)

2 MR. MICHAEL KOHN: Your Honor, the only thing
3 Intervenor would like to mention at this time is in
4 fairness to the record, I think we would like to see, be
5 able to have access to the certificate history of this and
6 all the other dew point measurement devices, to see if
7 there's other documentation that should be considered in
8 conjunction with this. We have not had access to review
9 those records. I think it is necessary in order for
10 Intervenor to assure that a full and adequate record has
11 been made.

12 CHAIRMAN BLOCH: So you would object to the
13 reception into evidence of this exhibit? We've marked it
14 as Board Exhibit 11.

15 MR. MICHAEL KOHN: Your Honor, we don't object
16 to putting it into evidence. What we would like an
17 opportunity is to review the scope of documentation that
18 this would fall into, so we could see if other similar
19 type documentation should be considered contemporaneously
20 with it.

21 CHAIRMAN BLOCH: I don't know what you mean,
22 the scope of documentation that this would fall into.

23 MR. MICHAEL KOHN: The history of this Alnor,
24 other certification of calibration sheets and the
25 certification of calibration sheets for other -- excuse

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1 me, this is EG&G, of other devices. So a history. So
2 Intervenor can have an understanding of where this
3 document fits into the documentation maintained at the
4 plant in order to see if other documentation should be
5 fairly considered along with it.

6 We have not had an opportunity to look into
7 this documentation. Just as a matter of fairness to
8 assure that there's not something that has been overlooked
9 that should also be included into the record.

10 CHAIRMAN BLOCH: There are two aspects of this
11 that are interesting to me personally. One is that the
12 equivalent is marked as not in cal. when received. It
13 looks like it's typed on at the bottom of page two.

14 The other is I'm wondering since the
15 instrument apparently needs a flow meter, it would be
16 interesting to know whether the procedure requires that a
17 flow meter had been with it when it was received for
18 calibration. We can't tell that without having the
19 procedure.

20 MR. MICHAEL KOHN: I think it's important to
21 note that it's a half a degree out of calibration in the
22 as found. I think the history of these Alnors as to --
23 excuse me, of this EG&G device as to what their out of
24 calibration area was throughout, over the course of time.
25 Is this typical? Were they routinely being found a half a

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1 degree out? If so, what does that mean?

2 I think it adds questions that need to be
3 answered. That is Intervenor's reason. I should say it
4 overlaps with the exact discovery we had mentioned
5 earlier, the scope of which we thought was necessary.

6 ADMINISTRATIVE JUDGE CARPENTER: Since there
7 are both Fahrenheit numbers and Centigrade numbers on this
8 page, when you say the half a degree --

9 MR. MICHAEL KOHN: Centigrade.

10 ADMINISTRATIVE JUDGE CARPENTER: Centigrade,
11 thank you.

12 MS. YOUNG: Judge Bloch.

13 CHAIRMAN BLOCH: Yes.

14 MS. YOUNG: May I ask whether Intervenor's
15 request is in any way related to the Board's rulings
16 yesterday on Intervenor's discovery requests with respect
17 to dew point instruments, various rulings that were made.

18 CHAIRMAN BLOCH: But anyway, is there an
19 objection to receiving this document into evidence?

20 MR. MICHAEL KOHN: There is an objection until
21 Intervenor has an opportunity to fulfill the discovery it
22 needs.

23 MR. BLAKE: I am going to oppose vigorously
24 additional discovery at this point. Calibration of EG&G
25 had never even been involved in this proceeding. There

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1 had never been any problems about a calibration and
2 whether or not the instrument worked properly has to do
3 with Alnor. No one has ever questioned that.

4 CHAIRMAN BLOCH: That's not an issue in this
5 proceeding. The only issue is the practices of the
6 company around whether or not there was a
7 misrepresentation about a defective instrument.

8 MR. BLAKE: That's right. Not one with
9 respect to this instrument in any event or any of the EG&G
10 instruments.

11 CHAIRMAN BLOCH: It adds to the Board's
12 knowledge of what the practices are. Do you really object
13 to the reception into evidence without further discovery?
14 We'll hear a further motion on discovery with cause.

15 MR. MICHAEL KOHN: Your Honor, the Board can
16 accept it into evidence, understanding that Intervenor has
17 a desire to look at the total scope of documentation.

18 CHAIRMAN BLOCH: We'll look at that. But if I
19 understand correctly, you are no longer making it
20 contingent on this not being received.

21 MS. YOUNG: We might at least ask GPC to
22 explain the handwritten notations on the second page of
23 the exhibit.

24 CHAIRMAN BLOCH: Does Georgia Power know what
25 those handwritten notations --

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1 MS. YOUNG: I mean realize the Board adopted
2 this as a Board exhibit, but GPC is the one that has to
3 explain its authenticity.

4 MR. BLAKE: No one here at the moment can
5 provide any information on that. We'll see if any of the
6 counsel can help. We'll try to search further, but I
7 can't offer anything at the moment.

8 CHAIRMAN BLOCH: I guess we have to know
9 something about A25003 rev 2, to know whether or not there
10 was a flow meter attached to this instrument. I'm just
11 pointing that out, but I would think if people are
12 interested in knowing what happened with this instrument,
13 you'd want to know if that procedure requires that a flow
14 meter be with it.

15 Let's continue. We'll receive this document
16 in evidence.

17 (Whereupon, the exhibit previously
18 marked as Board Exhibit No. 11 was
19 received into evidence.)

20 CHAIRMAN BLOCH: Let's continue. Mr. Blake.

21 MR. BLAKE: The next item is to complete a
22 stipulation with the Intervenor regarding the diesel
23 generator start numbering system that was used at Vogtle.
24 The Intervenor had read into the record some proposed
25 wording. We ran that back past the company. There were

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1 some changes made which we read to Mr. Kohn yesterday. He
2 said it was an improvement actually on what he had
3 proposed. I need to put that on the record so that we'll
4 all be in agreement on what the words are.

5 MS. YOUNG: When you say all, do you mean
6 staff?

7 MR. BLAKE: Yes. We'd love to have the
8 staff's involvement.

9 MS. YOUNG: Has the staff seen the change in
10 the wording?

11 MR. BLAKE: I don't know whether they have
12 seen it or it was read to them.

13 MS. YOUNG: I don't think the staff has
14 received any changes in wording at all. So it's not at
15 all in agreement.

16 MR. BLAKE: I thought that Mr. Lamberski read
17 it to you yesterday, but if we can't stipulate now, we'll
18 provide it to you when we can get your input.

19 CHAIRMAN BLOCH: Let me read the stipulation
20 of the two parties and then we'll see whether staff can
21 agree to it.

22 MR. LAMBERSKI: Your Honor, the stipulation of
23 Intervenor is at transcript page 14149. I can read it
24 again, if you like.

25 CHAIRMAN BLOCH: No. This will be superseded

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1 by the new agreement of the parties, two of the parties.

2 MR. LAMBERSKI: The stipulation is as follows.
3 Prior to the first start logged in a diesel generator
4 start log, 35 consecutive successful valid tests of each
5 diesel generator were performed as part of pre-operational
6 testing. The first start following these 35 consecutive
7 successful valid tests for each diesel was logged as start
8 number one for such diesel. The start attempts logged
9 thereafter in the diesel generator start log are
10 sequentially numbered.

11 MR. MICHAEL KOHN: Intervenor accepts that
12 version.

13 CHAIRMAN BLOCH: We will wait for word from
14 the staff as to whether it accepts.

15 MS. YOUNG: We'll have to get back to the
16 parties. It would be nice to have that written down the
17 way it's revised.

18 CHAIRMAN BLOCH: Let's continue.

19 MR. BLAKE: We are prepared to react to the
20 request by the Intervenor for the admission of a document
21 which compared temperatures on the diesel generator system
22 at Vogtle with temperatures of diesel generator systems at
23 other plants. We are prepared to provide our reaction to
24 Intervenor's graph of temperatures of the air receiver,
25 which was attached to two pages of what had been Board

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1 Exhibit 9, which were the reported contact and ambient air
2 temperatures which had been taken at the plant received
3 previously. We're prepared to give you our position on
4 those whenever Intervenor wants to advance them.

5 I don't think I completed, because I think I
6 was interrupted in my report on the 60 pound air.

7 You had asked us to see if we could locate any
8 dew point measurements that were taken in the control air
9 system, the 60 pound portion of the system in the time
10 frame right after April 6. I think you said within a week
11 or so after April 6. We did not locate any in the
12 paperwork.

13 That leaves outstanding items. The
14 outstanding items are a request that Mr. Handfinger
15 address the difference that you observed between I believe
16 two MWOs, one of which had a cleanliness standard
17 included in it, and one of which did not. He is preparing
18 that.

19 You have asked us for an affidavit from
20 Frederick with regard to who told him not to continue or
21 to pursue his idea of having a more comprehensive log or
22 at least a portrayal of what was being done.

23 CHAIRMAN BLOCH: That was the audit, right?

24 MR. BLAKE: No. It wasn't associated with the
25 audit. It would have been earlier on in the outage. I

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1 think it was immediately after the site area emergency.
2 Mr. Frederick is working on that.

3 You have asked us to provide in the form of an
4 interrogatory response the reasons for delay as Mr. Webb
5 understood them in issuing the revision to the LER. That
6 leaves us with the recent discovery request which you
7 granted on Monday this week, that I indicated previously.
8 We're hopeful that we'll be able to respond to that by
9 tomorrow.

10 I think that's it in terms of our obligations
11 in order to clear up the record. We need to make our
12 final peace with Intervenor on his exhibits, including the
13 motion to clarify. There's been a constant kind of a
14 continuum of questions about which of Intervenor's
15 exhibits were in, which ones weren't, where do they stand.
16 We have done it as we have come to each one and they have
17 used each one. Whether or not there are any in addition
18 that they want to put in, we'll have to react to. But
19 that I believe is my laundry list at least.

20 CHAIRMAN BLOCH: Does Intervenor have the list
21 of exhibits that they want to put in that may not have
22 been entered during specific witnesses?

23 MR. MICHAEL KOHN: Yes. We do, Your Honor.

24 CHAIRMAN BLOCH: Has that been shared with --

25 MR. MICHAEL KOHN: No. That was prepared last

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1 night and hasn't been shared. We haven't actually done a
2 quality check on that list, but we are certainly happy to
3 distribute it in its rough form to the parties so we can
4 start the dialogue.

5 CHAIRMAN BLOCH: Are there any other necessary
6 matters before we call the witnesses?

7 MS. YOUNG: The staff would like to have an
8 exhibit that was handed out this morning marked and
9 received into evidence.

10 CHAIRMAN BLOCH: Okay.

11 MS. YOUNG: It's a staff version of what has
12 been previously marked as Intervenor Exhibit 76A, an
13 excerpt of tape 246, dated August 13, 1990. I misspoke.
14 It's an GPC and NRC agreed version, with this Intervenor
15 excerpt. We'd like to have it marked for identification
16 as Staff Exhibit II-67.

17 CHAIRMAN BLOCH: Granted.

18 (Whereupon, the document was marked
19 for identification as Staff Exhibit
20 II-67.)

21 MS. YOUNG: This document has been shared with
22 the parties before, so I'd like to move for its admission
23 now.

24 MR. MICHAEL KOHN: Your Honor, Intervenor does
25 not object to the admission, but I think there's an

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1 earlier ruling that would have to be clarified with
2 respect to Intervenor's version of tape 99.

3 CHAIRMAN BLOCH: What does that have to do
4 with this motion?

5 MR. MICHAEL KOHN: Consistency in rulings of
6 the Board. The history has been that the parties were
7 free to supplement, take transcripts, and put various
8 versions in when one party entered a version and included
9 additional portions of the tape relevant. I think that is
10 what NRC is doing with this Georgia Power NRC version. So
11 we don't object because that has been the prior practice.

12 CHAIRMAN BLOCH: Right. So it's admitted.

13 MR. MICHAEL KOHN: But we then call for the
14 admission of Intervenor's additional excerpt of tape 99.

15 CHAIRMAN BLOCH: Have the parties been
16 furnished it the way that the -- were the parties
17 furnished with this?

18 MS. YOUNG: No. Judge Bloch, actually
19 Intervenor's staff and GPC are currently in discussions
20 over tape 99. So that may be resolved by the end of
21 today. Intervenor did provide the staff with some
22 comments last week. I think GPC did. There were a few
23 things outstanding as of yesterday, but I hope that
24 between typing and a few more phone calls that exhibit
25 will be --

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1 CHAIRMAN BLOCH: We're alerted that we may
2 hear something about 99 later.

3 MS. YOUNG: Yes. The staff will definitely be
4 offering or either Intervenor, another version of tape 99,
5 which was a tape excerpt attached to Mr. Hairston's
6 testimony.

7 MR. MICHAEL KOHN: Mitzi, are you referring to
8 99B?

9 MS. YOUNG: I'm referring to what was appended
10 as Hairston.

11 MR. MICHAEL KOHN: 99A, side A. I am
12 referring to 99 side B that was distributed by Intervenor
13 at the hearing. Intervenor's II-247.

14 CHAIRMAN BLOCH: The Board would like to
15 reserve its right when it finds differences between tapes
16 that may be important, to ask for the tapes for the
17 record. We don't know right now that we'll need them
18 though.

19 MS. YOUNG: My record, 247 has already been
20 received into evidence. That is why I thought you were
21 referring to something that was outstanding.

22 MR. MICHAEL KOHN: No. Our records are that
23 it was not received. That's I guess an issue we need to
24 resolve, whether it was or was not received.

25 CHAIRMAN BLOCH: Is it time to call the

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1 witnesses?

2 I turn the hearing over to the staff for a
3 second.

4 MR. MICHAEL KOHN: Your Honor, just to alert
5 the Board, Intervenor is preparing a motion with respect
6 to a portion of Mr. MacDonald's deposition which we
7 anticipate filing tomorrow.

8 CHAIRMAN BLOCH: I did not hear the last
9 sentence.

10 MR. MICHAEL KOHN: We are preparing a motion
11 concerning a portion of Mr. MacDonald's deposition for
12 entry into the record that we are preparing to file
13 tomorrow. I just wanted to alert the Board to that as
14 we're going through this laundry list.

15 MR. BLAKE: I hope it will address the time
16 limits.

17 CHAIRMAN BLOCH: The Board would appreciate a
18 faster pace than this.

19 MS. YOUNG: (Inaudible.)

20 CHAIRMAN BLOCH: I thought you were going to
21 introduce them. I ordinarily have done that, but I said I
22 turned it over to you so I thought you were going to help
23 me.

24 Would the witnesses please identify themselves
25 for the record?

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1 WITNESS SKINNER: My name is Pierce Skinner.

2 CHAIRMAN BLOCH: And your position at the NRC?

3 WITNESS SKINNER: My position at the NRC is I
4 am the Region II in the Atlanta office. I work as the
5 Section Chief of the Division of Reactor Products. I'm
6 responsible for the Georgia Power Company facilities.

7 WITNESS TOMLINSON: My name is Edward
8 Tomlinson. I'm a senior reactor engineer in the Office of
9 Nuclear Reactor Regulation, NRC.

10 Whereupon,

11 PIERCE SKINNER AND EDWARD TOMLINSON
12 were called as witnesses and, having first been duly
13 sworn, were examined and testified as follows:

14 DIRECT EXAMINATION (By Staff)

15 MS. YOUNG: Gentlemen, now that you have
16 stated your names and employment affiliation for the
17 record, do you have before you a copy of a document
18 entitled, Testimony of Edward B. Tomlinson and Pierce H.
19 Skinner on diesel generator air quality, consisting of 14
20 pages?

21 WITNESS SKINNER: Yes. I do.

22 WITNESS TOMLINSON: Yes. I do.

23 MS. YOUNG: And appended to that document are
24 two statement of professional qualifications. One from
25 Mr. Tomlinson. Is that correct?

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1 WITNESS TOMLINSON: That is correct.

2 CHAIRMAN BLOCH: That one is called Attachment
3 A.

4 MS. YOUNG: And as Attachment B, the
5 professional qualifications of Mr. Pierce Skinner?

6 WITNESS SKINNER: Yes.

7 MS. YOUNG: Now gentlemen, was this document
8 prepared by you or under your direction or supervision?

9 WITNESS SKINNER: Yes. It was.

10 WITNESS TOMLINSON: Yes. It was.

11 MS. YOUNG: I am referring to all three
12 documents right now. Do you have any changes you want to
13 make to any of these documents?

14 WITNESS SKINNER: Yes. I do. On page five
15 under question number five, the third line down in the
16 answer, the sentence starting the compressed air system.
17 I would like to insert the word "Vogtle" between the word
18 "the" and "compressed air."

19 In the next line between the word "safety" and
20 "basis" I want to insert the word "design" at that point.

21 MS. YOUNG: Do you have any other corrections
22 you want to make to testimony or exhibits?

23 WITNESS SKINNER: Also on page 14 on the
24 second line down from the top of the page, the word
25 "Johnson" should be "Johnston" rather than Johnson. It's

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1 a spelling error.

2 MS. YOUNG: So the second syllabl~~e~~ should be
3 spelled S-T-O-N. Is that correct?

4 WITNESS SKINNER: That's correct.

5 MS. YOUNG: And is your testimony on the
6 attached statement of professional qualifications true and
7 correct to the best of your knowledge and belief?

8 WITNESS SKINNER: Yes. It is.

9 WITNESS TOMLINSON: Yes. It is.

10 MS. YOUNG: And do you adopt it as your
11 testimony in this proceeding?

12 WITNESS TOMLINSON: Yes. I do.

13 WITNESS SKINNER: Yes.

14 MS. YOUNG: For identification purposes, Judge
15 Bloch, request that Attachment A, the professional
16 qualifications of Tomlinson be marked as Staff Exhibit II-
17 71.

18 CHAIRMAN BLOCH: Granted.

19 (Whereupon, the document was marked
20 for identification as Staff Exhibit
21 II-71.)

22 MS. YOUNG: And that Attachment B, the
23 professional qualifications of Skinner, be marked as Staff
24 II-43.

25 CHAIRMAN BLOCH: Granted.

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1 (Whereupon, the document was marked
2 for identification as Staff Exhibit
3 II-43.)

4 MS. YOUNG: I move that -- the reason will be
5 apparent when you see the second panel testimony for the
6 out of order numeration, but I move that this testimony
7 and the attached statement of professional qualifications
8 be received into evidence and bound into the transcript as
9 if read.

10 MR. MICHAEL KOHN: Your Honor, Intervenor
11 would like to make a few motions to strike portions.

12 CHAIRMAN BLOCH: Okay.

13 MR. MICHAEL KOHN: On page five, the question
14 and answer number five. I believe that the entire
15 discussion is simply a legal argument. They are simply
16 citing two documents already in evidence. There is no
17 additional factual information being provided to the
18 Board. So we think it is cumulative and argumentative.

19 CHAIRMAN BLOCH: The ultimate authority here
20 are the documents. But the witnesses' testimony is
21 helpful because they are involved in the regular use of
22 documents of this sort. So the motion is denied.

23 MR. MICHAEL KOHN: Your Honor, I would also
24 like to have a clarification maybe the witnesses can
25 provide as to who is providing this answer.

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1 MS. YOUNG: Both witnesses.

2 CHAIRMAN BLOCH: I'd like to ask the
3 witnesses. Is it your understanding that if neither name
4 -- are you providing all of the answers? Are all the
5 answers from both -- no. If there's no indication as to
6 who is answering, is it the case that you are both
7 answering in each instance?

8 WITNESS SKINNER: That's correct.

9 MR. MICHAEL KOHN: The second would be on page
10 10, the last four lines of the page beginning on the
11 righthand corner with the word, "Interviews were held with
12 three instrument technicians." That sentence, actually.
13 "Interviews were held with three instrument technicians,
14 one plant equipment operator and two engineers that had
15 been involved in DG maintenance in 1990."

16 We would strike this as -- NRC staff is
17 certainly free to call any witnesses from Georgia Power
18 they wanted. They are attempting to put in interview
19 statements of witnesses apparently as I would understand
20 it, made to persons I assume other than the persons even
21 providing the testimony. There's no transcript of these
22 interviews. We don't think there's a strong underlying
23 basis for including this into the record.

24 I think any statements with respect to
25 instrument technicians and plant operators with respect to

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1 finding condensation in supply lines is something that
2 would have to be done by direct testimony of those
3 witnesses. Therefore, we move to strike that sentence.

4 CHAIRMAN BLOCH: Motion is denied. This is
5 activity within the standard scope of the business
6 practices of the NRC.

7 MS. YOUNG: In addition, I believe it is
8 addressing information that was made available to
9 Intervenor through the Board notification in April of
10 1995. It's a summarizing, the Casto memo. So if
11 Intervenor had concerns about the sources of that
12 information, they should have raised them earlier.

13 MR. MICHAEL KOHN: The problem was that the
14 inspection report occurred -- was issued -- the Casto memo
15 was issued before discovery cut-off, but the Board
16 notification was filed after discovery was cut off. I
17 think it is simply unfair to allow NRC staff to --

18 CHAIRMAN BLOCH: Mr. Kohn, you were not aware
19 that you could have discovery for cause?

20 MS. YOUNG: There have been numerous Board
21 orders on that matter, I believe, Judge Bloch.

22 MR. BLAKE: -- asked for discovery 20 minutes
23 ago.

24 CHAIRMAN BLOCH: I thought we had a motion for
25 you for cause just two days ago.

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1 MR. MICHAEL KOHN: Yes, Your Honor. I think
2 the record should bear me out with respect to NRC. We
3 indicated that we would -- my recollection is quite some
4 time ago. I think even before the actual hearing began,
5 that we did indicate a need. I think we filed motions to
6 strike portions of the testimony, including this. It has
7 been an unresolved issue since that time.

8 CHAIRMAN BLOCH: You filed a motion to strike
9 about this?

10 MR. MICHAEL KOHN: Yes. My recollection is we
11 filed motions to strike on the two other Board testimonies
12 when they were received. That is my recollection.

13 CHAIRMAN BLOCH: I have no recollection.

14 MS. YOUNG: I recall maybe a motion to strike
15 GPC testimony on air quality but not Staff testimony, but
16 I could be wrong.

17 CHAIRMAN BLOCH: I have no recollection of any
18 outstanding motions that we didn't act on promptly. If
19 there is such a motion, I would have expected to be
20 notified of it.

21 MR. MICHAEL KOHN: The Board ruled on the
22 motion and determined that it was moot at that time. But
23 it was no final determination.

24 CHAIRMAN BLOCH: How was it moot? I have
25 never heard of something that was moot becoming unmoot.

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1 Let's continue. If you can give us more
2 information on this at another time. It is time for our
3 recess. Let me finish my action on the -- have you
4 finished your motions to strike?

5 MR. MICHAEL KOHN: No, Your Honor.

6 CHAIRMAN BLOCH: Let's continue then. We also
7 have to finish with the witnesses to get their testimony.

8 I would like to tell everyone assembled that I
9 have been notified there could be a fire drill soon, an
10 unannounced fire drill.

11 MR. MICHAEL KOHN: Your Honor, based on your
12 earlier rulings, I am not going to pursue any additional
13 motions to strike.

14 MS. YOUNG: I renew my motion for admission of
15 this.

16 CHAIRMAN BLOCH: I'd like to ask the witnesses
17 if they understand that when we admit written testimony,
18 it's the same as if it has been said aloud in the hearing
19 room.

20 WITNESS SKINNER: Yes.

21 WITNESS TOMLINSON: Yes. I do.

22 CHAIRMAN BLOCH: The testimony is admitted and
23 may be bound into the transcript as if read.

24 (Whereupon, the documents previously
25 marked for identification as Staff

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
	)	Docket Nos. 50-424-OLA-3
GEORGIA POWER COMPANY, <i>et al.</i>	)	50-425-OLA-3
)	
(Vogtle Electric Generating Plant	)	Re: Licensee Amendment
Units 1 and 2)	)	(Transfer to Southern
	)	Nuclear)

TESTIMONY OF EDWARD B. TOMLINSON AND
PIERCE H. SKINNER ON DIESEL GENERATOR AIR QUALITY

Q1. Would you each please state your name, job title, employment affiliation, and professional qualifications?

ANSWER

My name is Edward B. Tomlinson. I am employed by the U.S. Nuclear Regulatory Commission (NRC) as a Senior Reactor Engineer in the Office of Nuclear Reactor Regulation. My education and professional qualifications are summarized in Attachment A.

My name is Pierce H. Skinner. I am employed by Region II of the NRC as the Chief of Reactor Projects, Section 3B. My education and professional qualifications are summarized in Attachment B.

Q2. What is the purpose of your testimony?

ANSWER

The purpose of this testimony is (1) to present the NRC Staff's position with respect to Intervenor's allegation that exceeding dew point criteria could lead to the formation of moisture in the Diesel Generator (DG) pneumatic lines and that this moisture prevented

DG 1A from performing its function during the March 20, 1990 Site Area Emergency (SAE), and (2) to address questions concerning Intervenor's air quality concern that have arisen during the testimony of Intervenor and Georgia Power Company (GPC) witnesses during this hearing. This testimony supersedes the previous "Testimony of Pierce Skinner on the Air Quality Allegation," which was prefiled on April 4, 1995, prior to the Memorandum and Order (Summary Disposition; Air Quality), dated April 27, 1995. Questions related to the completeness and accuracy of communications to the NRC will be addressed by the NRC panel testimony of Messrs. Matthews, Skinner, and Hood.

Q3. Are you familiar with the DG starting air system at Vogtle?

ANSWER

(Tomlinson) Yes. On August 25, 1995, I visited the Vogtle facility and reviewed of the DG starting air system, including inspection of the pneumatics in the DG control panel. Subsequently, I reviewed the following documentation in order to understand the design and operation of the DG pneumatic control system: Dwg. 09-835-76021; Dwg. 09-695-76021; Dwg. 09-500-76021, sheet 1; and a system function narrative in the Transamerica Delevel Instruction Manual for the Vogtle diesel generators. In addition to the above, I read the following information related to the air quality issue: Vogtle Final Safety Analysis Report (FSAR) § 9.5.6 (Board Ex. 3) and § 9.4.7; Intervenor Exs. II-11 (ISA Standard) and II-169 (Demonstrative Aid #4); SER § 9.5.6 (Board Ex. 4) and § 9.4.5; Appendix J of NUREG-1410, Loss of Vital AC Power and the Residual Heat Removal System During Mid-Loop Operations at Vogtle Unit 1 on March 20, 1990, dated June 1990 (GPC Ex. II-167); the Mosbaugh prefiled testimony (revised) (ff.

Tr. 8263); the OwYoung and Johnston prefiled testimony, dated August 21, 1995 (ff. Tr. 12428); and the Hill and Ward prefiled testimony, dated August 21, 1995. I also heard the testimony by Messrs. OwYoung and Johnston in Augusta, Georgia, and the testimony of Messrs. Stokes and Chenault in Rockville, Maryland.

(Skinner) Yes. In my present position with Region II, I have made numerous visits to the Vogtle facility. I am familiar with the DG starting air system, including the pneumatic control system. I have also read the testimony and exhibits in this proceeding, and I have reviewed the technical data and schematic drawings associated with this system identified by Mr. Tomlinson, above. I have also been present during the testimony of Intervenor and GPC related to air quality issues.

Q4. What NRC requirements, guidance, or recommendations apply to the DG starting air system, and has Staff previously found Vogtle to be in compliance?

ANSWER (Tomlinson)

General requirements applicable to the DG starting air system are contained in 10 C.F.R. Part 50, Appendix A, General Design Criteria for Nuclear Power Plants (GDC), Criteria 1, 2, 4, 5, and 17. Specific guidance concerning NRC review of this system is contained in Section 9.5.6 of NUREG-0800, Standard Review Plan (SRP). The SRP addresses conformance with NUREG/CR-0660, Enhancement of Onsite Emergency Diesel Generator Reliability, which includes specific recommendations regarding the use of air dryers.

The results of NRC's review of Vogtle's DG starting air system was provided in Safety Evaluation Report (SER), NUREG-1137, Section 9.5.6 (Board Exhibit II-4), dated

June 1985. The NRC concluded that the DG starting air system meets design requirements of GDC 1, 2, 4, 5 and 17, and the recommendations of NUREG/CR-0660.

NUREG/CR-0660 at page V-4, includes a recommendation that refrigerant type air dryers should be used in a DG starting air system to reduce moisture. The Vogtle facility conforms with this recommendation. As a practical matter, the NRC acknowledges in Appendix E of NUREG/CR-0660 that standard refrigerant driers cannot produce dew points lower than 35°F. The refrigerant dryers at Vogtle are factory set at a 35°F dew point.

SRP § 9.5.6, II.4.j, states that the starting air dew point should be maintained at least 10°F below the lowest expected ambient temperature of the DG room. Section 9.4.7 of the FSAR describes the DG building ventilation system. This system is designed to maintain the building temperature between 120°F and 50°F. The lowest expected ambient temperature of the DG room is 60°F. Heaters in the DG building are set to energize if temperature decreases to 60°F. Thus, to be consistent with SRP § 9.5.6, II.4.j, guidance that starting air dew point should be controlled to at least 10°F less than the lowest expected ambient temperature of the DG room, the starting air dew point at Vogtle should generally be 50°F or lower. FSAR Table 9.5.6-1, identifies that the dew point of air leaving the dryer is 50°F (Board Ex. 3). This is adequate for the DG control air system, and meets SRP guidance.

In NUREG-1410, Section 3.2.2, the NRC found that Vogtle has maintained its facility consistent with this guidance by stating, in part, that:

The dew point [of the starting and control air system for the Emergency Diesel Generators (EDGs)] has generally been kept at close to 40 °F. The dryers on occasion have been out of service for short periods; however, no evidence has been found of significant moisture or its effects in the instrument air lines or sensors. The 5-micron filter has always been clean when replaced; no significant amount of contaminants have been found in the instrument air system.

Q5. What is Staff's position with respect to Mr. Mosbaugh's statement on pages 17-19 of his prefiled testimony that GPC committed to ANSI/ISA S7.3-1975 in the FSAR and in the GPC response to Generic Letter (GL) 88-14 (Intervenor Ex. II-13).

ANSWER

Mr. Mosbaugh's interpretation differs from that of the Staff. The Staff understood GPC's commitment in Intervenor Ex. II-13 to ANSI/ISA S7.3-1975 to be with respect to the compressed air system, not with the DG air start system. The compressed air system (sometimes referred to as the instrument air system) has no safety basis and is the system that provides air to service air outlets located throughout the facility and for pneumatic devices used in maintenance and other activities (see FSAR 9.3.1). FSAR § 9.5.6 does not contain a commitment to Regulatory Guide (RG) 1.68.3, Preoperational Testing of Instrument and Control Air Systems (Staff Ex. II-3), which address guidance for compressed air systems. The recommendations of this RG are not directed to the DG air start system.

GPC responded to GL 88-14 (Staff Ex. II-68) in correspondence to the NRC, dated January 16, 1989, and February 17, 1989. While these responses include a discussion of DG air start system, GPC indicated that qualitative air requirements were not specified

by the Transamerica Delaval Owners Group. GPC did state that the maximum dew point acceptance criteria for the DG air start system had been established at 50°F at system pressure by FSAR Table 9.5.6-1. GPC did not commit to the cited ISA standard with respect to the DG starting air system.

Q6. What are the potential adverse consequences of inadequate dew point control at Vogtle?

ANSWER (Tomlinson)

Inadequate or no dew point control could have two possible consequences. The first could be very humid air (i.e., at or near saturation) in the DG air start system. This could result in corrosion of ferrous metal system components, but is unlikely to have any adverse impact on the operation of the pneumatic control system. This is because all portions of the pneumatic control system would see the same quality air and, at worst, all pneumatic control functions might slow down. In my opinion, however, this is highly unlikely.

The second adverse consequence could be formation of free water in the starting air receivers. In the unlikely event that this happens, and assuming that blowdowns were never performed on the air receivers, it is theoretically possible that water could accumulate until the level reached the discharge line from the air receiver to the air start system (approximately at the 8 ft. elevation in the receiver). This scenario is unlikely given that it would require over 1000 gallons of accumulated water before it could spill into the starting air piping. The free water would then have to fill approximately 160 feet of 3-inch inside diameter steel piping before free water would enter the control air tubing.

A subset of this second consequence could be formation of free water in the pneumatic trip lines from condensation of water vapor. Should this happen, the time required to pressurize the trip lines on a DG start would decrease because the free water would effectively reduce the volume of the trip lines. A decrease in the time required to pressurize the trip lines would not have an adverse impact on the pneumatic logic functions on a DG start. The presence of free water in the trip lines could, however, increase the time to trip the DG in response to an out-of-tolerance monitored DG parameter. When a Calcon sensor trips, it becomes a small orifice for venting of air. Since the trip signal is provided by a venting of air through the sensor, it would take longer to vent an air-water mixture or a water volume through the orifice. In my opinion, there would be no impact on the pneumatic logic functions because free water will not get into this logic circuitry, except if, as discussed above, the entire starting air system were to be flooded.

For water to flood the entire air system, water would have to fill the receiver, pass through two strainer elements in each of the 3-inch lines, and fill this 3-inch piping up to the level of the top of the DG. It would then fill the two supply lines that run horizontally and vertically along the side of the DG, pass through a trench and up into the bottom of the instrumentation cabinet before entering the pneumatic portion of the system. The water would then have to pass through the 5-micron filter in the cabinet, through the reducer (250-60 psig), into the vertical portion of the control cabinet and up approximately 6 feet to fill the pneumatic logic boards. It would then be directed into the numerous sensing lines in the bottom of the cabinet. Finally, it would fill each of the

various 50 linear-foot (approximately) sensing lines back up to the DG in numerous locations on the DG. Flooding the entire system or the selective routing of water is not considered credible by the Staff.

Q7. Is accumulation of free water likely to occur in Vogtle's DG air system?

ANSWER (Tomlinson)

No. Maintaining a starting air dew point in accordance with the SRP ($\leq 50^{\circ}\text{F}$) provides assurance that free water will not accumulate in the air receivers. Maintaining a dew point in accordance with the SRP will also ensure that the air in the pneumatic control system will always be substantially above this dew point. This is due to the fact that the Vogtle starting air is at 250 psig. Before this air reaches the pneumatic control system, the pressure is reduced to 60 psig. This pressure reduction significantly reduces the air's dew point. Because of this, the dew point in the starting air system could be 50°F or even higher without causing a moisture problem in the control air system.

Q8. If free water had accumulated in Vogtle's DG air system in March 1990, would that have caused the DG malfunctions which occurred on March 20?

ANSWER (Tomlinson)

No. Based on my knowledge of the DG starting air system configuration and the DG pneumatic control system configuration and location, I find it unlikely that free water in sufficient quantities to cause the alleged malfunctions was present in the pneumatic control system in March 1990 or at any other time. Even had such water been present, it would have to have been selectively deposited in specific pneumatic lines (i.e., two high jacket water temperature sensing lines), and not in the .006 orifice timer in the trip

arming circuit, for it to have caused the two DG trips that occurred on March 20. The physical properties of water, combined with the system configurations, make the chance of such selective deposition remote. Absent this selective deposition of water, the 70 and 80 second delays observed on the two failed DG starts on March 20 would have been greater. Accordingly, I do not believe that the water in the DG air start system caused the DG malfunctions of March 20.

Q9. What is the Staff's position with respect to the allegation that low temperatures at the Vogtle site during the March 1990 time frame contributed to moisture condensing in the DG instrument lines and thereby causing the formation of water in these lines?

ANSWER (Skinner)

The Staff concludes that the allegation has not been substantiated. The relevant concern is the temperature inside the DG building. As noted in the FSAR § 9.4.7, the DG building ventilation system is designed to maintain the building temperature between 120°F and 50°F. Ten unit heaters in the DG building are set to energize if temperature decreases to 60°F. If a temperature of 50°F occurs in the DG room, an alarm occurs in the control room and actions are taken to correct the low temperature condition. In addition, the cabinet which houses the pneumatic logic boards and numerous pneumatic lines is maintained at a temperature of approximately 90°F by internal heating elements. There is no indication that the temperature inside the DG building has been maintained inconsistent with these parameters. Thus, it is unlikely that the alleged condensation would have occurred under these conditions.

Q10. What has the Staff done to determine the validity of Mr. Mosbaugh's allegations that moisture has formed in the DG starting air system?

ANSWER

The Staff reviewed the issue of water in the pneumatic control system as part of an allegation review effort. In Board Notification 95-08, dated April 14, 1995, the Staff transmitted enclosure 2 (Memo, C. A. Casto to Bruno Uryc, dated June 20, 1994)(Staff Exhibit II-5) which addressed allegations related to air quality that were raised by Intervenor. An inspection was conducted between May 9-20, 1994, as documented in Inspection Report (IR) Nos. 50-424,425/94-12, dated June 9, 1994 (Staff Exhibit II-10) (i.e., possible water in the pneumatic control system). The Staff found the following:

1. In Staff Exhibit II-5, the Staff documented a technical review of Mr. Mosbaugh's allegation that causes other than those specified by GPC in its communication with the NRC caused the 1A DG failure during the SAE. The Staff did an extensive review of work documentation related to the 1990 failures, equipment histories for the DGs and related equipment, an evaluation to determine the impact of water contamination on the system function, and an evaluation of the potential of introducing water into the lines. The Staff found that the pneumatic system does not function in the manner described in the allegation and concluded that condensation in the supply air in the control cabinets did not occur. Interviews were held with three instrumentation technicians, one plant equipment operator and two engineers that had been involved in DG maintenance in 1990. None of these personnel recalled evidence of water in the air lines. In addition, a review of the

maintenance documentation, specifically the work orders associated with the troubleshooting activity in 1990, did not identify evidence of water in the pneumatic lines.

2. The Staff also determined that if water was inside the control modules and pneumatic lines, there would be corrosion or other indications caused by the water contamination. Review of documentation did not identify corrosion or other indications of water having been present in these components.

3. The Staff reviewed dew point documentation and identified numerous examples of out-of-specification dew points. The Staff found no evidence of actual water formation in the lines.

The Staff has further determined that the air pressure at the DG during a start is only present for a brief period (5 seconds or less) during the start. At all other times, the air start system at the DG is depressurized. During a DG start cycle, the system is pressurized to approximately 250 psig with air from the starting air system until the DG reaches approximately 260 rpm or for 5 seconds, whichever occurs first. At this point, starting air pressure at the DG is isolated, and the pressure in this portion of the system drops to 0 psig. If an assumption is made that the starting air is at 250 psig and 85°F dew point when the DG is started, the air pressure reduction to 0 psig would result in a dew point considerably below 50°F. Consequently, any free water that may have been deposited in the DG air start piping during the start cycle will quickly vaporize in a 50°F room environment. In addition, a large portion of the air start piping is located on or adjacent to the DG, which is generally maintained at greater than 150°F. The elevated

temperature of the DG, and attendant pressure drop in the air start piping provide additional assurance that any free water that may have accumulated during the start cycle in this piping will quickly vaporize.

For the above reasons, the potential for the presence of free water in the air start or pneumatic control system, even under the extreme conditions assumed above, is considered to be minimal. Absent free water, there is no potential for the type of component degradation and attendant DG failure alleged by Mr. Mosbaugh. Therefore, the Staff concludes that there is no basis to the allegation that moisture in the pneumatic lines to the DG 1A sensors was the cause of the DG not performing its function on March 20, 1990.

Q11. What is the significance of out-of-specification dew point readings identified by Mr. Mosbaugh on Intervenor Exhibit II-169?

ANSWER

The out-of-specification dew point readings on Intervenor Exhibit II-169 do not appear to be significant to safety. During the six months preceding the SAE on March 20, 1990, there was only one out-of-specification reading on DG 1A and one on DG 2A air receivers. In addition, GPC's practice was to perform daily blowdowns on the air receivers which would remove any accumulated moisture if present in the receivers. There were no failures of any DG during this time attributed to moisture problems. Inspections were conducted of the air filters and the interior of one DG 1A receiver, and the out-of-specification dew point conditions were corrected. The NRC Resident Inspection Staff has subsequently observed that when an out-of-specification dew

point is identified, the associated receiver is normally isolated and removed from service to minimize the potential for the introduction of moisture into the system until the out-of-specification condition is corrected. Given the corrective actions taken and the absence of corrosion, the high dew point readings do not appear significant.

Q12. The Calcon vendor's brochure (Board Ex. 1) for temperature sensors specifies the use of clean dry air. What does the NRC understand "clean dry air" to mean?

ANSWER (Tomlinson)

Absent specific manufacturers requirements, the Staff would interpret the term "clean dry air" to mean air that has been compressed and subsequently dried sufficiently to produce a dew point at least 10°F lower than the lowest anticipated temperature to which the compressed air system will be exposed, consistent with SRP § 9.5.6. The NRC would expect a licensee to meet SRP guidance or the manufacturer's specific requirements for filtering and dew point. The use of a 25 micron filter would be advisable as it would filter material greater than .001 inch. This would normally be acceptable to protect most pneumatic devices from particulate contamination..

Q13. What is the Staff's position with respect to the cause of the air admission valve problem (e.g., weak air rolls) that was identified at Vogtle in July 1990?

ANSWER (Skinner)

The Staff finds that it is reasonable to conclude that this problem was caused by a combination of root cause conditions, i.e., a close tolerance design fit between the piston and cap and possible bore distortion occurring when the cap is tightened to the valve body and cylinder head. This conclusion is consistent with Energy Services Group

correspondence to NRC dated July 19, 1990, as identified by the 10 C.F.R Part 21 notification #154 (GPC Exhibit II-166, OwYoung and Johnson Ex. C).

Q.14. What is your overall conclusion with respect to Intervenor's allegation concerning the role of air quality in the March 20, 1990 event?

ANSWER

The Staff has found no evidence that moisture (free water) was in the pneumatic lines at the time of the SAE in March, 1990 and, therefore, does not believe that it caused that event. This conclusion is based on the Staff's knowledge of compressed air characteristics, the configuration of the DG starting air system, and the DG pneumatic control system configuration and location. As discussed above, the Staff does not believe that free water could accumulate in quantities sufficient to cause malfunctions in the pneumatic control system, particularly since the water would have to selectively enter specific pneumatic lines and not enter other parts of the control system in order to cause the March 20 failures. Thus, the Staff does not find that Intervenor has offered a credible scenario for the March 20 event.

Edward B. Tomlinson

U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Education: Graduated from U.S. Merchant Marine Academy
Bachelor of Science
U.S. Coast Guard Marine Engineer License, Steam & Diesel

Experience:

1981 - Present U.S. N.R.C. - Office of Nuclear Reactor Regulation
Various positions as Reactor Engineer and Senior Reactor Engineer. Principal focus during this time was Emergency Diesel Generators and related matters. Responsibilities included investigation and resolution of diesel generator issues at operating nuclear facilities. Specific examples include 1.) member of TDI Task Force which was responsible for establishing the acceptability of TDI diesel generators for nuclear service, 2.) onsite investigation of catastrophic DG failures at South Texas and Fermi, 3.) participation in numerous special DG inspections, 4.) conduct of DRQR reviews for plants with TDI DGs, and 5.) relaxation of license conditions at plants with TDI DGs. Also, responsible for conducting licensing reviews of diesel generators and support systems for new plants, and license amendments involving diesel generators and related systems at operating plants. Current responsibilities include development and implementation of Improved Standard Technical Specifications relating to offsite and onsite (OG) electrical power systems. Member of ANS 59.5 Working Group responsible for development of standards for diesel generator supporting systems including fuel oil, lubricating oil, combustion air, and starting air. Also, regularly represent the NRC staff at DG Owners Group meetings.

1977 - 1981 National Oceanic & Atmospheric Administration
Marine engineer with National Ocean Survey. Responsibilities included developmental preventive maintenance programs for main propulsion and auxiliary diesel engines, investigation of diesel engine problems, and selection of replacement diesel engines for main propulsion and auxiliary service.

1975 - 1981 USNRC - Office of Nuclear Reactor Regulation
Reactor systems engineer responsible for licensing review of plant systems, including diesel generator support systems.

NUCLEAR REGULATORY COMMISSION

Docket No. 50-424/425-OLA-3 EXHIBIT NO. TL-71
In the matter of Georgia Power Co. et al., Vogtle Units 1 & 2
 Staff Applicant Intervenor Other _____
 Identified Received Rejected Reporter SD
Date 9/21/95 Witness SKINNER & TOMLINSON

- 1970 - 1975 Northrop Services, Inc.
Provided support to U.S. Navy for developing interfaces between the numerous systems required in support of Deep Submergence Rescue Vehicle mother ships. Interfaces included power, life support, and vehicle retrieval systems.
- 1968 - 1970 International Business Machines, Inc.
Responsible for design, installation, and operation of a diesel generator power plant to support classified government operations.
- 1962 - 1968 American Telephone & Telegraph Co.
Responsible for design, installation, and initial operation of mechanical and electrical systems in new telecommunications buildings. Systems included automatic emergency diesel generator systems. Responsible for converting an existing diesel generator system with 3 busses to a two bus system with the third DG as an automatic spare for the other two.
- 1960 - 1962 Military Sea Transport Service
Shipboard engineer responsible for operation of ships main propulsion and auxiliary equipment, including compressed air systems.

Pierce H. Skinner

U.S. Nuclear Regulatory Commission
Atlanta, Georgia 30323

Education: Robert E. High School, Montgomery, Alabama
Various Military and Civilian Technical Courses

Experience:

1995 - Present Section Chief, Division of Reactor Projects
Responsible for the oversight of Georgia Power Company's
Nuclear Facilities: Hatch and Vogtle

1987 - 1991 Senior Resident Inspector, Oconee Nuclear Station
Responsible for the NRC inspection program at this three unit
nuclear facility

1983 - 1987 Senior Resident Inspector, Catawba Nuclear Station
Responsible for the NRC inspection program during preoperational
testing and initial startup of this two unit nuclear facility.

1980 - 1983 Operations Inspector, Region II
Performed inspections as directed by Regional Management

1977 - 1980 Startup Supervisor, Mississippi Power & Light Co.
Responsible for establishing the startup test program for Grand
Gulf Nuclear Station

1968 - 1977 Chief/Shift Nuclear Test Engineer
Responsible for nuclear submarine propulsion plant testing on
overhauled nuclear submarines in a private shipyard

1959 - 1967 U. S. Navy
Qualified Reactor Operator/Technician on an operating submarine
and EOOW watchstander and instructor at a U. S. Navy prototype,
also served as an Atomic Energy Commission representative on the
oversight staff at the prototype

NUCLEAR REGULATORY COMMISSION

Docket No. 50-424/425-OLA-3 EXHIBIT NO. II-43
In the matter of Georgia Power Co. et al., Vogtle Units 1 & 2
 Staff Applicant Intervenor Other
 Identified Received Rejected Reporter SD
Date 9/28/95 Witness SKINNER/TOWLINSKI

1 Exhibits II-71 and II-43 were
2 received into evidence.)

3 CHAIRMAN BLOCH: Now it's time for our recess.
4 Ten minute recess unless there's a fire drill, in which
5 case when we come back from the fire drill.

6 (Whereupon, from 9:57 a.m. until 10:25 a.m.
7 the proceedings went off the record.)

8 CHAIRMAN BLOCH: Ms. Young, have you completed
9 your work with the witnesses.

10 MS. YOUNG: Yes, Judge Bloch. The panel is
11 available for cross examination.

12 CHAIRMAN BLOCH: Mr. Kohn?

13 MR. MICHAEL KOHN. Thank you, Your Honor.
14 Good morning, gentlemen. And I guess we'll start with Mr.
15 Tomlinson. If you could tell me the purpose of your
16 testimony is to present expert opinion?

17 WITNESS TOMLINSON: Yes.

18 CROSS EXAMINATION

19 MR. MICHAEL KOHN: And I notice that
20 throughout the testimony, there's reference to the Staff's
21 position. And is your testimony your position on
22 everything, or is it a determination based on discussions
23 with Staff as to what the scope should be of the
24 testimony?

25 MS. YOUNG: Are you asking for advice from

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1 Counsel or you inquiring to it?

2 MR. MICHAEL KOHN: No, I'm asking what the
3 words "Staff" --

4 CHAIRMAN BLOCH: He's asking the understanding
5 of the witnesses as to whether they're testifying about
6 their own individual beliefs or whether they're testifying
7 about something that's corporate.

8 WITNESS TOMLINSON: I'm testifying based on
9 the knowledge that I have obtained in my review of this,
10 the issues involved here. But I am, of course, a member
11 of the Staff.

12 But you know, the entire NRC was not involved
13 in this -- in developing this testimony.

14 BOARD EXAMINATION

15 CHAIRMAN BLOCH: Is there anything in your own
16 testimony, Mr. Tomlinson, that you disagree with?

17 WITNESS SKINNER: No.

18 CHAIRMAN BLOCH: And the same is true for you,
19 Mr. Skinner?

20 WITNESS SKINNER: No, there is not.

21 CROSS EXAMINATION

22 MR. MICHAEL KOHN: Gentlemen -- I'll ask Mr.
23 Skinner actually. On page nine, it says under the answer
24 to the question, it says, "The Staff concludes." Is --
25 when I was reading the testimony, I -- this is one

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1 example, and there is a question and response, answer
2 number the Staff reviewed, and there's a lot of -- the
3 term "discussion" of your testimony in the context of
4 Staff, do you believe that your testimony was influenced
5 by the Staff's position on matters?

6 MS. YOUNG: Judge Bloch, I think we can
7 stipulate that these gentlemen are here to represent the
8 Staff's position in this proceeding, if that's --

9 CHAIRMAN BLOCH: Well, I believe that the
10 cross is --

11 MS. YOUNG: -- Mr. Kohn's question.

12 MR. MICHAEL KOHN: -- properly designed to
13 determine to what extent they are individual opinions.
14 And that's important because I think testifying as "we,"
15 we can do that.

16 WITNESS SKINNER: Would you repeat the
17 question, please?

18 CROSS EXAMINATION

19 MR. MICHAEL KOHN: I'll try to. Can you tell
20 me whether, to your knowledge of Staff's -- when I say
21 "Staff," other than yourself, the NRC's other staff
22 members who have -- let me start from the beginning.

23 BOARD EXAMINATION

24 CHAIRMAN BLOCH: Let's try it this way. Have
25 you been influenced by the positions of your colleagues on

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1 the NRC -- at the NRC?

2 WITNESS SKINNER: Yes, I have.

3 CHAIRMAN BLOCH: And Mr. Tomlinson, you have
4 also?

5 WITNESS TOMLINSON: No sir, I have not. I
6 have had very limited involvement in this, and mine is
7 just a very focus on technical issues. So I have not -- I
8 have read other Staff testimony on this issue. But the
9 conclusions in this pre-filed testimony are my own.

10 CROSS EXAMINATION

11 MR. MICHAEL KOHN: Mr. Tomlinson, on that,
12 it's my understanding that you have talked to Mr. Stokes
13 about technical matters. Is that correct?

14 WITNESS TOMLINSON: I have spoken with Mr.
15 Stokes on technical matters, yes.

16 MR. MICHAEL KOHN: And you also had meetings
17 with Mr. Owyong and Johnson on technical matters?

18 WITNESS TOMLINSON: Would you please define
19 what you mean by a meeting?

20 MR. MICHAEL KOHN: Where you had discussions
21 with them and there were communications back and forth.

22 WITNESS TOMLINSON: Yes. In Augusta, I had a
23 very brief conversation with Messrs. Owyong and Johnson
24 at which point I asked them if they could explain to me
25 two things.

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1 The first thing I asked them to explain was on
2 the Cooper drawings for the pneumatic controls, in what
3 position did the drawings represent the control elements?
4 What is a shell position or activated position?

5 And the second question I asked him was with
6 regard to a specific component shown on a specific drawing
7 that I did not quite understand. It had a locking
8 mechanism which Mr. Owyong explained to me.

9 MR. MICHAEL KOHN: And your discussions with
10 Mr. Stokes, what was the substance of those?

11 WITNESS TOMLINSON: Mr. Stokes and I talked
12 about two things. I assume you're referring to the day
13 when Mr. Stokes was testifying?

14 MR. MICHAEL KOHN: If that's -- is that the
15 only time you spoke with him?

16 WITNESS TOMLINSON: No, I spoke with Mr.
17 Stokes at the site when I did the -- I paid a visit to the
18 site to look at the diesel generator and the control
19 systems.

20 MR. MICHAEL KOHN: All right. And can you
21 give me the sum and substance of your discussions with Mr.
22 Stokes?

23 WITNESS TOMLINSON: Yes, where is the diesel
24 generator room?

25 MR. MICHAEL KOHN: And when he was testifying

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1 here?

2 WITNESS TOMLINSON: When he was testifying
3 here, Mr. Stokes and I talked about two things. The
4 majority of the conversation had to deal with his pending
5 vacation in Maine. And I offered him some observations
6 about --

7 MR. MICHAEL KOHN: You don't have to get into
8 that, what -- all I need --

9 WITNESS TOMLINSON: You asked what I was
10 talking about.

11 MR. MICHAEL KOHN: Just technical information.

12 WITNESS TOMLINSON: Technical information? I
13 asked Mr. Stokes about a specific control element,
14 pneumatic control element, in a portion of the system not
15 at contention in this hearing.

16 MR. MICHAEL KOHN: And did you have any
17 discussions with Intervenor about operation of the
18 pneumatic system?

19 WITNESS TOMLINSON: No sir, I don't believe
20 I've ever really spoken to the Intervenor.

21 MR. MICHAEL KOHN: Mr. Tomlinson, do you have
22 an education or background in instrument and control
23 engineering?

24 WITNESS TOMLINSON: Specifically, no.

25 MR. MICHAEL KOHN: Do you have any specialized

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1 training or experience in pneumatic controls?

2 WITNESS TOMLINSON: I'll have to answer that
3 yes and no. With regard to pneumatic controls, they are
4 virtually identical to hydraulic controls, the primary
5 difference being that they are set up for lower pressures.

6 I have had specific training in hydraulic
7 controls.

8 MR. MICHAEL KOHN: In hydraulic, would you use
9 oil?

10 WITNESS TOMLINSON: Yes, which is also a
11 fluid.

12 MR. MICHAEL KOHN: Do you have any expertise
13 in the field of fluidics?

14 WITNESS TOMLINSON: No sir, I do not.

15 MR. MICHAEL KOHN: Do you have any -- have you
16 had any studies in the field of two-phased flow?

17 WITNESS TOMLINSON: No sir, I have not.

18 MR. MICHAEL KOHN: Okay, the pre-filed
19 testimony includes discussion on how air and water would
20 move through a pneumatic system. Do you have any training
21 with respect to the operation of these -- of air and water
22 mixtures?

23 WITNESS TOMLINSON: Air and water mixtures?
24 No.

25 MR. MICHAEL KOHN: Have you had any course

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1 work with respect to how air and water mixtures operate in
2 pneumatic systems?

3 WITNESS TOMLINSON: No.

4 MR. MICHAEL KOHN: I notice that you were a
5 member of the TDI Task Force. Is that correct?

6 WITNESS TOMLINSON: That is correct.

7 MR. MICHAEL KOHN: Based on your involvement
8 with the task force, were you -- did you know about the
9 rate of Calcon failures that Vogtle was experiencing?

10 WITNESS TOMLINSON: Mr. Kohn, you'll have to
11 realize that the TDI Task Force was established and
12 subsequently disbanded before any of the TDI diesels were
13 licensed for use.

14 So the answer to your question is no. Calcon
15 sensors also were not an issue in the TDI Task Force
16 proceedings.

17 MR. MICHAEL KOHN: So your experience with the
18 TDI Task Force wouldn't help any with operational issues.
19 Is that correct?

20 WITNESS TOMLINSON: No, I wouldn't necessarily
21 say that. Your question was directed to Calcon sensors.

22 MR. MICHAEL KOHN: Did your TDI Task Force
23 look at the operation of the Calcon sensors or the
24 pneumatic system?

25 WITNESS TOMLINSON: No, they did not.

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1 MR. MICHAEL KOHN: So with respect to issues
2 concerning the operation of the pneumatic system, your TDI
3 Task Force work would not provide you with any special
4 expertise?

5 WITNESS TOMLINSON: In that context, I'd have
6 to say yes.

7 MR. MICHAEL KOHN: Do you think -- and
8 earlier, you indicated that you thought you were
9 testifying as an expert. Is that correct?

10 WITNESS TOMLINSON: That is correct.

11 MR. MICHAEL KOHN: Do you think that your
12 background makes you the person best suited within the NRC
13 to testify an expert with respect to pneumatic air
14 systems?

15 WITNESS TOMLINSON: I think I'm as qualified
16 as anyone. I wouldn't go so far as to say I'm the best.

17 MR. MICHAEL KOHN: Do you know what fluidics
18 is?

19 WITNESS TOMLINSON: That's a special field.

20 MR. MICHAEL KOHN: Well, besides a special
21 field, can you give me a brief accounts -- of what that
22 field is?

23 WITNESS TOMLINSON: Study of the flow of
24 fluids, I'm sure.

25 MR. MICHAEL KOHN: And just the flow of fluids

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1 in general, or is it more specific?

2 WITNESS TOMLINSON: Mr. Kohn, I've already
3 told you I don't know very much about fluidics as such.

4 MR. MICHAEL KOHN: Mr. Skinner, it's my
5 understanding that you have no experience with respect to
6 the TDI diesels. Is that correct?

7 WITNESS SKINNER: Would you classify what you
8 mean by "experience," please?

9 MR. MICHAEL KOHN: No -- you had no hands-on
10 workings with the TDI diesel?

11 WITNESS SKINNER: Actual work performed on the
12 diesel?

13 MR. MICHAEL KOHN: Yes.

14 WITNESS SKINNER: That's correct.

15 MR. MICHAEL KOHN: Okay. And did you have any
16 have you had any experience working with a pneumatic
17 system attached to the TDI diesel at Plant Vogtle?

18 WITNESS SKINNER: If you are speaking strictly
19 worked performed, you're correct. That is right. I have
20 witnessed testing on the diesels at Vogtle, as well as
21 witnessed the testing on the TDI diesels at Catawba
22 Nuclear Station.

23 CHAIRMAN BLOCH: Could you get closer to the
24 mike or be a little louder?

25 CROSS EXAMINATION

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1 MR. MICHAEL KOHN: And have you studied the
2 operation of the pneumatic system?

3 WITNESS SKINNER: Yes, I have.

4 MR. MICHAEL KOHN: Do you believe you would be
5 prepared to answer questions concerning pneumatic
6 diagrams?

7 WITNESS SKINNER: Yes, I would.

8 MR. MICHAEL KOHN: Okay. And again, do you
9 have any expertise in the area of fluidics?

10 WITNESS SKINNER: No.

11 MR. MICHAEL KOHN: Do you have any expertise
12 in the area of pneumatic controls and operations?

13 WITNESS SKINNER: No.

14 MR. MICHAEL KOHN: Do you have any experience
15 in the area of two-phased flow?

16 WITNESS SKINNER: No.

17 MR. MICHAEL KOHN: Mr. Tomlinson, do you
18 consider yourself to have expertise in the area of
19 pneumatic control and operation?

20 WITNESS TOMLINSON: With respect to diesel
21 generators, yes, I feel quite confident in my ability
22 there.

23 MR. MICHAEL KOHN: Well, is there something
24 about pneumatic control and operation with diesel
25 generators that makes that area more susceptible to an

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1 expertise than other areas?

2 WITNESS TOMLINSON: More susceptible to what?

3 MR. MICHAEL KOHN: Well, I think -- I was
4 reading --

5 CHAIRMAN BLOCH: Could you re-ask that
6 question, please?

7 CROSS EXAMINATION

8 MR. MICHAEL KOHN: Yes. I understood your
9 response to be that the -- with respect to diesel
10 generators, you thought you had an expertise with respect
11 -- concerning pneumatic control and operation.

12 Is there something about diesel generator
13 pneumatic controls and operations that allows an expertise
14 in that one area rather than the entire field?

15 WITNESS TOMLINSON: I would have expertise in
16 this area because that's the only place where I have
17 encountered pneumatic control systems. I would assume
18 that the pneumatic control systems in any other field
19 would be the same.

20 But I have spent most of my career involved
21 with diesel generators.

22 MR. MICHAEL KOHN: I thought you indicated
23 that you had expertise in hydraulics and not pneumatics.

24 WITNESS TOMLINSON: I believe I testified, Mr.
25 Kohn, that the operation of hydraulic control systems is

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1 virtually identical to pneumatic control systems.

2 I believe I testified that the components used
3 in hydraulics and pneumatics are virtually identical, with
4 the exception of the pressure rating.

5 MR. MICHAEL KOHN: There was prior testimony
6 in this proceeding about oil as a cause for weak air rolls
7 in another facility and a part 21 being issued. Do you
8 have -- do you know what I'm referring to?

9 WITNESS TOMLINSON: No sir, I do not.

10 MR. MICHAEL KOHN: Is it your belief that oil
11 and pneumatics lines would function in the same way as
12 water in the pneumatic line would function?

13 MS. YOUNG: Could we --

14 WITNESS TOMLINSON: Could you explain that
15 question just a little bit more, please?

16 MS. YOUNG: Yes, could we get a quantification
17 of how much oil? What are you asking him?

18 CROSS EXAMINATION

19 MR. MICHAEL KOHN: A couple of ounces of oil,
20 would it operate in the same manner as a couple ounces of
21 water?

22 WITNESS TOMLINSON: Mr. Kohn, I can't answer
23 that question for you unless you're going to tell me where
24 the oil is and in what form. Is it a slug of oil? Is it
25 confined to one element of the pneumatic system?

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1 Your question is just too broad.

2 MR. MICHAEL KOHN: Would -- is it -- would
3 slugs of oil located in the same position as a slug of
4 water operate the same way, as far as you know, in a
5 pneumatic system?

6 WITNESS TOMLINSON: A slug of oil, you say --
7 do I understand this to mean that it completely fills the
8 line, the pneumatic line, at least for a certain distance?

9 MR. MICHAEL KOHN: Yes.

10 WITNESS TOMLINSON: In that case, if it were
11 confined to one element, the function would be the same.
12 It would be much slower, however. That's to say the oil
13 would -- the oil would pass through the component much
14 slower than air.

15 MR. MICHAEL KOHN: Mr. Tomlinson, I'd like to
16 call your attention to page four of the testimony,
17 starting at line three. It's a discussion about NUREG/CR-
18 0660.

19 And you indicate that this document includes a
20 recommendation that refrigerant-type air dryers should be
21 used in a diesel starting air system to reduce moisture,
22 and that the Vogtle facility conforms with this
23 recommendation.

24 Have you reviewed this NUREG?

25 WITNESS TOMLINSON: Yes sir. I will have to

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1 tell you that it was a long time ago.

2 MR. MICHAEL KOHN: Do you believe your
3 testimony, as stated, provides the full context of that
4 NUREG with respect to the recommendation of refrigerant-
5 type air dryers?

6 WITNESS TOMLINSON: I think we'd have to take
7 a look at the NUREG.

8 MR. MICHAEL KOHN: Your Counsel has provided a
9 copy of it to me, so I will hand it to you. I am handing
10 the witness what is -- should be the entire NUREG.

11 CHAIRMAN BLOCH: Off the record.

12 (Whereupon, the proceedings went off the
13 record at 10:45 a.m. and resumed at 10:45 a.m.)

14 CHAIRMAN BLOCH: Counsel was referring to an
15 off the record conversation in which Counsel for the
16 Intervenor said he had copies of a portion of the NUREG.

17 MS. YOUNG: Okay, Mr. Kohn, the document you
18 handed out does not include page V-4. Is that correct?

19 MR. MICHAEL KOHN: That is correct.

20 MS. YOUNG: But didn't your question just
21 pertain to that page or am I in error?

22 MR. MICHAEL KOHN: My question pertains to the
23 entire document.

24 MS. YOUNG: Maybe you should repeat your
25 question then because I'm not sure the witness will know

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1 what he's supposed to be looking for.

2 CROSS EXAMINATION

3 MR. MICHAEL KOHN: The question is do you
4 believe your testimony, with respect to NUREG-660 provides
5 a complete and accurate understanding of the
6 recommendation concerning refrigerant-type air dryers.

7 And we have no objection to including V-4. We
8 think that we should include --

9 MS. YOUNG: So I'm looking at the page of
10 testimony you referred to, and it indicates that it
11 includes a recommendation about refrigerant dryers. So
12 I'm still having trouble understanding the scope of your
13 question.

14 To say something excludes doesn't
15 automatically exclude other things.

16 MR. MICHAEL KOHN: I'm asking the witness if
17 he has provided testimony concerning the recommendation in
18 full context.

19 MS. YOUNG: And you're referring to the topic
20 sentence in the first paragraph on page four? Which part
21 of the testimony are you asking him about?

22 MR. MICHAEL KOHN: The statement in the
23 testimony that says that, "Page V-4 includes a
24 recommendation that refrigerant-type air dryers should be
25 used in a DG starting air system to reduce moisture."

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1 MS. YOUNG: Okay.

2 WITNESS TOMLINSON: Mr. Kohn, I'm having a
3 little bit of difficulty with the copy of NUREG/CR-0660,
4 which you have provided me because unfortunately, page V-4
5 is not in it.

6 CROSS EXAMINATION

7 MR. MICHAEL KOHN: I've given you the entire
8 document, so you should have that in front of you, sir.

9 WITNESS TOMLINSON: Oh, here it is. Okay.
10 Now would you please repeat your question?

11 MR. MICHAEL KOHN: Do you believe your
12 testimony concerning the recommendation that type -- the
13 recommendation that a refrigerant-type air dryer should be
14 used in DG starting air system to reduce moisture is
15 placed in full context in your pre-filed testimony?

16 WITNESS TOMLINSON: Yes, I do. And I will
17 read from page V-4 of the NUREG, which incidentally has
18 not been provided to anybody else. It's not in this that
19 was handed out.

20 V -- on page V-4, second line, it says --

21 CHAIRMAN BLOCH: Wait a -- I'm sorry. It has
22 been provided to you in another document, right? The
23 entire -- the NUREG has been handed to you. It's not --

24 MS. YOUNG: But the Board and the Counsel for
25 other parties will not necessarily be able to follow

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1 what's being --

2 CHAIRMAN BLOCH: Not of the exhibit, but you
3 have the NUREG.

4 WITNESS TOMLINSON: No, I have the NUREG.

5 CHAIRMAN BLOCH: But I want the record to show
6 that he's reading from something he doesn't have.

7 MS. YOUNG: Yes, he said he had it. It's just
8 the other parties don't have it. And if the other copies
9 could be provided a copy of it before he gives his answer,
10 I think that would be appropriate.

11 CHAIRMAN BLOCH: Well, let's see what he says.
12 I don't think that's necessary.

13 WITNESS TOMLINSON: Starting on the second
14 line, it says, "Nevertheless, refrigerated starting air
15 dryers are strongly recommended between the air compressor
16 and the air storage tanks and favored by at least two
17 engine manufacturers."

18 My testimony reflects this recommendation in
19 NUREG/CR-0660.

20 CROSS EXAMINATION

21 MR. MICHAEL KOHN: Now I'd like to call your
22 attention to a document Intervenor would like to mark as
23 Intervenor's II-266, which is at this point a four-page
24 document from NUREG/CR-0660, cover page, the pages V-1, V-
25 2, V-3. And we request that V-4 be added to the document.

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1 CHAIRMAN BLOCH: As defined, it may be marked.
2 It's -- what your number?

3 MR. MICHAEL KOHN: Two-sixty-six.

4 (Whereupon, the above-identified
5 document was marked as Intervenor's
6 II-266 for identification.)

7 ADMINISTRATIVE JUDGE CARPENTER: Do you
8 propose to make that addition?

9 CHAIRMAN BLOCH: He is.

10 MR. MICHAEL KOHN: Yes.

11 ADMINISTRATIVE JUDGE CARPENTER: Where is it?

12 CROSS EXAMINATION

13 MR. MICHAEL KOHN: Mr. Tomlinson, if you would
14 look at page V-2 of the exhibit that's just been marked,
15 are you aware that this document -- on this page, it
16 states that, "For over half a century, the industry
17 practice has been to use desiccant dryers on pneumatic
18 controls and instrumentation while refrigerant-type dryers
19 are used on air motor operation?"

20 WITNESS TOMLINSON: This is on page V-2?

21 MR. MICHAEL KOHN: Yes sir. It's on --

22 WITNESS TOMLINSON: Excuse me, V-3.

23 CHAIRMAN BLOCH: We can read this. And in
24 fact, it says that and it goes on to say, as I understand
25 this, that even though it's been the practice of the

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1 industry, they think it could be doing better by using the
2 refrigerant air dryers.

3 That's why the testimony is consistent with
4 the document.

5 MR. MICHAEL KOHN: I don't think that's what
6 it says, Your Honor.

7 CHAIRMAN BLOCH: Well, you can continue with
8 it. I think you're going to be spinning your wheels
9 though. So ask a question if you're going to go on with
10 this.

11 CROSS EXAMINATION

12 MR. MICHAEL KOHN: Were you aware that there
13 was a recommendation that refrigerant -- you are aware
14 that some diesel start the diesel with an air motor. Is
15 that correct?

16 WITNESS TOMLINSON: I am aware of it, yes.

17 MR. MICHAEL KOHN: And you are aware that
18 other -- based on the recommendation that supplies in that
19 operation should be done through desiccant air dryers. Is
20 that correct?

21 WITNESS TOMLINSON: I do not have that
22 understanding of the NUREG, no.

23 MR. MICHAEL KOHN: Let me rephrase it, that
24 the type of it supplied to pneumatic controls would be
25 desiccant?

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1 BOARD EXAMINATION

2 CHAIRMAN BLOCH: That's the recommendation of
3 the NUREG? Is that what you're saying?

4 WITNESS TOMLINSON: I believe that's just some
5 background information in the NUREG, Judge.

6 CHAIRMAN BLOCH: The bottom of B-2 and the top
7 of B-3 says, "The disadvantages of the desiccant type."
8 And the next paragraph after that explains that the air
9 dryers are standardized products.

10 They're making a case for changing over to the
11 air dryers, to the refrigerant dryers.

12 MR. MICHAEL KOHN: Your Honor, I think they're
13 making a case to use dryers instead of no dryers.

14 CHAIRMAN BLOCH: Are you -- that's your
15 understanding. But the NUREG is now in the record, the
16 portion you want, so let's continue.

17 CROSS EXAMINATION

18 MR. MICHAEL KOHN: Are you aware that some
19 plants use desiccant air dryers, the -- of the TDI diesel?

20 WITNESS TOMLINSON: Yes sir, I am aware of it.

21 MR. MICHAEL KOHN: And that other plants with
22 other types of diesels use refrigerant-type air dryers?

23 WITNESS TOMLINSON: I am aware of that also.

24 MR. MICHAEL KOHN: And are you aware that
25 Vogtle is the only licensed nuclear plant in the United

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1 States with a refrigerant-type dryer on a TDI diesel?

2 WITNESS TOMLINSON: No sir, I am not aware of
3 that. However, if that is the case, I'll take your word
4 for it.

5 MR. MICHAEL KOHN: Your Honor, we would like -
6 - Intervenor would like to mark as Intervenor's 267 --

7 CHAIRMAN BLOCH: Granted, just describe it
8 now.

9 (Whereupon, the above-identified
10 document was marked as Intervenor's
11 II-267 for identification.)

12 MR. MICHAEL KOHN: A cover document headed,
13 "U.S. Nuclear Plants with TDI (Cooper) Energy Diesel
14 Generator Operating Experience Dryer Dew Point
15 Specifications" with attached FSAR and USAR sections from
16 various plants.

17 CHAIRMAN BLOCH: Mr. Kohn, what is the source
18 of this document?

19 MR. MICHAEL KOHN: The public document room,
20 the cover -- not the cover page. The source of the cover
21 page is stated in the footnote below.

22 CHAIRMAN BLOCH: So this is an independent
23 document all by itself?

24 MR. MICHAEL KOHN: Yes, Your Honor. Based on
25 your review of the documentation identified as

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1 Intervenor's II-267, does it appear to you that Vogtle is
2 the only operating plant with a refrigerant-type dryer on
3 a TDI diesel?

4 WITNESS TOMLINSON: No sir, it does not. You
5 have not -- oh wait, I beg your pardon. Yes. You did
6 find a desiccant dryer at the top. Yes, that would look
7 correct.

8 Excuse me, Rancho Seco, you have no
9 information on Rancho Seco, so I can't tell you.

10 CHAIRMAN BLOCH: What's the relevance of this,
11 Mr. Kohn?

12 MR. MICHAEL KOHN: The relevance goes to his
13 testimony concerning NUREG and his interpretation of NUREG
14 0660, concerning his recommendation for refrigerant-type
15 air dryers with respect to -- diesels.

16 CHAIRMAN BLOCH: We've done way beyond the
17 April order that we issued on summary disposition.

18 MR. MICHAEL KOHN: I agree, Your Honor. And
19 unfortunately, people keep filing testimony that requires
20 us to respond.

21 CHAIRMAN BLOCH: We're not interested in
22 finding the root cause, so people can segregate them in a
23 separate document which we can throw away.

24 MR. BLAKE: I want to express my view that
25 this, to me, strikes me as a totally irrelevant document

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1 to the scope of this proceeding, and I don't know why we
2 would burden the record with it.

3 I could really care less what these other
4 plants have. There's no indication of how well they've
5 done or how well they haven't nor are we doing any sort of
6 comparison. That's my view.

7 CHAIRMAN BLOCH: And do you also think that
8 the paragraph on page four of the Staff testimony is
9 totally irrelevant?

10 MR. BLAKE: We're always more reluctant to
11 challenge the Staff in its testimony.

12 CHAIRMAN BLOCH: But that's our problem.
13 We've got in the record, and I'm reluctant to --

14 ADMINISTRATIVE JUDGE MURPHY: Are you
15 intimidated, Mr. Blake?

16 MR. BLAKE: I am never intimidated.

17 (Laughter)

18 CHAIRMAN BLOCH: Let's continue.

19 MR. MICHAEL KOHN: Your Honor, Intervenor
20 calls for the admission of II-267 for the purpose of --

21 MR. BLAKE: I object as irrelevant.

22 MS. YOUNG: And the Staff joins that
23 objection.

24 CHAIRMAN BLOCH: Well, how can we rule that
25 that's irrelevant if the citation of NUREG/CR-0660 is

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1 relevant?

2 MS. YOUNG: But the NUREG said -- indicated
3 that refrigerant dryers could be used. The fact that
4 other people use desiccant dryers has nothing to do with
5 contradicting that testimony.

6 I mean, as a guidance document, it's not a
7 requirement. Licensees are always free to show that they
8 meet Staff guidance criteria by other means.

9 I don't see what probative value this document
10 has.

11 CHAIRMAN BLOCH: Well, the objection is
12 sustained. We will not admit it into evidence.

13 CROSS EXAMINATION

14 MR. MICHAEL KOHN: I'd like to call your
15 attention to page four of the testimony, your discussion
16 of the SRP. Would you agree that with respect to
17 pneumatic air systems associated with safety equipment
18 installed in a nuclear facility, the point of design
19 failure would be water?

20 WITNESS TOMLINSON: It could be one failure
21 mechanism, yes.

22 MR. MICHAEL KOHN: Is it your understanding
23 that the design phases of the Plant Vogtle diesel system
24 is that the lowest expected ambient temperature diesel
25 trip line would be exposed to is 60 degrees Fahrenheit?

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1 WITNESS TOMLINSON: I believe that that is the
2 design of the HVAC system, but if you'd hold on for just a
3 minute -- yes, the -- I believe this information is
4 already in the record. But the heaters will turn on at 60
5 degrees, the room heaters.

6 CHAIRMAN BLOCH: The record can show that the
7 witness has conferred to produce that last answer.

8 CROSS EXAMINATION

9 MR. MICHAEL KOHN: And the lowest design
10 temperature is 50 degrees Fahrenheit, isn't it?

11 WITNESS TOMLINSON: That's correct.

12 MR. MICHAEL KOHN: And my question is, is the
13 lowest expected ambient temperature that a diesel trip
14 line would be expected to be exposed to in a diesel room
15 60 degrees Fahrenheit?

16 WITNESS TOMLINSON: I suppose that is
17 conceivable, yes.

18 MR. MICHAEL KOHN: Well, is that your
19 testimony?

20 WITNESS TOMLINSON: I don't see anything in my
21 -- well, 60 degrees is where the heaters turn on.

22 MR. MICHAEL KOHN: You state in your testimony
23 on page four, "The lowest expected ambient temperature of
24 the DG room is 60 degrees Fahrenheit." Is --

25 WITNESS TOMLINSON: That's correct.

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1 MR. MICHAEL KOHN: Does that statement mean
2 that the lowest expected ambient temperature a diesel trip
3 line is expected to encounter is 60 degrees Fahrenheit?

4 WITNESS TOMLINSON: Yes, I would say it is
5 true.

6 MR. MICHAEL KOHN: Is it also the case with
7 respect to any of the pneumatic lines?

8 WITNESS TOMLINSON: I believe it would be,
9 yes.

10 (Pause)

11 WITNESS TOMLINSON: Excuse me, let me -- I'd
12 like to requalify that answer. You talked about pneumatic
13 lines. Was that your question?

14 MR. MICHAEL KOHN: Yes sir.

15 WITNESS TOMLINSON: You originally talked
16 about trip lines.

17 M. MICHAEL KOHN: Well, then let me rephrase
18 the question.

19 WITNESS TOMLINSON: Are you differentiating
20 between these two?

21 MR. MICHAEL KOHN: Yes, and --

22 WITNESS TOMLINSON: The answer to the question
23 is no, that there is a portion of the system, in fact the
24 most critical portion of the system, that is contained
25 within the control panel, and is heated to between 90 and

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1 100 degrees at all times.

2 So they would not be exposed to 60 degrees
3 room temperature.

4 MR. MICHAEL KOHN: Right. Other than that
5 portion, is it your testimony that the lowest expected
6 ambient temperature, with the rest of the pneumatic lines,
7 would be expected to have an ambient temperature of 60
8 degrees Fahrenheit; that would be the lowest expected
9 ambient temperature?

10 WITNESS TOMLINSON: That is the lowest
11 temperature that I would expect them to be exposed to
12 based on the design of the system, of the
13 heating/ventilating system.

14 Some of those lines, however, will see much
15 higher temperatures because they are located immediately
16 adjacent to and even on the diesel which is maintained at
17 150 degrees, plus or minus, at all times.

18 They would be seeing a lot higher temperature.

19 BOARD EXAMINATION

20 CHAIRMAN BLOCH: Mr. Tomlinson, were you
21 present yesterday in the discussion about the temperature
22 that would be seen in the trench?

23 WITNESS TOMLINSON: Yes sir, I was.

24 CHAIRMAN BLOCH: Does your testimony apply to
25 the line in the trench as well?

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1 WITNESS TOMLINSON: I don't see that the line
2 in the trench would be significantly different than any
3 other part of the room. It may take a little longer for
4 the heat to change, temperature to change, in there than
5 in the other room.

6 But I believe that these buildings being
7 seismic category one are -- have a very thick base mat,
8 concrete base mat. So there would not be a whole lot of
9 difference.

10 CROSS EXAMINATION

11 MR. MICHAEL KOHN: Do you think the size of
12 the concrete foundation would have some mechanism of
13 heating the trench?

14 WITNESS TOMLINSON: No.

15 BOARD EXAMINATION

16 CHAIRMAN BLOCH: Well, do you think it would
17 have some mechanism of insulating the trench from ground
18 temperatures outside?

19 WITNESS TOMLINSON: I believe it would, yes.

20 CROSS EXAMINATION

21 MR. MICHAEL KOHN: After this foundation has
22 been sitting on the ground for a period of years, do you
23 think a --

24 CHAIRMAN BLOCH: Make note that it has been.

25 CROSS EXAMINATION

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1 MR. MICHAEL KOHN: Do you think that the
2 cement would eventually come to the temperature of the
3 ground?

4 WITNESS TOMLINSON: Ground temperature
5 changes, but that's -- I'm not quite sure how to answer
6 that question.

7 MR. MICHAEL KOHN: Is it your testimony then
8 that you really don't know what the lowest expected
9 temperature in the trench is?

10 WITNESS TOMLINSON: My testimony is that the
11 major influence on the lines in that trench would be the
12 room environment, not the concrete environment.

13 MR. MICHAEL KOHN: Do you know if these room
14 heaters have ever come on?

15 WITNESS TOMLINSON: I have no personal
16 knowledge that they've ever come on. I have no reason to
17 believe that they haven't.

18 WITNESS SKINNER: I can respond to that
19 further, if you would like. I have personal knowledge
20 that the heaters have, in fact, come on. I have been in
21 the diesel room during the whole period of the --

22 MS. YOUNG: Mr. Skinner, could you bring the
23 mike closer to you? We're not hearing your answer.

24 ADMINISTRATIVE JUDGE MURPHY: We really need
25 you to talk into the microphone, sir.

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1 WITNESS SKINNER: Is this better?

2 ADMINISTRATIVE JUDGE MURPHY: Much better.

3 WITNESS SKINNER: In case you didn't hear me,
4 I have been at Vogtle when the diesel heaters have come on
5 as well as the remainder of the ventilation system. And I
6 have definitely seen the heaters energize in the past.

7 CROSS EXAMINATION

8 MR. MICHAEL KOHN: And when a normal HVAC is
9 running and it's cold outside, is cold air coming into the
10 diesel room?

11 WITNESS SKINNER: When the normal HVAC system
12 -- say that again, please?

13 MR. MICHAEL KOHN: When the normal HVAC system
14 is operating and it's cold outside, is that cold air
15 coming directly into the diesel room?

16 WITNESS SKINNER: No, it is not normally
17 depending on how the -- how cold it is in the diesel room.
18 The diesel room is designed basically to recirculate the
19 room in the diesel room as far as the first floor is
20 concerned in the diesel room.

21 And in the upper level of the diesel room in
22 basically what they call the penthouse, the louvers open
23 dependent open the temperature inside the room.

24 MR. MICHAEL KOHN: If you stand in front of
25 the louvers, do you --

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1 BOARD EXAMINATION

2 CHAIRMAN BLOCH: Hold on just a second. Mr.
3 Skinner, what you're saying is very important to us. And
4 I know you don't like to speak loudly. But if you could
5 manage to do that, it might help in addition to using the
6 mike.

7 WITNESS SKINNER: I'll try.

8 CROSS EXAMINATION

9 MR. MICHAEL KOHN: If you stand in front of
10 the louvers, does cold air come in?

11 WITNESS SKINNER: Generally if you stand in
12 front of the louvers, you would have some cold air coming
13 through the louvers simply -- even though the louvers may
14 be shut because that section of the room is a little bit
15 cooler than the remaining sections of the room.

16 MR. MICHAEL KOHN: And when the louvers are
17 open, they draw in air from the outside?

18 WITNESS SKINNER: That depends on whether the
19 diesel is running or the diesel is not running, okay? But
20 if the diesel is running, the flow of air is from the
21 room, through those louvers, to the outside.

22 When the diesel is not running and the
23 ventilation system is running, you have a flow of air from
24 the outside into the room.

25 MR. MICHAEL KOHN: So in standby operation,

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1 there's a flow of air from the outside into the diesel
2 room?

3 WITNESS SKINNER: That's correct if the fans
4 are running.

5 MR. MICHAEL KOHN: And the air coming in would
6 be whatever the outside ambient temperature was?

7 WITNESS SKINNER: That is also correct.

8 MR. MICHAEL KOHN: Do the starting air pipes
9 run in front of the louvers?

10 WITNESS SKINNER: No, they do not. They run
11 above the louvers.

12 MR. MICHAEL KOHN: Are you sure they don't run
13 in front of them?

14 WITNESS SKINNER: Yes, I am. We have pictures
15 if you'd like to see them.

16 WITNESS TOMLINSON: I will second Mr.
17 Skinner's answer. They do run above the louvers.

18 MR. MICHAEL KOHN: How far away from the
19 louvers?

20 WITNESS SKINNER: How far away?

21 MR. MICHAEL KOHN: Well I mean, you're talking
22 about the above --

23 WITNESS SKINNER: Approximately maybe a foot,
24 a foot and a half perhaps. I did not measure it.

25 MR. BLAKE: Does Counsel have a basis for the

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1 representation to the contrary to the witnesses?

2 MR. MICHAEL KOHN: Being I don't have copies
3 of the drawings and I can only go on my vague
4 recollections of things, and I did not do a -- I was not
5 at the plant. So --

6 MR. BLAKE: What -- your vague recollection of
7 which thing?

8 MR. MICHAEL KOHN: Of the set-up of the diesel
9 room. Are the heaters safety-related equipment?

10 WITNESS SKINNER: The heaters are not safety-
11 related equipment.

12 CROSS EXAMINATION

13 MR. MICHAEL KOHN: If I understand it, your
14 testimony about a SRP and a SER, an SRP would be an
15 internal NRC document. Is that correct?

16 WITNESS TOMLINSON: That is correct.

17 MR. MICHAEL KOHN: And the --

18 CHAIRMAN BLOCH: I'd like the record to
19 reflect that when Counsel says "S-E-R," it's an "E" and
20 not a "C."

21 CROSS EXAMINATION

22 MR. MICHAEL KOHN: And the SRP would be the
23 standard review plan?

24 WITNESS TOMLINSON: That is correct.

25 MR. MICHAEL KOHN: And the SER, can you

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1 explain what that is?

2 WITNESS TOMLINSON: Safety evaluation report.

3 MR. MICHAEL KOHN: And does the safety
4 evaluation report set forth NRC's acceptance of the design
5 and operation of a facility?

6 WITNESS TOMLINSON: What section of the
7 testimony are you looking at now?

8 BOARD EXAMINATION

9 CHAIRMAN BLOCH: Well, the question really is
10 simple. Is the function of the SER to review the design
11 and operation of a plant?

12 WITNESS TOMLINSON: The function of the safety
13 evaluation report is to report the Staff's findings of the
14 conformance of the plant design to the standard review
15 plan's general design criteria and so forth.

16 CROSS EXAMINATION

17 MR. MICHAEL KOHN: And is it true that the
18 margin of safety set forth in the SER cannot be tampered
19 with without prior approval from the NRC pursuant to 10
20 C.F.R. §50.59?

21 WITNESS TOMLINSON: I believe that is what 10
22 C.F.R. §50.59 says, yes.

23 MR. MICHAEL KOHN: So with respect to safety
24 requirements --

25 BOARD EXAMINATION

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1 CHAIRMAN BLOCH: Wait a second. Is there some
2 qualification in your mind as to whether that's
3 applicable?

4 WITNESS TOMLINSON: The question was what do
5 you mean by margin of safety? It's kind of a nebulous
6 term, but let's see where we're going.

7 (Laughter)

8 CROSS EXAMINATION

9 MR. MICHAEL KOHN: Do you consider margin of
10 safety to be -- can you explain why you consider "margin
11 of safety" to be a nebulous term?

12 WITNESS TOMLINSON: Perhaps that was a poor
13 choice of words. Margin of safety is a difficult thing to
14 define is what I'm saying. And I'm interested to see
15 where you're going with regard to this term.

16 MR. MICHAEL KOHN: Well, doesn't 50.59 use
17 that term, "margin of safety?"

18 CHAIRMAN BLOCH: It does. We can see that.

19 CROSS EXAMINATION

20 MR. MICHAEL KOHN: Which document is
21 controlling with respect to the margin of safety required
22 in the nuclear facility, the SER or the SRP? For a
23 specific plant, if the SER contains acceptance criteria
24 that differ from statements made in the SRP, which is
25 controlling?

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1 WITNESS TOMLINSON: The FSAR on which the
2 Staff based its acceptance -- I hesitate to use the word
3 "control." But for the moment, I'll go along with that.

4 MR. MICHAEL KOHN: The SER is based on the
5 FSAR, correct?

6 WITNESS TOMLINSON: That is correct. Let me
7 qualify that a little bit further. It's based on the FSAR
8 and questions and answers exchanged between the Licensee
9 and the Staff during the review process.]

10 BOARD EXAMINATION

11 CHAIRMAN BLOCH: Well so, in that sense, is
12 the SER a more final word than the FSAR?

13 WITNESS TOMLINSON: That's a very difficult
14 question to answer.

15 CHAIRMAN BLOCH: I think we probably don't
16 have a lawyer on the stand, Mr. Kohn. Could you continue?

17 MR. MICHAEL KOHN: Thank you. I call your
18 attention to page five of your testimony, starting at the
19 top, concerning your interpretation of NUREG 1410. Can --
20 how do you know that the statement you quote to is
21 actually a true statement?

22 WITNESS SKINNER: I do not know that the
23 statement is a true statement. It is a direct quote from
24 the NUREG.

25 MR. MICHAEL KOHN: Do you have the same

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1 response, Mr. Tomlinson?

2 WITNESS TOMLINSON: Excuse me, I did not
3 follow what you were talking about here.

4 MR. MICHAEL KOHN: The statement quoted on the
5 top of page five from the NUREG, do you have --

6 WITNESS TOMLINSON: Starting with "The dew
7 point?"

8 MR. MICHAEL KOHN: Yes sir.

9 WITNESS TOMLINSON: I would agree with that,
10 yes.

11 MR. MICHAEL KOHN: Were you --

12 BOARD EXAMINATION

13 CHAIRMAN BLOCH: You agree that you don't know
14 whether it's true?

15 WITNESS TOMLINSON: Judge Bloch, this
16 statement --

17 CHAIRMAN BLOCH: I just want to clarify what
18 you're commenting on. Mr. Skinner had said he wasn't sure
19 if he knew it was true.

20 WITNESS TOMLINSON: I would base my answer on
21 the fact that it was developed by the Staff, and I have
22 confidence that the Staff knew what they were doing at the
23 time.

24 CROSS EXAMINATION

25 MR. MICHAEL KOHN: Do you know whether the

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1 Staff based the wording of this document on data gained --
2 obtained from Georgia Power Company?

3 WITNESS TOMLINSON: It probably gained from
4 data at the site, probably data requisitioned by the Staff
5 during it's review.

6 MR. MICHAEL KOHN: And do you know -- would --
7 do you know whether the statement was based on a document
8 provided by Georgia Power setting forth the dew points?

9 WITNESS TOMLINSON: Mr. Kohn, I did not write
10 this. I was not part of the IIT, that's Inside
11 Investigation Team, who were responsible for writing this
12 NUREG.

13 I don't know what documents they looked
14 through, perhaps maybe in some portion of 1410.

15 MR. MICHAEL KOHN: Mr. Skinner, do you know
16 what documentation was used to base this statement?

17 WITNESS SKINNER: No, I do not. I do know
18 that we do have documentation of portions of this
19 particular response. We do know that the fine micron
20 filter was cleaned at one inspection because it was, in
21 fact, witnessed by an NRC inspector.

22 As far as the statement that "always been
23 cleaned," I'm sure that that particular information was
24 provided by the local facility.

25 MR. MICHAEL KOHN: Well, how about the

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1 statement, "The dryers on a case have been out of service
2 for short periods?" Do you know the factual basis for
3 that assertion?

4 WITNESS SKINNER: No, I do not.

5 MR. MICHAEL KOHN: And that, "The dryer has
6 generally been kept at 40 degrees Fahrenheit?" Excuse me,
7 that, "The starting control air system has generally been
8 kept at 40 degrees Fahrenheit?" Do you know the basis for
9 that statement?

10 WITNESS SKINNER: I do not know the exact
11 basis of whoever wrote this particular statement. But the
12 information provided to the IIT, the documentation
13 indicates that this is a fairly accurate estimate,
14 depending on what you mean at "close to."

15 BOARD EXAMINATION

16 CHAIRMAN BLOCH: Mr. Skinner, at the end of
17 that paragraph, it says, "There have been no significant
18 amount of contaminants in the instrument air system." Is
19 the NUREG usually phrased "instrument air system" to refer
20 to the control air system?

21 WITNESS SKINNER: Yes sir.

22 CROSS EXAMINATION

23 MR. MICHAEL KOHN: Okay. And based on the
24 portion of the NUREG that you quote there, can you tell me
25 what you would expect from reading that statement what the

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1 longest stretch of outer specification or indeterminant
2 dew point measurements would be prior to the site area
3 emergency, say within the last year before the site area
4 emergency?

5 WITNESS SKINNER: What I would expect?

6 MR. MICHAEL KOHN: Yes sir.

7 WITNESS SKINNER: My personal opinion is I
8 would expect that probably between two weeks and a month,
9 perhaps, would be about the longest I would expect the
10 dryer to be out of service.

11 MR. MICHAEL KOHN: And do you now know, based
12 on Demonstrative Aid 4, that the dryers were out of
13 service for significantly longer periods of time than
14 that?

15 WITNESS SKINNER: I would have to relook at
16 Demonstrative Aid 4.

17 CHAIRMAN BLOCH: All right, Mr. Kohn, you're
18 not going to permit him that.

19 MR. MICHAEL KOHN: Okay.

20 CHAIRMAN BLOCH: Counsel has handed
21 Demonstrative Aid 4 to the witness.

22 CROSS EXAMINATION

23 MR. MICHAEL KOHN: Okay, I'd like to call your
24 attention to the 1-A diesel limited to that review --
25 review.

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1 WITNESS SKINNER: Okay, would you repeat your
2 question, please?

3 MR. MICHAEL KOHN: Okay. Based on that
4 document, can you determine that the dew point
5 measurements have been out of specification or
6 indeterminant for periods larger than two weeks to a
7 month?

8 MR. BLAKE: Are we changing the question?

9 MS. YOUNG: Yes.

10 ADMINISTRATIVE JUDGE MURPHY: That's not the
11 same question you asked previously.

12 MS. YOUNG: Which diesel generator are you
13 asking about?

14 MR. MICHAEL KOHN: 1-A.

15 CHAIRMAN BLOCH: And the -- you had suggested
16 the air dryers were currently off or is that what you were
17 talking about before?

18 MR. BLAKE: That's what he said.

19 WITNESS SKINNER: Within the last year, wasn't
20 it?

21 MR. BLAKE: That's what he's also said.

22 MR. MICHAEL KOHN: I thought I said generally
23 that the dryer -- let me rephrase it. My understanding of
24 the question was that the dryers were -- excuse me, that
25 the dew point measurements were above specification or

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1 indeterminant for a substantial period of time.

2 MR. BLAKE: That's a wholly different
3 question.

4 CHAIRMAN BLOCH: You can ask that first, but
5 you're going to have to link it up.

6 MR. MICHAEL KOHN: All right. When -- if you
7 could look at --

8 BOARD EXAMINATION

9 CHAIRMAN BLOCH: Let me ask this question, Mr.
10 Tomlinson or Mr. Skinner. Is there reason to believe that
11 there could be high dew point instrument readings at times
12 when the dryers were turned off?

13 WITNESS SKINNER: Yes, there could be. In
14 cases where you would get a high dew point, even though
15 the dryers were turned on if the dryer was still
16 malfunctioning.

17 WITNESS TOMLINSON: I would agree with that.

18 CROSS EXAMINATION

19 MR. MICHAEL KOHN: And I believe the question
20 I asked was based on the portion of the NUREG you quoted
21 to, would you believe that this statement would indicate
22 that dryers -- or, excuse me, that the diesel generator
23 air system was out of specification for -- I think I asked
24 --

25 CHAIRMAN BLOCH: You're not relating to what

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1 they said. The NUREG doesn't say that. The NUREG says
2 two things. It talks about dryers, and then it talks
3 about significant moisture or its effects.

4 You can get -- this may be relevant to
5 something else, but it's not relevant to the NUREG.

6 CROSS EXAMINATION

7 MR. MICHAEL KOHN: Okay. The portion you
8 quote to also says that the diesel generator generally --
9 diesel generators have generally been kept at close to 40
10 degrees Fahrenheit. With respect to the 1-A diesel, the
11 data you have in front of you, k can you tell me whether
12 you believe the diesel -- the air for that diesel
13 generator was kept at close to 40 degrees Fahrenheit?

14 WITNESS SKINNER: In this case, I think I
15 would have to make a determination as to what the writer
16 of 1410 has indicated here, assuming that he indicates
17 that this was within the last year prior to the site area
18 emergency.

19 And looking basically from approximately 3/16
20 to 3/12 on demonstrative Aid 4, I would say that that's
21 fairly accurate. The 40 degrees is fairly accurate. It
22 is slightly larger than that if you actually average the
23 values.

24 MS. YOUNG: Mr. Skinner, just to clarify your
25 answer, were you referring to 3/16/89 through 3/19/90?

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1 WITNESS SKINNER: Yes, I was.

2 CROSS EXAMINATION

3 MR. MICHAEL KOHN: And if you compared it from
4 January '89, would the statement still be accurate?

5 CHAIRMAN BLOCH: Counsel seems to have given
6 the demonstrative aid to the witness and then taken it
7 back.

8 MR. MICHAEL KOHN: The witness had their own
9 copy.

10 WITNESS TOMLINSON: Yes, Judge Bloch, I have a
11 copy here.

12 WITNESS SKINNER: I can't quite respond to
13 that question because it appears that there is quite a few
14 dew point measurements that are not identified. I do not
15 know whether these particular dew points were taken in the
16 month of February and April, May time frame of 1989, so I
17 can't readily respond to that.

18 But based on just the dew point measurements
19 that are identified on this sheet, assuming that you throw
20 out the dew point measurements that are below the 32
21 degrees, I'm sure we could add them up and average them

22 But I don't know what that would be without
23 performing that evolution.

24 MR. MICHAEL KOHN: We don't need to do that.

25 WITNESS SKINNER: Good.

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1 CHAIRMAN BLOCH: It's not clear that the NUREG
2 is talking about an average when it says, "It's generally
3 been kept to close to 40 degrees Fahrenheit."

4 CROSS EXAMINATION

5 MR. MICHAEL KOHN: Is it my understanding that
6 your interpretation of the paragraph is that -- that you
7 quote from NUREG 1410, is that generally the control air
8 for the diesel generator, specifically 1-A, the diesel
9 that failed, for insider emergency, was kept at close to
10 40 degrees Fahrenheit for a significant period of time, a
11 year, prior to the site area emergency, and that only
12 short occasions, being a week, a few weeks, occurred
13 otherwise?

14 WITNESS SKINNER: Would you clarify your
15 question, please? Ask it again.

16 MR. MICHAEL KOHN: Can you tell me whether
17 your -- the portion of the NUREG that you quote here on
18 the top of page five --

19 CHAIRMAN BLOCH: Haven't you asked this
20 question already?

21 MS. YOUNG: I'm not sure Counsel has asked it,
22 but he has certainly gotten that answer before.

23 CHAIRMAN BLOCH: Well, you think he asked it
24 but he didn't get an answer?

25 MS. YOUNG: He got the answer that he just

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1 tried to summarize in his question. I think he has it
2 already on the record.

3 MR. MICHAEL KOHN: I did --

4 CHAIRMAN BLOCH: I thought you had asked it.
5 It was asked and answered.

6 MS. YOUNG: But he didn't ask the precise same
7 question.

8 MR. MICHAEL KOHN: All right. And so there's
9 no confusion, let me ask one final question on this.
10 Based on the statement quoted on the top of page five, can
11 you tell me the longest continuous stretch of time you
12 would expect dew point measurements of diesel air receiver
13 to indicate --

14 CHAIRMAN BLOCH: He answered it. He said a
15 month.

16 MR. MICHAEL KOHN: Okay.

17 CHAIRMAN BLOCH: Two weeks to -- a couple of
18 weeks to a month.

19 MR. MICHAEL KOHN: All right. Thank you, Your
20 Honor.

21 WITNESS SKINNER: May I clarify something,
22 Your Honor?

23 CHAIRMAN BLOCH: Yes, Mr. Skinner.

24 WITNESS SKINNER: My understanding of the
25 question was what was the longest period of time that I

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1 would expect a dryer to be out of service.

2 CHAIRMAN BLOCH: That's correct. That's what
3 you had asked. Do you want to ask a different question?

4 MR. MICHAEL KOHN: Yes, Your Honor.

5 WITNESS SKINNER: I don't want to make --

6 CHAIRMAN BLOCH: Thank you.

7 WITNESS SKINNER: -- you understand it that I
8 think dew point would be out of service for that long.

9 MR. MICHAEL KOHN: Okay. Do you expect the
10 dew point measurements to be out of service longer than --

11 CHAIRMAN BLOCH: The dew point measurements
12 were never out of service.

13 CROSS EXAMINATION

14 MR. MICHAEL KOHN: Excuse me, the dew point
15 measure -- what's the length of time you would expect the
16 dew point measurements to indicate unsatisfactory air?

17 WITNESS SKINNER: I would expect dew point
18 measurements to indicate unsatisfactory for a maximum,
19 probably, of two to three days.

20 MR. MICHAEL KOHN: And if they were out of
21 specification for a period longer than that, then that
22 could be a problem?

23 WITNESS SKINNER: If they were out of
24 specification at the same time that the diesel generator
25 was "operable," yes.

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1 MR. MICHAEL KOHN: Mr. Tomlinson, would you
2 agree with me that -- air feeding an emergency diesel
3 generator air start system could result in a failure of
4 the diesel to start?

5 WITNESS TOMLINSON: No sir, I do not.

6 BOARD EXAMINATION

7 CHAIRMAN BLOCH: Mr. Skinner, I have read the
8 testimony. I would like to know why it would be a problem
9 if it were out of spec while the diesel were operable.

10 WITNESS SKINNER: Well, it would be a problem
11 in that the length of time it would require the licensee
12 to correct that situation should be less than three days,
13 in my opinion.

14 It does not necessarily mean that the diesel
15 would not function to perform its safety related
16 requirements.

17 CHAIRMAN BLOCH: But in your opinion --

18 WITNESS SKINNER: But it would still be a
19 problem as far as the Licensee not taking appropriate
20 corrective action.

21 CHAIRMAN BLOCH: But if they haven't taken
22 corrective action within three days, you would expect the
23 diesel to be declared inoperable?

24 WITNESS SKINNER: No sir, not necessarily.

25 CHAIRMAN BLOCH: What is the nature of the

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1 problem of not correcting it within three days?

2 WITNESS SKINNER: The nature of the problem is
3 basically a lack of the Licensee to take appropriate
4 correction -- corrective actions to return the condition
5 that's outside of a specification back to within a
6 specification.

7 CHAIRMAN BLOCH: And then this is -- is this
8 because they have given their word to do that or is there
9 also some safety importance to it?

10 WITNESS SKINNER: In this particular case, for
11 safety importance unless it went for a much longer period
12 of time, I don't think that it would fall into a category
13 of safety importance.

14 But I think it's basically an indication of
15 how well the Licensee performs in performing corrective
16 action for a condition.

17 CHAIRMAN BLOCH: Thank you.

18 CROSS EXAMINATION

19 MR. MICHAEL KOHN: Mr. Tomlinson, would you
20 agree that if the air dryers were not functioning then
21 water in the starting air would be the most probable
22 direct or indirect root cause of a diesel failing to
23 start?

24 WITNESS TOMLINSON: No, I do not.

25 MR. MICHAEL KOHN: Would you look at

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1 Intervenor's II-266, NUREG 660, page V-2? And if you
2 would look, there's a "One, air dryers in compressed air
3 starting systems." And there's a statement, second
4 sentence: "Water in the starting air either directly or
5 indirectly is the root cause of most of the trouble."

6 WITNESS TOMLINSON: I read that.

7 MR. MICHAEL KOHN: Okay. And read it in
8 context. Would you agree that this document indicates
9 that if air dryers were not functioning, then water in the
10 starting air would be the most probable direct or indirect
11 root cause of a diesel failing to start?

12 WITNESS TOMLINSON: You are now addressing
13 Vogtle. Is that correct?

14 MR. MICHAEL KOHN: Yes sir.

15 WITNESS TOMLINSON: The answer is no.

16 MR. MICHAEL KOHN: You think the design of the
17 Vogtle system has something inherent to make it different
18 than the design of other diesel facilities at nuclear
19 facilities?

20 WITNESS TOMLINSON: The design and the
21 installation -- well, not design. The installation of the
22 system -- yes, to some extent, the design of the system is
23 what leads me to that conclusion.

24 MR. MICHAEL KOHN: And what about the design
25 of the Vogtle system leads you to that conclusion?

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1 WITNESS TOMLINSON: It's going to take a
2 little bit of time to discuss, so I'll try to go through
3 it as rapidly as I can. If you start with the air
4 compressors at the Vogtle Plant, they have both an inter-
5 cooler and an after-cooler. That is to say that they have
6 a --

7 MR. MICHAEL KOHN: Excuse me, Mr. Tomlinson.
8 Maybe to short-cut this, the question is starting with the
9 air dryers out of service, not functioning. In that mode,
10 is water in the starting air either the direct or indirect
11 root cause of most of the trouble associated with the
12 starting of a diesel?

13 WITNESS TOMLINSON: Mr. Kohn, I'm trying to
14 answer your question. I would point out to you --

15 MS. YOUNG: Judge --

16 WITNESS TOMLINSON: -- that the air does not
17 start at the air dryer. The air dryer is a device in the
18 air start system, but it starts from the room, through the
19 compressor, et cetera, et cetera, et cetera.

20 And I cannot answer your question --

21 MR. MICHAEL KOHN: All right. Then let me
22 rephrase the question. If water formed -- was forming in
23 the starting air, would that be the most logical direct or
24 indirect root cause of most of the trouble with respect to
25 the starting of a diesel generator?

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1 WITNESS TOMLINSON: How much water are we
2 talking about?

3 ADMINISTRATIVE JUDGE CARPENTER: Let's not be
4 hypothetical here. What failure to start are you
5 referring to, Mr. Kohn?

6 MR. MICHAEL KOHN: Your Honor, I'm referring
7 to the history apparently that NUREG 660 is based on.

8 BOARD EXAMINATION

9 CHAIRMAN BLOCH: Let me try something. Mr.
10 Tomlinson?

11 WITNESS TOMLINSON: Yes sir.

12 CHAIRMAN BLOCH: Do you know the basis for the
13 statement in the NUREG that water in the starting area is
14 directly or indirectly the root cause of most of the
15 trouble?

16 WITNESS TOMLINSON: Yes sir, I do. I believe
17 if you go further into NUREG/CR-0660, you will find that
18 the majority of starting failures that they had were with
19 electric motor division diesel generators, which have air
20 start motors.

21 And air start motors apparently are must more
22 sensitive to moisture. But I also think it was just plain
23 dirt along with the moisture that has created most of the
24 problems.

25 And I believe that is fairly well brought out

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1 in the NUREG. I will point out also that at Vogtle, they
2 do not use air start motors. They use direct cylinder
3 injection.

4 ADMINISTRATIVE JUDGE CARPENTER: Do you know
5 any case where water has caused a direct cylinder air
6 starting -- injection starting system, the water has
7 caused the diesel not to start?

8 WITNESS TOMLINSON: No sir, I do not.

9 ADMINISTRATIVE JUDGE CARPENTER: Thank you.

10 ADMINISTRATIVE JUDGE MURPHY: Does that
11 include your experience with NOAA also?

12 WITNESS TOMLINSON: Yes sir.

13 CROSS EXAMINATION

14 MR. MICHAEL KOHN: Do you have any knowledge
15 of oil causing a failure to start in such a system?

16 WITNESS TOMLINSON: No sir, I do not.

17 CROSS EXAMINATION

18 MR. MICHAEL KOHN: You're -- on page six,
19 question six of your testimony, cover consequences -- you
20 analyze as consequences of water formation. Is this
21 portion of your testimony based on your understanding of
22 the mechanism in which Mr. Mosbaugh believes water would
23 form in the diesel air system?

24 WITNESS TOMLINSON: I'm not sure that the
25 question goes anywhere near that area. The question is,

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1 "What are the potential adverse consequences?" I think I
2 answered it fairly well.

3 MR. MICHAEL KOHN: Well on page seven, you
4 start talking about effective reduce the volume, trip
5 lines and go through scenarios of logic problems or
6 potential logic problems.

7 WITNESS TOMLINSON: Yes sir.

8 MR. MICHAEL KOHN: Is this discussion based on
9 your understanding of the mechanism in which Mr. Mosbaugh
10 believes water would act within the diesel air system?

11 WITNESS TOMLINSON: Yes, I guess it is.

12 MR. MICHAEL KOHN: And --

13 BOARD EXAMINATION

14 ADMINISTRATIVE JUDGE CARPENTER: Mr. Kohn, if
15 I could intrude? Mr. Tomlinson, in response to this
16 question: "Were the potential adverse consequences of
17 inadequate dew point control," you get into speculating
18 that if there were never dew point control.

19 I don't know how many years it would take to
20 fill a receiver up to eight feet high with water, but I
21 cannot imagine such a lack of control of dew points ever
22 occurring at Vogtle or any other power plant.

23 WITNESS TOMLINSON: I can't either, Judge
24 Carpenter.

25 ADMINISTRATIVE JUDGE CARPENTER: Well why,

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1 sir, are you directing our attention in this direction?

2 WITNESS TOMLINSON: Well, I'm just trying to
3 put things in perspective, I guess. It's just -- it's not
4 credible that you would ever get any significant
5 accumulation of water in the air receivers.

6 They are blown down at least, I think, either
7 every shift or at least once a day.

8 ADMINISTRATIVE JUDGE CARPENTER: Yes.

9 WITNESS TOMLINSON: Okay.

10 ADMINISTRATIVE JUDGE CARPENTER: So and you --

11 WITNESS TOMLINSON: I just thought that --

12 ADMINISTRATIVE JUDGE CARPENTER: -- and you
13 further testified that there might be some period of time,
14 weeks, months, where the dew point in the system was above
15 50 degrees.

16 What your testimony doesn't speak to, that is
17 a bounding condition for possible accumulation of water in
18 the system. So I mean, filling up receivers when they're
19 being blown down is not where it's at.

20 I'm trying to get a feel for why -- did you
21 feel if you took this most extreme example, it was a
22 bounding value? And even under these conditions, there
23 was no problem?

24 WITNESS TOMLINSON: No sir. Under the
25 conditions that you flooded the entire system, I will

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1 concede that yes, there will be some kind of problem. I
2 don't know for certain what it would be.

3 Obviously, even if the system were to continue
4 to function, it would function more slowly than it does on
5 air.

6 ADMINISTRATIVE JUDGE CARPENTER: Or it might
7 even get some water hammer here or there.

8 (Laughter)

9 WITNESS TOMLINSON: It could, yes.

10 ADMINISTRATIVE JUDGE CARPENTER: All right. I
11 ask the question because I'm inclined not to give very
12 much weight to this part of your testimony as really
13 speaking to something that might actually -- have occurred
14 or could occur at Vogtle.

15 WITNESS TOMLINSON: No sir. What we're saying
16 here is that -- I mean, if everything went completely
17 haywire and nobody looked at these diesels forever and
18 ever, they didn't blow down the system, conceivably over
19 some period of time, I have no idea what it would be, you
20 could accumulate this 1,000 gallons of water all the way
21 around and flood the pneumatic system.

22 But I believe you're right. It's a totally
23 incredible scenario.

24 ADMINISTRATIVE JUDGE CARPENTER: Well, maybe
25 we'll give it modest weight.

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1 (Laughter)

2 CROSS EXAMINATION

3 MR. MICHAEL KOHN: And you're aware that
4 there's never been an allegation of such, aren't you? You
5 are aware that's not Mr. Mosbaugh's allegation?

6 WITNESS TOMLINSON: I didn't say it was.

7 MR. MICHAEL KOHN: And your testimony, as I
8 understand it, is if this happened, you're still not sure
9 what the effect would be on the operation of the diesel;
10 it might just slow it down?

11 WITNESS TOMLINSON: Yes sir. I am speculating
12 at that point in time. And I frankly admit again, as I
13 just did previously, that I really don't know what would
14 happen.

15 MR. MICHAEL KOHN: Well, don't you think there
16 would be a complete failure to start the diesel if that
17 scenario occurred?

18 WITNESS TOMLINSON: It probably could, yes.

19 MR. MICHAEL KOHN: And earlier, you were
20 talking about the slugs, and we had a comparison between a
21 slug of oil and a slug of water.

22 How about slugs -- do you think you need the
23 entire system flooded to cause a problem or do you think a
24 slug could do it?

25 WITNESS TOMLINSON: First of all, I would like

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1 to correct something. We talked about slug of oil. We
2 did not talk about a slug of water.

3 MR. MICHAEL KOHN: Well, I'm now asking you
4 about a slug of water in the diesel system. Do you think
5 that could cause a trip of the diesel?

6 WITNESS TOMLINSON: No.

7 MR. MICHAEL KOHN: Inconceivably, no matter
8 where this slug ended up?

9 WITNESS TOMLINSON: Putting this is the
10 context of the March 1990 site area emergency and the way
11 the system was required to respond at that time, my answer
12 to you is no.

13 BOARD EXAMINATION

14 CHAIRMAN BLOCH: The question isn't about the
15 site area emergency. The question is whether it would
16 ever cause it to fail to start.

17 WITNESS TOMLINSON: Judge Bloch, I have not
18 looked at the entire system to see where a slug of water
19 might cause another problem. I have looked at the system
20 with respect to the issue in contention, and --

21 CHAIRMAN BLOCH: Well, the issue was not in
22 contention as to whether the site area emergency was
23 caused by this slug.

24 WITNESS TOMLINSON: All right. I'm looking at
25 it in the context of Mr. Mosbaugh's testimony for -- and

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1 it has to do with the failure of the diesel to start on a
2 normal start signal.

3 Now that is what I have been reviewing, and
4 that is what my testimony is towards.

5 CHAIRMAN BLOCH: If I understand you, you
6 don't know the effect of a slug on the starting of a
7 diesel, just general -- you know it for the site area
8 emergency, but not for other times?

9 WITNESS TOMLINSON: I have not looked at it
10 for other scenarios. My thoughts would be that it
11 wouldn't have any affect there either.

12 CHAIRMAN BLOCH: I don't understand the
13 contrast between "I don't know" and "my thoughts are."

14 WITNESS TOMLINSON: I'll withdraw that. I'll
15 say I just don't know, Judge Bloch.

16 CHAIRMAN BLOCH: Oh, okay.

17 WITNESS TOMLINSON: I haven't looked at it.

18 CROSS EXAMINATION

19 MR. MICHAEL KOHN: On the top of page seven of
20 your testimony --

21 CHAIRMAN BLOCH: The last pre-filed are, Mr.
22 Kohn.

23 CROSS EXAMINATION

24 MR. MICHAEL KOHN: Okay. When you get to the
25 last sentence of that portion before the last paragraph,

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1 it says, "In my opinion, there would be no impact on
2 pneumatic logic functions because free water will not get
3 into the logic circuitry except if, as discussed above,
4 the entire starting air system were to be flooded."

5 Do you still hold that opinion?

6 WITNESS TOMLINSON: Yes sir.

7 MR. MICHAEL KOHN: Is it true that the 250
8 pound lines feed the 60 pound lines which then directly
9 feed the logic circuitry?

10 WITNESS TOMLINSON: That is correct.

11 MR. MICHAEL KOHN: If the water entered the 60
12 pound line from the 250 pound line, is there some guard or
13 mechanism associated with the logic circuitry that would
14 block the water from entering that circuitry?

15 WITNESS TOMLINSON: Excuse me, but I believe
16 that we have not -- not established that there would be
17 water in the 250 pound line.

18 MR. MICHAEL KOHN: Well for the sake of
19 argument, let's assume we got some water in the 250 pound
20 line and it was passed through --

21 WITNESS TOMLINSON: How did it get there?

22 MR. MICHAEL KOHN: Condensation.

23 WITNESS TOMLINSON: All right.

24 MR. MICHAEL KOHN: And now let's assume that
25 water was then passed to the 60 pound line. It would

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1 then, as you said, feed the logic circuitry, correct, feed
2 into the logic circuitry?

3 WITNESS TOMLINSON: No sir, I disagree with
4 you? If there were water in the 250 pound system, and
5 this would be in the three inch lines coming from the
6 receivers to the diesel, unless they were completely
7 flooded, the water, the free water, would not go into the
8 pneumatic system, the pneumatic control system.

9 MR. MICHAEL KOHN: Well, how about a slug of
10 water? Can you --

11 WITNESS TOMLINSON: A slug of water wouldn't
12 do it either?

13 MR. MICHAEL KOHN: All right. Well, water
14 condenses in the 3/8 inch, 250 pound tubing, okay? Can
15 you conceive of that?

16 ADMINISTRATIVE JUDGE CARPENTER: Which tubing?

17 MR. MICHAEL KOHN: 3/8 inch, 250 pound line
18 feeding the control logic.

19 MS. YOUNG: At what location?

20 MR. MICHAEL KOHN: In the trench.

21 WITNESS TOMLINSON: Excuse me?

22 CROSS EXAMINATION

23 MR. MICHAEL KOHN: Can you conceive of a
24 condensation occurring at that portion of the tubing?

25 WITNESS TOMLINSON: Condensing where, in the

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1 trench?

2 MR. MICHAEL KOHN: Yes, 3/8 inch tubing.

3 WITNESS TOMLINSON: I would say highly
4 unlikely.

5 MR. MICHAEL KOHN: All right. I was going to
6 get back to your statement that we've been looking at.
7 You say, "In my opinion, there would be no impact on
8 pneumatic logic functions because free water will not get
9 into this logic circuitry."

10 Now are you telling me your testimony is
11 saying that "I've concluded that water cannot form in the
12 diesel system. So therefore, it can't have a -- it can't
13 have an impact on the logic function."?

14 WITNESS TOMLINSON: I have a little difficulty
15 following that, but let's read this whole thing. It says,
16 "In my opinion, there would be no impact on the pneumatic
17 logic functions because free water will not get into this
18 logic circuitry except if, as discussed above, the entire
19 starting air system were to be flooded."

20 MR. MICHAEL KOHN: Okay. Well then, if the
21 entire starting air system were flooded, were water get
22 into the logic function? I'm really having trouble
23 interpreting your testimony here, Mr. --

24 WITNESS TOMLINSON: Okay. Again, if -- please
25 bear with us, Judge Carpenter.

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1 (Laughter)

2 WITNESS TOMLINSON: If we accumulated 1,000 or
3 so gallons of water necessary to completely flood the
4 receiver up to the outlet line for the three inch lines
5 going out to the diesel and the three inch lines
6 subsequently flooded, and the flooding got -- pardon me,
7 this is -- this is absolutely -- it can't happen.

8 CHAIRMAN BLOCH: Thank you.

9 WITNESS TOMLINSON: It can't happen because
10 the height of the receiver --

11 MR. MICHAEL KOHN: No, let me just -- I'm just
12 trying to get down to your testimony. Is your testimony
13 simply the fact that in your mind, you can't conceive of
14 water forming in the 60 pound line?

15 WITNESS TOMLINSON: That is correct.

16 MR. MICHAEL KOHN: All right.

17 WITNESS TOMLINSON: let me qualify that. I
18 cannot conceive of water, free water, forming in any part
19 of the 60 pound pneumatic control system within the
20 control cabinet, which is where the pneumatic logic
21 circuitry is housed.

22 MR. MICHAEL KOHN: So in your mind, you cannot
23 conceive of water being formed in a 250 pound line out --
24 outside of the cabinet, and then through water -- through
25 air pressure, being forced through the 60 pound line?

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1 WITNESS TOMLINSON: No, I cannot.

2 MR. MICHAEL KOHN: Then the follow-up question
3 is assuming some water got into the system, what impact
4 would it have on the logic --

5 WITNESS TOMLINSON: Where does it get into the
6 system?

7 MR. MICHAEL KOHN: I'm assuming it's in, sir.
8 Assume it's in. I want your opinion --

9 WITNESS TOMLINSON: No sir. I cannot answer
10 that question because you're going to have to give me a
11 specific reference as to where it enters the system.

12 BOARD EXAMINATION

13 CHAIRMAN BLOCH: He is going to have to
14 demonstrate through other evidence that it's there, but
15 you can answer the question as a hypothetical.

16 MS. YOUNG: Well, Judge Bloch, I think the
17 question is vague. He said "into the system" and he
18 didn't say where.

19 WITNESS TOMLINSON: Let me rephrase. How much
20 water and where. Where is your hypothetical?

21 CROSS EXAMINATION

22 MR. MICHAEL KOHN: If eight ounces of water
23 entered into the 60 pound line feeding the logic, what
24 impact would it have on the function of the logic?

25 CHAIRMAN BLOCH: If it's an eight ounce --

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1 WITNESS TOMLINSON: Mr. Kohn, there are a
2 number of 60 pound lines feeding the logic.

3 CROSS EXAMINATION

4 MR. MICHAEL KOHN: Well, give me what you
5 would interpret to be the range of --

6 WITNESS TOMLINSON: No sir, I believe that
7 I'll answer the question.

8 MR. MICHAEL KOHN: Well, let me rephrase it
9 then, the one coming from the regulator.

10 WITNESS TOMLINSON: The line from the
11 regulator -- excuse me a moment.

12 (Pause)

13 WITNESS TOMLINSON: Judge Bloch, I would like
14 to ask Ms. Young to show some photographs of the interior
15 of this control cabinet, which show the 60 pound regulator
16 and some of the other piping in here.

17 The purpose of this is to demonstrate that
18 there are many, many, many places that water can go. And
19 unless Mr. Kohn is going to tell me specifically where
20 it's going, it's -- I'm not going to speculate on --

21 CHAIRMAN BLOCH: Let's go off the record.

22 (Whereupon, the proceedings went off the
23 record at 11:53 a.m. and resumed at 11:54 a.m.)

24 CROSS EXAMINATION

25 MR. MICHAEL KOHN: Well then, let me try

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1 rephrasing the question to avoid that -- the problems the
2 witness seems to have. If water was -- entered the 60
3 pound lines and -- is there a path which it could find its
4 way into the logic elements, the logic area?

5 WITNESS TOMLINSON: Yes, many.

6 MR. MICHAEL KOHN: Okay. And if water
7 followed one of those paths and entered the logic
8 circuitry, what adverse affect, if any, do you believe
9 would occur?

10 WITNESS TOMLINSON: All right. Mr. Kohn, you
11 have obviously selected a particular line the water will
12 go into. Quite frankly, I don't know how water can be
13 selective, but I will go along with this if you will tell
14 me what part of the system you have selectively
15 hypothesized would have the water in it.

16 MR. MICHAEL KOHN: Well, let's use the --

17 WITNESS TOMLINSON: This is what those
18 variables show.

19 MR. MICHAEL KOHN: Let's use the variation of
20 parameters principal. Start going through in your mind
21 water entering the logic through any combination and tell
22 me what you believe the end effect on the pneumatic --

23 WITNESS TOMLINSON: Mr. Kohn, I could go on
24 all day about what could happen if it went into this port,
25 that port, the other port.

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1 I don't really care to speculate unless you
2 tell me specifically. Pardon me, I don't care to
3 speculate.

4 MR. BLAKE: Judge Bloch --

5 CHAIRMAN BLOCH: What I'd like to do is to
6 break for lunch.

7 MR. MICHAEL KOHN: Right.

8 CHAIRMAN BLOCH: During the lunch break, I'd
9 urge Mr. Tomlinson to spend about ten minutes, maybe at
10 the utmost 15 minutes, with Mr. Kohn so that he can have
11 some communication and see if there is a set of questions
12 that he wants to ask and that you can answer.

13 MS. YOUNG: Well, no --

14 MR. BLAKE: Can I ask also that over the
15 lunch, the Board consider whether or not they really think
16 we're getting some amount of probative evidence which they
17 need in order to decide this case?

18 By virtue of all of these hypotheticals, could
19 it -- is it possible, is it whatever, with regard to water
20 in the system, which it's already said it's not going to
21 decide about, and whether you really need hearing time on
22 any more on this topic with this witness and these kind of
23 argumentative questions?

24 Because quite frankly, Judge Bloch, it's
25 really -- the evidentiary -- the reason for the rule about

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1 needing a factual basis in the record before you put
2 hypotheticals to a witness, we've complied with very loose
3 margins in this proceeding.

4 And we've done it so that everybody could get
5 a feel, most importantly the judges, for what's involved.
6 And you put no bounds, and I appreciate why you've done
7 it.

8 But gosh sakes, at this point, I don't really
9 know whether this needs -- I'd just ask you to think about
10 it over lunch.

11 MS. YOUNG: And in addition, Judge Bloch, the
12 witness has repeatedly told the examiner that he needs
13 more information to answer his question adequately. And
14 the examiner refuses to provide that information.

15 This is why we're at a standstill. And Mr.
16 Kohn is not letting Mr. Tomlinson give him a responsive
17 answer because he's not posing an adequate question.

18 MR. MICHAEL KOHN: Well, I disagree with
19 Mitze's assertion, but I --

20 CHAIRMAN BLOCH: We're going to take a brief
21 recess for the panel to talk -- for the Board to talk.
22 We'll be back in a little while.

23 MR. MICHAEL KOHN: But Your Honor, I would
24 like to indicate that we are moving to a specific area,
25 and we

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1 will do that when we come back. The witness was
2 unresponsive to general questionings.

3 We have specific questionings in mind, and I
4 would like to note that NRC Staff and Georgia Power have
5 both produced expert panels where they go through their
6 theories and the plausibility of it.

7 And I think to cut off Intervenor's
8 questioning when that testimony has been admitted is --
9 would be prejudicial.

10 CHAIRMAN BLOCH: We'll take our break until
11 1:30. The Board will --

12 (Whereupon, the proceedings went off the
13 record for a lunch break at 12:00 p.m. and resumed at
14 p.m.)

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A-F-T-E-R-N-O-O-N S-E-S-S-I-O-N

(1:30 p.m.)

1
2
3 CHAIRMAN BLOCH: Hearing will come to order.
4 I'd like to clarify about the scope of the panel. Ms.
5 Young, is this the panel that's going to testify about the
6 allegation that there was misrepresentation concerning the
7 defective dew point instrument? I said the alleged
8 misrepresentation.

9 MS. YOUNG: No, I think from the first page of
10 the testimony it indicates the completeness and accuracy
11 communications to the NRC would be addressed by the second
12 panel.

13 CHAIRMAN BLOCH: Okay, so the second panel is
14 the one that will address --

15 MS. YOUNG: I mean, obviously there's some
16 overlap, but the second panel will address the
17 completeness and accuracy of communications to the NRC.

18 CHAIRMAN BLOCH: So is it the second panel
19 that will know things about the history of the Alnor
20 instrument?

21 MS. YOUNG: Actually, Mr. Skinner is on both
22 panels, and he does know information about the Alnor
23 instrument.

24 CHAIRMAN BLOCH: Okay, but if he's on both
25 panels, he might as well be questioned with the other one

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1 if that's --

2 MS. YOUNG: We're flexible in terms of that.
3 In terms of specific information about what was found on
4 Alnor, we don't have any objections to questions being
5 raised of Mr. Skinner now.

6 CHAIRMAN BLOCH: Okay, because there are no
7 questions on the cross plan on that topic at this time.
8 Let's continue.

9 WITNESS TOMLINSON: Judge Bloch, may I address
10 the Board?

11 CHAIRMAN BLOCH: Yes.

12 WITNESS TOMLINSON: At the conclusion of this
13 morning's session, Mr. Kohn indicated that I was being
14 unresponsive to his questions. I resent that
15 characterization. As a professional, I'm taught to deal
16 with facts. And if I must speculate on something, it must
17 -- you speculate within a certain realm.

18 Mr. Kohn has not asked me any questions in a
19 specific realm. And therefore, I feel I've been totally
20 responsive to his questions.

21 CHAIRMAN BLOCH: Okay, thank you for your
22 clarification. Mr. Kohn?

23 CROSS EXAMINATION

24 MR. MICHAEL KOHN: Does your analysis of the
25 logic circuits and the effect of water in the logic

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1 circuit assume that water is present before the 60 second
2 timer is armed?

3 WITNESS TOMLINSON: To whom are you addressing
4 the question, sir?

5 MR. MICHAEL KOHN: You, you.

6 CHAIRMAN BLOCH: It would help if you used
7 names in case --

8 MR. MICHAEL KOHN: Mr. Tomlinson, sir.

9 WITNESS TOMLINSON: Would you repeat the
10 question, please.

11 MR. MICHAEL KOHN: Does your analysis with
12 respect to the effect of water in the logic circuitry
13 assume that water is present before the 60 second timer is
14 armed?

15 WITNESS TOMLINSON: Mr. Kohn, that question
16 doesn't make a whole lot of sense. You are talking in two
17 areas here. You're talking about presence of water in a -
18 - and you're talking about time. Can you explain to me
19 what it is you want me to answer?

20 MR. MICHAEL KOHN: Certainly, sir. Does your
21 analysis assume that water is present before the 60 second
22 timer is armed. In other words, the water is --

23 CHAIRMAN BLOCH: It might help if we pointed
24 out the portion of the testimony you're referring to.

25 MR. MICHAEL KOHN: Page eight -- bottom page

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1 eight, top of page nine. Does that testimony assume that
2 water is present before the 60 second timer is armed?

3 CHAIRMAN BLOCH: You mean in the sentence that
4 says "even had?"

5 MR. MICHAEL KOHN: I didn't hear, Your Honor.

6 CHAIRMAN BLOCH: Which -- the sentence says
7 "Even had such water been present," -- is that the
8 sentence you're referring to?

9 MR. MICHAEL KOHN: Yes.

10 CHAIRMAN BLOCH: Does it assume where? He's
11 saying it could not have been selectively deposited. So
12 it assumes that it can't be in one place specifically and
13 not in other places.

14 MR. MICHAEL KOHN: The timing in which the
15 water shows up is -- I'm getting to the timing in which
16 the water shows up. Does your analysis assume that the
17 water shows up and is present before the 60 second timer
18 is armed?

19 BOARD EXAMINATION

20 CHAIRMAN BLOCH: Mr. Tomlinson, does your
21 testimony consider timing at all?

22 WITNESS TOMLINSON: Judge Bloch, it does; but
23 the way that this question is being asked, I'm not sure I
24 can respond.

25 CHAIRMAN BLOCH: Could you explain what the

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1 difficulty is?

2 WITNESS TOMLINSON: Well, Mr. Kohn keeps
3 referring to the 60 second timer being armed. Well first
4 of all, a 60 second timer is not armed at all. A 60
5 second timer performs a function to arm the trip circuits.

6 CROSS EXAMINATION (continued)

7 MR. MICHAEL KOHN: All right, before the 60
8 second trip circuit is armed.

9 WITNESS TOMLINSON: Is this a question
10 relative to time or are we talking just about the physical
11 presence of water?

12 MR. MICHAEL KOHN: Yes, it's a question
13 relative to the effects of water on the logic circuitry
14 relative to time of when the water enters the circuit.

15 WITNESS TOMLINSON: I'm sorry, Mr. Kohn; I'm
16 still having a great deal of difficulty with the question.
17 If you could point me to a specific place on the board in
18 the logic circuit and give me a quantity of water in a
19 specific place and ask me what happens to it then, I think
20 I can answer. But I'm very much confused with your
21 presentation.

22 CROSS EXAMINATION

23 CHAIRMAN BLOCH: All right, Mr. Kohn, maybe I
24 can help. On the next sentence in your testimony on page
25 nine with begins with the word absent, could you explain

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1 what the assumptions are based on what you say, "the 70
2 and 80 second delays would have been greater?"

3 WITNESS TOMLINSON: Judge Bloch, in order to
4 do this, I'm going to have to go back to the previous page
5 where I said that water would have to have been
6 selectively deposited in specific pneumatic lines, ie. two
7 high jacket water temperature sensing lines, and not in
8 the .006 orifice -- in the line to the .006 orifice that
9 acts as a timer in this pneumatic logic.

10 Mr. Mosbaugh's contention with regard to the
11 root cause of the trip of the diesel in 1990 is based on
12 the water not flowing through an orifice as rapidly as
13 air. And consequently, having some impact on the timing
14 of the trip circuitry. In order for his theory to have
15 any credibility, this is what would have had to have
16 happened.

17 That the water would had to have selectively
18 gone into just two high jacket water trip lines and not
19 all of the other lines and devices that are associated
20 with that same circuit.

21 CHAIRMAN BLOCH: So that means that -- what
22 you mean in this sentence about absent the selective
23 deposition of water, you're really assuming that there's a
24 selective deposition of water, aren't you?

25 WITNESS TOMLINSON: I am assuming for the

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1 moment that there was a -- that we could get -- pardon me.
2 I made an assumption just for the sake of demonstration
3 that yes, we could -- we have a quantity of water in the
4 pneumatic system.

5 CHAIRMAN BLOCH: Should the word absent be
6 changed to "if there is" this selective instead of absent?

7 WITNESS TOMLINSON: No, sir.

8 CHAIRMAN BLOCH: No? I don't understand.

9 WITNESS TOMLINSON: What I'm trying to say
10 there is that it stills goes along with the same
11 supposition that we have water. What I'm saying here is
12 that the water would in fact have been in the same --
13 pardon me -- it would have gone to the .006 orifice as
14 well as to all of the other lines in that particular
15 circuit.

16 And the flow areas in the rest of the lines
17 are much greater than they are for the .006 orifice. So
18 the effect of water would be to slow down the passage for
19 the .006 orifice, which in turn would increase the delay
20 time before the trips are armed.

21 CHAIRMAN BLOCH: You're assuming there that
22 the water is not in the orifice but it's near to it, is
23 that right?

24 WITNESS TOMLINSON: No.

25 CHAIRMAN BLOCH: Do you understand it now, Mr.

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1 Kohn?

2 CROSS EXAMINATION

3 MR. MICHAEL KOHN: I don't understand, but I
4 can go on with some questioning. Assuming that this
5 selectivity, as you refer to it, doesn't happen -- if
6 water was present after the -- if water first showed up
7 after the 60 seconds, would that affect your analysis?

8 WITNESS TOMLINSON: I'd like to take a few
9 moments to look at some documents. Yeah, Mr. Kohn, before
10 I answer the question, you'll have to set another stage
11 for me here. May we assume for the purpose of this
12 question that the trips have been armed?

13 MR. MICHAEL KOHN: After 60 seconds.

14 WITNESS TOMLINSON: After the -- the 60
15 seconds has elapsed and the trips have been armed, --

16 MR. MICHAEL KOHN: Yes, sir.

17 WITNESS TOMLINSON: -- and we have not had a
18 diesel generator trip?

19 MR. MICHAEL KOHN: Correct.

20 WITNESS TOMLINSON: And now you're postulating
21 that water comes into this line?

22 MR. MICHAEL KOHN: Yes.

23 WITNESS TOMLINSON: Nothing's going to happen.

24 MR. MICHAEL KOHN: What happens if there's
25 leaks in the pneumatic line -- in the trip line?

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1 WITNESS TOMLINSON: Leaks in the pneumatic
2 lines? Once the trip is armed, sir, the 60 second time
3 plays no function.

4 MR. MICHAEL KOHN: But if the trip lines
5 depressurize, then the diesel would trip?

6 WITNESS TOMLINSON: No, sir. If the trip
7 lines are pressurized, the diesel would not trip.

8 MR. MICHAEL KOHN: Depressurized.

9 WITNESS TOMLINSON: If the trip lines were
10 depressurized, it would trip, yes.

11 MR. MICHAEL KOHN: So if there's water that
12 you've been looking at was in the line and if there was a
13 leak, can you conceive of that line depressurizing?

14 MR. BLAKE: Was there water in the last
15 question? I didn't hear it.

16 CHAIRMAN BLOCH: There was water in the
17 question, but I'm not sure what it had to do with the
18 answer. Can you answer that question, sir?

19 WITNESS TOMLINSON: I believe I have answered
20 it, Judge Bloch. The postulation is that the circuitry
21 performs -- the pneumatic circuitry performs as designed.
22 And after 60 seconds, we have the trips are armed and the
23 trip lines are pressurized. Mr. Kohn is asking me what
24 happens if water shows up at this point in the line to the
25 60 second timer.

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1 MR. MICHAEL KOHN: No, no -- shows up -- it
2 didn't selectively go any place, it shows up. Could it
3 affect the makeup of the trip line?

4 WITNESS TOMLINSON: Mr. Kohn, that's where we
5 were this morning. It shows up where?

6 MR. MICHAEL KOHN: It's your supposition it
7 shows up generally.

8 WITNESS TOMLINSON: No, Mr. Kohn. That is not
9 true.

10 MR. MICHAEL KOHN: All right, than maybe I
11 think we have to back up. Water enters the logic
12 circuitry, sir. Where does it show up?

13 WITNESS TOMLINSON: We tried this morning to
14 introduce some photographs to show the inside of the
15 cabinet. I think I'd like to do that now. And I can then
16 answer the question and the Board would better understand
17 it.

18 MR. MICHAEL KOHN: Your testimony is that the
19 water doesn't show up selectively, correct?

20 WITNESS TOMLINSON: That is correct, sir.

21 MR. MICHAEL KOHN: All right. So now go
22 through with me right now water entering the system and
23 where you believe it would show up.

24 WITNESS TOMLINSON: Can we show these
25 photographs?

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1 CHAIRMAN BLOCH: Sure. Staff counsel will
2 have to mark them for identification.

3 WITNESS TOMLINSON: Does everybody have their
4 photographs now?

5 MS. YOUNG: Judge Bloch, I request that we
6 mark for identification this as Staff Exhibit II-72.

7 CHAIRMAN BLOCH: Yes, you'll have to describe
8 it for the record.

9 MR. MICHAEL KOHN: And may I ask what question
10 you're responding to with this point?

11 CHAIRMAN BLOCH: Where will the water show up.
12 That's the question.

13 WITNESS TOMLINSON: I believe, Judge Bloch,
14 his question was where will the water go.

15 CHAIRMAN BLOCH: Go?

16 MR. MICHAEL KOHN: No, the question that got
17 us here is where will the water show up.

18 WITNESS TOMLINSON: I believe I heard you say
19 where will the water go.

20 MR. MICHAEL KOHN: Well, let's start with
21 where will it show up.

22 MS. YOUNG: Can we just describe what's
23 pictured in this photograph first before we get back to
24 the exciting question?

25 CHAIRMAN BLOCH: One of the witnesses just

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1 describe what this --

2 MS. YOUNG: Mr. Tomlinson, could you just
3 describe what this photograph depicts? Could you describe
4 what this photograph depicts?

5 WITNESS TOMLINSON: Yes. This is a photograph
6 taken from the back of the diesel generator control panel
7 which contains both the pneumatic and electric circuits.
8 In the lower left-hand corner of the photograph you'll see
9 the filter and the regulator that has been much discussed
10 in these proceedings.

11 The output of the regulator goes to the
12 vertical configuration that you see approximately in the
13 center of the photograph. This is a 60 pound air header.
14 And it's from this header and others like it on the
15 opposite side of the control panel that 60 pound air is
16 directed to the various parts of this system.

17 If the water were to come in here -- were to
18 get into this system, it would have to pass through the
19 regulator and then begin to fill up these headers. And as
20 it came up to various lines coming out of the header, it
21 would then tend to fill them. And exactly where it would
22 go and in what time frame, I can't tell you.

23 MR. MICHAEL KOHN: And on this fill --

24 CHAIRMAN BLOCH: One second. I'd like to note
25 that the photograph is about three by five. And it's

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1 intended to be oriented in a vertical, not a horizontal
2 direction. And the three black rectangles are intended to
3 be in the upper right hand corner.

4 MS. YOUNG: You mean left.

5 MR. MICHAEL KOHN: Right.

6 WITNESS TOMLINSON: No, no, I believe not,
7 Judge Bloch.

8 CHAIRMAN BLOCH: There are three small black
9 rectangles in a row.

10 WITNESS TOMLINSON: Oh, yes, that is correct.

11 CHAIRMAN BLOCH: And they go in the upper
12 right-hand corner?

13 WITNESS TOMLINSON: Yes.

14 CHAIRMAN BLOCH: And this photograph may be
15 marked.

16 (Whereupon, the above-referenced
17 document was marked as Staff Exhibit
18 II-72 for identification.)

19 MR. MICHAEL KOHN: You said fill up. What
20 happens if a slug of water is passing through? Can you
21 figure out which one of these lines it's going to go into?

22 MS. YOUNG: Could we get more definition on
23 how big the slug is?

24 ADMINISTRATIVE JUDGE CARPENTER: Let's back up
25 and talk about what sort of slug of water can go through a

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1 five micron filter and not become an aerosol.

2 MR. MICHAEL KOHN: I was planning to cover
3 that. We could cover that now, Your Honor.

4 ADMINISTRATIVE JUDGE CARPENTER: Well, let's
5 start at the beginning.

6 MR. MICHAEL KOHN: Okay. What's your
7 testimony with respect to water passing -- you don't have
8 any testimony on that, but let me ask you what is your
9 feeling about water passing through the five micron
10 filter? How is that going to -- is there any effect on
11 that?

12 WITNESS TOMLINSON: Effect on the filter?

13 MR. MICHAEL KOHN: No, on -- how do you see
14 the -- what's happening -- is there any --

15 CHAIRMAN BLOCH: Please describe the process
16 as best you can of the water encountering the filter.

17 WITNESS TOMLINSON: The water encountering the
18 five micron filter? As Judge Carpenter already said, I
19 would expect it to basically vaporize. Five microns is a
20 pretty small size.

21 ADMINISTRATIVE JUDGE CARPENTER: I ask you do
22 you consider whether that's the word you want to use,
23 vaporize?

24 WITNESS TOMLINSON: Become a gas, evaporate,
25 break up.

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1 ADMINISTRATIVE JUDGE CARPENTER: A gas or an
2 aerosol?

3 WITNESS TOMLINSON: I'll accept aerosol.

4 ADMINISTRATIVE JUDGE CARPENTER: Thank you.

5 MR. MICHAEL KOHN: And if the filter fills up
6 with water, won't it --

7 CHAIRMAN BLOCH: The bowl?

8 MR. MICHAEL KOHN: Yes, the bowl fills up with
9 water up to the filter, won't it pass through as a column
10 --

11 MS. YOUNG: Could we --

12 MR. MICHAEL KOHN: -- won't the water pass
13 through the filter and leave as a column?

14 MS. YOUNG: Mr. Kohn, could we at least refer
15 to what's depicted if you're identifying the filter here
16 that's in Staff II-72?

17 MR. MICHAEL KOHN: Well, the filter is on
18 there, and assuming the filter fills up with water.

19 CHAIRMAN BLOCH: If the witness would like to
20 identify where the filter is, that would be fine.

21 WITNESS TOMLINSON: The filter is in the lower
22 left-hand corner of this picture. It's immediately
23 upstream of the black device with the pressure gauge on
24 it. That happens to be the regulator.

25 CHAIRMAN BLOCH: It's a cylindrical white

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1 device?

2 WITNESS TOMLINSON: Cylindrical device. It's
3 yellow here.

4 CHAIRMAN BLOCH: Yellow.

5 WITNESS TOMLINSON: But it's in the --

6 CHAIRMAN BLOCH: And flat on top, right?

7 WITNESS TOMLINSON: Yes, sir. And what was
8 your question, Mr. Kohn?

9 MR. MICHAEL KOHN: If that filter filled with
10 water and the --

11 CHAIRMAN BLOCH: The filter bowl.

12 MR. MICHAEL KOHN: -- the filter bowl filled
13 with water and was then going up to the five micron filter
14 element, would the water then begin passing to the other
15 side as a column?

16 WITNESS TOMLINSON: Assuming that there was a
17 continual column of water behind it, yes. But that gets
18 us back into the flooding of the system theory.

19 MR. MICHAEL KOHN: So it wouldn't necessarily
20 exit as an aerosol?

21 WITNESS TOMLINSON: Excuse me?

22 MR. MICHAEL KOHN: So water from this filter
23 would not necessarily exit as an aerosol?

24 WITNESS TOMLINSON: Again, I say, are you
25 postulating that we have a column of water behind it as in

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1 when the system is flooded?

2 CHAIRMAN BLOCH: You've asked and answered the
3 -- the question's been asked and answered. He has one
4 circumstance where it would be column.

5 MR. MICHAEL KOHN: And if it exits as an
6 aerosol, wouldn't the droplets agglomerate?

7 WITNESS TOMLINSON: Conglomerate where, sir,
8 after the filter?

9 MR. MICHAEL KOHN: Yes, sir; after it passed
10 through the five micron filter.

11 WITNESS TOMLINSON: Okay, in the two inch line
12 or so between the filter and the regulator?

13 MR. MICHAEL KOHN: Yes.

14 WITNESS TOMLINSON: It is conceivable, yes.

15 ADMINISTRATIVE JUDGE MURPHY: Two inch length
16 of line, right? Not two inch diameter?

17 WITNESS TOMLINSON: Two inch length of line,
18 yes, sir. It is conceivable.

19 MR. MICHAEL KOHN: Or on the other side of the
20 regulator?

21 WITNESS TOMLINSON: Excuse me?

22 MR. MICHAEL KOHN: Or it could form on the
23 other side of the regulator?

24 WITNESS TOMLINSON: No, that would not happen.

25 MR. MICHAEL KOHN: Why is that?

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1 WITNESS TOMLINSON: Well, because you're at
2 250 pounds on the one side and you're at 60 pounds on the
3 other. And I believe that that water would become an
4 aerosol on the other side of that regulator. It's a
5 rather significant pressure drop.

6 MR. MICHAEL KOHN: And the water wouldn't then
7 form on the other side of the pressure drop?

8 WITNESS TOMLINSON: No, sir.

9 MR. MICHAEL KOHN: And what is the basis to
10 assert that water in the form of an aerosol is not going
11 to coalesce into a solid?

12 WITNESS TOMLINSON: Primarily because you're
13 at a much lower pressure. And secondly, this cabinet is
14 maintained between 90° and 100° Fahrenheit.

15 MR. MICHAEL KOHN: I thought the temperature
16 was only affecting the dew point. How does that affect
17 solid particular of water in an aerosol form?

18 WITNESS TOMLINSON: If we have water in there,
19 it has to come from condensation. If it comes from
20 condensation, it means it has to be at saturated
21 temperature.

22 MR. MICHAEL KOHN: We're not talking about
23 water from condensation. We're talking about water from
24 an aerosol.

25 WITNESS TOMLINSON: You can't talk about water

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1 from an aerosol unless you go back to where it came from.

2 MR. MICHAEL KOHN: It came from the five
3 micron filter, so you have --

4 WITNESS TOMLINSON: The five micron filter did
5 not generate it by itself. It had to come from someplace
6 else.

7 MR. MICHAEL KOHN: We were talking about a
8 solid water form going through a five micron filter and
9 becoming an aerosol.

10 WITNESS TOMLINSON: All right, sir. And I'm
11 telling you that the water would be at saturation
12 temperature for the pressure at the time within the
13 system, and that when it goes through the 60 pound
14 reducer, the dew point would be substantially lower. And
15 with the temperature of the cabinet being substantially
16 higher, this aerosol would indeed become a gas.

17 MR. MICHAEL KOHN: So it would flash to water
18 vapor?

19 WITNESS TOMLINSON: Flash is your term.

20 MR. MICHAEL KOHN: Is that a good term? Would
21 it boil?

22 WITNESS TOMLINSON: It evaporates.

23 CHAIRMAN BLOCH: Mr. Kohn, where are we going
24 with this?

25 MR. MICHAEL KOHN: Well Your Honor, it's a

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1 good question. Judge Carpenter raised it. I don't
2 believe that the witness' technical understanding is
3 accurate, so I don't think there's much further I -- with
4 anything I can do with it.

5 CHAIRMAN BLOCH: You're done with it?

6 MR. MICHAEL KOHN: Yes.

7 CHAIRMAN BLOCH: Okay. Let's go on then.

8 ADMINISTRATIVE JUDGE CARPENTER: This and 65
9 cents, I can get a cup of coffee.

10 CHAIRMAN BLOCH: We're up to number six, Mr.
11 Kohn?

12 MR. MICHAEL KOHN: Yes, we are up to number
13 six.

14 MS. YOUNG: Judge Bloch, do we have a time
15 estimate for the length of this cross -- the remainder? I
16 need to know what to do with the next panel.

17 CHAIRMAN BLOCH: He has 165 minutes left, but
18 I don't know how he can possibly spend 30 minutes on the
19 next subject, so we'll have to see whether that goes that
20 long.

21 MR. MICHAEL KOHN: Does your analysis assume
22 that the water entering the circuitry paths -- let me
23 point you to your testimony again. On the bottom of page
24 eight, selectively deposited terminology.

25 WITNESS TOMLINSON: I thought we were on

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1 question six.

2 MR. MICHAEL KOHN: If you would look there.
3 Would you agree with me that the passageways that this
4 water is going is different with respect to the fact that
5 the logic boards are at different elevations?

6 CHAIRMAN BLOCH: I don't understand that
7 question, Mr. Kohn.

8 WITNESS TOMLINSON: I also disagree that the
9 logic boards are at different elevations.

10 MR. MICHAEL KOHN: I can move on to a
11 different area. Are the lengths of tubing paths different
12 with respect to different logic boards? In other words,
13 starting from the filter or the regulators, the pathways
14 have different lengths of tubing?

15 CHAIRMAN BLOCH: Between where and where?

16 MR. MICHAEL KOHN: Between the regulator and
17 the logic elements.

18 WITNESS TOMLINSON: No, I would say that the
19 distance of those lines or the length of those lines is
20 approximately equal. There may be some difference due to
21 the possible difference in overall height of some of the
22 logic boards, but essentially it's the same distance. And
23 we have a photograph that will show this.

24 MR. MICHAEL KOHN: Do you know and understand
25 how each logic element works?

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1 WITNESS TOMLINSON: I believe I do; yes, sir.

2 MR. MICHAEL KOHN: You know how their internal
3 operations --

4 WITNESS TOMLINSON: No, sir.

5 MR. MICHAEL KOHN: And do you --

6 WITNESS TOMLINSON: That is to say I don't
7 know how internally they perform the function that they
8 perform. I do know what functions they perform under what
9 circumstances.

10 MR. MICHAEL KOHN: Do you know how a memory
11 element has a memory?

12 WITNESS TOMLINSON: Yes, sir.

13 MR. MICHAEL KOHN: Can you explain that?

14 MS. YOUNG: Judge Bloch? Is this within the
15 scope of the witness' testimony? Is there some testimony
16 that was prefiled about the performance of memory
17 elements?

18 MR. MICHAEL KOHN: There's prefiled testimony
19 about the performance of the logic circuitry.

20 MS. YOUNG: All right, are you representing
21 that a memory element is in the logic circuitry at Vogtle?

22 MR. MICHAEL KOHN: Yes.

23 MS. YOUNG: Do we have a record cite for that?

24 MR. MICHAEL KOHN: Okay, Mr. Tomlinson --

25 CHAIRMAN BLOCH: Ask the question of the

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1 witness.

2 MR. MICHAEL KOHN: Do you know if there's
3 memory elements inside the circuitry?

4 WITNESS TOMLINSON: Do I know if there are
5 logic elements in the circuitry, is that what you're
6 saying?

7 MR. MICHAEL KOHN: Memory elements.

8 WITNESS TOMLINSON: Memory elements. Yes,
9 there are memory elements in this logic.

10 MR. MICHAEL KOHN: I think the question we
11 were up to -- can you explain how the memory elements have
12 a memory?

13 WITNESS TOMLINSON: Yes. If you pressurize
14 port A of the memory element and then block that port, you
15 get flow from port B to port C -- maintain flow from port
16 B to port C of the memory element.

17 MR. MICHAEL KOHN: Internally, do you know
18 what mechanism causes this actuation to occur?

19 WITNESS TOMLINSON: No, Mr. Kohn, I do not. I
20 just said that before.

21 MR. MICHAEL KOHN: So then you have not
22 analyzed the logic system with respect to the actual
23 internal workings --

24 CHAIRMAN BLOCH: Asked and answered.

25 MR. MICHAEL KOHN: Okay.

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1 WITNESS TOMLINSON: No, I have not.

2 CHAIRMAN BLOCH: When I say asked and
3 answered, it means you don't have to answer the question
4 again.

5 WITNESS TOMLINSON: I'm sorry, sir; I didn't
6 hear you.

7 MR. MICHAEL KOHN: Do you therefore know which
8 logic elements would be sensitive to the passage of water?

9 WITNESS TOMLINSON: Mr. Kohn, all of the logic
10 elements would be sensitive to the passage of water
11 because they are designed for air.

12 MR. MICHAEL KOHN: All -- do you know if they
13 would be all equally sensitive to the passage of water?

14 WITNESS TOMLINSON: Can you be more specific
15 on that, sir?

16 MR. MICHAEL KOHN: Do you know if one
17 particular logic element would have more difficulty
18 passing water based on its operation than another?

19 WITNESS TOMLINSON: The question is still
20 rather vague, but let me see if I can help you out. If
21 you're talking about such elements as the memory -- and
22 incidentally, Judge Bloch, perhaps this might be a good
23 time to explain to the court reporter what we're talking
24 about here.

25 CHAIRMAN BLOCH: Well, he's only interested if

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1 we have to know.

2 WITNESS TOMLINSON: When we talk about and, or
3 and not elements, you should know that they are devices
4 and not part of our vocabulary.

5 CHAIRMAN BLOCH: Okay, we have some
6 understanding of that from the diagrams we've seen.

7 WITNESS TOMLINSON: Okay. If you're referring
8 to such things as the memory elements, the not elements,
9 the and elements, the or elements, I would say that the --
10 they're all about equally the same with regard to their
11 passage of water.

12 If, however, you get to orifices, then the
13 passage of water or the difficulty with passing water is
14 going to be a function of the size of the orifice.

15 MR. MICHAEL KOHN: And do you know the size of
16 the various orifices inside the elements?

17 WITNESS TOMLINSON: The only elements that
18 have orifices in them are those that are designated thus,
19 and I believe that they are -- or were at the time of the
20 1990 event, they were .006 orifices and .028 orifices.

21 MR. MICHAEL KOHN: Maybe I inaccurately
22 phrased the question I was trying to get at. The diameter
23 of the -- my question is if you do not know how the logic
24 elements physically operate, how can you testify about
25 their sensitivity toward -- to the passage of water?

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1 WITNESS TOMLINSON: They are fluid devices,
2 Mr. Kohn. I go by what the manufacturer says they will do
3 under certain circumstances. I'm not sure I understand
4 your question.

5 MR. MICHAEL KOHN: Well, does the manufacturer
6 tell you how they're going to operate when water is
7 flowing through them, or does it assume clean, dry air is
8 flowing through them?

9 WITNESS TOMLINSON: They assume dry air is
10 flowing through them.

11 MR. MICHAEL KOHN: And have you read anything
12 that explains how these devices would individually be
13 affected by water flow?

14 WITNESS TOMLINSON: No, sir; I have not.

15 MR. MICHAEL KOHN: As I understand your prior
16 testimony, you went to Mr. Owyong and Johnston in order
17 to understand the logic, is that correct?

18 WITNESS TOMLINSON: No.

19 MR. MICHAEL KOHN: You went to Mr. Owyong and
20 Johnston to help you explain the diagrams?

21 WITNESS TOMLINSON: No.

22 MR. MICHAEL KOHN: Okay, can you tell me again
23 why you went to Mr. Owyong and Johnston?

24 WITNESS TOMLINSON: As I said this morning, I
25 went to Mr. Owyong and Mr. Johnston and I asked them two

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1 questions. I asked them if the diagrammatic
2 representation on these drawings showed the elements in
3 the at rest position or the activated position.

4 I also asked Mr. Owyong about a specific
5 component on a drawing I had at the time because I didn't
6 understand what exactly that was supposed to do. It
7 involved a locking circuit.

8 MR. MICHAEL KOHN: So then would you consider
9 Mr. Owyong and Mr. Johnston to be more expert than you
10 with respect to the analysis of the operation of the
11 pneumatic controls?

12 WITNESS TOMLINSON: Yes, I would.

13 MR. MICHAEL KOHN: Would you disagree with any
14 conclusions they may have reached with respect to the
15 operation on the effect of water on the --

16 MS. YOUNG: Could we have a record cite to
17 which conclusion?

18 BOARD EXAMINATION

19 CHAIRMAN BLOCH: Mr. Tomlinson?

20 WITNESS TOMLINSON: Yes, sir?

21 CHAIRMAN BLOCH: As you listened to the
22 testimony of Mr. Owyong and Johnston, was there anything
23 that you noticed that was important that you disagreed
24 with?

25 WITNESS TOMLINSON: I don't recall anything,

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1 no, sir.

2 CHAIRMAN BLOCH: Okay.

3 CROSS EXAMINATION

4 MR. MICHAEL KOHN: Is it your understanding
5 that leakage contributed to the diesel generator failures
6 in 1990 -- pneumatic leakage associated with the pneumatic
7 air system?

8 WITNESS TOMLINSON: I don't understand your
9 question, Mr. Kohn.

10 MR. MICHAEL KOHN: Is it your understanding
11 that leaks in the pneumatic system contributed to the
12 diesel generator failures in 1990?

13 WITNESS TOMLINSON: I think you misunderstand
14 my misunderstanding, Mr. Kohn. What is it in my testimony
15 that leads you to believe that I've said anything about
16 that at all or why I would have any knowledge of it?

17 CHAIRMAN BLOCH: You have to know that,
18 because if you didn't, then it's not relevant.

19 MR. MICHAEL KOHN: Well, you reviewed the 1994
20 inspection report, correct?

21 WITNESS TOMLINSON: I'm sure there were more
22 than one inspection report for 1994. Can you be more
23 specific?

24 MR. MICHAEL KOHN: The inspection report
25 supplemental information potentially relevant -- excuse

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1 me. The June 1994 inspection report. I think you
2 reference it in your testimony.

3 WITNESS TOMLINSON: Could you please give us a
4 number on it?

5 CHAIRMAN BLOCH: Page 12, question ten, third
6 line of the answer, I think. Is that the right citation?

7 MR. MICHAEL KOHN: Yes.

8 WITNESS TOMLINSON: What page are we on?

9 MS. YOUNG: If Staff counsel can assist, the
10 first page it's mentioned is page ten.

11 MR. MICHAEL KOHN: Thank you.

12 CHAIRMAN BLOCH: Oh, I'm sorry, it's page 12
13 of the fax. It's page ten of the document.

14 MS. YOUNG: Do you need another copy, Judge
15 Bloch?

16 MR. MICHAEL KOHN: You make reference to the
17 June 20, 1994 inspection report, Staff Exhibit II-10.

18 WITNESS TOMLINSON: Okay. Is it your
19 understanding that leakage in diesel trip lines
20 contributed to the diesel generator failures in 1990?

21 WITNESS SKINNER: Let me answer that one. In
22 our review of this particular event by this group that
23 went down there, I think what they -- and I'll have to
24 refresh my memory by looking at 9412, but it's my
25 recollection that basically what they wound up determining

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1 was that the cause of the first trip was unknown, and the
2 potential of leaks could have in fact been part of the
3 problem that would have caused the first trip of the
4 diesel on the site area emergency on 3/20/90.

5 MR. MICHAEL KOHN: Mr. Tomlinson, was that
6 your understanding?

7 WITNESS TOMLINSON: Mr. Skinner is a lot
8 better prepared to answer that question than I am.

9 MR. MICHAEL KOHN: Then would water in the
10 control circuits -- can you conceive of that exacerbating
11 the problems associated with leakage of the pneumatic
12 lines which resulted in the trip?

13 WITNESS TOMLINSON: Once again, Mr. Kohn,
14 you're going to have to tell me where the water is.

15 MR. MICHAEL KOHN: I'm asking Mr. Skinner.

16 WITNESS SKINNER: I didn't understand your
17 question, Mr. Kohn.

18 MR. MICHAEL KOHN: The report on page seven
19 states, "The inspectors," -- we're looking at Staff -- I
20 believe II-10, page seven.

21 WITNESS SKINNER: Could I have a copy of that,
22 please?

23 MR. MICHAEL KOHN: The last paragraph above
24 2.5, the first sentence, "The inspectors conclude that
25 pneumatic control system leakage occurred in 1990 and

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1 contributed to the DG 1A and 1B failures in 1990." Did
2 both you gentlemen agree with that conclusion?

3 WITNESS SKINNER: I guess the only way that I
4 can answer that question basically is state that this is
5 the finding of the inspection team that went down there,
6 and that was their conclusion. My conclusion is also
7 influenced by other information that I'm aware of.

8 MR. MICHAEL KOHN: Then do agree or disagree
9 with this finding in the inspection report?

10 WITNESS SKINNER: Partially agree with this
11 inspection, that it could have been a problem.

12 CHAIRMAN BLOCH: Mr. Kohn, any finding in 1994
13 is only weakly relevant as to whether or not there was a
14 misrepresentation in 1990.

15 MR. MICHAEL KOHN: This conclusion is with
16 respect to the 1990 failures, correct?

17 WITNESS SKINNER: That's correct.

18 CHAIRMAN BLOCH: The point the Chairman was
19 making is that if it wasn't appreciated in 1990, it's hard
20 to see how that means as a misrepresentation.

21 MR. MICHAEL KOHN: I guess we would look at it
22 if it wasn't analyzed in 1990.

23 CHAIRMAN BLOCH: Well, that might be something
24 you proved. That would be being disregarding. But it
25 would have to be some reason to know that it should be

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1 analyzed in 1990.

2 MR. MICHAEL KOHN: Well, Mr. Skinner, do you
3 think a reasonable engineer would know that pneumatic
4 leakage could result in a spurious trip of the diesel
5 generator?

6 WITNESS SKINNER: Could you repeat that
7 question once again, please?

8 MR. MICHAEL KOHN: Do you think a
9 knowledgeable engineer would know that leakage in a
10 pneumatic system of the diesel generator could result in a
11 spurious trip?

12 WITNESS SKINNER: Yes, but I think he would
13 have to quantify that with other information to determine
14 the size of the leakage. If it was a very minor leak, he
15 would probably come to the conclusion that it would in
16 fact not have caused the trip. If it was -- the magnitude
17 of the leakage was much greater, it then may be considered
18 to be a potential one.

19 BOARD EXAMINATION

20 CHAIRMAN BLOCH: Mr. Skinner, in your opinion,
21 was there any reasonable attempt to quantify the amount of
22 the leaks after the -- in the 1990 incident?

23 WITNESS SKINNER: No, sir; not to my
24 knowledge. Not on the initial trips especially.

25 CROSS EXAMINATION (continued)

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1 MR. MICHAEL KOHN: I'd like to call your
2 attention to page eight of your prefiled testimony,
3 question seven. Mr. Tomlinson, would you read to yourself
4 the first two sentences carefully and tell me if any
5 corrections to those sentences is required?

6 WITNESS TOMLINSON: The first two sentences?

7 MR. MICHAEL KOHN: Yes, sir.

8 WITNESS TOMLINSON: Sentence one being, "No?"

9 MR. MICHAEL KOHN: I'm sorry, the first three
10 sentences. I stand corrected.

11 WITNESS TOMLINSON: I don't see anything wrong
12 with them.

13 MR. MICHAEL KOHN: Well, do you think the
14 third word to the -- fourth word to the end, "above,"
15 should read "below?"

16 WITNESS TOMLINSON: Touche. You are correct.
17 And that was the intent.

18 MR. MICHAEL KOHN: Would your answer to
19 question number seven change if the dew points were at 85°
20 Fahrenheit and the room temperature was at 60°?

21 WITNESS TOMLINSON: No. Because those two
22 conditions aren't going to exist simultaneously.

23 MR. MICHAEL KOHN: Well then hypothetically,
24 if those two conditions did exist, would that change your
25 answer?

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1 WITNESS TOMLINSON: Mr. Kohn, I think we've
2 been through this exercise before. I don't choose to
3 speculate. I would deal with facts. And if you can give
4 me a factual question, I'll try and answer it.

5 BOARD EXAMINATION

6 CHAIRMAN BLOCH: Mr. Tomlinson, do you know
7 the ambient temperature in the room on April 6th?

8 WITNESS TOMLINSON: No, sir; I do not.

9 CHAIRMAN BLOCH: So do you know whether it was
10 above or below the dew point of the air if the readings
11 were in fact valid readings on that day?

12 WITNESS TOMLINSON: No, sir; I cannot answer
13 that question. However, I would like to point out that my
14 testimony here has nothing to do with what the dew point
15 was or wasn't at any particular time. What I'm trying to
16 get at here is that the air receivers are going to be at
17 room temperature within a few degrees. And at worst,
18 you're going to have saturated air in those receivers.

19 You may also get some condensation in the
20 bottom of the receivers. But saturated air at room
21 temperature is what the pneumatic system will see. And
22 when you expand 250 pound air down to 60 pounds from such
23 -- saturated air, that is -- 250 down to 60 pounds, you
24 will come up with a dew point substantially below the
25 saturation temperature.

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1 CROSS EXAMINATION (continued)

2 MR. MICHAEL KOHN: Did your -- did I hear you
3 correctly to say that the air receiver is always going to
4 be at ambient room temperature?

5 WITNESS TOMLINSON: I said at ambient room
6 temperature, plus or minus a few degrees. Nothing
7 significant different.

8 MR. MICHAEL KOHN: And if the ambient -- you
9 will concede that the ambient room temperature could drop
10 to 60°?

11 WITNESS TOMLINSON: It could conceivable.

12 MR. MICHAEL KOHN: And are you aware that the
13 air receivers are -- when they have been measured, have
14 been generally in the upper 80's, 90° temperature range?

15 WITNESS TOMLINSON: I have heard these figures
16 used. I don't know what the significance of them is.

17 MR. MICHAEL KOHN: Well then, let's --

18 CHAIRMAN BLOCH: This is a good time for a
19 break. Counsel can continue his conference if he's like.
20 We'll be back in ten minutes.

21 (Whereupon, the proceedings went off the
22 record from 2:24 p.m. until 2:40 p.m.)

23 CROSS EXAMINATION

24 MR. MICHAEL KOHN: On question ten on page 11,
25 you have a discussion about corrosion. Can you tell me

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1 what the basis is for this -- the determination concerning
2 corrosion made by the NRC Staff in this paragraph?

3 WITNESS SKINNER: I think what the Staff is
4 discussing here basically is not corrosion of primarily
5 the internal parts of the pneumatic system since most of
6 those particular portions of the system will not exhibit a
7 corrosion effect. But if there is any kind of indication
8 of moisture or that moisture had been in the system, there
9 would generally be some indication of that being in the
10 system by discoloration or small amounts of -- I guess
11 you'd just call it maybe dust accumulation from taking
12 systems apart and putting them back together again.

13 So the term corrosion itself, unless the
14 corrosive material came from outside of the pneumatic
15 system, would probably not be found in that portion of the
16 system.

17 BOARD EXAMINATION

18 CHAIRMAN BLOCH: I'm sorry, Mr. Skinner, where
19 might it be found?

20 WITNESS SKINNER: The corrosion? The
21 corrosion would be found primarily in the 250 pound
22 section of the system since it would be coming from the
23 air receiver if it could get by the Y filters in the three
24 inch lines. The three inch lines themselves, I believe,
25 are also a carbon steel, so you would probably see some

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1 amount of -- small amount of corrosion in those areas
2 potentially.

3 CHAIRMAN BLOCH: And are there regular
4 procedures or inspections which would permit observation
5 of whether there was corrosion in that system?

6 WITNESS SKINNER: Yes, sir. I believe they
7 inspect these filters. There's about four different
8 filters associated with the system in addition to the Y
9 strainers, and I believe each of these strainers and
10 filters are checked every 18 months along with the diesel
11 disassembly.

12 CHAIRMAN BLOCH: And the procedure has a
13 cleanliness standard that would assure that they would
14 record if there was some observation of corrosion or
15 indications of water?

16 WITNESS SKINNER: I would have to answer that
17 generally that they do, but I have not looked specifically
18 at these procedures to make sure that the disassembly
19 procedures does address that.

20 CROSS EXAMINATION

21 MR. MICHAEL KOHN: Are you referring to the
22 procedures in place in 1990?

23 WITNESS SKINNER: Yes, I am.

24 MR. MICHAEL KOHN: Those Y strainers, are they
25 maintained at a very hot temperature -- in an area where

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1 it's going to be hot?

2 WITNESS SKINNER: The Y strainers are on the
3 end of the diesel -- on the generator end of the diesel.
4 And basically, that general area is probably slightly
5 warmer than the ambient temperature. They're not adjacent
6 to the hotter part of the diesel generator such that they
7 would be at the 150° temperature range.

8 BOARD EXAMINATION

9 ADMINISTRATIVE JUDGE MURPHY: Mr. Skinner, is
10 the material downstream of the Y strainers corrosion
11 resistant material?

12 WITNESS SKINNER: No, sir; I do not believe it
13 is. Not the three inch piping. I think the three inch
14 piping is called carbon steel downstream of the strainers
15 also.

16 WITNESS TOMLINSON: Judge Murphy, perhaps I
17 can add a little more to that. Downstream of the Y
18 strainers, you have the air start valves and then
19 subsequently the air headers on the engine for air
20 starting. And that's all carbon steel.

21 ADMINISTRATIVE JUDGE MURPHY: And the take off
22 for the control system?

23 WITNESS TOMLINSON: The take off for the
24 control system is I believe just prior to the Y strainers
25 on the three inch line. There are two locations --

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1 downstream of it? Downstream of it on the three inch
2 piping coming to the engine. It takes off in two places,
3 and then connects to a single point in the control panel.
4 There are two lines coming in.

5 ADMINISTRATIVE JUDGE MURPHY: And what's that
6 material?

7 WITNESS TOMLINSON: I believe that's stainless
8 steel.

9 CHAIRMAN BLOCH: Would the three inch piping
10 be a leading indicator of the presence of water anywhere
11 in the pneumatic system?

12 WITNESS SKINNER: I didn't understand your
13 question.

14 CHAIRMAN BLOCH: Would the absence of
15 corrosion in the three inch line generally indicate that
16 there was no water in the pneumatic system at all?

17 WITNESS TOMLINSON: Yes, I would say
18 definitely so.

19 CHAIRMAN BLOCH: Mr. Skinner's more thoughtful
20 about that.

21 WITNESS SKINNER: He just answered before I
22 did. I agree with him.

23 CHAIRMAN BLOCH: And have any of the NRC
24 inspections actually looked at that three inch line?

25 WITNESS SKINNER: Yes, sir; they have. Well,

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1 when you say the three inch line, I'm talking specifically
2 the Y strainers. We are normally -- they normally don't
3 disconnect the three inch lines per se.

4 CHAIRMAN BLOCH: Okay, but if there were
5 corrosion in the three inch line, you'd expect corrosion
6 in the Y strainer itself?

7 WITNESS SKINNER: Yes, I would.

8 CHAIRMAN BLOCH: And the NRC inspector has --
9 an NRC inspector has observed that Y strainer?

10 WITNESS SKINNER: Yes, we have.

11 CHAIRMAN BLOCH: And is -- has it been changed
12 since the plant -- since the diesel went into operation?

13 WITNESS SKINNER: I don't know that answer.

14 WITNESS TOMLINSON: Judge Bloch, I believe
15 that in most cases the Y strainer might be cleaned. It
16 would not necessarily be replaced.

17 CHAIRMAN BLOCH: Okay, and I guess I'm trying
18 to see if the absence of corrosion on the Y strainer would
19 be a source of reassurance here. I guess it would depend
20 some on how often it was changed, wouldn't it -- cleaned,
21 cleaned?

22 WITNESS SKINNER: To my knowledge, it's
23 cleaned every 18 months. And the inspectors in the past
24 three or four years that have witnessed this have
25 indicated that they removed no material from that

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1 strainer. So the strainers were cleaned.

2 CHAIRMAN BLOCH: Okay, that means an absence
3 of corrosion.

4 WITNESS SKINNER: Right.

5 CHAIRMAN BLOCH: And if there were moisture in
6 those lines, would you expect to see some corrosion within
7 18 months?

8 WITNESS SKINNER: Yes, sir.

9 CHAIRMAN BLOCH: Thank you.

10 ADMINISTRATIVE JUDGE CARPENTER: If I may, I'm
11 ignorant of what a Y strainer is. What's a Y strainer?

12 WITNESS TOMLINSON: It's a device that looks
13 like the letter Y and the function of it is to trap
14 particulate matter. I'm not exactly sure how they
15 function inside. I believe it has to do with the change
16 in the air path and getting the heavier particulates to
17 deposit out in the strainers.

18 ADMINISTRATIVE JUDGE CARPENTER: You think
19 it's cyclonic?

20 WITNESS TOMLINSON: No, it's not cyclonic, no.

21 ADMINISTRATIVE JUDGE CARPENTER: But it's not
22 a filter?

23 WITNESS TOMLINSON: No, it's a strainer.
24 Well, strainer and filter, they --

25 ADMINISTRATIVE JUDGE CARPENTER: It's not a

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1 colander.

2 (Laughter.)

3 WITNESS TOMLINSON: Yeah, it's not a colander.
4 No, strainer and filter sometimes they use as
5 interchangeable terms, but it's generally the size of the
6 openings in the device that determines whether it's a
7 strainer or a filter.

8 ADMINISTRATIVE JUDGE CARPENTER: That's what I
9 was trying to get some feel for. Apparently there is --
10 it's a fairly coarse filter? If you know.

11 WITNESS TOMLINSON: Yes, I believe I would be
12 fairly coarse.

13 ADMINISTRATIVE JUDGE CARPENTER: Have you ever
14 seen the inside of one of them?

15 WITNESS TOMLINSON: Not these, I haven't. I
16 have seen the inside of others, yes.

17 ADMINISTRATIVE JUDGE CARPENTER: How about
18 your colleague?

19 WITNESS SKINNER: I have the same answer. I
20 have never specifically looked at these, but I have seen
21 numerous other Y strainers. Many Y strainers have a
22 basket type strainer that does in fact look like a
23 colander. Some of them have cotton filters in them
24 depending entirely on the use of the strainer at the point
25 it's being used at.

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1 ADMINISTRATIVE JUDGE CARPENTER: Is it your
2 point that the strainer itself might corrode if it were
3 sufficiently humid?

4 WITNESS SKINNER: I don't think that the
5 strainer itself would corrode; no, sir.

6 ADMINISTRATIVE JUDGE CARPENTER: If the
7 porosity of the strainer is fairly large, why do you think
8 it would trap corrosion products, specifically rust?

9 WITNESS SKINNER: The porosity is not that
10 large. They are small strainer -- specifically designed
11 to trap rust particles.

12 ADMINISTRATIVE JUDGE CARPENTER: The ones
13 you've looked at, are the openings smaller than you can
14 see by eye?

15 WITNESS SKINNER: No, sir; not that you can
16 see by eye. You can definitely see them. It looks --

17 ADMINISTRATIVE JUDGE CARPENTER: So it would
18 have to be a pretty big piece of rust for it to catch it?

19 WITNESS SKINNER: Probably anything on the
20 size of maybe a -- yeah, probably about an 1/8 -- anything
21 less -- greater than 1/8 of an inch would probably be
22 trapped by it.

23 ADMINISTRATIVE JUDGE CARPENTER: So it would
24 have to be bits of scale or some such thing?

25 WITNESS SKINNER: Yes, sir.

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1 ADMINISTRATIVE JUDGE CARPENTER: Thank you for
2 improving my feeling.

3 CHAIRMAN BLOCH: Wouldn't you expect it to
4 take a long time of slow corrosion before you'd get a
5 scale of that size?

6 WITNESS TOMLINSON: Judge Bloch, if I may
7 answer that one. I'm going to give you an opinion here.
8 But in most instances, unless you have standing water in a
9 -- with a ferrous metal, you don't really get scale. What
10 I would expect to find in these three inch line is a
11 surface rust. But absent the continual contact with
12 liquid water, I don't think you're going to get scale.

13 CHAIRMAN BLOCH: A few moments ago I thought I
14 had some reassurance that not finding rust in the Y filter
15 was going to help us here. But it sounds like that really
16 doesn't give us much indication of anything.

17 WITNESS TOMLINSON: I believe it does, Judge
18 Bloch, in that -- for instance, in my basement, it's not
19 uncommon for me to find a fine oxidation layer on ferrous
20 metal parts. But only if they're in direct contact with
21 water for a prolonged period of time will you get scale
22 that will actually flake off.

23 CHAIRMAN BLOCH: But the Y strainer itself is
24 not a ferrous metal part, is that right?

25 WITNESS TOMLINSON: I believe the basket is

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1 probably bronze.

2 CHAIRMAN BLOCH: So where is the corrosion
3 going to come from that will wind up -- you think that
4 even -- that the small -- that the corrosion which would
5 occur in the carbon steel pipe would produce particles
6 that would break off and would be found in the Y strainer
7 if it was occurring? Because I thought you said the
8 particles would probably not be that large unless it was
9 standing water.

10 WITNESS TOMLINSON: That's what I'm saying,
11 yes. That you only get formation of scale, pitting, and
12 so forth when you have continued prolonged contact with
13 water and ferrous metal. So the absence --

14 CHAIRMAN BLOCH: There could be water that
15 stands in the pipe for a period of time providing it's
16 cleared out after a while and you'd never see that in the
17 Y filter, would you?

18 WITNESS TOMLINSON: It's possible that you
19 wouldn't, no.

20 CROSS EXAMINATION

21 MR. MICHAEL KOHN: Other than looking at the
22 strainer, have you looked at any other part of the three
23 inch line?

24 WITNESS SKINNER: I looked at portions of the
25 three inch line that were disconnected from the diesel.

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1 When they perform their overhaul on the diesel, they do
2 disconnect some of the three inch piping at that point.

3 MR. MICHAEL KOHN: But that piping would be
4 very hot, wouldn't it, connected to the diesel?

5 WITNESS SKINNER: The piping that is adjacent
6 to the diesel would be approximately the same temperature
7 as the strainers would be.

8 MR. MICHAEL KOHN: Okay. But it would be
9 substantially hotter than the piping running through the
10 trench?

11 WITNESS SKINNER: Yes.

12 MR. MICHAEL KOHN: Okay. And did you look at
13 any of the piping in the trench?

14 WITNESS SKINNER: No. At the time I inspected
15 this, there was no piping disconnected in the trench.

16 MR. MICHAEL KOHN: And did you look at the
17 piping running by the louvers?

18 WITNESS SKINNER: I looked at the piping. I
19 mean, the --

20 MR. MICHAEL KOHN: The inside.

21 WITNESS SKINNER: Oh, no. They did not
22 disconnect that either.

23 BOARD EXAMINATION

24 CHAIRMAN BLOCH: Mr. Skinner, is it the case
25 that you'd expect to find at least a thin layer of

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1 corrosion on any carbon steel in the plant?

2 WITNESS SKINNER: I would expect to find a
3 thin layer of corrosion -- well, that would not flake off.
4 It would be basically a discoloration more so that a layer
5 of corrosion as such on nearly any carbon steel piping at
6 the plant, yes.

7 CHAIRMAN BLOCH: So wouldn't the presence or
8 absence of corrosion be at best an ambiguous signal of
9 anything?

10 WITNESS SKINNER: Well, the absence of
11 corrosion --

12 CHAIRMAN BLOCH: That would show something,
13 yes.

14 WITNESS SKINNER: It would definitely show
15 something. The presence of corrosion would show primarily
16 that there is enough corrosion that would cause a flaking
17 of the material and be potentially moved out into the
18 system in some form or fashion. So if that is not there,
19 then you would assume that there is no flaking.

20 CHAIRMAN BLOCH: But anything short of flaking
21 is consistent with there being either some moisture
22 present or perhaps even no moisture since the construction
23 period?

24 WITNESS SKINNER: That's correct.

25 CROSS EXAMINATION (continued)

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1 MR. MICHAEL KOHN: Are you aware that Georgia
2 Power has not always documented the finding of water when
3 they have found it in the pneumatic system?

4 WITNESS TOMLINSON: I certainly am not aware
5 of it.

6 WITNESS SKINNER: I believe that there has
7 been some discussion of that during this hearing. I don't
8 know yet for sure whether that's been proven to be factual
9 or not. And I'm assuming now you're speaking of the time
10 frame of 1990.

11 MR. MICHAEL KOHN: Yes. Do you know whether
12 there was a procedure or a general understanding of the
13 I&C technicians in 1990 time frame that would require them
14 in their minds to document the finding of water?

15 WITNESS SKINNER: I don't know of any kind of
16 procedure that requires people to document stuff in their
17 mind.

18 MR. MICHAEL KOHN: That their exposure to --
19 let me rephrase it. That their training and practices
20 would result in the documentation of finding water.

21 WITNESS SKINNER: I do not think our testimony
22 addresses anything about what the I&C personnel do in
23 regard to this. But --

24 BOARD EXAMINATION

25 CHAIRMAN BLOCH: Do you have a belief about

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1 whether or not they would report the presence of water or
2 moisture?

3 WITNESS SKINNER: Do I have a belief? Yes,
4 sir; I do. I believe that they would definitely report
5 it. I do not know that each and every person would
6 necessarily report it, but I would think that the general
7 philosophy that I'm aware of at the plant in the present
8 time frame they would make this kind of information aware.

9 CHAIRMAN BLOCH: And was that less likely --

10 WITNESS SKINNER: Make their management aware
11 of this information.

12 CHAIRMAN BLOCH: Was that less likely in 1990
13 than it would be today?

14 WITNESS SKINNER: I can't speak to 1990. I
15 was not involved with the project in 1990.

16 CHAIRMAN BLOCH: And were you present when Mr.
17 Stokes responded to a question that I asked about the
18 finding of matter in switches? My recollection is that I
19 asked him whether or not the -- he would expect to have
20 been told if gunk had been found in switches prior to the
21 time the Wiley report found gunk in switches.

22 Do you recall hearing that?

23 WITNESS SKINNER: I believe I was present for
24 that, yes.

25 CHAIRMAN BLOCH: What was your understanding

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1 of what he said if you recall it in enough detail to help
2 me understand it?

3 WITNESS SKINNER: I don't think I remember
4 enough to --

5 CHAIRMAN BLOCH: Okay, maybe counsel can help
6 you review the transcript at a break. But my recollection
7 is that he said he didn't think he could count on the
8 technicians to tell him if they found things in the
9 switches. And then I asked him well, how could you count
10 on them to tell you if they found moisture. And I guess I
11 felt I didn't understand why he could count on them to
12 find -- to tell him about moisture but not to find -- not
13 about gunk.

14 And I just -- I needed some way of getting a
15 bearing about what the meaning of that testimony was.

16 WITNESS SKINNER: I think I can respond to
17 that -- refresh my memory. What I would have thought that
18 Mr. Stokes was implying at that time was that during the
19 normal process of calibration when an I&C technician would
20 take an instrument over to calibration facility and do the
21 calibration on it, if he took that instrument apart and
22 found something abnormal, maybe some water in it, he
23 probably would not report that as part of the findings of
24 this particular work description.

25 However, if he was out in the plant doing a

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1 function on a system and ran into a problem of water, he
2 would be more prone to address that to the project
3 engineer for that particular system rather than in the
4 calibration itself process.

5 CHAIRMAN BLOCH: I guess I had trouble
6 understanding that because it seems to me it suggests that
7 the technician wouldn't understand the importance of the
8 water or gunk inside the switch. So I don't know why he'd
9 understand it in the field any better than in the lab.

10 WITNESS SKINNER: Well, I think in the field
11 you would probably have the feeling that you are
12 performing an evolution on a system basis, and in the lab
13 you are having -- working on a component basis. And since
14 it is in a confined area, you would have less of a
15 tendency to I think address a problem that you found to
16 the cognizant engineer.

17 You may address that particular problem to
18 your own supervisor and tell him what you found, but not
19 necessarily go to the engineer unless it was out in the
20 field.

21 CHAIRMAN BLOCH: Because you were working on a
22 component, you might lose track of the fact that what you
23 see in the component could be an indicator of the system?

24 WITNESS SKINNER: That's correct. That's my
25 opinion.

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1 CHAIRMAN BLOCH: Mr. Skinner, was there any
2 background training for I&E technicians about the systems
3 on which they were working so that they would know the
4 context in which they were doing things?

5 WITNESS SKINNER: I don't know, Judge.

6 CROSS EXAMINATION

7 MR. MICHAEL KOHN: Call your attention to page
8 11 of your testimony, number three on that page. There's
9 a statement that "there were assumptions made that the
10 starting airs of 250 psig in 85°F dew point when the DG is
11 started, an air pressure reduction to zero psig would
12 result in a dew point considerably below 50° Fahrenheit.
13 Consequently, any free water that may have deposited in
14 the DG air start piping during the start cycle will
15 quickly vaporize in a 50° Fahrenheit room environment."

16 Is it your testimony that water vaporizes
17 quickly in a 50° room environment on the conditions set
18 forth?

19 WITNESS TOMLINSON: Under those circumstances,
20 yes.

21 MR. MICHAEL KOHN: So if I put a glass of
22 water on the table in this room, would you agree that the
23 air pressure -- and the room was 50° in temperature, would
24 you agree that the pressure in the room would be zero
25 psig?

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1 WITNESS TOMLINSON: The pressure in the room
2 would be zero psig, yes.

3 MR. MICHAEL KOHN: And do you think the water
4 would evaporate quickly?

5 WITNESS TOMLINSON: That would depend on what
6 the circumstances were in the room. However, I would
7 point out to you that we're not talking about a glass of
8 water. We're talking about water that is distributed over
9 a rather -- possibly 20 or 25 feet of rather large piping,
10 which is sitting on top of the diesel generator, which is
11 maintained at a very high temperature.

12 MR. MICHAEL KOHN: Well, your testimony said
13 it would quickly vaporize in a 50° room environment.

14 WITNESS TOMLINSON: That is correct also. If
15 you start out with saturated air at 85°, 250 psig, and you
16 drop the pressure to zero, any free water that was around,
17 if there was any around, would very quickly evaporate.

18 BOARD EXAMINATION

19 CHAIRMAN BLOCH: You're making the assumption
20 it's a small amount of water spread over a large area, is
21 that correct?

22 WITNESS TOMLINSON: Yes, sir. Judge Bloch,
23 the focus of this particular item is that if you start
24 with saturated air at 85° Fahrenheit and reduce it to zero,
25 your dew point --

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1 CHAIRMAN BLOCH: I understand.

2 WITNESS TOMLINSON: -- goes way down. And the
3 chances of even forming water are very remote. But
4 should, in that very remote circumstance, any form, it's
5 quickly going to evaporate.

6 CROSS EXAMINATION (continued)

7 MR. MICHAEL KOHN: Aren't these lines
8 pressurized all the time -- the air start supply lines?

9 WITNESS TOMLINSON: Perhaps this would be a
10 good time to get some definitions on the record so that we
11 understand what we're talking about. There are three
12 systems that we're talking about. We have the starting
13 air system. This is everything from the compressors
14 through the dryers, receivers, three inch line, up to and
15 including the -- up to rather the solenoid valves -- three
16 inch solenoid valves on the engine.

17 It also includes the tap for the pressure to -
18 - the air to the -- pardon me, to the 60 psi system. We
19 have the air starting system, which is on the engine. It
20 consists of the distributor, the air start valves, the air
21 start header, including the three inch solenoid valves.
22 And then we have the pneumatic control system, which is
23 the 60 psi system that we've been talking so much about.

24 And with all that, I forgot your question,
25 sir.

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1 MR. MICHAEL KOHN: The main three inch lines
2 have to feed the control system all the time, so they
3 would remain pressurized, correct?

4 WITNESS TOMLINSON: The starting air system is
5 pressurized at all times.

6 MR. MICHAEL KOHN: So this testimony with
7 respect to the zero psig would only be for a very small
8 segment of the tubing -- of the system up by the engine?

9 WITNESS TOMLINSON: If you will look at the
10 testimony, sir, the paragraph after item number three, the
11 third line down, I say the air start system. And I just
12 went over the explanation of that. The air start system
13 is that portion of the system that goes from the solenoid
14 valves to the distributor to the air start valves, the air
15 start header, to pressurize the cylinders to start the
16 engine.

17 And yes, it is depressurized. Or I should say
18 it is only pressurized very shortly during an engine
19 start.

20 CHAIRMAN BLOCH: Mr. Kohn, which section of
21 the outline are you on?

22 MR. MICHAEL KOHN: I believe I am on number
23 12.

24 CHAIRMAN BLOCH: Okay, let's continue.

25 MR. MICHAEL KOHN: If you would turn to the

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1 testimony you have on page ten of your testimony on the
2 bottom. You discuss interviews held with instrument
3 technicians, a plant equipment operator, and two
4 engineers involved in diesel generator maintenance.

5 Do you gentlemen know the identifies of these
6 individuals?

7 WITNESS SKINNER: I do, yes.

8 MR. MICHAEL KOHN: Could you tell me who they
9 were?

10 MS. YOUNG: Staff objects to that question.
11 This -- the Canto memo, which was distributed under Board
12 notification, kept the names of the individuals
13 confidential. And we did not have a request for discovery
14 from Intervenor prior to today asking for the identity of
15 these people.

16 So I believe that Intervenor has sat on his
17 rights and shouldn't be allowed to pursue that matter
18 today.

19 MR. MICHAEL KOHN: I'm missing something. I
20 don't understand why I have to make a request for
21 discovery to ask a question at the hearing.

22 MS. YOUNG: You're conducting discovery now --

23 MR. MICHAEL KOHN: No, I'm asking --

24 MS. YOUNG: -- rather than --

25 MR. MICHAEL KOHN: I'm asking a question about

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1 the testimony. They identify persons, and I'm asking for
2 their identity. It's not discovery.

3 MS. YOUNG: And what's the probative value of
4 your question? What's your proffer? That information,
5 what will it get you in terms of the issues in this
6 proceeding?

7 MR. MICHAEL KOHN: It will identify which
8 persons in addition to the persons who have testified in
9 this proceeding are being referenced here.

10 MS. YOUNG: Maybe you should ask whether
11 people who have testified in this proceeding are among the
12 individuals that were interviewed. That's a different
13 question than just trying to find out in the clear blue
14 sky who was interviewed.

15 CHAIRMAN BLOCH: Why don't we ask that
16 question?

17 MR. MICHAEL KOHN: Your Honor, I don't
18 understand the confidentiality -- their basis as an
19 objection to this question. If they put testimony in, how
20 can they have confidentiality on this testimony?

21 CHAIRMAN BLOCH: Ms. Young, I think the point
22 is well taken. Once the testimony's there, why can't he
23 inquire into the truth of it?

24 MS. YOUNG: Shouldn't the question still be
25 limited to whether the people have testified in this

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1 proceeding, otherwise he's asking for discovery on an
2 issue that should have been raised before.

3 CHAIRMAN BLOCH: He's asking for information
4 that could affect the credibility of the testimony. I'll
5 allow the question.

6 WITNESS SKINNER: Will you ask the question
7 again?

8 MR. MICHAEL KOHN: Yes, sir. Can you identify
9 the persons, the three instrument technicians, the
10 equipment operator and the engineers identified in the
11 bottom of page ten?

12 WITNESS SKINNER: I do not have that
13 information with me at this time.

14 BOARD EXAMINATION

15 CHAIRMAN BLOCH: And do you recall the names
16 of any of them?

17 WITNESS SKINNER: No, sir; I do not at this
18 time.

19 ADMINISTRATIVE JUDGE CARPENTER: Do you have
20 any basis for direct knowledge? Were you involved with
21 the interviews?

22 WITNESS SKINNER: I was not involved in the
23 interviews.

24 ADMINISTRATIVE JUDGE CARPENTER: -- conduct
25 the interviews. Somebody else did this?

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1 WITNESS SKINNER: Someone else did this, yes.

2 ADMINISTRATIVE JUDGE CARPENTER: Thank you.

3 MR. MICHAEL KOHN: It's my understanding --
4 can NRC Staff provide the witness with an unredacted
5 version of their exhibit so they can answer the question?

6 MR. BLAKE: Judge Bloch, I agree with the
7 Board's ruling that it was a reasonable enough question to
8 ask since it's in the testimony. But what I don't
9 understand now is the next step. Given the position that
10 the Staff had, for whatever reason they took it, what is
11 the probative worth? Why did we put them to this effort
12 now of going and finding the names?

13 Let's assume they're A or B, or C, or any of
14 the above.

15 CHAIRMAN BLOCH: Let me ask a slightly
16 different question that counsel has asked. Do you know
17 the method by which this small sample of people were
18 selected for interview?

19 WITNESS SKINNER: It's my understanding that
20 these people were selected by going back and taking a look
21 at the work orders in the time frame and that did specific
22 work in 1990 on the diesel generators. And they were
23 arbitrarily selected from those names from the work order.

24 CHAIRMAN BLOCH: Based on having been involved
25 in the work order?

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1 WITNESS SKINNER: Yes, sir.

2 MR. MICHAEL KOHN: Still does not --

3 CHAIRMAN BLOCH: He's just given you his
4 information, which is what --

5 MR. MICHAEL KOHN: Yes, Your Honor. I'm
6 asking that the witness be provided with a copy of the
7 Canto memo which identifies the individual.

8 CHAIRMAN BLOCH: And what's the cause for the
9 late discovery now?

10 MR. MICHAEL KOHN: Your Honor, it's not late
11 discovery. It's -- the witnesses are testifying about the
12 content of a document -- in fact, they're testifying about
13 the content of a document which has been blacked out in
14 these portions. And I don't see how NRC Staff can testify
15 about --

16 CHAIRMAN BLOCH: Would Staff be willing to
17 tell us whether any of the individuals have testified in
18 this proceeding and identify those people?

19 MS. YOUNG: Certainly. We don't have the
20 unredacted version in the room.

21 CHAIRMAN BLOCH: All right, so you could do
22 that when you have a chance.

23 CROSS EXAMINATION

24 MR. MICHAEL KOHN: Are you aware during this
25 investigation whether Staff was interested in determining

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1 whether anyone found moisture during an air receiver blow
2 down?

3 WITNESS SKINNER: Would you repeat that again,
4 please?

5 MR. MICHAEL KOHN: Are you aware of whether
6 the scope of the investigation was such that NRC Staff was
7 interested in determining from Georgia Power employees
8 whether they observed moisture during blow downs of air
9 receivers?

10 WITNESS SKINNER: I don't have any idea on the
11 answer to that question.

12 BOARD EXAMINATION

13 CHAIRMAN BLOCH: Mr. Skinner, do you know
14 whether the procedures are such that they would identify
15 moisture if it had been present?

16 WITNESS SKINNER: Yes, the procedures that I
17 have seen in use at Vogtle since 1991, and I have to
18 qualify it because I'm talking about my own observation,
19 is that the procedures did require the plant equipment
20 operators during their routine tours of the diesel
21 generator building to blow down the receivers.

22 They did this by basically placing their hands
23 underneath the piping, cracking open the valve for 15 to
24 20 seconds. And in that logging in their round sheet
25 whether or not they felt presence of moisture at that

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1 point.

2 CHAIRMAN BLOCH: Okay, I take it that at this
3 time you don't know whether or not that happened in 1990?

4 WITNESS SKINNER: In 1990, we have -- I have
5 gone back and looked at documentation that shows that that
6 process was in fact performed at that time. But I did
7 not personally see it at that time.

8 CHAIRMAN BLOCH: But the procedure was
9 basically the same?

10 WITNESS SKINNER: Procedure's basically the
11 same.

12 CROSS EXAMINATION

13 MR. MICHAEL KOHN: And are you aware of any
14 documentations of signs of moisture being detected during
15 blow downs of air receivers?

16 WITNESS SKINNER: I'm not aware of any
17 moisture being detected during the blow downs of any
18 receiver.

19 MR. MICHAEL KOHN: Your Honor, I'd like to
20 mark as Intervenor's Exhibit II-268 an August 4, 1994,
21 deposition of Michael Hobbs, page 21 of a transcribed
22 transcription of that deposition.

23 CHAIRMAN BLOCH: You want it marked? What was
24 the motion?

25 MR. MICHAEL KOHN: Just to mark it at this

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1 time, Your Honor.

2 CHAIRMAN BLOCH: And the number?

3 MR. MICHAEL KOHN: Intervenor's II-268.

4 CHAIRMAN BLOCH: Granted.

5 (Whereupon, the above-referred to
6 document was marked as Intervenor's
7 Exhibit No. II-268 for
8 identification.)

9 MR. MICHAEL KOHN: Mr. Skinner, do you know
10 Mr. Hobbs, Michael Hobbs?

11 WITNESS SKINNER: Yes, I do.

12 MR. MICHAEL KOHN: And do you know what
13 position he held in 1990?

14 WITNESS SKINNER: I know he worked in the
15 Instrumentation and Calibration Group. I do not know
16 specifically what position he had.

17 MR. MICHAEL KOHN: Were you aware that he held
18 a management position?

19 WITNESS SKINNER: Excuse me?

20 MR. MICHAEL KOHN: Were you aware that he held
21 a position in management, a supervisor position?

22 WITNESS SKINNER: I just said, no, I was not
23 aware of that.

24 MR. MICHAEL KOHN: And if you would look at
25 the document we have marked as Intervenor's II-268, you'll

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1 see that Mr. Hobbs was asked whether he was aware of any
2 moisture, on line 9, in any of the air receivers in 1990,
3 and his answer is yes.

4 MR. BLAKE: I'm going to object to this line
5 of questioning, and the reason for the objection is this
6 is one of those depositions where Intervenors did not
7 follow the guidelines, did not follow the rules of use of
8 depositions. I am informed that this particular
9 transcript was never presented to Mr. Hobbs, it has never
10 been corrected, it has never been distributed to the
11 parties as something that was going to be used, and I
12 object to the use of it this way.

13 We're going to now find a finding, subsequent
14 to this, which says Mr. Hobbs found moisture in the air
15 seal. Mr. Hobbs had never been called. Intervenor had
16 every opportunity to call him as a witness if they wanted
17 and to ask him about this, and confront him with it and
18 see if it refreshed his memory, all of those kinds of
19 things that you do in a normal evidentiary setting.

20 I object to any more questions about this or
21 reference to it.

22 MS. YOUNG: The Staff joins that objection.

23 MR. MICHAEL KOHN: Your Honor, I think that if
24 you would look at the testimony from NRC Staff, they
25 present a statement concerning interviews of instrument

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1 technicians and concerning the presence of water. The
2 probative value of that statement, and the basis of it, is
3 a hearsay statement, not transcribed, not presented under
4 oath, and I think the proper rebuttal of such a statement
5 would be the statement transcribed and made under oath of
6 a Georgia Power employee, in fact, a member of management.
7 And the --

8 CHAIRMAN BLOCH: Why didn't we have Mr. Hobbs
9 here?

10 MR. MICHAEL KOHN: If that's necessary, to
11 call Mr. Hobbs, Intervenor is certainly willing to call
12 Mr. Hobbs.

13 BOARD EXAMINATION

14 CHAIRMAN BLOCH: Mr. Skinner, were you aware
15 of this testimony in the deposition?

16 THE WITNESS: Yes, I have read this testimony
17 before. I've heard it.

18 CHAIRMAN BLOCH: Did the Staff follow up on
19 it?

20 MS. YOUNG: Judge Bloch, I think the witness
21 has misstated -- this was an untranscribed deposition.
22 The Staff would not have seen this.

23 CHAIRMAN BLOCH: He may have been present. Do
24 you know if you were present for the deposition?

25 MS. YOUNG: Of Michael Hobbs.

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1 THE WITNESS: No, I was not. I was not
2 present for the deposition of Michael Hobbs.

3 CHAIRMAN BLOCH: But somehow you became aware
4 of it, is that the case?

5 MR. MICHAEL KOHN: It's my understanding
6 that --

7 CHAIRMAN BLOCH: Wait a second. Let's just
8 let the witness respond.

9 THE WITNESS: The best I can remember right
10 now, Judge, is it seems like I have heard of this before,
11 but I do not know where it came from.

12 CHAIRMAN BLOCH: Do you know whether or not
13 the Staff followed up on it to find whether there was any
14 truth to it?

15 THE WITNESS: I know that the Staff has
16 followed up on numerous cases of looking for moisture in
17 the instrument air and the diesel starting air system.
18 Generally, in this particular respect, the -- Mr. Hobbs
19 would never have any cause whatsoever to blowdown the
20 steam -- the air receivers.

21 He may be present when it occurred, but the
22 Staff's inspections in these areas and their discussions
23 with the plant equipment operators who performed this
24 particular evolutions have never identified any moisture
25 in the air receivers. So where Mr. Hobbs got his

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1 information from, whether it's hearsay or not, I don't
2 know.

3 CHAIRMAN BLOCH: I think that for the adequacy
4 of the record, I'd like to know if the Staff has followed
5 up on this to get whatever the Staff has about whether or
6 not this is something that we should pursue. If the Staff
7 has followed up on it, and I'm satisfied with that, it
8 will be an end to it. Otherwise, we'll have to consider
9 whether or not he is needed for an adequate record.

10 MS. YOUNG: Judge Bloch, I just want to make
11 clear, this is a deposition transcript that the Staff has
12 not seen until today.

13 CHAIRMAN BLOCH: Well, but it's not clear that
14 the Staff wouldn't have found out about this.

15 MS. YOUNG: Well, how would they find out
16 about it if the deposition was not transcribed and
17 inspection -- Staff was not present?

18 MR. MICHAEL KOHN: Staff was present during
19 these depositions.

20 CHAIRMAN BLOCH: Staff was present, wasn't it?

21 MS. YOUNG: The inspection staff was not
22 present during the deposition, nor am I aware of any notes
23 that were taken that this statement was made. This is the
24 first memorialization that the Staff is aware of that has
25 been made of the deposition that was conducted in August

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1 1994.

2 MR. MICHAEL KOHN: We'd also like to note that
3 I believe Georgia Power obtained a copy of this deposition
4 transcript many months ago.

5 MS. YOUNG: Okay. The Staff did not.

6 MR. BLAKE: So what?

7 MS. YOUNG: This is not information Intervenor
8 has brought to our attention before today.

9 CHAIRMAN BLOCH: The Board will have a brief
10 recess.

11 MS. YOUNG: And, Judge Bloch --

12 MR. BLAKE: I think your ruling was dated
13 March -- I think your ruling required depositions
14 identified, distributed by March 23rd, I think it was, of
15 1994.

16 CHAIRMAN BLOCH: I am --

17 MR. BLAKE: But it could be '95.

18 CHAIRMAN BLOCH: I am definitely aware of
19 that.

20 MR. BLAKE: Thank you.

21 MS. YOUNG: So in terms of this transcription,
22 we don't have any confidence that this is even accurate,
23 since it was not shown to the witness.

24 (Whereupon, the proceedings were off the
25 record from 3:21 p.m. until 3:30 p.m.)

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1 CHAIRMAN BLOCH: Mr. Kohn, is it, in fact, the
2 case that Mr. Hobbs was an I&C supervisor in 1990?

3 MR. MICHAEL KOHN: Yes, Your Honor.

4 CHAIRMAN BLOCH: Under the circumstances, we
5 don't think that this is important enough to consider for
6 the adequacy of the record. This is a report purportedly
7 made in a deposition concerning a person's understanding
8 about what other people may have said who don't work
9 directly for him. There's too much chance for error
10 there, and if the Intervenor wanted to, they could somehow
11 have managed to have this transcribed in a timely manner
12 and reviewed by Mr. Hobbs.

13 Given the late time in the proceeding, and the
14 rulings we have made about depositions, we're going to
15 stick to our rulings in this case. If we thought this was
16 a serious problem, necessary for the adequacy of the
17 record, we'd rule otherwise. But we don't, at this time,
18 consider it to be that.

19 MR. BLAKE: Judge Bloch, I want to correct the
20 record at least, which I think is also even more
21 supportive of the Board's ruling here. It's my
22 recollection that Mr. Hobbs, although Mr. Kohn has told
23 you was an I&C supervisor at that point, it's my
24 recollection that the record will confirm that he was on
25 temporary assignment, off doing some sort of research work

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1 at that point and really not involved in operations at
2 all. I think even one more step removed from the people
3 actually doing this.

4 CHAIRMAN BLOCH: Mr. Kohn, please continue.
5 Just continue for a few more minutes and then we'll take
6 our break.

7 CROSS EXAMINATION (Continued)

8 MR. MICHAEL KOHN: Have you made an effort,
9 looking at page 12 of your testimony, at question 11 --
10 and I see that there seems to be some effort made to
11 correlate diesel trips with high dew points. Is that your
12 -- did you make an effort to correlate the dew points with
13 diesel trips?

14 WITNESS SKINNER: I don't understand your
15 question.

16 MR. MICHAEL KOHN: Let me rephrase it. Have
17 you ever made an effort to correlate the high dew point
18 readings with trips of the diesel or problems with the
19 diesel generator?

20 WITNESS SKINNER: We have known gone back and
21 looked at the dew point measurements at the time they were
22 taken, and looked at the diesel generator trips that have
23 occurred during this period of time also, and made a
24 determination as to whether it appeared that any of the
25 diesel generator trips could be attributable to a dew

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1 point problem, water in the system, or any kind of a
2 moisture affecting anything that would have to do with
3 control of the diesel generator, or could possibly trip
4 the diesel generator. In that respect, we have made some
5 sort of analysis of that effect.

6 BOARD EXAMINATION

7 ADMINISTRATIVE JUDGE MURPHY: Did you document
8 that analysis, Mr. Skinner?

9 THE WITNESS: We have documented that in
10 inspection reports throughout the period of time -- the
11 routine inspection reports conducted by the resident
12 staff.

13 CROSS EXAMINATION (Continued)

14 MR. MICHAEL KOHN: Is that the inspection
15 report that's mentioned in your testimony you're referring
16 to, the 1994 inspection report?

17 WITNESS SKINNER: No, I'm not. I'm talking
18 about the inspection reports that have occurred between
19 1990 and 1995.

20 MR. MICHAEL KOHN: You mention two -- I think
21 you have two examples in this portion of your testimony --
22 the 1A diesel generator, and you also mention the 2A
23 diesel generator -- in the six months preceding the site
24 area emergency. Were you aware that the 1A diesel
25 generator experienced high dew points 11 days before the

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1 site area emergency?

2 WITNESS SKINNER: Yes, I was.

3 MR. MICHAEL KOHN: And are you aware that
4 within a few days after the site area emergency, high dew
5 point readings were again taken?

6 WITNESS SKINNER: Let me see. I'd like to
7 look at 164 again, whatever that is, that demonstrative
8 aid 4. Mr. Kohn, if you have a copy of that, it would
9 probably expedite us looking at that. You were talking
10 about the 1A diesel?

11 MR. MICHAEL KOHN: Yes, sir.

12 WITNESS SKINNER: Okay. It's my recollection
13 in review of evidence in this case, that the dew point
14 that occurred on 3/9/90 was basically right after the
15 receiver had been opened and returned to service, and it
16 was found to have a high dew point, and on 3/12 the feed
17 and bleed had corrected the situation, and the dew point
18 had been returned to normal.

19 On the 3/29/90, this dew point reading may or
20 may not be a valid reading, and that's going to be
21 entirely dependent upon the outcome of whether or not the
22 Alnor device was, in fact, inoperable at the time that it
23 was used to take that particular reading.

24 BOARD EXAMINATION

25 CHAIRMAN BLOCH: Mr. Skinner, do you know

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1 anything about what the nature of the operating problem
2 might have been in the Alnor?

3 THE WITNESS: The nature of the operating
4 problem?

5 CHAIRMAN BLOCH: Yeah. It is alleged to have
6 been defective, but no one, so far as I know, has stated
7 what the defect was. Do you know what the defect was?

8 THE WITNESS: Yeah, I know what the defect
9 was. I do -- we reviewed the data provided by Georgia
10 Power this morning as part of Mr. Duncan's attachment to
11 his testimony, and the only thing that could be
12 conclusively determined from that I think, in the cursory
13 review of that information, was that the instrument was,
14 in fact, faulty. They did have to repair the instrument
15 prior to calibrating it before they returned it back to
16 Georgia Power. So the actual mechanism that was at fault,
17 that was not identified.

18 CROSS EXAMINATION (Continued)

19 MR. MICHAEL KOHN: Is that really what the
20 documentation says, that it was defective?

21 WITNESS SKINNER: The documentation says it
22 was repaired --

23 MR. MICHAEL KOHN: That's right.

24 WITNESS SKINNER: -- and calibrated.

25 MR. MICHAEL KOHN: And if you looked at the --

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1 did you look closely at the document to note that if you
2 were going to replace the radioactive source, that the
3 form you had to circle was the repair circle? Did you --

4 WITNESS SKINNER: I believe that you're
5 looking at two different dated intervals.

6 CHAIRMAN BLOCH: I think we should be looking
7 at the document if we're going to discuss it.

8 MR. MICHAEL KOHN: Your Honor, I think if --
9 at this point, it's not an area I'd necessarily like to
10 cover, because I don't have the full source of knowledge
11 of anything, and it is an area that we have requested
12 discovery on. So I'd like to --

13 CHAIRMAN BLOCH: Because what? Is there
14 discovery coming to you on this?

15 MR. MICHAEL KOHN: Well, Your Honor, we had a
16 discussion earlier, and if documentation is being
17 submitted into the record in an affidavit from Mr. Duncan,
18 I think it's fair that Intervenor should have the right
19 for discovery on the matter.

20 BOARD EXAMINATION

21 CHAIRMAN BLOCH: We're going to ask a couple
22 of questions. Can we get that exhibit out?

23 Sir, this is GPC Exhibit II-201, affidavit of
24 Michael Dwyer Duncan, and what we're particularly talking
25 about is Exhibit B.

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1 THE WITNESS: Your Honor, what I was looking
2 at was Exhibit B, page 3 of 5, which occurred on 2/12/91,
3 which basically identifies that the instrument was
4 prepared and calibrated with a certificate traceable to
5 NIST with data. And it appears that if the instrument had
6 been calibrated, that either item number 1 or item number
7 2 would have been identified.

8 CHAIRMAN BLOCH: And what Mr. Kohn was
9 suggesting is that the reason 4 is checked is because
10 there also was a replacement of a source. Do you know
11 whether or not that would require that 4 would be circled?

12 THE WITNESS: I do not know whether that would
13 require that 4 would be circled, but I believe we have
14 documentation, and it's not attached to this, that I
15 identifies that the sources in that particular instrument
16 were replaced much after this February '91 timeframe. But
17 I don't have that documentation available.

18 CHAIRMAN BLOCH: So your belief is that this
19 line, including this statement that it was -- the charge
20 was \$850, indicates that there was something wrong with
21 the instrument?

22 THE WITNESS: That's the way I would read this
23 piece of paper. In addition to that, if you'll recall --
24 and there is a note on the -- page 5, where I contacted
25 Mr. Wade from the Quality Assurance Group at Alnor, in

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1 which he identified that there were no records of the
2 instrument coming in in the as-found condition.

3 CHAIRMAN BLOCH: In your opinion, is that
4 unusual?

5 THE WITNESS: Well, it is -- it would not
6 necessarily be unusual if it was -- if the piece of
7 equipment came in to be repaired. If it was damaged in
8 some form or fashion, then you could not logically do a
9 calibration of it and find out what the as-found condition
10 is of the instrument. All you could do there is basically
11 repair the instrument and then calibrate it.

12 CHAIRMAN BLOCH: And do you know, Mr. Skinner,
13 if there was any followup at the site as to what readings
14 might have been defectively taken by this instrument?

15 THE WITNESS: No, sir, I do not. But probably
16 what I would have expected to occur in this condition
17 would be that the Licensee would go out and certify with a
18 piece of good equipment that the receivers were all within
19 their required dew point readings, and if they were,
20 conduct blowdowns and inspect the system to determine if
21 there was any signs of moisture accumulation of any kind
22 or any kind of corrosion of products in the system.

23 And based on that, there would be no reason to
24 go back, if they found no indication of moisture, to go
25 back and assess the effect of the instrument being a

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1 malfunctioning instrument or out of calibration
2 instrument.

3 CHAIRMAN BLOCH: And you're aware that there
4 is some evidence in our record that these readings by the
5 Alnor instrument were, at first, confirmed by an EG&G
6 instrument, is that correct?

7 THE WITNESS: Well, I'm aware that the EG&G
8 instrument basically had similar readings to the Alnor,
9 yes, sir. But the -- I'm also aware that the record
10 indicates that there was some question about the use of
11 that Alnor instrument when these particular readings that
12 did correspond to the Alnor were taken.

13 CHAIRMAN BLOCH: Okay. My understanding is
14 that there was a problem reported about the EG&G
15 instrument with respect to there having been no flow
16 meter. Is that your recollection?

17 THE WITNESS: That's my recollection also.

18 CHAIRMAN BLOCH: And do you know anything
19 about the extent to which the accuracy of those readings
20 would be affected by the absence of the flow meter?

21 THE WITNESS: Yes, sir. I called the EG&G
22 personnel and talked to their calibration people
23 concerning this. They told me that it would, in fact, be
24 possible, but highly improbable, that you could, in fact,
25 get a valid reading without the use of a flow meter. The

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1 reason for this is the flow through the device, in order
2 to get a valid reading, would have to be, I believe it
3 was, between 0.5 and five cubic feet per hour. I'm trying
4 to recall from memory now. I think I've written a memo to
5 that effect.

6 So to try to throttle a valve down to that
7 value to get the correct flow through the EG&G would be
8 extremely hard.

9 CHAIRMAN BLOCH: But this could account, in
10 your opinion, for as many as 30 or 40 degrees difference
11 in the reading?

12 THE WITNESS: Well, I also asked the
13 calibration personnel about this, and their response was
14 that they felt that a higher flow would cause the dew
15 point reading to be lower rather than higher.

16 CHAIRMAN BLOCH: So the opposite would be
17 true. If there was too low a flow, the reading might be
18 higher?

19 THE WITNESS: That's correct. So I don't have
20 any idea of which way an improperly used EG&G instrument
21 that would depend entirely on the methodology used in the
22 attempted reading.

23 CHAIRMAN BLOCH: Are you satisfied with the
24 fact that the instrument was taken out into the field to
25 be used, apparently without sufficient knowledge to know

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1 how to use it accurately?

2 THE WITNESS: Am I personally satisfied with
3 that?

4 CHAIRMAN BLOCH: Well, do you think enough has
5 been done to follow up at the plant on how it happened
6 that someone went out with an instrument without knowing
7 how to use it?

8 MS. YOUNG: Are we talking about the EG&G?

9 CHAIRMAN BLOCH: Yes.

10 THE WITNESS: That's a hard question to
11 answer, and let me just give you my personal opinion of
12 this. Would be that if -- if the Licensee had an
13 instrument that he felt was faulty, and basically wanted
14 to confirm that, and the only instrument that he had was
15 an instrument that their personnel were not that familiar
16 with, I would have expected that the personnel would
17 become familiar with the instrument before they attempted
18 to use it. So --

19 CHAIRMAN BLOCH: You'd expect that they would
20 at least look at their manual, wouldn't you?

21 THE WITNESS: Would look at the manual and
22 make sure that they were using it correctly. And the way
23 I understand from the testimony, that this probably did
24 not occur. They went ahead and used the instrument in
25 order to try to determine whether or not they did, in

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1 fact, have a dew point problem, and did not confirm that
2 one way or another until they got the additional
3 instrument from V.C. Summer.

4 CHAIRMAN BLOCH: I have some concern about
5 testimony that when readings were in spec., the company
6 didn't seem to suspect those readings much. But when they
7 were out of spec., they questioned whether they might be
8 invalid. Did you hear the same testimony I'm referring
9 to?

10 THE WITNESS: Yes, sir.

11 CHAIRMAN BLOCH: Do you have any point of view
12 about what that point of view is all about?

13 THE WITNESS: That, again, would be purely
14 speculation on my part. But, again, I think the tendency
15 would be always if you get an instrument, reading a
16 specification, whether it be dew point or any other
17 specification, and it is in spec., you have a tendency not
18 to question that. You have a tendency to accept that.

19 I would guess that if you have a series of
20 instrument readings that were out of spec., you would be
21 more prudent to get several readings rather than just
22 depend on one reading after it was returned to a
23 specification reading.

24 ADMINISTRATIVE JUDGE MURPHY: Do you have a
25 copy of GPC II-201 in front of you?

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1 THE WITNESS: Yes, sir.

2 ADMINISTRATIVE JUDGE MURPHY: Would you go to
3 Exhibit B, page 2?

4 MR. MICHAEL KOHN: For the record, is there a
5 better copy of B, page 2?

6 ADMINISTRATIVE JUDGE MURPHY: That's where I'm
7 going.

8 (Laughter.)

9 Can you read that?

10 THE WITNESS: No, sir.

11 ADMINISTRATIVE JUDGE MURPHY: Can you read the
12 comment, the asterisked comment down near the bottom?

13 THE WITNESS: I can read a couple of the
14 words. I cannot read the phrase.

15 ADMINISTRATIVE JUDGE MURPHY: Is there any
16 possibility that the Licensee can get a better copy of
17 this?

18 CHAIRMAN BLOCH: That does seem to be a
19 crucial line.

20 MR. BLAKE: We'll work on that.

21 ADMINISTRATIVE JUDGE MURPHY: Thank you.

22 CHAIRMAN BLOCH: I assume you mean you're
23 going to try to find a better copy.

24 MR. BLAKE: Yes.

25 (Laughter.)

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1 You know, Judge Bloch, when you ask the
2 witness for his view of, you know, the only -- they seemed
3 to be more willing to accept the numbers when they were in
4 than when they were out, I wish -- and I think I'm going
5 to just wish -- let me rephrase. I think it would be more
6 fair for you to say -- to ask them, when all eight went
7 out, what was it? You know, that -- that business.

8 CHAIRMAN BLOCH: But that wasn't the one I was
9 referring to.

10 MR. BLAKE: Okay. Fair enough. Then I'll
11 withdraw it, if that was not the one you were referring
12 to.

13 CHAIRMAN BLOCH: Unfortunately, I don't
14 prepare cross, because I don't consider that I judge as a
15 Judge ordinarily would do that.

16 MR. BLAKE: Yes.

17 CHAIRMAN BLOCH: If I had the exact citation,
18 I would have given it.

19 MR. BLAKE: Fair enough.

20 CHAIRMAN BLOCH: It wasn't the eight.

21 MR. BLAKE: I'll back away then.

22 ADMINISTRATIVE JUDGE CARPENTER: Mr. Skinner,
23 while we're off talking about these dew point
24 measurements, did you learn from your review whether the
25 use of the Alnor requires some particular air flow rate

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1 while the reading is being made?

2 THE WITNESS: No, sir, I did not.

3 ADMINISTRATIVE JUDGE CARPENTER: So you don't
4 know whether its principle of operation is analogous at
5 all to the EG&G?

6 THE WITNESS: No, sir.

7 ADMINISTRATIVE JUDGE CARPENTER: And I must.
8 admit, the instruction manuals are a masterpiece of
9 mystery, with respect to a lot of things. I could not
10 understand whether there was -- whether technicians were
11 in the habit of having to establish a particular flow with
12 the Alnor, and then picked up the EG&G and paid no
13 attention to the fact that they didn't know what the flow
14 was.

15 THE WITNESS: Well, I think that speaking from
16 my experience in observing dew point measurements, that
17 there is definitely a required flow or a pressure that you
18 should use the Alnor at also. But I don't recall that off
19 hand, without going through the manual.

20 ADMINISTRATIVE JUDGE CARPENTER: So you would
21 expect that they would be aware that there needs to be
22 attention to that parameter, to --

23 THE WITNESS: Yes, sir.

24 ADMINISTRATIVE JUDGE CARPENTER: -- the flow
25 rate?

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1 THE WITNESS: I believe that the Alnor either
2 required a needle valve or a regulator in the supply
3 system, in some form or fashion.

4 ADMINISTRATIVE JUDGE CARPENTER: As I look at
5 the picture of the Alnor, it looks like there might be a
6 flow meter on one side, but I'm not sure.

7 MR. BLAKE: Judge Carpenter, I'll try to get
8 during the next break a reference back to Mr. Hammond's
9 description of the contrast between the operation of the
10 two instruments, including at least my recollection of his
11 saying what you did with Alnor was capture in a chamber a
12 certain sample of air, rather than being the same. But
13 I'll -- rather than my own testimony, I'll at least get
14 you a cite back to where he talked about that.

15 ADMINISTRATIVE JUDGE CARPENTER: That was
16 vaguely a possibility in my mind. Did I miss that
17 testimony in some way?

18 CHAIRMAN BLOCH: I remember you --

19 THE WITNESS: I don't remember. It was the
20 three items in --

21 ADMINISTRATIVE JUDGE CARPENTER: My apologies.

22 CHAIRMAN BLOCH: I remember hearing it, so --

23 THE WITNESS: Okay.

24 CHAIRMAN BLOCH: They captured a sample.

25 THE WITNESS: Okay.

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1 CHAIRMAN BLOCH: Just one more question in
2 this area. My colleagues have studied the manuals for
3 these instruments, and as Judge Carpenter said, he finds
4 them quite complicated. I'm kind of puzzled about, given
5 the complexity of the instruments, whether the training
6 procedures and certification procedures for use seem to
7 you to be adequate.

8 THE WITNESS: I don't recall that we have
9 inspected that area, Judge, so I don't know. I can't
10 respond to that.

11 CHAIRMAN BLOCH: It seemed that the training
12 was rather informal. We don't know that there were formal
13 training procedures, and the certification appears to be
14 just you've gone out, and someone else has done it with
15 you, and then you go do it. That's what I recollect from
16 the record, so I just wanted to alert you to that.

17 THE WITNESS: I know that we have reviewed
18 their training for their I&C personnel, as well as their
19 other craft personnel. Whether we have looked at it into
20 that depth or not I can't respond.

21 CHAIRMAN BLOCH: Mr. Kohn?

22 MR. MICHAEL KOHN: Intervenor would request
23 that the Board grant a subpoena where Intervenor can file
24 it on the various companies and individuals involved, to
25 obtain all documentation and the originals of these

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1 documents.

2 CHAIRMAN BLOCH: We granted you certain
3 discovery through the end of 1991 on the Alnor, and that
4 will be adequate at this time.

5 MR. MICHAEL KOHN: Thank you, Your Honor.

6 CROSS EXAMINATION (Continued)

7 MR. MICHAEL KOHN: Mr. Skinner, I'm going to
8 call your attention back to 1A. You were looking at the
9 3/29/90 readings of 80 and 60 degrees Fahrenheit. And you
10 said there was some question that these --

11 CHAIRMAN BLOCH: Hold on just one second.
12 What's the date of this Alnor --

13 MR. BLAKE: We just located it at transcript
14 page 12838.

15 CHAIRMAN BLOCH: No, no, no. The document we
16 were just looking at about the Alnor appears to show that
17 there was a recalibration and repair as of February --
18 January of '91. So that would set the limit to the date
19 on which you have to obtain -- produce documents about the
20 instrument. After that date, it has been recalibrated.
21 Our order cut it off at that date.

22 MR. BLAKE: We have found none, but I
23 appreciate that.

24 CHAIRMAN BLOCH: Well, if you have found none,
25 that's a satisfactory statement for the record. You have

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1 already looked and you have found none?

2 MR. BLAKE: That's correct. And that what we
3 were doublechecking was that resulted in this Duncan
4 affidavit, was whether or not Alnor -- we hadn't had any
5 from the plant records. We wanted to doublecheck whether
6 or not there was a potential GE or an Alnor number.

7 CHAIRMAN BLOCH: Mr. Kohn, my apologies for
8 cutting you off.

9 ADMINISTRATIVE JUDGE MURPHY: Mr. Kohn, we're
10 looking for a good place to take a break, too.

11 CHAIRMAN BLOCH: Why don't we take a break
12 now? Is this okay?

13 ADMINISTRATIVE JUDGE MURPHY: If this is a
14 good place.

15 MR. MICHAEL KOHN: It's fine, Your Honor.

16 CHAIRMAN BLOCH: A 10-minute break, starting
17 now.

18 (Whereupon, the proceedings were off the
19 record from 3:57 p.m. until 4:12 p.m.)

20 (Whereupon, the above-referred to
21 document, previously marked as
22 Intervenor's Exhibit No. II-201 for
23 identification, was received into
24 evidence.)

25 CHAIRMAN BLOCH: We will, of course, as soon

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1 as we have a legible copy of the page that Judge Murphy
2 identified, we will add that to the transcript at some
3 point, too.

4 MR. BLAKE: I'm hopeful we'll be able to do
5 that today, so that the copy that is bound in will have
6 it. We've asked --

7 CHAIRMAN BLOCH: That would be preferable.

8 MR. BLAKE: -- somebody to go and try to get a
9 better copy today. So if the Court Reporter would check
10 with me before he leaves today.

11 MR. MICHAEL KOHN: Intervenor has previously
12 identified strenuous objection to this document, without
13 having the witness available and all of the source
14 documentation necessary.

15 CHAIRMAN BLOCH: Well, let me ask a separate
16 question which is, was there prior discovery that you
17 requested which would have been answered differently if
18 Georgia Power had been able to identify this document?
19 Should you be asking that prior discovery requests be
20 updated in the presence of this document, rather than
21 asking for new discovery?

22 MR. MICHAEL KOHN: There are some prior
23 discovery requests, and I haven't -- I can't --

24 CHAIRMAN BLOCH: That would be far more
25 persuasive to the Board than a new discovery request.

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1 MR. MICHAEL KOHN: But I'd like to point out
2 that, essentially, the other parties have engaged in
3 discovery -- NRC Staff and Georgia Power -- to get this
4 documentation. And there they have --

5 CHAIRMAN BLOCH: That's not called discovery.

6 MR. MICHAEL KOHN: Well, they -- NRC Staff has
7 means of persuasion which we do not, and Georgia Power --
8 Licensee -- has their vendors who they have -- can get
9 documentation from, where we cannot. And I think that
10 obtaining documentation is what is at issue, and the only
11 way we have means of doing it is through requesting a
12 subpoena from the Board.

13 And I think that it is generally understood in
14 the course of a trial, when a party wants a document to
15 question the witness with, that a subpoena is the method
16 used, and it's nothing unusual. It's not discovery. It's
17 we now know documentation we want to question a witness
18 about, and we file a request for a subpoena. And I think
19 that's the only thing Intervenor has really, at this
20 point, been asking.

21 CHAIRMAN BLOCH: But we appreciate the
22 importance of the document that has been produced, and so
23 we will pay careful attention to a request for related
24 discovery. I wish we had received this months ago. That
25 would have clarified the proceeding a good deal in the

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1 past.

2 MR. MICHAEL KOHN: And I'd also like to note
3 that this whole issue is arising as a result of
4 Intervenor's in camera -- initial in camera presentation
5 to the Board, and it -- Intervenor was very concerned that
6 we not -- that they be allowed to get discovery before all
7 of this was uncovered. We lost that opportunity, and I
8 think that what is occurring now is the record before was
9 quite satisfactory to Intervenor.

10 Now, when we found some more information that
11 we thought was even more relevant, we are not allowed to
12 do the discovery, but the record can be altered. And I --
13 that is with respect to Mr. Duncan's affidavit. They are
14 changing their story and their testimony. And I think
15 that the total effect is --

16 CHAIRMAN BLOCH: Well, the only really
17 important thing on the Duncan affidavit is the attached
18 document from Alnor. If that's a valid document, there
19 really is nothing else to be said on this issue. So you
20 really have to inquire into the validity of that document.

21 MR. MICHAEL KOHN: That is exactly correct,
22 Your Honor, and the problem is Mr. Duncan's affidavit
23 interprets the document, and Georgia Power is attempting
24 to interpret the document. And the witnesses here have
25 interpreted these documents, and that is the -- what is

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1 unfair. And to interpret the document without having a
2 complete understanding of the methodology used is what
3 Intervenor is really objecting to. What we simply want is
4 an opportunity --

5 CHAIRMAN BLOCH: We'll give you a crack at it
6 if you show us a reason. Now, could you just restate for
7 me, because I couldn't make heads of tails of it, what
8 this has to do with the in camera discussions we had?

9 MR. MICHAEL KOHN: The documentation
10 concerning the as-found data and whether it was taken
11 resulted directly from Intervenor's bringing to the
12 Board's attention our understanding that as-found data was
13 obtained, and that Georgia Power's counsel had
14 documentations faxed to it, etcetera, and that we were
15 requesting discovery and the right to question witnesses
16 with respect to documentation.

17 It was then determined that those materials --
18 that the Intervenor's theory would be released to the
19 parties. And, subsequently, Georgia Power produced this
20 affidavit in response to Intervenor's assertions
21 concerning the Alnor device.

22 MR. BLAKE: Judge Bloch, I'd like one minute
23 to respond to the 10 minutes. I've said before on the
24 record that I was offended by some of the things that I
25 heard during the course of that ex parte in camera

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1 session, once I had read it. And I'm offended today as
2 well by the inference. The inference by Mr. Kohn is that
3 somehow these documents or the purports to the Board in
4 these documents have been jimmied because we got them or
5 the NRC Staff got them rather than him.

6 I don't like it. I don't like it about
7 Georgia Power. I don't like it about the NRC Staff. I
8 don't like it about Alnor or GE or anybody else. I don't
9 think these kinds of inferences and challenges and attacks
10 are appropriate, unless there's a basis for it, and the
11 basis is not simply because the records don't support his
12 case. That's not a sufficient basis.

13 MR. MICHAEL KOHN: I'm sorry you feel that
14 way. It's simply a matter of due process, and the need of
15 a party to discover the whole truth, not portions of it,
16 presented by any other party. And that, obviously, there
17 -- it's a matter of due process, Mr. Blake, and I'm sorry
18 if you interpret it in any other fashion.

19 CHAIRMAN BLOCH: All right. So this will be
20 continued in written motion, if it's continued at all.
21 Let's continue with the witnesses.

22 BOARD EXAMINATION

23 ADMINISTRATIVE JUDGE CARPENTER: Mr. Kohn,
24 before you resume -- Mr. Skinner, going back to your
25 report that you have spoken with someone at EG&G, who

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1 indicated that the dew point readings obtained with the
2 instrument are dependent on the flow -- the magnitude of
3 the flow through the instrument at the time the readings
4 are made, is there any indication of a quantitative limit
5 of what that amounted to? To the point -- coming right to
6 the point, did you ask what air would occur in the reading
7 if there were no flow?

8 THE WITNESS: I did not specifically ask the
9 question, what rating would there be if there was no flow.

10 ADMINISTRATIVE JUDGE CARPENTER: What air.

11 THE WITNESS: Okay. No, I did not. I asked
12 him if he had the improper flow, would that affect the
13 readings, and he went on to explain that with too much
14 flow, that would cause the dew point to -- it would
15 basically blow away the --

16 ADMINISTRATIVE JUDGE CARPENTER: Right.

17 THE WITNESS: -- the fog that appears on the
18 mirror, and you would not get an accurate reading at that
19 time. And that should give a lower dew point reading than
20 actually exists.

21 ADMINISTRATIVE JUDGE CARPENTER: But you
22 weren't curious about what might happen if there was no
23 flow?

24 THE WITNESS: I did not specifically ask that
25 question, no. The --

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1 CHAIRMAN BLOCH: I guess the related question
2 is if it would be hard to get too little flow -- to get
3 some flow, but too little.

4 THE WITNESS: Well, the instrument itself is
5 calibrated, I believe, between a range of flows, and they
6 do not consider that the instrument is accurate if it is
7 outside that range.

8 ADMINISTRATIVE JUDGE CARPENTER: Well, if you
9 didn't ask, you didn't ask. Thank you.

10 CHAIRMAN BLOCH: Mr. Kohn?

11 CROSS EXAMINATION (Continued)

12 MR. MICHAEL KOHN: Was it your understanding
13 that when the I&C technicians used the EG&G, they used it
14 as they would -- they set it up as they did the Alnor?

15 WITNESS SKINNER: Are you talking about the
16 initial setup of the EG&G, when they questioned the
17 Alnor's readings the first time they used it?

18 MR. MICHAEL KOHN: Yes.

19 WITNESS SKINNER: I don't have any idea. I
20 did not look into that aspect of it.

21 BOARD EXAMINATION

22 CHAIRMAN BLOCH: Do you know if that means
23 anything? How would you set up the EG&G like you set up
24 the Alnor, if they're completely different types of
25 instruments?

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1 THE WITNESS: I don't have any idea.

2 CROSS EXAMINATION (Continued)

3 MR. MICHAEL KOHN: In terms of hooking it up
4 to the receiver.

5 WITNESS SKINNER: I know that the
6 understanding that I have is they hook up the Alnor and
7 the EG&G at the same location. The specific components
8 used between the two instruments I'm not aware of.

9 MR. MICHAEL KOHN: Let's get back to
10 Intervenor's demonstrative aid number 4, the 3/29/90
11 entry.

12 WITNESS SKINNER: Okay.

13 MR. MICHAEL KOHN: And you said that you
14 realize that these are high readings, that you had some
15 question as a result of the fact of whether the Alnor was
16 defective on that date or not?

17 WITNESS SKINNER: That's correct.

18 MR. MICHAEL KOHN: Now, if you would turn to
19 the third page of the document, diesel 1B. And would you
20 look at the 3/29/90 readings?

21 WITNESS SKINNER: I see that.

22 MR. MICHAEL KOHN: And do you notice the Alnor
23 gave a satisfactory dew point reading?

24 WITNESS SKINNER: Yes, I did.

25 MR. MICHAEL KOHN: Do you think that the

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1 instrument was defective, based on the fact that on the
2 same date you were receiving in calibration readings?

3 WITNESS SKINNER: I think that the instrument
4 could have been dropped. I don't know which instrument or
5 which diesel the dew point was taken on first. There's a
6 potential that the instrument was damaged on -- between
7 the dew points that were taken. And subsequent to that
8 diesel dew point, all of the remaining readings taken by
9 the Alnor were extremely high.

10 So it would appear that it either started
11 malfunctioning at that -- or it potentially could have
12 started malfunctioning at that time.

13 MR. MICHAEL KOHN: Well, has anyone told you
14 if the Alnor was dropped?

15 WITNESS SKINNER: No.

16 BOARD EXAMINATION

17 ADMINISTRATIVE JUDGE CARPENTER: Mr. Skinner,
18 would the plant records indicate the exact times that the
19 readings were made?

20 THE WITNESS: Not necessarily, no, sir. The
21 maintenance work authorization may have identified the
22 time that the dew point readings were taken, but I don't
23 recall that.

24 CHAIRMAN BLOCH: Mr. Skinner, do you know --
25 this is a way out question. Do you know whether the plant

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1 records would have an itemized bill for the repair?

2 THE WITNESS: No, sir, I don't.

3 ADMINISTRATIVE JUDGE CARPENTER: But,

4 Mr. Skinner --

5 CHAIRMAN BLOCH: Oh, I see. It may be stated
6 on the portion we can't read, though.

7 ADMINISTRATIVE JUDGE CARPENTER: Mr. Skinner,
8 coming back to the issue that the Intervenor raises that
9 this Alnor instrument gave apparently out of specification
10 readings on the 1A air receiver, and within specification
11 readings on the 1B -- is that right? Don't you think it's
12 important to know the sequence in which these measurements
13 were made? Which one was in the morning and which one was
14 in the afternoon?

15 THE WITNESS: To reach a valid conclusion,
16 yes, sir.

17 ADMINISTRATIVE JUDGE CARPENTER: Well, I think
18 one pattern is suggestive of one thing, and the other
19 pattern is suggestive of another thing. Do we have the
20 documents some place in this mountain of paper that we
21 have that we can look at, or not? Or do we need more
22 paper?

23 CHAIRMAN BLOCH: Do we know whether the I&E
24 log would clarify this? I&C, excuse me.

25 All right. All right. Let's continue.

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1 MR. MICHAEL KOHN: Your Honor?

2 CROSS EXAMINATION (Continued)

3 MR. MICHAEL KOHN: If you would turn to the 2B
4 readings in demonstrative aid 4, and would you look at the
5 4/2/90 date. Do you also notice that in spec. dew points
6 were obtained on that date?

7 WITNESS SKINNER: Yes, I do.

8 MR. MICHAEL KOHN: Did you attempt to
9 determine what Alnor device was used to take those
10 readings?

11 WITNESS SKINNER: No, I did not.

12 MR. MICHAEL KOHN: Are you aware by this point
13 -- did they only have one Alnor available at that period
14 of time, to your knowledge, at the site?

15 WITNESS SKINNER: I do not know how many
16 Alnors they had available.

17 MR. MICHAEL KOHN: And don't you think it
18 would be important to determine which Alnor was used to
19 take the 4/2/90 readings?

20 WITNESS SKINNER: Well, it's my understanding
21 that the Intervenor and Georgia Power agreed to this
22 demonstrative aid. Staff did not review this particular
23 aid and compared it to the maintenance work
24 authorizations, because we did not have those. So,
25 therefore, I assumed that if you guys did not identify

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1 which particular instrument was used, it was not in the
2 documentation.

3 MR. MICHAEL KOHN: Okay. For the record,
4 Intervenor does not have that documentation and has not
5 reviewed it.

6 If you'd get back to the first page of
7 Intervenor's demonstrative aid 4, the 3/9/90 entry. You
8 indicated that those dew points were high because the
9 system had been opened up, is that correct?

10 WITNESS SKINNER: That's my understanding,
11 yes, sir.

12 MR. MICHAEL KOHN: And if you would turn to
13 the next page, the 4/6/90 readings.

14 WITNESS SKINNER: The next page?

15 MR. MICHAEL KOHN: Yes, page 2 of
16 demonstrative aid 4. And if you would look under the --

17 WITNESS SKINNER: I don't see a 4/6/90 reading
18 on that page.

19 CHAIRMAN BLOCH: It's at the top of the page?

20 MR. MICHAEL KOHN: It's the second entry on
21 the page.

22 THE WITNESS: I probably do not have the
23 correct demonstrative aid since we've got so many
24 revisions of it. That's not the one that's revised,
25 Michael. That's the reason probably. This is the one

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1 that was prepared a long time ago.

2 MR. MICHAEL KOHN: On your version, I pointed
3 to the entry for the 4/6, and will you note that it states
4 there is an 80 degree dew point and a blank, and then a 75
5 degree dew point and a blank?

6 WITNESS SKINNER: Yes.

7 MR. MICHAEL KOHN: Okay. And if you'll note,
8 there should be a notation on the side that the KO₂
9 receiver had been bled by mechanics who inspected the
10 vessel. Do you see that?

11 WITNESS SKINNER: Yes. Again, I --

12 MS. YOUNG: Could we get the witness the real
13 exhibit rather than an old version?

14 CHAIRMAN BLOCH: Off the record.

15 (Whereupon, the proceedings were off the
16 record briefly.)

17 CHAIRMAN BLOCH: The Board directs that the
18 demonstrative aid be bound in again in the transcript at
19 this point. It has already been admitted in evidence.
20 You don't have to get that this moment.

21 ADMINISTRATIVE JUDGE MURPHY: What we're
22 talking about is Intervenor II-169, is that right?

23 MR. MICHAEL KOHN: Yes, that is correct.

24 Now, looking at the entry, and do you see the
25 blank by the -- for KO₂?

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DEMONSTRATIVE AID #4 (rev. 7-13-95)

DEW POINT DATA* -- DIESEL AIR SYSTEM

DIESEL 1A

DATE	MWO	DEW POINT DEGREES F	INSTRUMENT	COMMENTS
1-20-89	1-88-09080	27.3,	VP-1114 (CDD 5-2-89)	
7-13-88	1-88-02991			Air temp high alarm in but delta T only 1 F for both dryers. Replaced consenser fan motor. Replaced Compressor, Bypassed Fan relay switch, Filled unit with Freon Installed new Fan cut out switch
thru				
2-10-89				
2-12-89	1-88-02991	43.9,	VP-1114 (CDD 5-2-89)	Air temp. high alarm still in for dryer K02
3-1-89	1-89-01008	, 78		Compressor not coming on automatically, fan in a bind.
3-3-89	1-89-01008	, 70		Compressor Freon was discharged and then recharged. Purged receiver
3-13-89	1-89-01008	, 53.9		After additional receiver purges.
3-16-89	1-89-00984	22.6, 20.1	VP-1114 (CDD 5-2-89)	
5-18-89	1-89-01066	39, 78	VP-2466 (CDD 4-4-89)	MWO 1-89-02188 written to correct problem with K02
6-21-89	1-89-02453	48,	VP-2722 (CDD 9-2-89)	K02 dryer will be replaced under MWO 1-89-02188
7-07-89	1-89-02188	, 48	VP-2721 (CDD 9-2-89)	
7-30-89	1-89-02798	43, 39	VP-2722 (CDD 9-2-89)	
8-24-89	1-89-03214	37, 35	VP-2721 (CDD 9-2-89)	
9-27-89	1-89-03652	44.5, 45	VP-2466 (CDD 3-7-90)	
10-20-89	1-89-04442	38, 45	VP-2466 (CDD 3-7-90)	
11-20-89	1-89-05007	40, 47	VP-2466 (CDD 3-7-90)	
12-20-89	1-89-06199	40, 37	VP-2466 (CDD 3-7-90)	
1-18-90	1-89-06445	44, 44	VP-2466 (CDD 3-7-90) VP-2710 (CDD 3-6-90)	
2-11-90	1-90-00485	37, 37	VP-2466 (CDD 3-7-90)	
3-9-90	1-90-00899	61, 66		As left Dew Point was out of spec.
3-12-90	1-90-00899	48, 45		
3-29-90	1-90-01513	80, 60	VP-2466 (CDD 4-7-90)	DC written but rejected by SS who said to write MWO.

NUCLEAR REGULATORY COMMISSION
 Docket No. 50-424/425-OLA-3 EXHIBIT NO. 11-164
 In the matter of Georgia Power Co. et al, Vogtle Units 1 & 2
 Staff Applicant Intervenor Other
 Identified Received Rejected Reporter SP
 Date 9/21/91 Witness SKINNER / TOLANSON

4-5-90	1-90-01651	86, 67 78, 77 83, 85	VP-2466 (CDD 4-7-90) VP-2466 (CDD 4-7-90) VP-2466 (CDD 4-7-90)	*** 4-5-90, 18:45-- Diesel Generator 1A reservoir venting and charging until dewpoint comes into spec. continuing.
4-6-90	1-90-01651	85, 85 85, 85 80, 70 80, 75,	VP-2466 (CDD 4-7-90) VP-2466 (CDD 4-7-90) VP-2466 (CDD 4-7-90) VP-2466 (CDD 4-7-90) VP-1114(CDD 8-3-90)	K02 receiver had been bled by mechanics to inspect vessel
4-7-90	1-90-01651	75, 80 15, 33 75, 78	VP-2466 (CDD 4-7-90) GE Rental VP-1114 (CDD 8-3-90)	
4-8-90	1-90-01651	34.2, 33.2 40.3, 42.3 35.5, 34 39.2, 42.8	VP-1114 (CDD 8-3-90) FS-3529 Borrowed Inst. VP-1114 (CDD 8-3-90) FS-3529 Borrowed Inst.	
4-11-90	1-90-01651	41.3, 36.2 38.5, 35.8	FS3529 Borrowed Inst.	FS3529 has no official site calibration, not allowed to be used to verify acceptance criteria
5-9-90	1-90-02393			Air Pressure bleeding off Auto drain trap leaking by
5-14-90	1-90-02137	41, 43	VP-2721 (CDD 4-10-91)	
6-6-90	1-90-02652	12.9, 10.6 34.6, 41.4	VP-1114 (CDD 8-3-90) VP-1114 (CDD 8-3-90)	Sample taken at new point
7-3-90	1-90-03060	47.5, 38.3	VP-1114 (CDD 8-3-90)	
8-10-90	1-90-03369	43.1, 35.4	VP-1114 (CDD 9-3-90)	
8-25-90	1-90-03699	35.7, 37.8		
9-27-90	1-90-03937	41.5, 38.3	VP-1296 (CDD 8-17-91)	
10-22-90	1-90-04162	37.7, 33.1	VP-1296 (CDD 8-17-91)	
11-20-90	1-90-04399	39.9, 36.4	VP-1296 (CDD 8-17-91)	
12-21-90	1-90-04688	38.5, 35.8		

KEY: Dew points: Dryer K01 (left), Dryer K02 (right)
Bold Dew Point = Out of Specification
CDD = Calibration Due Date
Maximum Allowable Dew Point is 50 F
Minimum Theoretical Value is 32 F
* Data from GPC MWO's & MWO Listing
** Date from GPC MWO's & MWO Listing (Technician initials, dates from work performed block of MWO)
*** Data from Exhibit # 80, "War Room Unit 1 Refueling Outage Log", project page 064035
MWO = Maintenance Work Order

DEW POINT DATA* -- DIESEL AIR SYSTEM

DIESEL 1B

DATE**	MWO	DEW POINT DEGREES F	INSTRUMENT	COMMENTS
1-12-89	1-88-08981	28.7, 27.3	VP-1114 (CDD 4-29-89)	
2-24-89	1-89-00822	19, 19.1	VP-1114 (CDD 4-29-89)	Previous dew points <32F are incorrect
3-1-89	1-89-00988	45.6, 33.8	VP-1114 (CDD 4-29-89)	
3-8-89	1-89-01066	-2, -12	VP-2466 (CDD 4-4-89)	
3-22-89	1-89-01066	-15, -27	VP-2466 (CDD 4-4-89)	
5-17-89	1-89-01066	47, 45	VP-2466 (CDD 4-4-89)	
6-21-89	1-89-02459	48, 45	VP-2722(CDD 9-2-89)	
7-28-89	1-89-02800	47, 37	VP-2722(CDD 9-2-89)	
8-16-89	1-89-03217	38, 41		
8-22-89	1-89-03314	45, 42	VP-2721(CDD 9-2-89)	
9-27-89	1-89-03656	47, 45	VP-2466(CDD 3-7-90)	
10-20-89	1-89-04446	41, 44	VP-2466(CDD 3-7-90)	
11-13-89	1-89-05009	38, 32	VP-2466(CDD 3-7-90)	
12-18-89	1-89-06200	37, 33	VP-2466(CDD 3-7-90)	
1-8-90	1-89-06446	32, 32		
2-11-90	1-90-00466	37, 37		
3-9-90	1-90-00900	45, .47		Dryer 2 out of service, could not be tested due to equip. clearance. Dryer 2 tested 3-12-90
3-29-90	1-90-01514	37, 34	VP-2466(CDD 4-7-90)	
4-5-90	1-90-01770	84, 82	VP-2466(CDD 4-7-90)	DC 1-90-186 written WRT# 08885 written
4-7-90	1-90-01770	85, 75 18, 18 80, 82	VP-2466(CDD 4-7-90) GE Rental VP-1114 (CDD 8-3-90)	

4-8-90	1-90-01770	44.5, 36.6 45.9, 40.8	VP-1114 (CDD 8-3-90) FS3529	FS3529 has no official site calibration, not allowed to be used to verify acceptance criteria
4-9-90	1-90-01788			Void, Instrument Out of calibration
4-10-90	1-90-01770	42.5, 41.4		
5-10-90	1-90-02391			Air Pressure bleeding off Auto drain trap leaking by Reworked, MER
5-12-90	1-90-02138	43, 43	VP-2721 (CDD 4-10-91)	
6-22-90	1-90-02901	80.2 , 44.2	VP-1114 (CDD 8-3-90)	Dryer K01 found not running
7-21-90	1-90-03216	43.9, 41.5	VP-1114 (CDD 8-3-90)	
8-14-90	1-90-03585	32.2, 32.7	VP-1114 (CDD 9-3-90)	
9-12-90	1-90-03807	46.6, 41.5	VP-1296 (CDD 8-17-91)	
10-8-90	1-90-04043	43.5, 46.8		
11-9-90	1-90-04257	43.2, 60	VP-1296 (CDD 8-17-91)	K02 fan motor not running, Hold Tag on System
		, 40.6	VP-1296 (CDD 8-17-91)	
		, 64.4	VP-1296 (CDD 8-17-91)	Dewpoint drifted up. Found MWO 1-90-04394 written against dryer, dryer inoperable
11-7-90	1-90-04394			Installed new fan motor, new compressor, new fan switch, and recharged freon. Receiver blowdown initiated.
11-15-90	1-90-04394	, 60.2	VP-1296 (CDD 8-17-91)	
		, 70.8	VP-1296 (CDD 8-17-91)	
11-23-90	1-90-04394	, 46.9	VP-1296 (CDD 8-17-91)	After additional receiver blowdowns
11-26-90	1-90-04515	48.2, 44.9		
12-31-90	1-90-04870	42.6, 40.2	VP-1296 (CDD 8-17-91)	

KEY: Dew points: Dryer K01 (left), Dryer K02 (right)
Bold Dew Point = Out of Specification
CDD = Calibration Due Date

Maximum Allowable Dew Point is 50 F

Minimum Theoretical Value is 32 F

* Data from GPC MWO's & MWO Listing
** Date from GPC MWO's & MWO Listing (Technician initials, dates from work performed block of MWO)

MWO = Maintenance Work Order

DEW POINT DATA* -- DIESEL AIR SYSTEM

DIESEL 2A

<u>DATE</u>	<u>MWO</u>	<u>DEW POINT DEGREES F</u>	<u>INSTRUMENT</u>	<u>COMMENTS</u>
3-13-89	2-89-01855	45.4, 47.7	VP-1114 (CDD 5-2-89)	
4-17-89	2-89-02500	50.2, 50.8	VP-1114 (CDD 5-2-89)	
6-21-89	2-89-03859	-13.5, -11.5	VP-2722 (CDD 9-2-89)	Values voided 2-89-04592
7-13-89	2-89-04220	35, 48	VP-2722 (CDD 9-2-89)	
8-1-89	2-89-04592	49, 48	VP-2722 (CDD 9-2-89)	
8-10-89	2-89-04564	40, 40	VP-2722 (CDD 9-2-89)	
9-23-89	2-89-04988	43, 47		
10-20-89	2-89-05438	48, 49	VP-2466	
11-19-89	2-89-05887	33, 33	VP-2466 (CDD 3-7-90)	
12-5-89	2-89-06178			Dryers short cycling, Found Supply breaker tripped, Unit continued tripping on high temp Cooling fan not operating, replaced
12-19-89	2-89-06450	42, 42	VP-2466 (CDD 3-7-90)	
1-22-90	2-89-06680	15, 16	VP-2624 (CDD 3-21-90)	Noted Out Of Spec., took readings on freon side of dryer delta T only 1-2 F, delta P low
1-25-90	2-89-06680	42, 44	VP-2466 (CDD 3-7-90)	
2-17-90	2-90-00361	49, 44	VP-2466 (CDD 3-7-90)	
3-2-90	2-90-00282			Compression unit has excessive noise and vibration, fan discovered installed backwards, corrected 3-2-91
3-15-90	2-90-00868	32, 35		
4-7-90	2-90-00964	85, 95 30, 30 82, 85	VP-2466 (CDD 4-7-90) GE Rental VP-1114 (CDD 8-3-90)	
4-8-90	2-90-00964	39.7, 61.4 43.9, 60.9	FS-3529 Borrowed Inst. VP-1114 (CDD 8-3-90)	
4-9-90	2-90-00964	61.6 49.6	VP-1114 (CDD 8-3-90) FS-3529	No site Cal.

4-10-90	2-90-00964	69.8, 64.1 61.5, 50.9	VP-1114 (CDD 8-3-90) FS-3529	No Site Cal.
4-11-90	2-90-00964	57.4, 62.6 57.2, 54.1	VP-1114 (CDD 8-3-90) FS-3529	K01- dew point was taken after Ops bled pressure on associated receiver tank and allowed compressor to run (approx 2 hrs.) No Site Cal. on FS-3529
4-9-90	2-90-01035			High air temp alarm for both 2A air dryers. MWO voided 4-9-90.
4-12-90	2-90-01139			Air dryer does not appear to be working properly. Acceptable readings obtained 4-14-90. MWO voided 4-20-90
4-14-90	2-90-00964	43.8, 47.3	VP-1114 (CDD 8-3-90)	
5-12-90	2-90-01299	45, 43	VP-2721 (CDD 4-10-91)	
6-7-90	2-90-01786	40.5, 44.3	VP-1114 (CDD 8-3-90)	
7-3-90	2-90-02503	46.2, 37.3	VP-1114 (CDD 8-3-90)	
8-10-90	2-90-03203	35.7, 64.5 (not logged)	VP-1114 (CDD 8-3-90) VP-1114 (CDD 8-3-90)	Initiated receiver blowdown Recheck failed, WRT 10413
8-25-90	2-90-03648	38.9, 41.1	EG&G	
10-4-90	2-90-04070	74.1, 84.3		Receiver blowdown initiated
10-5-90	2-90-04070	48.1, 48.7		
10-22-90	2-90-04858	46.1, 46.9	VP-1296 (CDD 8-17-91)	
11-20-90	2-90-05297	48.5, 46.6	VP-1296 (CDD 8-17-91)	
12-21-90	2-90-05671	Not Provided	Not provided	

KEY: Dew points: Dryer K01 (left), Dryer K02 (right)
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Minimum Theoretical Value is 32 F

* Data from GPC MWO's & MWO Listing
** Date from GPC MWO's & MWO Listing (Technician initials, dates from work performed block of MWO)

MWO = Maintenance Work Order

DEW POINT DATA* -- DIESEL AIR SYSTEM

DIESEL 2B

<u>DATE**</u>	<u>MWO</u>	<u>DEW POINT DEGREES F</u>	<u>INSTRUMENT</u>	<u>COMMENTS</u>
3-14-89	2-89-01855	45.4, 47.7	VP-1114 (CDD 5-2-89)	
3-16-89	2-89-02080	40, 43.2	VP-1114 (CDD 5-2-89)	
6-20-89	2-89-03858	35, 38	VP-2722 (CDD 9-2-89)	Fans in auto, not running
7-16-89	2-89-04219	44, 42		
8-22-89	2-89-04560	38, 40	VP-2722 (CDD 9-2-89)	
9-23-89	2-89-04984	45, 45		
10-20-89	2-89-05435	41, 44	VP-2466	
11-17-89	2-89-05790	34, 38	VP-2466 (CDD 3-7-90)	Initial reading was 17 DC-2-89-1502
12-06-89	2-89-06193	35, 50	VP-2466 (CDD 3-7-90)	Initial readings of 7, 19 had been improperly converted
01-03-90	2-89-06585	44, 47	VP-2466 (CDD 3-7-90) VP-2623 (CDD 3-6-90)	
02-02-90	2-90-00145	45, 45		
03-02-90	2-90-00560	34, 36	VP-2466 (CDD 3-7-90)	
04-02-90	2-90-00813	41, 44		
04-07-90	2-90-01021	78, 80 -10, 10 85, 80	VP-2466 (CDD 4-7-90) GE Rental VP-1114 (CDD 8-3-90)	
4-8-90	2-90-01021	39.5, 44.6 33.7, 44.4	FS-3529 Borrowed Inst. VP-1114 (CDD 8-3-90)	FS3529 has no official site calibration.
4-10-90	2-90-01021	39.0, 43.2 38.3, 40.3	VP-1114 (CDD 8-3-90) FS-3529 Borrowed Inst.	
5-14-90	2-90-01196	43, 45	VP-2721 (CDD 4-10-91)	
6-22-90	2-90-02193	32.7, 34	VP-1114 (CDD 8-3-90)	
7-21-90	2-90-02891	42.2, 49.5	VP-1114 (CDD 8-3-90)	

8-14-90	2-90-03446	40.2, 44.3	VP-1114 (CDD 9-3-90)	
9-12-90	2-90-03866	42.6, 47.8	VP-1296 (CDD 8-17-91)	
10-7-90	2-90-04432	74.8 , 43.7 78.4 ,	VP-1296 (CDD 8-17-91) VP-1296 (CDD 8-17-91)	Receiver blowdown init.
10-11-90	2-90-04432	78 ,	VP-1296 (CDD 8-17-91)	Drained 1 gallon water from dryer Wrote DC-2-90-231
10-24-90	2-90-04839	58.9 , 38.4,	VP-1296 (CDD 8-17-91) VP-1296 (CDD 8-17-91)	10-26-90
11-05-90	2-90-05015	48, 49.5	VP-1296 (CDD 8-17-91)	
12-04-90	2-90-05441	49.8, 44.5	VP-1296 (CDD 8-17-91)	Informed SE DP close to limit, no action taken
12-31-90	2-90-05798	42, 45.1	VP-1296 (CDD 8-17-91)	

KEY: Dew points: Dryer K01 (left), Dryer K02 (right)
Bold Dew Point = Out of Specification
CDD = Calibration Due Date

Maximum Allowable Dew Point is 50F

Minimum Theoretical Value is 32 F

* Data from GPC MWO's & MWO Listing
** Date from GPC MWO's & MWO Listing (Technician
initials, dates from work performed block of MWO)

MWO = Maintenance Work Order

1 WITNESS SKINNER: Yes.

2 MR. MICHAEL KOHN: And do you know on the side
3 you can -- it indicates that the system was opened up,
4 correct?

5 WITNESS SKINNER: No. It says that the
6 receiver had been bled down. It doesn't say that it has
7 been opened up.

8 MR. MICHAEL KOHN: Excuse me. To inspect the
9 vessel.

10 WITNESS SKINNER: That's correct.

11 MR. MICHAEL KOHN: And you are aware that the
12 manway was removed on this air receiver for a visual
13 inspection?

14 WITNESS SKINNER: Yes, I am.

15 MR. MICHAEL KOHN: And it occurred on April
16 6th, correct?

17 WITNESS SKINNER: That's correct, by this
18 documentation.

19 MR. MICHAEL KOHN: And when the --

20 CHAIRMAN BLOCH: Sorry. How do we know that
21 the manway was removed by this documentation?

22 MR. MICHAEL KOHN: There's prior testimony by
23 Mr. Handfinger as -- getting his head in the hole.

24 CHAIRMAN BLOCH: Okay. Continue.

25 MR. MICHAEL KOHN: Now, after the manway was

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1 removed and replaced, and the vessel repressurized,
2 wouldn't you expect to obtain valid high dew points after
3 that, just like on 3/9?

4 WITNESS SKINNER: Not necessarily, no. That
5 would -- the charging up these receivers would be
6 dependent upon a lot of variables.

7 MR. MICHAEL KOHN: Well, if the receiver was
8 open to the atmosphere and filled with atmospheric air,
9 and then sealed and repressurized, you don't believe you
10 would have elevated dew points?

11 WITNESS SKINNER: I again say not necessarily.
12 I do not -- I think they may have valid dew points, but it
13 would not necessarily be true that they would, in fact,
14 have them. And you would not necessarily expect that to
15 happen. It would depend, again, on the quality of the air
16 coming out of the dryer.

17 MR. MICHAEL KOHN: Well, if dryers had been
18 turned off in the same time period, and were obtaining
19 high dew point readings, don't you suspect that opening up
20 the air receiver during the same time period would
21 indicate that humid air would be being incorporated into
22 the receiver?

23 WITNESS SKINNER: I didn't follow your
24 question, Michael.

25 MS. YOUNG: Do we have an evidentiary

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1 reference for what the humidity was in the air of the room
2 on 4/6?

3 CHAIRMAN BLOCH: Sounds like a good use for an
4 almanac.

5 MR. MICHAEL KOHN: I don't have one.

6 MS. YOUNG: So in asking him -- this witness
7 questions, you don't have any assumptions or any
8 indication of what the humidity was in the room on 4/6?
9 You don't have a foundation for what you're asking, in
10 terms of assuming that there will be a high dew point
11 because it was open to the air?

12 MR. MICHAEL KOHN: When you pressurize the air
13 in the receiver, would the dew point be increased?

14 WITNESS TOMLINSON: I'm not sure I fully
15 understand your question, but I don't believe the answer
16 would be yes. It would be quite the opposite. If you
17 start with the air receiver at atmospheric pressure and a
18 given dew point, and subsequently pressurize it to 18
19 atmospheres, and you have the dryer in operation, I would
20 expect the dew point to be fairly close to what the dryer
21 set point was. There's a majority there that would be
22 going into that receiver in the process of pressurizing it
23 would have been dried.

24 MR. MICHAEL KOHN: Then, why on March 9 is the
25 explanation for the high dew point the fact that the

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1 receiver has been repressurized?

2 WITNESS SKINNER: I don't necessarily have an
3 explanation, but there is potential reasons for that to
4 occur. If the dryer had been turned off, and they turned
5 the dryer back on and started charging up the receiver
6 prior to the dryer receiving or getting to its operating
7 state, which normally requires about a 24-hour period,
8 then it could, in fact, be putting out a dew point at
9 greater than the expected dew point had it been left
10 energized for 24 hours prior to being used.

11 BOARD EXAMINATION

12 ADMINISTRATIVE JUDGE CARPENTER: Mr. Skinner,
13 why does it take 24 hours for the dryer to become
14 operable?

15 WITNESS SKINNER: The dryer instruction manual
16 I believe recommends that prior to running air through the
17 dryer that it be turned on for 24 hour to allow it to
18 stabilize. I don't know exactly why, but I know that's
19 part of the --

20 ADMINISTRATIVE JUDGE CARPENTER: It seems like
21 a rather inefficient refrigeration system, doesn't it?

22 WITNESS SKINNER: Well, if you look at your
23 own refrigerator, if you take and turn that off and turn
24 it on its side, and then set it back up, you normally give
25 it 24 hours before you turn it back on. That's about the

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1 only refrigeration system I can compare it to.

2 ADMINISTRATIVE JUDGE CARPENTER: Thank you for
3 your perspective.

4 CHAIRMAN BLOCH: I've never actually
5 considered putting my refrigerator on its side. That's --

6 WITNESS SKINNER: I've moved a lot of them in
7 my day.

8 MR. MICHAEL KOHN: Your Honor, Intervenor
9 requests that the April 2, 1990, MWO be produced, in order
10 to determine whether it indicates what Alnor was used.

11 CHAIRMAN BLOCH: Mr. Blake will return to the
12 microphone.

13 (Laughter.)

14 MR. BLAKE: This is yet another discovery
15 request, I take it, about a document that we stipulated to
16 a month ago. This is a request for an April 2 maintenance
17 work order, is that correct?

18 MR. MICHAEL KOHN: I don't --

19 CHAIRMAN BLOCH: Why, Mr. Kohn, did you
20 stipulate to it if --

21 MR. MICHAEL KOHN: I don't think we stipulated
22 to that fact. Under -- it says, "Instrument used," and
23 it's blank. I think we -- the stipulation would indicate
24 that an instrument was used.

25 MR. BLAKE: I don't remember what --

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1 MR. MICHAEL KOHN: The only stipulation is to
2 the accuracy of information contained on here, and the
3 absence of information does not indicate a stipulation to
4 that.

5 CHAIRMAN BLOCH: What's the date?

6 MR. MICHAEL KOHN: April 2.

7 CHAIRMAN BLOCH: No, no, no. On -- when we
8 granted that there should be documentation produced for
9 the Alnor. What is the starting date that we gave -- that
10 we had on that?

11 MR. MICHAEL KOHN: Just your -- just recent?

12 CHAIRMAN BLOCH: Yeah, I'm not remembering the
13 details of what it is we suggested.

14 MR. BLAKE: I think it was the 6th or the 7th,
15 Judge Bloch, but --

16 CHAIRMAN BLOCH: The 6th of April?

17 MR. BLAKE: I think so. It was like the 6th
18 or the 7th of April, I think.

19 CHAIRMAN BLOCH: Probably wouldn't have looked
20 for work orders anyway. That's not really documentation
21 on the Alnor. Maybe. I don't know.

22 MR. BLAKE: Yeah. In fact, work orders are a
23 good source for determining what instruments were used to
24 get dew point information.

25 MR. MICHAEL KOHN: Your Honor, we did request

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1 this documentation, and Georgia Power --

2 MR. BLAKE: Oh, let's no go back. This is --

3 MR. MICHAEL KOHN: -- objected. No, I think
4 it's important. And Georgia Power objected to producing
5 the MWOs as burdensome and produced a computer printout
6 instead. That is certainly -- Intervenor was not dilatory
7 in making that discovery request. It now turns out that
8 Georgia Power's submission of the computer printout is
9 inadequate for the purposes of this proceeding, and,
10 therefore, we think that our --

11 CHAIRMAN BLOCH: What is the relevance of
12 knowing that it was the Alnor on April 2nd, when the
13 question is whether it was out of whack on the 6th?

14 MR. MICHAEL KOHN: No, the claim is now that
15 it has been dropped on the A and B readings on March 29,
16 and is also -- I believe the record is not clear whether
17 Georgia Power is claiming the 3/29/90 readings were the
18 result of a defective instrument, or this reading
19 subsequent to 3/29/90.

20 BOARD EXAMINATION

21 CHAIRMAN BLOCH: Mr. Skinner, do you know
22 whether the March 29th reading is defective?

23 WITNESS SKINNER: No, sir, I do not. I stated
24 that. I said that there was a potential of it being
25 defective at that time.

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1 CHAIRMAN BLOCH: And do you know whether the
2 April 3rd reading is defective?

3 WITNESS SKINNER: No, sir.

4 CHAIRMAN BLOCH: I don't see the relevance of
5 this. The only real question is whether the instrument
6 was defective on the 6th, or whether there was some kind
7 of a scheme about that. That question probably, at this
8 point, hinges solely on the genuineness of the document we
9 had produced.

10 MR. MICHAEL KOHN: With respect to the
11 confirmation of action letter, the -- Mr. Bockhold's
12 statement is the 3/29/90 readings were the result of
13 defective instrumentation, not the April 6 readings.

14 CHAIRMAN BLOCH: Okay. He had told the IIT
15 that the April 6th readings were defective, however.

16 MR. MICHAEL KOHN: That, too.

17 CHAIRMAN BLOCH: We would allow this limited
18 discovery to know what the instrument was on April 3rd, if
19 the work orders show it.

20 MS. YOUNG: Is the Board addressing April 2nd,
21 the April 2nd reading?

22 CHAIRMAN BLOCH: April 2nd, not April 3rd?
23 April 2nd.

24 CROSS EXAMINATION (Continued)

25 MR. MICHAEL KOHN: Back to your testimony on

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1 page 11 -- excuse me, question 11, page 12. Are you aware
2 -- you mentioned two readings in the six-months period
3 preceding the site area emergency were out of
4 specification. Readings on the 1A and 2A air receivers
5 were obtained. Did you attempt to correlate those
6 readings to any misadventures at the facility associated
7 with the diesel generator trips or failures?

8 WITNESS SKINNER: No, I don't believe I did.

9 MR. MICHAEL KOHN: Are you aware that weak air
10 rolls occurred on January 24 and January 25 of 1990?

11 WITNESS SKINNER: Yes, I am.

12 MR. MICHAEL KOHN: And are you aware that the
13 trip of the diesel generator you're referring to with
14 respect to 2A occurred on -- excuse me -- the weak air
15 rolls that you're referring to occurred on the 2A diesel
16 on January 22nd? Excuse me. The high dew point readings
17 you're referring to, on diesel 2A, occurred on
18 January 22nd?

19 WITNESS SKINNER: Could you ask your question
20 again, please, Michael?

21 MR. MICHAEL KOHN: Yes. Are you aware that
22 the high dew point readings on the 2A, which you refer to
23 in the testimony, occurred on January 22, 1990?

24 WITNESS SKINNER: January 22, 1990, on 2A is a
25 low reading. It's not a high reading. It reads 15 and

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1 16, which --

2 MR. MICHAEL KOHN: Well, let me say a suspect
3 dew point reading, an indeterminate dew point reading.

4 WITNESS SKINNER: I'm aware of that.

5 MR. MICHAEL KOHN: It states in the testimony
6 that the resident inspection staff has subsequently
7 observed that when an out of specification dew point is
8 identified, the associated air receiver is normally
9 isolated and removed from service, do you know when that
10 practice began to occur?

11 WITNESS SKINNER: No, I do not.

12 MR. MICHAEL KOHN: Do you have any reason to
13 believe that practice was in place in 1990?

14 WITNESS SKINNER: No, I do not.

15 MR. MICHAEL KOHN: With respect to your
16 response to question 12, would there be anything wrong
17 with using an industry standard for a pneumatic
18 instrumentation?

19 WITNESS SKINNER: Nothing wrong with it, no.

20 MR. MICHAEL KOHN: And is there any reason not
21 to apply the ISA standard?

22 WITNESS SKINNER: Yes, there is.

23 MR. MICHAEL KOHN: What's the reason?

24 WITNESS SKINNER: It's not required, not
25 necessary.

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1 BOARD EXAMINATION

2 CHAIRMAN BLOCH: My guess is there are some
3 other assumptions there? I mean, if you apply something
4 that's not necessary, you might just wind up being safer.
5 Why would you -- is it enough to say it's not necessary?

6 WITNESS TOMLINSON: This -- to apply the ISA
7 standard, in this particular case, Judge Bloch, I believe
8 would be a decision of the Licensee. And it could be
9 influenced by many things, not the least of which is
10 economics.

11 My response is that there is no requirement
12 for the operation of this diesel generator or its
13 pneumatic control system that would demand air of the
14 quality that the ISA standard calls for.

15 CHAIRMAN BLOCH: Okay. I think you've
16 provided an additional reason there.

17 CROSS EXAMINATION (Continued)

18 MR. MICHAEL KOHN: And are you aware that, as
19 far as economics go, I believe, that the desiccant air
20 dryers are less expensive?

21 WITNESS TOMLINSON: Mr. Kohn, I have not
22 purchased an air dryer recently, so I really couldn't tell
23 you.

24 (Laughter.)

25 MR. MICHAEL KOHN: Okay.

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1 CHAIRMAN BLOCH: That's an air dryer, A-I-R.

2 (Laughter.)

3 WITNESS TOMLINSON: Yeah. I don't use a hair
4 dryer. A tissue does for me.

5 (Laughter.)

6 CHAIRMAN BLOCH: Mr. Kohn, is this a
7 meditation period?

8 MR. MICHAEL KOHN: Yes, Your Honor. We don't
9 have any further questions.

10 CHAIRMAN BLOCH: Mr. Blake, how much time do
11 you expect to take?

12 MR. BLAKE: Thirty seconds.

13 CHAIRMAN BLOCH: Charge.

14 CROSS EXAMINATION (Continued)

15 MR. BLAKE: Mr. Skinner, has Georgia Power
16 taken effective action to make sure the dryers are not
17 turned off now inadvertently?

18 MR. MICHAEL KOHN: Object to the question as
19 to the relevance of --

20 MR. BLAKE: Longer than 30 seconds.

21 (Laughter.)

22 CHAIRMAN BLOCH: I sustain the objection.
23 It's an irrelevant time period.

24 MR. BLAKE: Well, I'm going to give you a
25 couples of bases for it, one of which is yours. The first

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1 basis is a question from Mr. Kohn at transcript page
2 14442, "Was there a continuing problem after 1990 of
3 turning off dryers?" I want to, then, cite a Bloch
4 question, if I need it.

5 CHAIRMAN BLOCH: The question is allowed.

6 (Laughter.)

7 MR. MICHAEL KOHN: Your Honor, I still raise
8 my objection, because whether they took corrective action
9 does not address the problem that there was a continuing
10 problem.

11 CHAIRMAN BLOCH: But if you recall, I drew an
12 inference from the report, and you didn't object at that
13 point.

14 MR. MICHAEL KOHN: Okay.

15 WITNESS SKINNER: Would you ask your question
16 again, please, Mr. Blake?

17 MR. BLAKE: Yes, sir. Has Georgia Power taken
18 effective action to make sure that dryers are not
19 inadvertently turned off?

20 WITNESS SKINNER: My discussions with the
21 resident staff indicates that Georgia Power has now
22 developed a procedure -- when they developed that
23 procedure, I do not know -- that would require, any time
24 that the dryer has been turned off, that it is returned
25 back to service and turned on appropriately. They have

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1 had recently a problem with an inadvertent deenergization
2 of the dryer, at which time they made a modification to
3 put a cover over the dryer switch, such that it could not
4 inadvertently be turned off.

5 MR. BLAKE: I have no more questions.

6 BOARD EXAMINATION

7 ADMINISTRATIVE JUDGE MURPHY: So what is your
8 answer? Is it yes?

9 WITNESS SKINNER: Yes.

10 CHAIRMAN BLOCH: Mr. Kohn, based on that
11 question?

12 MR. MICHAEL KOHN: Thank you, Your Honor.

13 CROSS EXAMINATION (Continued)

14 MR. MICHAEL KOHN: Did Georgia Power take this
15 corrective action after the 1994 inspection?

16 MS. YOUNG: Which 1994 inspection?

17 MR. MICHAEL KOHN: The -- I believe it's the
18 June 1994 inspection.

19 WITNESS SKINNER: Based on what?

20 MR. MICHAEL KOHN: Well, during -- it's my
21 understanding in the inspection report there is mention of
22 looking through documentation and finding that the dryer
23 had been turned off. Is my recollection correct?

24 WITNESS SKINNER: I believe that's addressed
25 in that inspection report, yes.

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1 MR. MICHAEL KOHN: And did Georgia Power take
2 this action as a result of that inspection report?

3 WITNESS SKINNER: I think that this action had
4 been taken prior to that inspection report.

5 MR. MICHAEL KOHN: And --

6 CHAIRMAN BLOCH: You can review it tonight,
7 Mr. Kohn, and I'd allow this specific area to be continued
8 tomorrow, if you want.

9 MR. MICHAEL KOHN: Thank you, Your Honor.

10 CHAIRMAN BLOCH: Are you done?

11 MR. MICHAEL KOHN: With that question? With
12 that line, certainly, sir.

13 CHAIRMAN BLOCH: No, are you done with this
14 cross, based on the one question that Mr. Blake asked?

15 MR. MICHAEL KOHN: I guess the follow-up
16 questions are necessary to determine when the corrective
17 action was taken, and it hasn't been established by the
18 witness. And I don't know, maybe I should ask.

19 Do you have a ballpark time period of when the
20 corrective action was taken?

21 WITNESS SKINNER: No, I do not.

22 MR. MICHAEL KOHN: And so my follow-up
23 question is, do you know if Georgia Power took timely
24 corrective action after realizing the problem in 1990? Do
25 you have any way of answering that question?

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1 WITNESS SKINNER: No, I do not.

2 CHAIRMAN BLOCH: Mr. Kohn, I don't know that
3 there is a record basis for the statement that Georgia
4 Power recognized the problem in 1990.

5 MR. MICHAEL KOHN: Mr. Bockhold testified that
6 he was aware that the diesel generator had been turned
7 off, the dryer had been turned off.

8 CHAIRMAN BLOCH: That one dryer had been.
9 That's right. Okay. Are you done with that now?

10 MR. MICHAEL KOHN: Yes, Your Honor.

11 CHAIRMAN BLOCH: Staff, do you want to begin
12 your redirect, or do you have any redirect?

13 MS. YOUNG: Some.

14 CHAIRMAN BLOCH: Do you want to begin now?

15 MS. YOUNG: Sure.

16 CHAIRMAN BLOCH: Okay. We have about nine
17 minutes.

18 REDIRECT EXAMINATION

19 MS. YOUNG: Mr. Tomlinson and Mr. Skinner, you
20 were asked a lot of questions about your expertise in
21 various areas identified by Mr. Kohn. I'd like to ask you
22 -- each of you to respond if in your professional career
23 you've been involved with the overhaul, maintenance, or
24 testing of the diesel generator systems that provide
25 electric power.

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1 WITNESS TOMLINSON: Yes, I definitely have.

2 WITNESS SKINNER: Yes, I have.

3 MS. YOUNG: And could you each describe the
4 extent of your experience in those areas, vis-a-vis the
5 testimony you are giving in this proceeding today?

6 WITNESS TOMLINSON: Well, first of all, diesel
7 engineering was an undergraduate subject that was very
8 heavily emphasized when I was in school. And that
9 involved disassembly and reassembly of engines at that
10 point in time. Subsequently, I have been involved with
11 numerous engine overhauls, primarily during my time with
12 NOAA. And, of course, with the NRC I have also been
13 involved in a number of investigations of diesel failures
14 and to -- in the effort to produce the root cause.

15 WITNESS SKINNER: Your question is basically
16 on generators that produce electrical power for whose kind
17 of consumption? I've been involved in very extended
18 diesel generator activities, not all of it limited to
19 electrical. A lot of it has been associated with
20 submarine service and overhaul of submarines. Do you want
21 to count that also?

22 MS. YOUNG: You can give information on that
23 also.

24 WITNESS SKINNER: Okay. I was a qualified
25 operator and a submarine reactor operator, at which time I

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1 stood diesel generator watches. I watched -- operated the
2 diesel generator for a period of about eight years, during
3 that period of time. After that, I worked in a shipyard
4 where I was the shift test engineer and chief test
5 engineer responsible for all testing in the nuclear plant
6 on submarines undergoing overhaul, at which time the
7 diesel operability was part of the plant that we tested
8 during that period of time.

9 Subsequent to that time, in 1980, I came to
10 work for the NRC. For the first three years in the NRC, I
11 was assigned as a regional-based inspection, in which I
12 looked at the procedures, in part, that we used in
13 operating and testing diesel generators. In 1983 to 1987,
14 I was a senior resident inspector at Catawba for the pre-
15 op test program, as far -- and the initial operation for
16 both unit 1 and unit 2, and witnessed much of the testing
17 and much of the overhaul associated with that facility.

18 From 1987 to 1991, I was the senior resident
19 at Okonev. Although they do not have emergency diesels
20 that are used in most nuclear stations, they do have
21 diesels and I did witness testing and maintenance
22 associated with that diesel. Subsequent to that time,
23 I've been in Region 2, and periodically, on going to Hatch
24 and to Vogtle, as part of my responsibilities, I witnessed
25 some testing associated at both of those plants and some

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1 maintenance also associated with the diesels.

2 MS. YOUNG: And do you gentlemen feel your
3 experience with the operation and maintenance and
4 overhauls of diesel generators gives you sufficient basis
5 for your testimony that you've given the Board today?

6 WITNESS TOMLINSON: I do.

7 WITNESS SKINNER: Yes, I do.

8 MS. YOUNG: Mr. Tomlinson, previously when
9 Mr. Kohn was asking you a question about water in various
10 locations -- in trip lines, in pneumatic control lines --
11 you weren't able to complete an answer. Could you give
12 that now, please?

13 WITNESS TOMLINSON: This was when I started
14 with the compressor. All right. What I was trying to get
15 at there was given the configuration of this system, that
16 the probability of getting water into the pneumatic
17 control system -- specifically, the pneumatic logic
18 circuits -- is just very, very remote. And the reason for
19 that is that when you start with the compressor, which is
20 where you do have to start, the compressor has both an
21 inter-cooler and an after-cooler.

22 That is, the inter-cooler is between the low
23 pressure and the high pressure stage, and forced air is
24 driven over that by the fan attached to the pulley on the
25 compressor. The air exiting the high pressure stage goes

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1 through a heat exchanger also, and that has an independent
2 AC motor driving a fan for that. It is also a very --
3 very thin, thin, high density heat exchanger, which would
4 be very efficient.

5 Based on that, the air going from the
6 compressor to the receiver -- well, let me back up. These
7 coolers will drop the air temperature down significantly.
8 And as a consequence of this, it drops it -- the -- it
9 causes moisture to come out of the water. So a good -- I
10 mean, moisture come out of the air.

11 A good bit of the moisture that would be in
12 the air would have condensed in the compressor coolers, so
13 that the air going to the receiver would be somewhere
14 close to saturation, perhaps a little bit above it. You
15 must also note that when the compressor is functioning,
16 and we have fluid flow, there has to be a pressure
17 differential between the compressor and the receiver.

18 And take the air coming off the compressor and
19 going to the receiver at some higher pressure than the
20 receiver, when it enters and attains the pressure of the
21 receiver, the dew point will drop on that, as it will any
22 time you have a pressure reduction. Then, this receiver
23 is, of course, carbon steel. It has no insulation on it
24 whatsoever. There are -- is approximately 90 feet of
25 piping, three-inch piping, from the receiver to the diesel

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1 generator.

2 Now, based on Mr. Mosbaugh's calculations that
3 were submitted I think on Tuesday as an exhibit, he
4 calculated some 2,000-and-whatever standard cubic feet of
5 air. I did some rough calculations to drop that back to
6 cubic feet at system pressure, and a few more calculations
7 to determine how long it would take for a given quantity
8 of air to get from the receiver to the point at which the
9 line is tapped off to the pneumatic control system.
10 Conservatively speaking, it's probably no less than a half
11 an hour. This is in steel pipe that has no insulation on
12 it.

13 And the upshot of all of that is that the
14 pneumatic control system at the regulator is never going
15 to see anything more than saturated air, and I don't --
16 whatever temperature the room is, that's going to be the
17 saturation temperature.

18 When you reduce that pressure from 250 pounds
19 to 60 pounds, you get a very significant drop in the dew
20 point. On top of this, you have the cabinet control panel
21 heated to between 90 and 100 degrees. So that's going to
22 elevate the temperature of the air, unless, of course, the
23 room temperature is around 100 degrees. Well, then, that
24 would be something else.

25 But, generally speaking, you wouldn't have

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1 that temperature. And it's on this basis that I say that
2 there would never be any moisture or any free water in the
3 pneumatic control logic.

4 BOARD EXAMINATION

5 CHAIRMAN BLOCH: Mr. Tomlinson?

6 WITNESS TOMLINSON: Yes?

7 CHAIRMAN BLOCH: Am I understanding correctly
8 that your testimony is that there really is no safety
9 reason to have any dew point requirement?

10 WITNESS TOMLINSON: No, sir, I am not.

11 CHAIRMAN BLOCH: Could you explain why there
12 is a safety reason for a dew point requirement?

13 WITNESS TOMLINSON: Yes, sir, there is. The
14 reason for having a lower dew point is to preclude the
15 formation of scale and other debris in the carbon steel
16 piping that in and of itself could cause a direct failure
17 of the diesel to start. And it certainly doesn't hurt to
18 have a little bit dryer air going into the control panel.

19 CHAIRMAN BLOCH: Well, the carbon steel piping
20 you're talking about is prior to the Y-strainer, isn't it?

21 WITNESS TOMLINSON: Well, it's up to the Y-
22 strainer. All of the piping in the starting air system
23 and the air start system is carbon steel. The piping in
24 the air -- starting air system is pressurized at all
25 times. And if you get excessive moisture in the air, yes,

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1 you can get formation of rust scale, possibly.

2 CHAIRMAN BLOCH: But if I understand the
3 system right, both the Y-strainer and the five micron
4 filter would prevent that from getting any place which
5 would do any damage, doesn't it?

6 WITNESS TOMLINSON: Well, what I'm concerned
7 about here is there is enough scale or debris to plug up
8 the Y-strainer.

9 CHAIRMAN BLOCH: That would be pretty remote,
10 wouldn't it?

11 WITNESS TOMLINSON: I would say so, yes. But
12 our -- our business is to be conservative.

13 ADMINISTRATIVE JUDGE MURPHY: Are you saying
14 that if that whole system was corrosion resistant
15 materials, that you wouldn't need a dryer, and you
16 wouldn't need a requirement for a dew point?

17 WITNESS TOMLINSON: It is conceivable that you
18 could do without it, yes.

19 CHAIRMAN BLOCH: May I ask, is there -- in the
20 standard review plan, is there any explanation of a
21 purpose of this requirement?

22 WITNESS TOMLINSON: The purpose for the dew --
23 pardon me, the dryer requirement, sir?

24 CHAIRMAN BLOCH: Yes.

25 WITNESS TOMLINSON: Yes. It's based on the

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1 findings in NUREG CR0660. But we have to understand that
2 in the licensing process, we don't have the specific
3 details of the system, such as we have for this system.
4 So --

5 CHAIRMAN BLOCH: So you're saying --

6 WITNESS TOMLINSON: And I don't think the
7 Licensee has those kind of details.

8 CHAIRMAN BLOCH: So your testimony is that
9 there is a reason for a standardized review plan to have a
10 requirement, but there might not be a reason for the
11 Vogtle plant to have a requirement at all.

12 WITNESS TOMLINSON: That is entirely true,
13 sir, and that applies to any licensee if they want to make
14 the case, if they can make the case.

15 CHAIRMAN BLOCH: Mr. Skinner, do you agree?

16 WITNESS SKINNER: Yes, sir.

17 CHAIRMAN BLOCH: It's time for a break. Let's
18 break for the evening. Off the record.

19 (Whereupon, the proceedings were off the
20 record from 5:05 p.m. until 5:12 p.m.)

21 CHAIRMAN BLOCH: In the off-the-record
22 conversations, we had some discussions about difficulties
23 that the Intervenor might have tomorrow, and the Board has
24 decided that we will begin at 9:00. If Mr. Stephen Kohn,
25 because of air travel, has difficulty starting, we'd

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1 expect him to tell us that, so that we would take
2 appropriate action. But absent that, we'll continue with
3 the next Staff panel tomorrow.

4 At 4:00, when Dr. Carpenter expects to be leaving,
5 we'll begin with procedural matters, and see how much
6 headway we'll get into those.

7 Intervenor has represented that we may be able
8 to finish with the Staff panels next week. If we work
9 tomorrow, it's even more likely that we'll finish with the
10 Staff panels next week, and we'll decide where to handle
11 the procedural -- further procedural matters at the close
12 tomorrow.

13 There being no further business today, we're
14 adjourned until 9:00 a.m.

15 (Whereupon, at 5:13 p.m., the proceedings in
16 the above-entitled matter were adjourned, to reconvene at
17 9:00 a.m., the following day.)

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C E R T I F I C A T E

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

Name of Proceeding: GA POWER CO. ET AL.
VOGTLE UNITS 1 & 2

Docket Number: 50-424/425-OLA-3

Place of Proceeding: ROCKVILLE, MARYLAND

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.

Scott Dildine

SCOTT DILDINE
Official Reporter
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