

ORIGINAL

# UNITED STATES NUCLEAR REGULATORY COMMISSION

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ATOMIC SAFETY AND LICENSING BOARD PANEL

In the Matter of: )

EVIDENTIARY HEARING )

PUBLIC SERVICE COMPANY OF )

NEW HAMPSHIRE, et al )

(SEABROOK STATION, UNITS 1 AND 2) )

DOCKET: 50-443-01,  
50-444-01  
OFFSITE EMERGENCY  
PLANNING

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Place: Concord, New Hampshire

Date: May 17, 1988

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1 UNITED STATES NUCLEAR REGULATORY COMMISSION  
2 ATOMIC SAFETY AND LICENSING BOARD

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3 In the Matter of: )  
4 )  
5 PUBLIC SERVICE COMPANY OF ) Docket Nos.  
6 NEW HAMPSHIRE, et al., ) 50-443-OL  
7 ) 50-444-OL  
8 (SEABROOK STATION, UNITS 1 AND 2 ) OFF-SITE EMERGENCY  
9 ) PLANNING  
10 )  
11 EVIDENTIARY HEARING

12 Tuesday,  
13 May 17, 1988

14 Room 210  
15 Legislative Office Building  
16 Concord, New Hampshire

17 The above-entitled matter came on for hearing.  
18 pursuant to notice, at 9:05 a.m.

19 BEFORE: JUDGE IVAN W. SMITH, CHAIRMAN  
20 Atomic Safety and Licensing Board  
21 U.S. Nuclear Regulatory Commission  
22 Washington, D.C. 20555

23 JUDGE GUSTAVE A. LINENBERGER, JR., MEMBER  
24 Atomic Safety and Licensing Board  
25 U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

JUDGE JERRY HARBOUR, MEMBER  
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U.S. Nuclear Regulatory Commission  
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## I N D E X

1			
2	<u>WITNESSES</u>	<u>DIRECT CROSS REDIRECT RECROSS EXAM</u>	
3	<u>Panel:</u>		
4	ROBERT GOBLE		
	ROBERT ECKERT		
5	VICTOR EVDOKIMOFF		
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## P R O C E E D I N G S

1  
2 MS. SNEIDER: Dr. Eckert just pointed out a  
3 correction on Page 63 of the testimony; that the word  
4 "not" -- there's a Question No. 3, and it says, "Just slightly  
5 more than half of the respondents indicated that their space  
6 was accessible from outside."

7 It's supposed to say, "was not accessible," and I  
8 apologize for not having seen that sconer.

9 JUDGE SMITH: Do you adopt that change?

10 THE WITNESS: (Eckert) Yes, I do.

11 JUDGE SMITH: Is there any preliminary business?

12 Mr. Lewald.

13 Mr. Flynn.

14 MR. FLYNN: Excuse me, Your Honor.

15 I had some further matters to report on the question  
16 of the appearance of FEMA witnesses. I'm afraid none of this  
17 news is very firm, but nonetheless I feel obligated to report  
18 it.

19 On the matter of Mr. Thomas being separately  
20 represented, the question of whether FEMA will pay for that  
21 representation has been resolved, and FEMA will pay for it.  
22 However, I do not know at this point what Mr. Thomas's decision  
23 will be as to seeking representation. If he has made a  
24 decision, that has not been communicated to me.

25 In light of that, it seems to me that if the Board

1 should find it necessary to issue a subpoena, I don't consider  
2 myself authorized to accept service of the subpoena. Earlier I  
3 had reported that, in our conversation on May 10th, that if  
4 subpoenas were issued, I would accept them, and that remains  
5 the case for the other FEMA officials. But because of the  
6 unique circumstances, I don't think it's fair to say that I  
7 would accept the subpoena for Mr. Thomas.

8 JUDGE SMITH: Is that it?

9 MR. FLYNN: Yes.

10 JUDGE SMITH: There is another aspect about Mr.  
11 Thomas's appearance, and maybe the main aspect of our comment  
12 about legal counsel was that there are going to be two  
13 witnesses testifying as to a state of affairs as to which we  
14 have seen a difference, and we wanted Mr. Thomas to be aware  
15 that he had a right to confront those witnesses and be  
16 represented by counsel in doing it. I mean that is probably  
17 the most important part of it.

18 Now, presumably he's known now for sometime that  
19 Lazarus and Bores will be testifying this week.

20 MR. FLYNN: I'm sure he is aware of that, Your Honor,  
21 but just to be absolutely --

22 JUDGE SMITH: I just wondered if that aspect of it  
23 has been focused on.

24 I think I am exceeding myself now by trying to manage  
25 Mr. Thomas's affairs, but I just did want to point out that the



1 comment about legal representation was with some thought. You  
2 know, it was not made as a pejorative judgment on Mr. Thomas at  
3 all. It was, as a practical matter, looking at what the  
4 evidence was going to be presented this week.

5 MR. FLYNN: I will communicate that to him in the  
6 spirit in which it was given.

7 MR. OLESKEY: Your Honor, did you mean by the use of  
8 the word "confrontation" that you thought -- the Board thought  
9 that Mr. Thomas's lawyer could cross-examine Bores and Lazarus?

10 JUDGE SMITH: I think that we would entertain a  
11 motion to that effect. I mean, Mr. Thomas has his own  
12 individual interests in this matter, I think.

13 MR. OLESKEY: All right, I --

14 JUDGE SMITH: Even though he's not a party, but I  
15 think, in fairness, maybe we should have explained that more  
16 thoroughly

17 Judge Harbour says why worry about the bounds of the  
18 issues anymore.

19 (Laughter.)

20 JUDGE SMITH: Those have been blurred.

21 MR. TURK: Your Honor, just a comment on that point.

22 JUDGE SMITH: Just a moment.

23 (Board confer.)

24 JUDGE SMITH: Mr. Turk.

25 MR. TURK: I don't know if Your Honor would consider

1 this to be an appropriate time to raise the point. I don't see  
2 that there is necessarily a disadvantage to Mr. Thomas if he  
3 does not attend or have an attorney attend when Dr. Bores and  
4 Mr. Lazarus are on the stand. Mr. Thomas is not a party to  
5 this proceeding and he's not bound by the outcome personally.  
6 So I don't know that we have to -- for instance, if Mr. Thomas  
7 say he needs two weeks or a month or whatever to hire an  
8 attorney and to brief him, I don't think that's something that  
9 should affect the course of this proceeding.

10 JUDGE SMITH: I agree that he has no right. He is  
11 not affected by the outcome of this proceeding or any issues.  
12 If we were to allow him to confront those witnesses, it would  
13 be a matter of the Board's discretion as what we see as an  
14 issue of fairness, if in fact there is any confrontation  
15 needed. We don't know.

16 All right, now the Intervenors have a problem, shall  
17 we issue a subpoena or not.

18 MR. OLESKEY: Well, let me just reply to Mr. Turk  
19 briefly.

20 Thomas obviously isn't a party, but from everything  
21 that's happened and been said, he could obviously be affected  
22 by the outcome of the testimony, and I take it, it was in that  
23 sense that you, Judge Smith, made those comments.

24 JUDGE SMITH: I don't want to stress that too much.

25 MR. OLESKEY: No, but it's there.

1           In that case, I don't think anyone among the  
2     Intervenors understood until two minutes ago that the Board was  
3     suggesting that Mr. Thomas's counsel could appear and do that.  
4     I wonder if Mr. Flynn has conveyed that aspect of this to  
5     Thomas, and if so, where that leaves us with Bores and Lazarus  
6     who are the next witnesses.

7           JUDGE SMITH: We were not -- we're going to go ahead  
8     with Bores and Lazarus if they are up. We were not suggesting  
9     to Mr. Thomas any course of action. We were thinking ourselves  
10    that a lawyer representing him may wish to do something of that  
11    nature, and that is why early on what has been taken as a  
12    warning to Thomas, you know, to get a lawyer was not intended  
13    as that. It was an invitation that he may do that if he  
14    perceives that his interests are going to be affected.

15           MR. OLESKEY: I am just pointing out that if that  
16    aspect of it is going to be meaningful to him, someone has got  
17    to tell him very soon, I think.

18           JUDGE SMITH: I agree, I agree.

19           However, I also recognize that he was told last week  
20    and that presumably he knows that these people were here and  
21    presumably if he's going to have competent counsel, competent  
22    counsel would have recognized that would be something -- I  
23    don't know. I simply don't know. But we are not going to  
24    delay Bores and Lazarus on that account.

25           I think that perhaps it might be, if you see fit,

1 tell him that we're not going to delay Bores's and Lazarus's  
2 appearance and that there is another aspect of it too, and that  
3 is the transcript, of course, will be available, and we're not  
4 making any rulings. We are doing nothing except exploring a  
5 possible solution to a sensitive problem which is not easily  
6 resolved, I don't believe.

7 MR. FLYNN: Your Honor, as soon as the hearing  
8 resumes I will absent myself and communicate that to him by  
9 phone.

10 JUDGE SMITH: Anything further?

11 Well, how about the subpoena? I see that problem. I  
12 think that we are now aware -- wait until Ms. Weiss comes  
13 back -- we are now aware that Mr. Thomas may or may not appear,  
14 and again, I'm looking to you as being the parties who are most  
15 interested in Mr. Thomas's appearance.

16 Do you want a subpoena?

17 MR. OLESKEY: May we consult for a minute, Judge?

18 JUDGE SMITH: Yes, right. I'm just pointing out to  
19 you that if you want one, you'd better ask for one because it  
20 might not happen.

21 Well, we've expressed an interest on our own that Mr.  
22 Thomas appear. We have not consulted and decided whether we  
23 would compel his appearance if he declined. That would be an  
24 entirely different situation.

25 (Board confer.)

1 (Counsel confer.)

2 MR. OLESKEY: Our view preliminarily would be that we  
3 would want to talk to Mr. Thomas's lawyer, when he gets one, to  
4 see what advise he is giving his counsel before we are put in  
5 the position of asking the Board for a subpoena.

6 JUDGE SMITH: Okay.

7 Mr. Lewald.

8 Whereupon,

9 ROBERT GOBLE

10 ROBERT ECKERT

11 VICTOR EVDOKIMOFF

12 having been previously duly sworn, were recalled as witnesses  
13 herein, and were examined and testified further as follows:

14 CROSS EXAMINATION (Resumed)

15 BY MR. LEWALD:

16 Q Professor Evdokimoff, when we concluded yesterday you  
17 had responded to a Board question with respect to your  
18 inspection of 12 so-called representative cottages. And I  
19 think the Board's question was particularly did you give a  
20 price range?

21 A (Evdokimoff) Yes, I did.

22 Q Did you answer as to what that price range was?

23 A (Evdokimoff) No, I didn't.

24 First of all, I didn't know what the price range was,  
25 and then when I found out I gave -- well, they were going more

1 on a weekly rate, and it appeared to be 50 to 70 dollars a day  
2 as I recall, but it was, more or less, I gave it for a week.  
3 And one of the things, because I was there the week before  
4 Labor Day, so the prices were coming down. They were saying,  
5 you know, we can now give you a better price.

6 So I originally asked -- I said we don't want to  
7 spend too much. We don't want the top line, but we'd like  
8 something maybe moderate, or inexpensive to moderate is what I  
9 said, and I didn't know the price range at first so that's how  
10 I started. Could you just give us a range of say inexpensive  
11 to moderate and that's what I said.

12 And then when I went to other realtors and got a  
13 sense of the price, then I was able to be more firm.

14 Q When did your inspection take place?

15 A (Evdokimoff) September 1st. As you recall, Labor  
16 Day sort of fell -- it was like a week later than usual. So I  
17 was up there the whole week, the first week in September, and  
18 Labor Day was like the next week, and I told the realtors that  
19 we were contemplating maybe Labor Day or a week after; maybe  
20 spending a week with my family up there.

21 Q So this was the week before Labor Day, 1987?

22 A (Evdokimoff) Right. People were starting to leave.  
23 Many cottages were vacated at that point. There was still a  
24 good degree of occupancy, but there were many cottages that  
25 were empty, and that's why I was able to get into, you know, -

1 Q Get into the empty ones.

2 A (Evdokimoff) Right. Perhaps if I was there in July,  
3 it might be very difficult to see them, but it worked out well.

4 Q Now following this in your testimony, which I -- on  
5 Page 26 you were talking about you were able to inspect 12  
6 representative cottages.

7 And then you go on to discuss the radiation exposure  
8 and the shielding factors that are afforded. And then at the  
9 conclusion of that first full paragraph on Page 27 of your  
10 testimony you say there's one caveat for use of these factors:  
11 Occupants may not remain near the windows or doors, but must  
12 reside inside, preferable near interior walls of the structure  
13 until it is safe to leave the shelter.

14 And my question is, is it your position that this  
15 holds true, that this caveat holds true when we're dealing with  
16 0.09 shielding factor?

17 A (Evdokimoff) Yes, it is.

18 Q Or 0.9.

19 A (Evdokimoff) Those are Aldrich's assumption, Mr.  
20 Lewald, that I'm using. He states that, you know, you have to  
21 be away from the windows and doors.

22 The .9, there's not a rep -- if you look at the  
23 table, I think it's Table 1 in the February 1978 shelter study,  
24 there is not a representative factor for cloud shine point now,  
25 but there is for other -- for example, a basement in a wooden

1 frame. And I think the whole sense of sheltering according to  
2 Aldrich is that you should be -- shelter -- he defines shelter  
3 as a deliberate action to take use of the inherent shielding  
4 properties of a structure by staying away from windows and  
5 doors. That's part of the definition in all three of the  
6 Aldrich statements, and I refer you to Page 8 on both the  
7 January and February -- the multicompartmental ventilation  
8 study which was the January '78 one, and the February one. So  
9 that's part of his definition of sheltering, to stay away from  
10 windows and doors.

11 So, and the answer to your question, yes.

12 Q Well, didn't we agree yesterday that the tables  
13 Aldrich used, Burson and --

14 A (Evdokimoff) Profio.

15 Q -- Profio's tables?

16 A (Evdokimoff) Right, right.

17 Q And would it be fair to say that Burson and Profio do  
18 not hold to the fact that being near windows or doors has any  
19 significance when we're dealing with a shielding factor, a  
20 protective shielding factor of 0.9?

21 A (Evdokimoff) I can't answer that. I didn't read  
22 Burson and Profio's reference, but I did read Aldrich, and I'm  
23 just going on the assumptions that Aldrich uses, and I think  
24 Aldrich is sort of the expert. He did extract these concepts,  
25 the shielding concepts from Burson and Profio. But I am just



1 going on the assumption of Aldrich, which is the -- in my  
2 opinion, which is the referenced -- who is a reference expert  
3 in this. So these are the assumptions he's made, and I think  
4 these are the assumptions that are referenced.

5 And the caveats put in my testimony are basically the  
6 assumptions that Aldrich makes, and I've used those  
7 assumptions.

8 Q Well, if I advised you that Burson and Profio state,  
9 with respect to a wood structure and 0.9 shielding factor, that  
10 doors and windows will have little effect, and then going on,  
11 and stucco has only a slightly greater tension. Thus, the  
12 average reduction factor for above-the-ground room in an  
13 ordinary wooden frame house is about 0.9.

14 MS. WEISS: Objection. I think the witness is being  
15 asked to comment on somebody's conclusions. He ought to be  
16 able to read the document that you're looking at.

17 BY MR. LEWALD:

18 Q Would you accept that?

19 A (Evdokimoff) I can't --

20 MS. WEISS: Whoa, there's an objection.

21 JUDGE SMITH: Wait a minute. I think that it's for  
22 the witness to decide, Ms. Weiss. I think that you have done  
23 the witness a service by pointing out that might be something  
24 he wants, but it's for the witness to decide, isn't it?

25 MS. WEISS: Well, I'd like to look at it myself.

1 JUDGE SMITH: All right. That's another matter.

2 Okay.

3 THE WITNESS: (Evdokimoff) I haven't read that, Mr.  
4 Lewald.

5 JUDGE SMITH: Just a moment.

6 THE WITNESS: (Evdokimoff) Okay, I'm sorry.

7 JUDGE SMITH: I think that he witness has indicated  
8 probably that he would like to see it before he comments.

9 (Pause.)

E10 10 (Continued on next page.)

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1 JUDGE SMITH: Do you recall the question?

2 THE WITNESS: (Evdokimoff) Can I have it repeated to  
3 me, Mr. Lewald.

4 BY MR. LEWALD:

5 Q I was referring to page 32. Well, I have put before  
6 you a document entitled "Structure shielding from cloud and  
7 fallout gamma ray sources for assessing the consequence of  
8 reactor accidents," and by Zolin G. Burson and A. Edward  
9 Profio; and this bears a pop logo of EGG-1183-1670, December  
10 1975. And I have put before you, Professor, the full document,  
11 also excerpts from that document, pages 26, 32 and 34.

12 And my question to you with respect to page 34 -- 32  
13 of the article which is in reference to wood frame houses for  
14 small houses, and the second to the last sentence with respect  
15 to that subject where it says: "Doors and windows will have  
16 little effect and stucco is only a great attenuation, that's  
17 the average reduction factor for an above ground room in an  
18 ordinary wood frame house is about 0.9."

19 And I ask you whether you would accept that as being  
20 Burson and Profio's treatment?

21 A (Evdokimoff) I guess --

22 Q Of whether or not being near windows and doors was  
23 significant when we're dealing only with a 0.9 protection  
24 sheltering factor?

25 A (Evdokimoff) I guess I feel a little uncomfortable

1 not having read the full document. Some of my words I can  
2 barely read here, so I feel like I'm just -- something is being  
3 pulled out of context.

4 A (Goble) Can we consult for just one minute, please?  
5 Do you mind?

6 JUDGE SMITH: Do you object?

7 MR. LEWALD: I have no -- no.

8 JUDGE SMITH: All right.

9 (Witnesses conferring)

10 THE WITNESS: (Evdokimoff) I would agree with you,  
11 but I would point out one of the tenets of radiation protection  
12 is distance. The three ways to shield gamma rays: time,  
13 distance and shielding from gamma rays.

14 Regardless of structural integrity of a building, if  
15 you are against the windows of any structure and then you go  
16 two or three feet further away the distance will cut the  
17 exposure down; that's the simplest distance, it's the inverse  
18 square law.

19 So, it appears, and I haven't read the document  
20 fully, and it appears what you're saying is true, that the .9  
21 is just the windows and it doesn't make any difference.

22 But I would point out, the concept that Aldrich is  
23 putting forth is to cut the dose down as much as possible for  
24 people, and that's by using basements, that's by staying away  
25 from doors and windows and by using interior structures.

1           So, that's the whole point of sheltering is to  
2 take -- to do the strategies that are effective with distance  
3 and using inherent structure of the building to cut your  
4 exposure down.

5           MR. LEWALD: I --

6           THE WITNESS: (Goble) Excuse me, I could add two  
7 little points on that, if you're interested?

8           MR. LEWALD: Pardon?

9           THE WITNESS: (Goble) I said, I'd like to add two  
10 small points with regard to this, do you mind?

11          MR. LEWALD: You're still with the question I asked,  
12 Doctor?

13          THE WITNESS: (Goble) Yes.

14          MR. LEWALD: Oh, okay.

15          THE WITNESS: (Goble) One point is, my  
16 interpretation, for what it's worth, of the paragraph in  
17 question is simply stating that -- it's stating that doors and  
18 windows have very little effect as shielding, it's not -- and,  
19 which is a well known fact, so they were not given credit in  
20 this calculation for any shielding provided by doors and  
21 windows.

22                 The second point I'd like to make is that, all of  
23 these shielding numbers are done very approximate. They're  
24 done -- they're single digit accuracy, which is appropriate  
25 given the wide range of housing characteristics that people are

1 usually averaging over.

2 Now, when one starts to -- the next digit up from .9  
3 is 1, there's not a lot of range for planning around then, if  
4 you talk about things being 20 percent worse than .9, you might  
5 still call that .9 shielding because it's -- we don't know  
6 really whether we're talking about .88 or .92 or .94.

7 We're quarreling over very small differences at this  
8 point.

9 BY MR. LEWALD:

10 Q Would you agree with the last sentence on page 34 of  
11 the excerpt that the value suggested are estimates for the  
12 general case and had probably represented the upper  
13 (conservative) range for the designated class of structure; are  
14 you disagreeing with that, Dr. Goble?

15 A (Goble) No. But I mean, I think the -- I would  
16 agree with that, but I think the designated class of structure  
17 is -- wood frame houses are much -- in general, much more  
18 substantial than the cottages on the beach.

19 Q Professor Evdokimoff, could I refer you to the  
20 excerpt on page -- the page 26?

21 A (Evdokimoff) This is in my testimony, Mr. Lewald?

22 Q No, of this article --

23 A (Evdokimoff) In this document?

24 Q -- that I put before you. And doesn't that indicate  
25 that if we're looking to protective shielding factors of

1 something in the range of 0.01 to 0.05, then it is significant  
2 that you stay away from doors and windows?

3 A (Evdokimoff) I would not agree with that. I think  
4 Aldrich states the concept of sheltering is basically to go to  
5 the lowest -- to go to a basement and to keep away from doors  
6 and windows.

7 There are other tables in Aldrich that will also  
8 state that, in fact, this applies to structures of even .4.

9 Q But let's get -- didn't -- at the tables in Aldrich  
10 that you cite, aren't they taken from --

11 A (Evdokimoff) Right.

12 Q -- Burson and Profio?

13 A (Evdokimoff) Right. But I think Aldrich has made --  
14 has added his own -- has added his own, perhaps, assumptions  
15 and has perhaps somewhat -- I'm not saying he hasn't -- the  
16 tables are the same, but I think he has modified some things.  
17 And I think he is -- what he is telling us is that, there was a  
18 strategy to sheltering. And the way he defines sheltering is,  
19 in a general sense, is to make use of the inherent structural  
20 shielding properties of a structure by keeping away from doors  
21 and windows. That is on page eight of both documents.

22 And that is sort of a -- I have not read the document  
23 by Burson and Profio, so I don't know what assumptions have  
24 gone into this, but I certainly have read Aldrich and Aldrich  
25 has stated that over and over again, his concept of sheltering.

So I think -- I'm not trying to read or suppose what Aldrich has in mind, but I believe the concept of sheltering is to do the best you can, and that's to keep away from doors and windows and to go to a structure that will give you the best radiation shielding which would be a basement, which would be a highrise building or some sort of industrial building.

And in fact, when he talked about strategy No. 2 in sheltering this is what he says, is that people should go to a basement and --

Q Well, is what you're telling me that if I move away from a door or a window that I may do better than 0.9?

A (Evdokimoff) There were three components --

Q Can you answer that yes or no?

JUDGE SMITH: Well, the Board has some problems about the testimony and we want to consult and see if we understand it.

Well, the concern that I had is, you were speaking before about the reduction value of distance alone, and that was with respect to the paragraph on page 32 which is the shielding factors from sample structures, and with respect to a cloud. And then we started talking about shielding factors with respect to deposited radioactivity.

THE WITNESS: (Evdokimoff) Ground shine.

JUDGE SMITH: Ground shine.

THE WITNESS: (Evdokimoff) Yes, sir.



1 JUDGE SMITH: Now, it's not clear to me if you're  
2 speaking about a change in distance from a cloud source  
3 represented by the distance from a window to an interior wall  
4 or the change in distance from a window to interior wall from  
5 radioactivity deposited on the surface of the building. The  
6 proportion of distance would be vastly different, that was my  
7 question.

8 Now, wait a minute, we have another one.

9 JUDGE LINENBERGER: With respect to page 26 excerpted  
10 from the EG&G document distributed by Mr. Lewald, that table  
11 seems to refer to reduction factors associated with a deposited  
12 source on the ground. Several numbers are asterisked, and in  
13 my copy I find no asterisk below the table to associate with  
14 those asterisks. I can assume -- I do assume, but I don't --  
15 and here's my question, am I correct in assuming that the  
16 asterisk there refers to the statement just below the line at  
17 the bottom of that table which says, "Away from doors and  
18 windows," is that what the asterisk refers to or can you tell  
19 me?

20 THE WITNESS: (Evdokimoff) the Aldrich table does do  
21 that. I would agree with that, Judge Linenberger.

22 Perhaps, Mr. Lewald, I'm not trying to confuse -- the  
23 three components of dose, when you talked about a .9 factor  
24 you're talking about cloud shine, but that's one component of  
25 dose. If you're talking ground shine that's another.

1 So I -- you know, we have to --

2 BY MR. LEWALD:

3 Q Professor Evdokimoff, if I answer to Judge  
4 Linenberger's question, if you would look to the full document  
5 rather than the excerpt I think you'd be able to address it.  
6 The photocopy, unfortunately, is of poor quality.

7 And could you look at page 26, you can respond to the  
8 question whether the asterisk is indicated below the line,  
9 aside of the legend, "Away from doors and windows?"

10 A (Evdokimoff) It's -- you cannot -- away from doors  
11 and windows is highlighted in yellow and it appears there may  
12 be an asterisk there, but I can't really say. I would assume  
13 it is. It's a poor copy, Mr. Lewald.

14 Q You don't have an original or a better copy of this?

15 A (Evdokimoff) I have -- no, I don't. I haven't read  
16 the document.

17 Q You've never read the document?

18 A (Evdokimoff) Yes, that's true, I haven't read Burson  
19 and Profio. But I can tell you Aldrich --

20 Q No, I'm not interested in Aldrich.

21 A (Evdokimoff) You don't want to hear about Aldrich.  
22 I'm sorry. I would assume that it appears that this is an  
23 asterisk.

24 Q All right, thank you.

25 MR. LEWALD: At this point, Your Honor, I would like

1 to offer the excerpts of the EG&G, the Burson and Profio  
2 studies.

3 JUDGE SMITH: Do you have a better copy? Can you get  
4 one?

5 MR. LEWALD: I will endeavor to -- I would like to  
6 offer what I have now, but substitute a better copy, if  
7 obtainable, which I'll make every effort to do.

8 JUDGE SMITH: Are there objections?

9 MS. WEISS: Well, I do. I'd like to see the full  
10 document, to see whether these are a fair excision, you know,  
11 what's in the rest of the document, whether there should be  
12 more, before I agree. I may not have any objection, but I've  
13 never taken a look at Burson and Profio.

14 MR. LEWALD: I have no objection to putting in the  
15 entire document except that I don't have copies.

16 MS. WEISS: No, I'm not asking for that.

17 JUDGE SMITH: Well, she just wants to see it before  
18 she --

19 MR. LEWALD: Sure.

20 MS. WEISS: I want to just take a look at it.

21 JUDGE SMITH: -- fails to objection.

22 THE WITNESS: (Evdokimoff) May I point out  
23 something, Mr. Lewald?

24 MR. LEWALD: I --

25 THE WITNESS: (Evdokimoff) There is a difference

1 between Aldrich and Profio, and in fact, if you look on page 11  
2 of the Aldrich study which is January 25th, 19- -- I'm sorry,  
3 that's the February one, aside one-and-two-story wood frame  
4 house, no basement, it says, "Away from doors and windows."  
5 And the Profio document doesn't have that.

6 So I think what I've gone from was Aldrich, so  
7 there's a difference between what Aldrich has and what Profio  
8 has.

9 BY MR. LEWALD:

10 Q What is Reference 4 in the Aldrich article that you  
11 were looking at?

12 A (Evdokimoff) Burson, and Profio.

13 Q And what is it? Can you read the whole reference?

14 A (Evdokimoff) "Burson, Z.G. and A.E. Profio,  
15 structure shielding from cloud and follow up gamma ray sources  
16 for assessing the consequences of reactor accidents, EG&G,  
17 Incorporated, Las Vegas, Nevada, EGG-1183-1670, 1975."

18 Q And then if you turn to the Aldrich article that you  
19 were referencing on pages 10 and 11 there appear two tables  
20 there, do they not?

21 A (Evdokimoff) Yes, Mr. Lewald.

22 Q And these tables, one is representative shielding  
23 factors from gamma cloud source, from Reference 4, is it not?

24 A (Evdokimoff) Right, that's true.

25 Q And table two is representative shielding factor for

1 surface deposited radionuclides, again from Reference 4;  
2 correct?

3 A (Evdokimoff) Right. But if you look at both tables  
4 there's a difference with the asterisk, and that's what we're  
5 talking about here.

6 If you look at the Profio, page 26, and it says:  
7 "One-and-two-story wood frame homes, no basement, 0.4," there's  
8 no asterisk.

9 If you look at the Aldrich table two: "Wood and two-  
10 story wood frame house, no basement," there's a "B" above 0.4,  
11 and if you look under "B" it says, "Away from doors and  
12 windows," so there's a difference there.

13 Q We're not dealing with 0.9 in either case, are we?

14 A (Evdokimoff) I was dealing with --

15 Q We're dealing with 0.4?

16 A (Evdokimoff) -- the concept that I thought, I was  
17 trying to reduce as much as possible sheltering -- radiation  
18 exposure to people by inherent structural properties of a  
19 building.

20 If you want to talk 0.9, we can't talk about that,  
21 but that's only a 10 percent reduction in cloud shine. That's  
22 assuming, -- I believe, assuming a typical house, and these  
23 cottages certainly have less mass than you would see in a  
24 conventional house.

25 So, you know, I won't say anymore than that. I don't

1 believe these cottages are comparable to a typical wood frame  
2 house without a basement, there's less mass in there.

3 Q Well, going to the cottages that you say you  
4 inspected which -- and my understanding is that you looked at  
5 these, what you just told us, a week before Labor Day in 1987?

6 A (Evdokimoff) That's correct.

7 Q Now, you say that, on page 28, that all of these  
8 cottages are small, and then you go on to say that: "Typical  
9 dimensions for a one-story dwelling 10 feet by 20 feet." And  
10 then: "A typical one floor cottage has a porch with or without  
11 windows or screens, 10 to 20 windows, and one-half foot crawl  
12 space under the wooden floor."

13 A (Evdokimoff) Three --

14 Q Pardon?

15 A (Evdokimoff) It says three and a half feet.

16 Q I beg your pardon?

17 A (Evdokimoff) You said a half a foot, I said, it says  
18 three and a half feet.

19 Q Oh, I'm sorry; thank you.

20 "Three and a half foot crawl space under the wooden  
21 floor. Two bedrooms, a living room, a bathroom and a kitchen."  
22 Haven't you described a miracle of architectural design to get  
23 a two bedroom, a living room, a bathroom and a kitchen in a 10  
24 by 20 structure?

25 A (Evdokimoff) That's what I saw, and it's hard to

1 believe, just reading this you wouldn't believe it, but that's  
2 what I saw. And these are small cottages and these are small  
3 rooms.

4 Q Did you actually measure these?

5 A (Evdokimoff) Did I actually --

6 Q Measure these with a tape or something?

7 A (Evdokimoff) I measured them with -- my foot is  
8 about 12 inches, so I walked it off.

9 Q You walked it off?

10 A (Evdokimoff) Right. But I think Dr. Eckert has  
11 measured them and he has measurements. And perhaps, the video  
12 will be able to show you, you know.

13 Q But this is your estimate, is it, --

14 A (Evdokimoff) It's a --

15 Q -- by pacing?

16 A (Evdokimoff) Right. But, you know, it could be 10  
17 by 18, it could be 11 by 21. These are small. They're small  
18 structures. And, you know, that's a predominant observation I  
19 made as I went around, these are small structures. These are  
20 not typical one wooden family dwellings like you'd see  
21 downtown.

22 Q Well, you say that all 12 of the cottages you entered  
23 fit the same general profile, and then you make references to  
24 17 Epping and 7 Boston, for example. And you say you looked at  
25 two one-story cottages that were typical at one end of the

1 spectrum of the condition, that is largely unimproved with  
2 considerable visible disrepair in evidence. Both of these, and  
3 I assume you're referring back to 7 Boston and 17 Epping where  
4 12 by 20, from the 20 by 12 that you have there?

5 A (Evdokimoff) Right.

6 Q Is this another pacing off?

7 A (Evdokimoff) Yes.

8 Q If I told you that the actual measurements of 7  
9 Boston were 12 feet and 6 inches by 33 and 10 inches; and 17  
10 Epping as being 18 feet 4 inches by 40 feet, would you accept  
11 that subject to check?

12 MS. WEISS: Objection, no foundation.

13 (Continued on next page.)

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1 THE WITNESS: (Evdokimoff) I can't answer that.

2 BY MR. LEWALD:

3 Q You don't know.

4 JUDGE SMITH: When counsel objects, even though it's  
5 not counsel sponsoring the panel, you should at least let the  
6 Board have an opportunity to sort things out before you answer.

7 When you hear an objection, stop.

8 THE WITNESS: (Evdokimoff) Okay. Thank you.

9 MS. WEISS: As the witness has answered the question  
10 already, I will withdraw the objection.

11 JUDGE SMITH: That was just a warning for future  
12 purposes.

13 What page are you on?

14 MR. LEWALD: On Page 28.

15 JUDGE SMITH: His answer was he can't answer.

16 MR. LEWALD: I didn't hear you.

17 JUDGE SMITH: He said he can't answer your question.  
18 He said he cannot answer your question.

19 BY MR. LEWALD:

20 Q You don't know what the actual dimensions of either  
21 cottage are, do you?

22 A (Evdokimoff) I paced it off. No, I don't, but I  
23 really don't think it's relevant here because the shielding  
24 factors are still based on wood structures without basements,  
25 so the factors still hold.

1 Q Aren't you representing these cottages as typical and  
2 representative of all of those on the beach?

3 A (Evdokimoff) Yes.

4 Q And you don't think it's significant what the  
5 dimensions are?

6 A (Evdokimoff) I think what I'm saying is they're very  
7 small, and whether it's a foot or two one way or the other  
8 really doesn't make any difference, Mr. Lewald.

9 Q And you're saying that the small was two bedrooms, a  
10 living room, a bathroom and a kitchen.

11 A (Evdokimoff) Right.

12 Q Now, you go on to say that with respect to the Epping  
13 cottage stood on concrete blocks and has asphalt shingles.  
14 Both had porches. Each had broken windows and screens and  
15 neither -- I assume you're adding 7 Boston and along with 17  
16 Epping -- had interior ceilings.

17 Then you go on to say they each had about 10 windows  
18 not counting the front and rear door windows, and one sash of  
19 the Boston Street cottage could not be closed, right?

20 MR. LEWALD: Excuse me a moment, Your Honor.

21 (Pause.)

22 MR. LEWALD: I'm going to show the witness two  
23 photographs along with two photocopies in black and white of  
24 the two photographs.

25 (Pause.)

1 MS. WEISS: Is there a question pending, Your Honor?

2 JUDGE SMITH: No.

3 BY MR. LEWALD:

4 Q Professor Evdokimoff, do you recognize either or both  
5 of those photographs?

6 A (Evdokimoff) I recognize the one with the gentleman  
7 standing in front of it. I don't recall whether it's Boston or  
8 Epping. I just don't remember, but I do remember that.

9 The second one, the one that says Harris on it, I'm  
10 not sure.

11 I can definitely attest to the fact that the one with  
12 the gentleman standing in front, I did go in that cottage. And  
13 the second one, I don't recall. I saw a lot of cottages and I  
14 can't swear to it.

15 Q But you only went in 12.

16 A (Evdokimoff) Right.

17 Q And 7 Boston was one of the ones you went to, was it  
18 not?

19 A (Evdokimoff) Right. My notes indicated -- I took it  
20 from my notes, and I wrote down where I was and what my  
21 observations were when I was in there. I do remember this  
22 green one, but this other one I'm just not sure.

23 Q If I represented to you that the other one -- the one  
24 with not the person standing in front of it -- is 7 Boston,  
25 would you accept that?

1 A (Evdokimoff) I don't know.

2 Q You don't know.

3 A (Evdokimoff) No, I don't. I can't recall -- it's  
4 possible I could have mixed up the numbers on the streets.  
5 It's possible. But all I can say is with confidence is the  
6 green one, I absolutely remember going into. I don't remember,  
7 I don't remember whether that was Epping or Boston though.

8 Q But the other one you do identify as 17 Epping?

9 A (Evdokimoff) This one?

10 Q The one with the gentleman you said standing --

11 A (Evdokimoff) The gentleman standing in front. I  
12 don't know. I remember going -- I don't remember whether it  
13 was Boston or Epping, to be honest with you, Mr. Lewald.

14 I do remember it was on the east side of Ocean  
15 Boulevard, and I do remember looking at one at 19 Epping, which  
16 was across the way, and I'm not -- I don't remember whether  
17 Boston -- I remember that there was one street that you could  
18 see the ocean from, and I don't remember whether that was  
19 Epping or Boston.

20 Q Well, didn't you represent, or don't you represent  
21 that 7 Boston was a one-story building that you could look  
22 through and see the sky?

23 A (Evdokimoff) Right. My recollection was I could see  
24 the sky in both of them, and that's pretty strong, because that  
25 was unexpected to me and that's why I vividly remember that I

1 could see right through the ceiling.

2 Q And at least one of these structures is one that you  
3 could see through the ceiling?

4 A (Evdokimoff) The two structures that I listed in my  
5 testimony and others I could see through. I could walk right  
6 inside the middle and look right up and I could see light  
7 coming through the roof.

8 Q But you don't know now whether these are 17 Epping  
9 and 7 Boston, is that what you're telling me?

10 A (Evdokimoff) I know one of them I was in, and is  
11 either the 7 Boston or the Epping.

12 The other one looks familiar, but again I -- it's  
13 been almost a year.

14 Q Would it be fair to say that these two cottages are  
15 typical of the ones that you saw at Hampton Beach?

16 A (Evdokimoff) I would say so. Some of them are  
17 smaller than this, particularly the ones off of Ashworth  
18 Avenue. There's a whole -- where most of the one-story family,  
19 one-story cottages are, and they are smaller. Many of them I  
20 saw that are much smaller than this.

21 The one I'm looking at from Harris, I would call that  
22 a two-story, but I would say these are -- I think they're  
23 representative. I think some are worse looking, some are in  
24 worse shape, and some are in better shape. So it reflects a  
25 mix in the area.

1 Q Well, looking at the pictures would you accept the  
2 picture with the person standing in front, 17 Epping, measures  
3 18 feet, 4 inches by 40 feet?

4 A (Evdokimoff) Well, this is a -- can't quite fully  
5 see the depth there. I could get a -- I would say 10 feet  
6 certainly where the gentleman is standing is the porch area. I  
7 think that -- as to the depth back, I'm just not sure.

8 Q Well, it's fair to say that these are not 20 by 12.

9 MS. SNEIDER: Objection. The witness has said that  
10 he couldn't tell, no.

11 MR. LEWALD: Your Honor, I would like to offer the  
12 two photocopies that we have been discussing, and also I would  
13 like to -- I guess if I could have marked in evidence the EG&G  
14 excerpts that I have -- Exhibit 34 which we had previously  
15 discussed, but which I do not think has been admitted in  
16 evidence.

17 JUDGE SMITH: No. No, you haven't actually offered  
18 it. I think that the state of affairs as to this document  
19 should be this. It has been identified and that it has not yet  
20 been offered because of Ms. Weiss's request to see the whole  
21 document before she objects. Therefore, the responsibility of  
22 offering it before she decides whether she's going to object or  
23 not. Therefore, the responsibility of coming back to it will  
24 rest with you.

25 Is that fair? I mean is that satisfactory?

1 MR. LEWALD: Well, it is. I have left the full  
2 document with Professor Evdokimoff, and I would be glad  
3 to --

4 JUDGE SMITH: I just want to establish whose  
5 responsibility it is to take the next action on this document,  
6 and I believe it's your, Mr. Lewald.

7 MR. LEWALD: I would be glad to do that if I can  
8 right now and just hand it to her so we can --

9 JUDGE SMITH: How about during the break?

10 MR. LEWALD: Fine.

11 JUDGE SMITH: Okay.

12 MS. WEISS: I'm going to object to the photocopies.

13 JUDGE SMITH: To the photos?

14 MS. WEISS: Simply on the basis that I don't think  
15 they are probative of anything at this point. The witness  
16 hasn't been able to say what addresses they are, or he does --  
17 the only thing that he's said is that he went into the one that  
18 the man in standing in front of, and he does remember going  
19 into it, and he can't say whether Mr. Lewald's assertions about  
20 the dimensions are correct or incorrect just looking at this  
21 picture.

22 And the second one, we have no identification at all  
23 with regard to that at all from the witness. Doesn't remember  
24 what address it is, or whether he went into it, or anything.  
25 So I just don't think either of them is probative of anything.

1 MR. LEWALD: Your Honor, if only that these are  
2 typical of cottages on the beach, I would -- I think they would  
3 be admissible for that purpose, and this is, I think, what  
4 Professor Evdokimoff has testified to.

5 JUDGE SMITH: Did he testify that they're typical?

6 THE WITNESS: (Evdokimoff) I said they represent a  
7 range. I think there are some that are worse and some that are  
8 better.

9 JUDGE SMITH: All right.

10 JUDGE LINENBERGER: Mr. Lewald, a point of  
11 clarification, please, with respect to the single-story  
12 structure with the gentleman standing in front of it.

13 Although the witness was not in a position to confirm  
14 your representation about dimensions, there is a question in my  
15 mind whether the dimensions you suggested or proposed to the  
16 witness represent overall outside dimensions or interior living  
17 space dimensions.

18 MR. LEWALD: I believe they're the outside  
19 dimensions.

20 JUDGE LINENBERGER: And include the porch.

21 THE WITNESS: (Evdokimoff) I didn't include the  
22 porch when I made --

23 MR. LEWALD: I'm not able to state whether this is  
24 foot space including the porch or not.

25 THE WITNESS: (Evdokimoff) My measurements, Mr.



1 Lewald, don't include the porch, because that's not an occupied  
2 space. People wouldn't be outside in the porch during a  
3 radiation accident. They would be inside. So I didn't include  
4 the porch.

5 MR. LEWALD: Regarding 7 Boston, which I the other  
6 photograph, I assume that that is the overall space of the  
7 foundation which does include the porch.

8 JUDGE SMITH: Well, there's no evidence that either  
9 of these buildings are the building referred to in his  
10 testimony. If they're received, they will be received solely  
11 for whatever value.

12 MR. TURK: Your Honor, may I be heard on the matter?

13 JUDGE SMITH: All right.

14 MR. TURK: It's my recollection that Dr. Evdokimoff,  
15 Mr. or Dr., I don't recall.

16 THE WITNESS: (Evdokimoff) Working on my doctorate.  
17 I'm a professor in the School of Medicine at BU.

18 MR. TURK: Mr. Evdokimoff indicated that the  
19 photograph with the man standing in front was either the Boston  
20 or the Epping Street --

21 THE WITNESS: (Evdokimoff) Right.

22 MR. TURK: -- address.

23 THE WITNESS: (Evdokimoff) That's correct.

24 MR. TURK: So as to that document with the man  
25 standing on front, we've got an identification as to it being

1 one of these two structures.

2 In addition --

3 MS. WEISS: Not very useful.

4 MR. TURK: Well, the usefulness can be argued in  
5 proposed findings.

6 As to whether or not Mr. Evdokimoff indicated that  
7 these photographs are typical, he did in fact say they were  
8 typical. He went on to indicate further that some cottages  
9 were smaller, some were larger, some were in worse shape, some  
10 were in better shape, but he did identify these as being  
11 typical structures within the beach area of the structures that  
12 he saw.

13 MS. WEISS: I'd be willing to stipulate that these  
14 are two cottages on the beach. The Board can accept them or  
15 not for that purpose.

16 JUDGE SMITH: The Board will defer its ruling until  
17 after the break.

18 BY MR. LEWALD:

19 Q Well, going on with your testimony, you say, in  
20 better condition were two cottages that you -- I'm referring to  
21 Page 29 -- that you --

22 JUDGE SMITH: Just a moment.

23 BY MR. LEWALD:

24 Q -- visited in the Ashworth Street area, a one-story  
25 and a two-story near the corner of J Street. Do you see that

1 on the top of Page 29?

2 A (Evdokimoff) Yes, sir.

3 Q Now, in your testimony which you previously had filed  
4 in this proceeding, which I think was dated September '87?

5 A (Evdokimoff) Right.

6 Q You identified the one-story cottage by saying a one-  
7 story at 136 Ashworth.

8 A (Evdokimoff) That's correct.

9 Q And the two-story was identified on the corner of J  
10 Street and Ashworth.

11 A (Evdokimoff) That's right.

12 Q And your testimony now deletes both identifications.

13 A (Evdokimoff) Right.

14 Q And is there a reason for that?

15 A (Evdokimoff) Yes, there is.

16 It was pointed out to me by the Attorney General's  
17 office that what I had listed as 136 Ashworth wasn't there.  
18 And I went back in my notes and I had confused two realtors.  
19 There is a Seacoast and a some thing else very close. The  
20 cottage that I went into was to the left of the -- it was  
21 actually a place -- it was a motel, and to the left of this was  
22 this small, little cottage. And it was pointed out to me that  
23 they couldn't find it.

24 And I went back in my notes and I believe Seacoast  
25 Realty was at 134. Now that was not the realtor that I was in,

1 so I had identified the wrong -- I identified the wrong area.  
2 So that was changed for that reason.

3 And the other -- so the Attorney General's office  
4 just changed it to be in the area.

5 And the one that was near J Street, I'm not quite  
6 sure. That other one was the one I went to with the realtor  
7 from -- I'm sorry, I get the two -- one's Seacoast, and the  
8 other one is maybe Surf, Surfwind or something like that. I  
9 get them confused, but I do know -- I absolutely could find  
10 them if my life depend on it; I could find those structures.  
11 But I think what's important is they were better -- they were  
12 in better condition, you know, to look at. Aesthetically they  
13 were more pleasing, and they were paneled and so forth.

14 Q You didn't change them. You just disguised where  
15 they appeared, did you not, by taking the numbers away?

16 MS. SNEIDER: Objection. The witness has testified  
17 what happened. I think the characterization that Mr. Lewald  
18 wants to use is inappropriate.

19 JUDGE SMITH: I didn't hear the last few words of  
20 your remarks.

21 That doesn't help, incidentally. That's just tied to  
22 the recorder.

23 MS. SNEIDER: The characterization that Mr. Lewald is  
24 using is inappropriate in light of the witness's testimony of  
25 what happened.

1 JUDGE SMITH: Because normally it would have a  
2 pejorative connotation. I think that's what counsel is  
3 concerned about.

4 Was that what you intended, the use of the verb  
5 "disguise"?

6 MR. LEWALD: Well, I submit it's cross-examination,  
7 Your Honor; that there isn't a change here. He's just simply  
8 taken the numbers off the street.

9 JUDGE SMITH: Well, if that's what you intend, and if  
10 you think it's cross-examination, we'll accept it that way.

11 MR. LEWALD: Well, I won't press it.

12 JUDGE SMITH: I don't think that --

13 MR. LEWALD: It's not that significant.

14 (Continued on next page.)  
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1713  
1 BY MR. LEWALD:

2 Q Now, in your prior testimony your reference to the  
3 cottage that you visited and were 10 in number, were they not?

4 A (Evdokimoff) That's correct.

5 Q And now it's 12?

6 A (Evdokimoff) Right. That's because I've added a new  
7 dimension, and --

8 Q You have what?

9 A (Evdokimoff) Added a new dimension. What -- there  
10 are -- when I used the word "inspected" it involved two things.  
11 With the realtors I was able to go into the cottages and there  
12 was nobody in there except for one instance where I went with  
13 the realtor and there were people already in there, but I was  
14 able to tour the area -- tour the structure.

15 I also was in the doorway of three other structures  
16 -- well, two other structures, so I could see in, but I  
17 couldn't walk around, and those were the renters that I talked  
18 with.

19 And to be perfectly honest I've, you know, we've had  
20 a discussion about the word "enter and inspection" with the  
21 Attorney General's Office and, you know, the way I define it,  
22 you know, if I'm in the doorway and looking in, you know, that  
23 constitutes an inspection, but I wasn't able to look all over  
24 the building, for example.

25 So I was in those structures, but I wasn't able to

1 walk around unimpeded. So, yes, I was, you know, I saw 10, but  
2 I also was in two more through the renters that I talked with.  
3 And in fact, I probably was able to walk around the buildings  
4 and look in another 50 to 60 structures which I didn't include  
5 in my testimony, that would make the sample even more reliable.  
6 But --

7 Q I'm sorry, I lost --

8 A (Evdokimoff) The fire engine --

9 Q -- the last part of your last answer.

10 A (Evdokimoff) Okay. I make the distinction, Mr.  
11 Lewald, between the realtors giving me the keys to these  
12 cottages, I open them up and go in, there's nobody in there and  
13 I can look around.

14 I added the renters to it, that was 10, the renters  
15 were two; and I was able to be in the structures while I was  
16 talking to two of the renters to look around. So I was  
17 actually in, again, but not in a -- not in a similar  
18 circumstance.

19 Q And you make -- you, in conjunction with the Attorney  
20 General's Office, made the decision to add these two to your  
21 prior testimony in September of '87?

22 A (Evdokimoff) That was my decision, not the Attorney  
23 General's Office. I changed my testimony because I felt that,  
24 here was some -- here was cases where I was in, perhaps not  
25 inspecting fully as if I was unimpeded, but I thought it was

1 important to add that. You know, there's not a lot of  
2 difference between 10 and 12, and, you know, the testimony had  
3 been changed. And I just -- it was my feeling that, you know,  
4 why not take credit for something I've done. And I did talk to  
5 renters, and so that's how it went from 10 to 12. I added the  
6 renters in the end, standing inside the structure at the  
7 doorway looking around as I was talking.

8           So that gave me -- I could see, you know, whether or  
9 not there was, you know, there was light coming through. So  
10 that put me into the structure.

11       Q     Didn't you tell us yesterday that the reason that you  
12 felt that you had an unbiased sample of cottages was because  
13 the realtors didn't know who you were --

14       A     (Evdokimoff) Right.

15       Q     -- and gave you the keys, if you will --

16       A     (Evdokimoff) Right, but --

17       Q     -- for the 12?

18       A     (Evdokimoff) Right. In sequence, Mr. Lewald, what  
19 happened is, I talked to the renters first. So I was in those  
20 two cottages first before I even hit the realtors; that was  
21 like a couple of days later. So those were the initial -- that  
22 was actually the first thing I did. After walking around I  
23 started talking to people and I was able to get into two  
24 cottages and look around by interviewing them.

25           So this add had been done before I was even in. And



1 then the realtor thing came, I think, several days later. So,  
2 in time the realtors were after talking with the renters.

3 Q So the sample became representative after you --

4 A (Evdokimoff) Oh, no, no, I think -- it's a small  
5 number, but I think it -- I don't think things changed much  
6 between 10 and 12, but I just felt for completeness I, you  
7 know, I talked to renters and I was actually in two structures  
8 as opposed to going down the streets and haven't gone into any  
9 cottages, I just added the two more.

10 Q On page 31 of your testimony you add this up and say:  
11 "In my opinion overall these cottages at Hampton Beach are  
12 unsuitable for consideration as emergency shelters."

13 A (Evdokimoff) Where is that, Mr. Lewald?

14 Q On page 31?

15 A (Evdokimoff) Where? I can't find it.

16 Q On page -- I'm sorry, about five lines down where you  
17 begin the sentence: "Therefore it is my opinion."

18 A (Evdokimoff) Thank you.

19 Q Now, so much for Hampton Beach. What about Seabrook,  
20 where do I find anything in your testimony about Seabrook?

21 A (Evdokimoff) There's nothing in my testimony about  
22 Seabrook. I've been there -- I was there, I have some  
23 observations, but my assignment was basically Hampton Beach.  
24 And that's where the population is, and that's where the  
25 numbers of people are, the summer beach population.

1 Q Dr. Goble, over on page 35 you --

2 JUDGE SMITH: Let's take a break at this point and  
3 start after the break. 15 minutes, please.

4 (Whereupon, a 15 minute break was taken.)

5 JUDGE SMITH: Mr. Lewald, the photos of the cottages  
6 at Seabrook have not been marked for identification. I want to  
7 tell you that the Board is going to reject them as having  
8 insufficient probative value. You can mark them and offer them  
9 and put them in the rejected exhibit file, if you wish.

10 MR. LEWALD: Well, I -- I accept the ruling, Your  
11 Honor. I'd just like them marked for identification so that we  
12 can preserve the record on that aspect.

13 JUDGE SMITH: All right. So that will be, the two-  
14 story house will be Applicants' Exhibit 35, will that --

15 MR. LEWALD: Or 35 and 36. I -- the two-story house,  
16 the story and a half, I guess, is 35; and the remaining  
17 photograph of the cottage with the person standing in front of  
18 it is 36.

19 (The documents referred to were  
20 marked for identification as  
21 Applicants' Exhibits 35 and  
22 36.)

23 JUDGE SMITH: And these are rejected. These are  
24 offered and rejected.

25

1 (The documents referred to,  
2 having been previously marked  
3 for identification as  
4 Applicants' Exhibits 35 and  
5 36 were rejected.)

6 MS. SNEIDER: Your Honor, for the record I'd just  
7 like to point out that the actual photographs that the witness  
8 looked at, I do think are significantly different than the  
9 Xeroxes just in terms of what you can see on the Xerox and what  
10 you can see on the photograph.

11 MS. WEISS: Your Honor, I've had a chance to look at  
12 the full Burson and Profio source, and I would not object to  
13 the admission of the few pages that had been offered. I'd just  
14 like to have the opportunity to read into the record the  
15 description of the chart which appears on page 26 that's  
16 provided at the bottom of page 25 of Burson and Profio, and  
17 that's titled "G" --

18 JUDGE SMITH: Well, Ms. Weiss, the difficulty is,  
19 this is coming in as an exhibit and your description of the  
20 paragraph is going to be some place else. I mean, that's fine,  
21 it's going to be in the evidentiary record, I guess, but it  
22 will not be attendant to the exhibit itself.

23 MS. WEISS: Well, if the exhibit would be bound in at  
24 this point I could just read that first paragraph.

25 JUDGE SMITH: Well, go ahead and read it. All right.

1 MS. WEISS: It's titled, "G, summary structural  
2 shielding from deposited radioactivity." And the text reads:  
3 "The reduction factors in table eight for gamma radiation from  
4 uniform deposited radionuclides from reactor accident are  
5 recommended as representative of the type of structure or  
6 situation indicated. No modifying factors were applied."

7 JUDGE SMITH: Now, you're going to get a clean copy  
8 of this?

9 MR. LEWALD: It would be -- yes. What I intend to do  
10 is introduce the entire article and a clean copy of it.

11 JUDGE SMITH: Okay.

12 MR. LEWALD: Not excerpts; I was just using excerpts  
13 for the witness' convenience.

14 MS. WEISS: Well, I didn't understand that. I  
15 thought you were offering the pages. If you're going to offer  
16 the whole document, then I'm really going to have to take a  
17 closer look at it. And I would object to offering the whole  
18 document.

19 JUDGE SMITH: Now, maybe we can avoid it. For your  
20 purposes we'll have the, if it's satisfactory with you, we'll  
21 have the cover page and page 25, 26, 32, 34, just include page  
22 25 for the -- so the paragraph she read will be there. Well,  
23 if you want to persist, that's up to you, I just don't think  
24 it -- I just don't want to take the time if it's not necessary.

25 MR. LEWALD: That would be sufficient, Your Honor.

1 JUDGE SMITH: So that will be Applicants' Exhibit

2 34. MR. LEWALD: Yes.

3 JUDGE SMITH: Because you're going to add an  
4 additional page, page 25.

5 MR. LEWALD: Page 25, yes, sir.

6 (The document referred to was  
7 marked for identification as  
8 Applicants' Exhibit 34.)

9 BY MR. LEWALD:

10 Q Dr. Goble, on page 35 and -6 of your testimony you  
11 describe the process that you went through to determine, in  
12 your judgment, how many people would need sheltering space in  
13 the beach area, did you not?

14 A (Goble) That is right.

15 Q And this we discussed briefly last Friday, if I  
16 remember correctly?

17 A (Goble) Yes.

18 Q And then you went on to make a determination whether  
19 or not you found sufficient sheltering space in the beach area  
20 to accommodate this population; is that what your study  
21 represents? What your testimony represents?

22 A (Goble) Yes.

23 Q And you started the study by looking to the Stone &  
24 Webster survey of March of 1986?

25 A (Goble) That's correct.

1 Q Now, at the point when you started the study did you  
2 not know that there had been a second Stone & Webster study of  
3 August 1987?

4 A (Goble) No, I did not know that when we -- this we  
5 started the summer of '87. And all of this work was done, I  
6 think you were referring -- you referred earlier to testimony  
7 that we had prefiled in September which was prepared over the  
8 summer, and that -- and that second study arrived only as we  
9 were virtually assembling a binding our initial study. So the  
10 initial work was done before we had access to that second  
11 study.

12 Q And is that why you didn't begin with the second  
13 study initially?

14 A (Goble) That -- that's not the only -- I mean,  
15 that's -- yes, that is the reason why we did not begin with the  
16 second study. There might have -- if we'd known about the  
17 second study we might still not have begun with it, but that's  
18 the reason.

19 Q Now, going over to page 41 the question appears  
20 whether or not all of the buildings listed in the Stone &  
21 Webster study were measured, and I think Dr. Eckert responds  
22 that, "No, we measured 20 percent." And do we know, Dr.  
23 Eckert, how many establishments that were in existence in 1986  
24 were no longer in existence as public access buildings at the  
25 time of the Salmon Falls study?

1 A (Eckert) Do you mean by that, how many had been  
2 converted to other activities or burned down, things like that?

3 Q Anything, that they were just no longer public access  
4 structures?

5 A (Eckert) We found that out when we went into the  
6 beach to do our field work. So at the time we designed the 20  
7 percent I was basing that entirely on the '86 Stone & Webster  
8 data.

9 Q My -- so at the time you took your sample you did not  
10 know that number?

11 A (Eckert) No.

12 Q And did you know how many were added from the Stone &  
13 Webster 1986 study at the time you began your sampling?

14 A (Eckert) Could you clarify, added what to what?

15 Q Adding public access structures?

16 A (Eckert) Do you mean, as might have appeared in the  
17 '87 study or --

18 Q No, might have appeared in actuality?

19 A (Eckert) No, I didn't have that information.

20 Q Now, on the bottom of page 41 you talk about an  
21 initial random sample, and say, when that failed to yield 23  
22 usable samples due to the lack of cooperation from owners or  
23 other factors, an additional random selection of establishments  
24 was made. And I'd like to know, were the replacements selected  
25 from the same strata as the noncooperating units?

1           A       (Eckert) The replacements were -- I'm not sure what  
2 you mean by strata, but --

3           Q       Well, isn't this a stratified random sample?

4           A       (Eckert) Yes, it is, and we --

5           Q       Does that explain what --

6           A       (Eckert) We -- yes, we essentially maintain the same  
7 sampling procedure to make up the difference until we got our  
8 20 percent sample established.

9           Q       Now, you talk about the 20 percent subsample of 23  
10 establishments; were there 23 from all of the towns, Seabrook,  
11 Rye, North Hampton, and Hampton?

12          A       (Eckert) Yes, they were.

13          Q       So that, how many from Rye, for instance?

14          A       (Eckert) I think that's in here somewhere. It was a  
15 fairly low number. Actually, I'm not sure that I put the  
16 number of establishments we sampled from Rye in this written  
17 testimony, it may be in the attachment table.

18          Q       Do we have a breakdown of that anywhere?

19          A       (Eckert) Yes, we do. Do you want the breakdown?

20          Q       Yes, if you have it.

21          A       (Eckert) There were three in the town of Rye. North  
22 Hampton was originally the Union Chapel which was dropped out,  
23 that was one. These are all proportional to how many examples  
24 existed in the Stone & Webster survey.

25                   And let me see. 16 in Hampton, and three in



1 Seabrook; those were our final sample selections.

2 Q You consider that each of the stratified samples  
3 would be statistically significant?

4 A (Eckert) No. The samples are not statistically  
5 significant. They're drawn in a random fashion so that what I  
6 worked with was exactly proportional to the number of samples  
7 that Stone & Webster identified as the number of shelters in  
8 their study. So I had the same distribution to work with, but  
9 my sample was drawn in an unbiased random fashion.

10 Q It's the same distribution that Stone & Webster  
11 chose?

12 A (Eckert) That's correct.

13 Q Now, at the top of, I guess in the bottom of page 42  
14 and the top of page 43 you talk about a reduction factor. And  
15 you say, this was arrived at as a -- by consensus of the people  
16 inspecting the structure?

17 A (Eckert) That's correct.

18 Q Is there any way of telling whether or not the  
19 reduction factor for any building today is just as you found  
20 it?

21 A (Eckert) I would say that could change because our  
22 reduction factor was based on stored items that people had in  
23 their basements, so that if that's moved that could be  
24 different.

25 Q You took actual measurements?

1           A       (Eckert) In a few cases we took actual  
2 measurements. Most of the time we estimated the percentage of  
3 floor space that would be taken up by stored materials.

4           Q       Now, on the bottom of page 49 you say, that issues of  
5 space taken up by stored items and public access to shelters  
6 from outdoors, were not discussed by Stone & Webster?

7           A       (Eckert) That's correct. In the 1986 report.

8           Q       But it was in the 1987 report?

9           A       (Eckert) Yes, it was.

10          Q       Now, on pages -- page 53 you criticize the Stone &  
11 Webster report as including in their calculation of potential  
12 shelter space the apartment complexes that are found in some of  
13 the public access buildings, do you not?

14          A       (Eckert) That's right.

15          Q       Now, does Salmon Falls have documentation that what  
16 you refer to as owner's/manager's/employee's apartments are all  
17 occupied by owner, owners?

18          A       (Eckert) We have documentation that indicates that  
19 owners as identified on the tax cards in the tax office owns  
20 those properties. And by observing some of the survey  
21 responses we got later where we saw that those very owners  
22 referred to their own apartments and living quarters, we have  
23 that kind of a documentation for the actual owners are in those  
24 apartments that we call owners. But we have other  
25 documentation that indicates that there are apartments there.

1 Q I appreciate that there are apartments there, but I  
2 was asking you whether you have documentation as to all of  
3 these apartments as to who is using them?

4 A (Eckert) We don't have documentation for every  
5 apartment as to who has actually used them, but we can point  
6 out many where the owners actually are using them.

7 Q So that, there are a section or a segment of these  
8 that could be rented?

9 A (Eckert) That's possible, yes.

10 Q Now, moving further along in your testimony and still  
11 on the critique of your Stone & Webster studies, in the middle  
12 of page 56 you note that in -- you say: "In three cases Stone  
13 & Webster made mistakes in arithmetic on the shelter survey  
14 forms." What are the shelter survey forms?

15 A (Eckert) The shelter survey forms that I'm referring  
16 to are the work sheets that Stone & Webster had for their  
17 study.

18 Q And these were acquired by your through discovery  
19 process?

20 A (Eckert) Yes, I think so. We got them from the  
21 Attorney General's Office.

22 Q And in this area you reference -- in one of these  
23 cases you say, they wrote that 65 times 12 equals 7800; right?

24 A (Eckert) That's right.

25 Q Dr. Eckert, I place before you a document which bears

1 a legend, "Shelter survey form, Seaside or Seaside Motel," and  
2 I ask you if you can identify that?

3 A (Eckert) Yes, this is the shelter survey -- a copy  
4 of a shelter survey form entitled, "The Seaside Motel." I  
5 would also ask that we get our copy of this out, and can we  
6 look at that.

7 Q My question, Dr. Eckert, is, the shelter survey form  
8 that I placed before you or I'm asking you whether or not that  
9 is the shelter survey form or a copy of it that you're  
10 referring to on page 56 of your testimony where you say, in one  
11 of these cases they wrote that 65 times 12 equals 7800?

12 A (Eckert) Yes, it is.

13 MR. LEWALD: I would like to mark that, if I may, as  
14 Applicants' Exhibit 37.

15 (The document referred to was  
16 marked for identification as  
17 Applicants' Exhibit 37.)

18 BY MR. LEWALD:

19 Q Now, the form that I have or the copy of the form  
20 that I have showed you says more than, quote: "65 times 12  
21 equals 7800," does it not?

22 A (Eckert) Yes, it does.

23 Q It says: "Paced," does it not, "Paced 65 times 12?"

24 A (Eckert) That's correct.

25 Q And if we took a pace as being more or less a yard

1 and multiplied it by the 65 times 12, I ask you whether or not  
2 we would not reach a figure approximately half the 7800?

3 A (Eckert) So you're saying 65 paces equals 3 times 65  
4 for feet?

5 Q Yes?

6 A (Eckert) Let me multiply it.

7 Q And 12 -- well, did you ignore the word "paced" on  
8 there purposely?

9 A (Eckert) No, we didn't ignore that word. We assumed  
10 that a person had paced off the distance. That's how we  
11 interpreted it.

12 Q But nevertheless, you wrote 65 feet times 12 in your  
13 testimony?

14 A (Eckert) Well, the testimony says, "65 times 12  
15 equals 7800." We didn't say if it was paced or feet in the  
16 testimony, to be accurate.

17 Q Did you take a look at the Seaside Motel?

18 A (Eckert) My field assistant and supervisor looked at  
19 that.

20 Q And do you know that to be a two-story building, do  
21 you know?

22 A (Eckert) I can find out quickly because I've got the  
23 photographs right here.

24 Q Well, is your testimony now that there aren't 15,600  
25 square feet, approximately, in that building?

1           A       (Eckert) I would want to refer to my notes before I  
2 say that. My testimony is that this multiplication of numbers  
3 is wrong.

4           Q       But the multiplication doesn't say they're  
5 multiplying 65 times 12; it says a pace 65 times 12, doesn't  
6 it?

7           A       (Eckert) That's correct. On the form it says,  
8 "Paced 65 times 12."

9           Q       And then on the form it arrives at a total of 7800  
10 feet, does it not?

11          A       (Eckert) It says, 7800; it doesn't say feet, if you  
12 want to be technical.

13          Q       Well, 7800. Then times two-stories?

14          A       (Eckert) Right.

15          Q       Well, would you check your notes to see whether or  
16 not that --

17          A       (Eckert) Yes.

18          Q       -- that is not 15,600 or thereabouts?

19          A       I need to get them from my assistant.

20                   (Pause)

21                   (Continued on next page.)

22

23

24

25

1 THE WITNESS: (Eckert) Okay, I have my now, and  
2 could you repeat your question?

3 BY MR. LEWALD:

4 Q Do your notes indicate that the space attributed to  
5 that building is 780 feet, square feet, as your testimony would  
6 indicate?

7 A (Eckert) My notes do not indicate that -- the notes  
8 do reflect that we noted it was a paced 65 by 12. In other  
9 words, my notes repeat the figure here, but we assumed it was  
10 square feet.

11 So, yes, my notes reflect that.

12 Q What do your notes reflect is the total, or the  
13 potential space of that building?

14 A (Eckert) Well, we had a lot of trouble with this  
15 building because --

16 Q Do your notes reflect any numbers?

17 A (Eckert) Certainly they reflect numbers.

18 The information we had, we couldn't reconcile with  
19 the motel that exists there, because the description that we  
20 got from Stone & Webster's indicates a two-story building, but  
21 there's also a one-story building as part of that motel. So  
22 the building as it exists there today is not one that can be  
23 determined or is really well described by this worksheet. There  
24 is more than one building there.

25 Q Do you have some numbers of the total space of the

1 building?

2 A (Eckert) I don't have numbers for the total space of  
3 the building.

4 MR. LEWALD: Your Honor, I'd like to offer what I  
5 have marked as an exhibit, which is the shelter survey from  
6 which the witness identified as that which he received with  
7 respect to this particular establishment.

8 JUDGE SMITH: Are there any objections?

9 (No response.)

10 JUDGE SMITH: Applicants' Exhibit 37 is received.

11 (The document referred to,  
12 having been previously marked  
13 for identification as  
14 Applicants' Exhibit No. 37  
15 was received in evidence.)

16 BY MR. LEWALD:

17 Q Now, if you'd turn over to Page 58 of your testimony,  
18 Dr. Eckert, and you reach a conclusion, I gather, that the  
19 adjusted square footage of potential shelter space after being  
20 processed through Stone & Webster's A, B, and C categories for  
21 Hampton is -- you say 800,061 square feet for Hampton, and  
22 35,800 for Seabrook. Then you reach a total of these figures  
23 of 896,800 minus the documented erroneous square footage,  
24 leaving a total of 710,866 square feet, correct?

25 A (Eckert) That's right.



1 Q Now assuming that we allowed for this space, allowed  
2 10 square feet per person, can you tell us how many -- what  
3 population this square footage would give us? Or accommodate,  
4 I'm sorry.

5 A (Eckert) The remaining. It would be about 71,000.

6 Q So after you have adjusted the Stone & Webster  
7 figures for correction of errors that you found, the space that  
8 would be available would accommodate -- assuming we allowed 10  
9 square feet per person -- would accommodate a population of  
10 71,086, correct?

11 A (Eckert) That would be correct if you totally ignore  
12 the whole issue of accessibility.

13 Q All right, we're just taking total space.

14 A (Eckert) Yes.

15 Q And then if we go back to your --

16 JUDGE SMITH: Did you agree -- excuse me -- that that  
17 would be available if accessible?

18 THE WITNESS: (Eckert) If accessible.

19 MR. TURK: Your Honor, just for clarification,

20 perhaps I didn't hear the whole question, but I thought I heard  
21 Mr. Lewald use the number 71,000 people. I must have misheard.  
22 Oh, okay.

23 JUDGE SMITH: Just where the decimal point --

24 MR. LEWALD: A population of 71,000 people.

25 MR. TURK: Yes, I'm sorry. I missed the first part

1 of the question. Now I understand.

2 MR. LEWALD: No, the 710,000 is divided by 10,  
3 710,866 divided by 10 is 71,086.

4 BY MR. LEWALD:

5 Q Let me make sure that I'm not confusing the record on  
6 this, Doctor.

7 That your net figure, if you will, after making  
8 correction of the Stone & Webster study leaves a total footage  
9 of 710,866 square feet.

10 A (Eckert) Thousand square feet.

11 Q Thousand square feet, I'm sorry.

12 Then if we, assuming that a person to be sheltered is  
13 to be allocated 10 square feet, then your net square footage  
14 would yield an availability of shelter to a population, people,  
15 of 71,086?

16 MR. BROCK: Objection, Your Honor. I object to the  
17 term --

18 MR. LEWALD: Is that not correct?

19 MR. BROCK: "Availability". I believe the witness  
20 said excluding the issue of accessibility. He simply was  
21 testifying as to raw square footage and nothing more.

22 JUDGE SMITH: That's correct. I don't think there's  
23 any confusion about it.

24 Well, I don't think that he agrees with what you're  
25 saying, but he made it clear that availability does not -- he

1 does not concede accessibility, but he does say that it would  
2 be available if accessible.

3 THE WITNESS: (Eckert) Yes.

4 MR. LEWALD: Yes, thank you.

5 BY MR. LEWALD:

6 Q Now, if we look at Page 35, according to your  
7 calculations of Dr. Goble, the number of the beach population,  
8 beach population numbers in Seabrook is 11,400, and in Hampton  
9 Beach, there's a number of 43,800, for a total of these two  
10 towns, or beach areas, excuse me, of 55,260, correct?

11 A (Goble) Well, it's actually my answer.

12 I don't know where the last 60 came from. Perhaps  
13 you were working with unrounded figures.

14 Q Oh, I'm sorry.

15 A (Goble) If I just do the arithmetic in my head, I  
16 get 55 two.

17 Q You are correct, Doctor. I couldn't read my own note.

18 JUDGE HARBOUR: That's 55,200; is that correct?

19 THE WITNESS: (Goble) That's correct. I'm sorry.

20 BY MR. LEWALD:

21 Q Dr. Eckert, on Page 61 of your testimony you say, to  
22 shed further light on the question of shelter availability,  
23 that you conducted a survey of potential shelter owners in  
24 which you asked them four questions. And you go on to say, the  
25 most pertinent was whether they would admit people into their

1 establishments during a radiological emergency at Seabrook  
2 station. And then you go on to point out the full survey with  
3 responses is included at Attachment 12 to the Survey.

4 Now, can you tell us just how you went about  
5 conducting this survey?

6 A (Eckert) Sure. We used the names and addresses from  
7 the, I believe, '87 revision to determine where we would mail  
8 these. I wrote the survey instrument and had it reviewed by  
9 Dr. Luloff before it went out.

10 Q That's the questionnaire?

11 A (Eckert) That's the questionnaire, right, the survey  
12 instrument.

13 And we proceeded to mail out several mailings, or  
14 waves as they're called, and count the responses when they came  
15 back. Basically that's an outline of how we did it.

16 Q Now on the bottom of the page you say, a  
17 questionnaire was designed to ascertain, and then you list some  
18 four items.

19 Did you draw up the questionnaire to begin with?

20 A (Eckert) I wrote the initial questionnaire, and then  
21 reviewed it with Dr. Luloff; that's correct.

22 Q And did he make some changes?

23 A (Eckert) He made some minor changes?

24 Q Pardon?

25 Minor changes?

1           A     (Eckert)  Minor changes, but basically felt that it  
2 met appropriate criterion in his mind.

3           Q     Now you talk about waves of mailing.  Now the first  
4 wave went out on August 26th, did it not?

5           A     (Eckert)  Yeah, I think the dates are on the -- on  
6 the survey instruments.  I can give you the dates.

7                     The first mailing was August 26.

8           Q     And can you tell me what response you had to that  
9 mailing?

10          A     (Eckert)  Yes, we had -- we got about 27 percent of  
11 our total response back as a result of the first mailing.

12          Q     Now the -- to whom did you send the first mailing?

13          A     (Eckert)  We sent the mailing to the owners of the  
14 various establishments, owner/managers.

15          Q     You had a list, I presume?

16          A     (Eckert)  We used the list from the Stone & Webster  
17 survey.  We may have changed some as we found mistakes in  
18 addresses and things like that, but it was basically the '87  
19 Stone & Webster list.

20          Q     The '87 or the '86?

21          A     (Eckert)  The '87.

22          Q     Do you have a copy of Attachment 12 before you?

23          A     (Eckert)  I don't think I do.

24                     Is that the survey?  Do we have it?

25                     Now I have it.

1 Q I understand from your testimony that you say that  
2 you had a copy of the Stone & Webster August '87 study at the  
3 time that you sent your first mailing on the date of August 26,  
4 1987.

5 A (Eckert) I'm not sure of the exact date that we got  
6 the '87 document. I just don't remember when that came in.

7 Q Well, was it before or after August 26th?

8 A (Eckert) Well, I assume if we got the addresses from  
9 it, we had it before it.

10 Q Well, are you sure you did get the addresses from --

11 A (Eckert) Yes.

12 Q -- the '87?

13 A (Eckert) Yes.

14 Q And how many were these in number?

15 A (Eckert) How many surveys did we send out?

16 Q Yes. How many addresses did have?

17 A (Eckert) We sent to 233 addresses, I believe.

18 That's in here.

19 Q Now, on your first mailing on October 26, 1987, you  
20 reference a Stone & Webster study which was done for New  
21 Hampshire Yankee as of -- the Stone & Webster study that you  
22 mention is the study of March of 1986; correct?

23 A (Eckert) That's right.

24 Q Is there some reason for not including the 1987  
25 study?

1           A     (Eckert) No, I'm realizing now that since we  
2 referred to the '86 study, that we hadn't gotten it yet.

3           Q     Well, do you maintain that you still made 233  
4 mailings?

5           A     (Eckert) Yes, that's the total number of mailings  
6 that we made in the survey.

7           Q     And do you know where you got the list of people to  
8 whom to mail?

9           A     (Eckert) Well, it had to come from the '87 survey, I  
10 believe. I would have to check again with my notes to see  
11 exactly the timing of those things.

12          Q     Okay, now, how many responses in number did you get  
13 from the first mailing?

14          A     (Eckert) I'll have to calculate it.

15          Q     Well, you have a number, don't you?

16          A     (Eckert) It's here. I'd have to count the ones and  
17 do the dates and so forth. But I know that it's 27 percent of  
18 our 233, which is about 63 responses.

19          Q     Fifty-three of --

20          A     (Eckert) About 63.

21          Q     Of 233?

22          A     (Eckert) Yes.

23          Q     Now your first mailing informed the owner that the  
24 owner's building, or manager's building, had been identified by  
25 New Hampshire Yankee as a potential shelter for beach visitors

1 if there was an accidental radiation release at a power plant  
2 in Seabrook.

3 And then it further advised the owner that you,  
4 Salmon Falls, were conducting a survey of those commercial  
5 establishments included in the Stone & Webster's report, and  
6 that you were doing this for the Attorney General's office.

7 A (Eckert) That's right.

8 Q That is, of Massachusetts.

9 And you asked for responses to several questions, and  
10 then at the conclusion of these questions you further asked for  
11 any comments that the person surveyed wished to make; is that  
12 correct ?

13 A (Eckert) That's right.

14 Q Now if the Stone & Webster report identified a  
15 particular section of a building as being in Stone & Webster's  
16 determination suitable for shelter for that study, did you make  
17 some interlineation or indication on the shelter form that  
18 that's what you were referring to?

19 A (Eckert) Do you mean did I on the survey instruments  
20 that --

21 Q Yes.

22 A (Eckert) -- we sent out indicate that some portion?

23 I think all that I indicated was a -- I did not  
24 identify that a part of the building might be utilized. I  
25 think all we did was describe -- in the description actually of



1 the basement with four rooms, I mean four stone walls, et  
2 cetera. in Question 2, that was a description of suitable  
3 shelter coming from the first Stone & Webster survey, so that  
4 that could only -- could be on the only possible way that it  
5 could be construed that we defined anything, but we didn't  
6 indicate that all or part of a building would be used.

7 Q Could you look at the third page of your -- of  
8 Exhibit -- excuse me -- of Attachment 12?

9 A (Eckert) Yes, I have one indicated here from the  
10 fire station. Is that the one?

11 Q Well, I was counting the first page, the title page  
12 as Page 1.

E14  
13 MR. LEWALD: Your Honor, we have numbered this  
14 attachment, and if it would be of convenience to the Board, we  
15 would circulate to the Board and the parties a copy of  
16 Attachment 12 with numbered pages, rather than refer to  
17 unnumbered Page 15 of 20, or whatever.

18 JUDGE SMITH: That would be very helpful.

19 MR. DIGNAN: Your Honor, while that's being done  
20 could I also reflect in the record, it's my understanding that  
21 what is being referred to as Attachment 12, which is the  
22 enumeration given it when it was filed, was actually admitted  
23 into evidence by the Board as Massachusetts Attorney General's  
24 Exhibit 19. And you may want to reflect in the record that  
25 those two terms are interchangeable in the examination.

1 JUDGE SMITH: Furthermore, I wonder if there would  
2 be any objection if we substituted the numbered pages for  
3 Exhibit 19?

4 MS. SNEIDER: No objection as long as it's complete.

5 JUDGE SMITH: No objection as long as what?

6 MS. SNEIDER: As long as it is complete. I would  
7 assume it is.

8 MR. TURK: Your Honor, one note on that. I haven't  
9 seen the numbered exhibit and I'm not sure how good a copy it  
10 is. And since we're already making a copy of a copy, I would  
11 say keep the original exhibit in since that's probably a better  
12 copy than whatever we are going to see now.

13 MS. WEISS: Looks pretty good.

14 MS. SNEIDER: Does look like a good copy.

15 MR. TURK: For instance, Page 2 of my copy of  
16 Massachusetts Exhibit 19 has the bottom cut off, and I don't  
17 know if that problem is exasperated by this new copy I'm about  
18 to see -- exacerbated. It appears to be somewhat exacerbated  
19 on that particular page. I can't say page by page whether the  
20 problem is greater elsewhere.

21 BY MR. LEWALD:

22 Q Could you look at Page 3 of Attachment 12?

23 A (Eckert) Yes, I have it.

24 Q And that does contain an interlineation on the  
25 first --

1 JUDGE SMITH: Mr. Lewald, would you wait a moment,  
2 please?

3 (Board confer.)

4 JUDGE SMITH: Would you restate your question,  
5 please, and then proceed?

6 Our concern is sooner or later we're going to have to  
7 deal with the problem of a copy that cuts out information, but  
8 we'll wait until you get done and see how bad the problem is.

9 MR. LEWALD: I was just asking Dr. Eckert if he could  
10 turn to Page 3, and by Page 3, I am counting the face sheet.

11 JUDGE SMITH: You're counting to Page 3.

12 MR. LEWALD: I'm counting the face sheet, the title  
13 page.

14 JUDGE SMITH: Are we talking about the page numbered  
15 3?

16 MR. LEWALD: Page numbered 3.

17 MR. DIGNAN: Four if you're counting the face sheet?

18 MR. LEWALD: There are two title sheets, I guess, on  
19 my copy.

20 MS. WEISS: What's the number at the bottom right-  
21 hand?

22 MR. LEWALD: Page No. 3, the 3 that we have  
23 indicated.

24 THE WITNESS: (Eckert) I have that page, I believe.  
25

1 BY MR. LEWALD:

2 Q And there's an insert, is there not, between the  
3 words in the first line "building" and "has"?

4 A (Eckert) Yes, there is.

5 Q And that insert is "basement"?

6 A (Eckert) That's correct.

7 Q So it's my understanding that where Stone & Webster  
8 did designate a particular area of a building, then you copied  
9 it in on your survey form?

10 A (Eckert) Yes, we did. And I should point out that  
11 there were -- some of this work was done by my supervisor and  
12 assistants so that there may be very minor details like that  
13 that crop up.

14 I would also like to point out that absolutely no  
15 changes were made in any of the questions throughout. If there  
16 were changes, they were made in the introductory aspect of the  
17 survey.

18 Q Well, we'll get to those.

19 Now, in each case was the particular area of a  
20 building designated by Stone & Webster interlineated on your  
21 survey form?

22 A (Eckert) I am unsure of that. I would have to check  
23 to see if that policy was carried all the way out.

24 Q Do you have any instructions that you issued to do  
25 that?

1           A     (Eckert) I did not issue those instructions, but I  
2 was aware that this did go on for the early part of the -- for  
3 part of the time.

4                     We were trying to, I think, again be clear and, where  
5 possible, suggest that the entire structure was not involved,  
6 just in an attempt to be as straight forward as we could.  
7 That's basically what was going on.

8           Q     Now on September 29th you had a subsequent mailing;  
9 did you not?

10          A     (Eckert) That's correct.

11          Q     And to whom were these survey forms mailed?

12          A     (Eckert) They were mailed to the owners that had not  
13 responded during the first mailing, first wave.

14          Q     And only those?

15          A     (Eckert) Essentially only those. We were trying to  
16 pick up those that hadn't responded.

17          Q     And you changed some of the language of the  
18 introductory paragraph, did you not?

19          A     (Eckert) Yes, I believe we did.

20          Q     And what was your purpose in making those changes?

21          A     (Eckert) I just want to check the changes here for a  
22 minute.

23                     Our main purpose of making the changes we did were to  
24 not seem too redundant. We indicated, first of all, a few  
25 weeks ago that they'd received -- they may have received a

1 survey. They didn't respond. And the small wording changes  
2 were there to hopefully suggest that people would respond and  
3 answer the survey.

4 Q And were these changes also cleared through Dr.  
5 Luloff?

6 A (Eckert) These changes were not cleared through Dr.  
7 Luloff because, in his opinion and in ours, the aspects of the  
8 introduction can have some variation, and that there are  
9 different philosophies on how one uses an introduction. This  
10 isn't my expertise area, but nonetheless I'm just kind of  
11 referring --

12 Q This is not your expertise area?

13 A (Eckert) No, it's not.

14 The survey instrument design and so forth is not my  
15 expertise area, but I was indicating that he had told me these  
16 things.

17 Q But he never passed on say the second paragraph of  
18 your September 29, 1987, mailings?

19 A (Eckert) No, he didn't pass on that.

20 Q This says, does it not, the second paragraph, and I'm  
21 referring to numbered Page 38 of the attachment copy.

22 A (Eckert) Yes, I've got that page.

23 Q It is important that your views on this issue become  
24 known. New Hampshire Yankee intends to use your building as a  
25 shelter according to the current evacuation plan.

1 A (Eckert) That's what it says.

2 Q And the first sentence nowhere appears in the earlier  
3 questionnaire; does it?

4 A (Eckert) You mean the first sentence of the first  
5 paragraph?

6 Q First sentence of the second paragraph I just read.

7 A (Eckert) That's correct, it doesn't appear in the  
8 earlier ones.

9 Q And then if we look at the third paragraph, you again  
10 identify for whom you're conducting the survey.

11 A (Eckert) That's correct.

12 Q And then you go on to say that your answers to the  
13 following questions are crucial to evaluation of the evacuation  
14 plan approved by New Hampshire Yankee.

15 A (Eckert) That is correct.

16 Q Did Dr. Luloff pass on the third paragraph?

17 A (Eckert) No, he didn't.

18 Q And this is your work; is it not?

19 A (Eckert) Yes, it is, but I would add that he has  
20 read these and it's his opinion that the -- as I said before,  
21 the introduction can vary some. It doesn't have that large  
22 effect on how people view the survey. So he reviewed them  
23 after the fact.

24 Q Then on September 29th, you did another mailing, did  
25 you not?

- 1 A (Eckert) That's right.
- 2 Q And to whom did this mailing go?
- 3 A (Eckert) It went to people again -- each mailing  
4 went to people who hadn't responded to any previous mailing.
- 5 Q Did you -- maybe I didn't ask you.  
6 What response did you have to your first mailing as of  
7 September 29th?
- 8 A (Eckert) By September 29th, I indicated before we  
9 had about 27 -- close to 27 percent of our response in.
- 10 Q What response did you get for your September 29th  
11 mailing?
- 12 A (Eckert) That one was about 48 percent response.
- 13 Q And do you know how many people that would -- or how  
14 many people responded?
- 15 A (Eckert) Let me calculate it here.  
16 Approximately 112 people.
- 17 Q And you're taking the balance of the 53 or so from  
18 the 233 number of the original survey mailings?
- 19 You initially sent out 233, thereabouts.
- 20 A (Eckert) Right.
- 21 Q And you had a response of some 53 from that 233.
- 22 A (Eckert) Yes, that's what we calculated before, yes;  
23 27 percent.
- 24 Q Of that balance, you say how many responded?
- 25 A (Eckert) We got 48 percent, an additional 48 percent



1 on top of the original 27 percent, so we're up to a total of 60  
2 percent or so of our total response.

3 (Pause.)

4 BY MR. LEWALD:

5 Q Doctor, I don't want to interrupt your  
6 computations -- calculations, but do you wish to change your  
7 last number, last answer?

8 A (Eckert) No.

9 Q Now, on September 29th you made a mailing of the  
10 questionnaire in somewhat different from the one that we have  
11 just previously discussed, did you not?

12 A (Eckert) September 29 compared to August 26?

13 Q No, compared to the prior form on Page 38 of your  
14 attachment.

15 A (Eckert) Which two are we comparing?

16 Q All right, would you look at Page 38?

17 A (Eckert) Yes.

18 Q And this is a redrafted, if you will, questionnaire  
19 that went out on the second wave.

20 A (Eckert) That's right. It's the second wave.

21 Q Which says that your answers to the questions are  
22 crucial.

23 A (Eckert) That's right.

24 Q Now, on September 29th you also mailed to a certain  
25 number of people another form, another questionnaire form; did

1 you not?

2 A (Eckert) Well, this one is dated September 29th, and  
3 you're --

4 Q Could you turn to Page 60 of your attachment?

5 A (Eckert) Sure.

6 Yes, I have both of those.

7 Q Now, on Page 60 you have a questionnaire form that  
8 appears very much the same as the August 26th form that was  
9 mailed except that added to the March '86 Stone & Webster study  
10 is an interlineation August 1987.

11 Do you see that?

12 A (Eckert) Yes, I do.

13 Q Now, who did you send this type of form to?

14 A (Eckert) The only thing I can say is that they went  
15 to part of the same mailing wave, so that we indicated to part  
16 of that wave that it was the '86 study, and then to part of the  
17 wave we indicated there was also an '87 study.

18 Q What kind of a response did you get to the  
19 questionnaire that you sent out that the facsimile is on Page  
20 60 of your Attachment 12?

21 A (Eckert) That is not separated out. I don't know  
22 what response there was to these two individual forms. They  
23 are not separated.

24 Q So there is no way of telling what kind of response  
25 you got there.

1           A     (Eckert) I can figure that out, but it would take a  
2 little while to do that.

3           Q     Well, you don't know really to whom it was sent, do  
4 you?

5           A     (Eckert) It was sent to the people that hadn't  
6 gotten the mailing in the earlier wave.

7           Q     How did you determine what that number of people was,  
8 or how did you identify the people who hadn't gotten an earlier  
9 mailing?

10          A     (Eckert) Okay, we coded on, using a dot system, who  
11 these surveys went to, so we could check our system. We know  
12 who responded and so forth. So we had an exact record of where  
13 each form went and what the response was.

14          Q     Did you increase your total number of addressees  
15 above your 233?

16          A     (Eckert) No, it's always been 233.

17          Q     Now can we turn to Page 101 of the --

18          A     (Eckert) Yes, I have that page.

19          Q     And this is yet another form of the survey  
20 questionnaire; is it not?

21          A     (Eckert) Yes, I believe it's slightly different.

22          Q     And to whom did this form go to?

23          A     (Eckert) That form went to people who had not  
24 answered the questionnaire yet. That was part of the third  
25 wave of mailings.

1 Q As to any of the questionnaires?

2 A (Eckert) Right. That was sent to people who had not  
3 yet responded who we knew we had sent forms to.

4 Q Well, the opening sentence says, "Last week you  
5 received a survey form", correct?

6 A (Eckert) Right.

7 Q So did everybody that got a September 29th dated  
8 survey form receive a copy of the October 9th questionnaire?

9 A (Eckert) If they -- in general. There may have been  
10 some overlap but generally they were people in the September  
11 29th or the earlier wave that hadn't responded yet.

12 Q All right, now we turn next, if you will, to Page  
13 117.

14 A (Eckert) Okay, I have that page.

15 Q And this represents still another change in the  
16 survey questionnaire form; does it not?

17 A (Eckert) In the introductory part, yes.

18 Q And on this form you have put in bold type the  
19 sentence that New Hampshire Yankee intends to use your building  
20 as a shelter according to the current evacuation plan.

21 A (Eckert) That's correct.

22 Q What was your purpose of doing that, Doctor?

23 A (Eckert) I was again trying to indicate a sense of  
24 urgency, and I was trying to increase our response rate.

25 Q What was your response rate with respect to this

1 latter questionnaire?

2 A (Eckert) It was around 10 percent.

3 (Pause.)

4 JUDGE LINENBERGER: Dr. Eckert, while we're waiting  
5 here let me ask you, do you attach any significance to this  
6 lesser return on the form dated November 3rd, lesser percentage  
7 return?

8 THE WITNESS: (Eckert) I think the only thing I  
9 attached to that is that almost everybody who was going to  
10 answer the survey had answered it.

11 JUDGE LINENBERGER: So you're saying, if I understand  
12 you correctly, that by this time the steadfast holdouts were  
13 still holding out, and --

14 THE WITNESS: (Eckert) I think we had gotten all we  
15 were going to get.

16 JUDGE LINENBERGER: You had gotten. All right, thank  
17 you.

18 JUDGE HARBOUR: If you gave a percentage of response  
19 for the October 9th third wave of mailing, I didn't get it in  
20 my notes.

21 Did you have a response?

22 THE WITNESS: (Eckert) The October 9th was about 15  
23 percent of the total.

24 BY MR. LEWALD:

25 Q It's my understanding your response rate is based on

1 the total responses regardless of the changes in the form of  
2 the introductory matter in the questionnaire.

3 A (Eckert) Yes, that's true.

4 Q Now --

5 MR. TURK: Could I ask for a brief clarification on  
6 that?

7 Your Honor, as I understand these response rates, the  
8 10 percent for the November mailing and the 15 percent for the  
9 October mailing, that's a percentage of the total of 233; is  
10 that correct?

11 THE WITNESS: (Eckert) That's right.

12 MR. TURK: So that when Dr. Eckert indicated a 10  
13 percent response rate, that means he had 23 responses.

14 THE WITNESS: (Eckert) Yes, that's how that would  
15 calculate.

16 MR. TURK: And the same for 15 percent; that would  
17 be, I assume, 34 responses.

18 THE WITNESS: (Eckert) Right.

19 BY MR. LEWALD:

20 Q Was this 15 percent of the total that was sent out,  
21 or 15 percent of the balance left?

22 A (Eckert) It's 15 percent of the total. Each time I  
23 give a percentage I'm talking in reference to the total that  
24 came in.

25 JUDGE SMITH: That ultimately came in.

1 THE WITNESS: (Eckert) That ultimately came in.

2 JUDGE HARBOUR: Cumulative total?

3 JUDGE SMITH: Not as of October.

4 THE WITNESS: (Eckert) In response to the October  
5 9th mailing, we got 15 percent of 233, and that's the way it  
6 goes for each one of them.

7 BY MR. LEWALD:

8 Q Did you talk to Dr. Renn at all about this  
9 questionnaire?

10 A (Eckert) No, I did not talk to Dr. Renn about the  
11 questionnaire, and there was no intent to exclude him either.

12 Q Well, what attention did you give to the problem of  
13 including systematic error and bias in the questionnaire as you  
14 designed it?

15 A (Eckert) Well, attention was paid to that regarding  
16 the questions by Dr. Luloff, and so I did not deal with that  
17 question.

18 Q You didn't deal with the question at all?

19 A (Eckert) Not in the construction of the  
20 questionnaire.

21 Q Weren't you concerned that you were addressing to a  
22 number of building owners a questionnaire that directed them to  
23 a public controversy?

24 A (Eckert) Well, I think we had to identify the  
25 controversy. We had to identify -- maybe controversy is the

1 wrong word -- the activities that happened that New Hampshire  
2 Yankee did and the Stone & Webster, the work they carried out.  
3 I was trying to identify that series of activities to them.

4 Q Don't you believe then that the result of the survey  
5 that you were going to get was simply people taking sides on  
6 this controversy rather than trying to measure anything of help  
7 in the questionnaire?

8 A (Eckert) I personally don't believe that, but  
9 professionally I can't comment on that because it's not my  
10 field.

11 Q Were you trying to suggest to the building owners  
12 what kind of a shelter might be a suitable shelter?

13 A (Eckert) No, I was not trying to suggest that. I --  
14 well, I'll stop there and see.

15 Q Why then were you directing their attention in your  
16 questionnaire to masonry buildings and a basement?

17 A (Eckert) The reason I did that was to reference the  
18 Stone & Webster definition, the 1986 survey. They used words,  
19 you know, basements and masonry walls. I felt that it would be  
20 reasonable to present that information. It would provide a  
21 common feeling perhaps for what we were talking about in terms  
22 of, or what Stone & Webster actually was talking about in terms  
23 of shelter.

24 You know, I felt that -- you know, it was my personal  
25 opinion that some people might react negatively to thinking of



1 everyone coming in their house and their living space and so  
2 forth. So I was trying to provide a benchmark in that sense.  
3 I don't think I was trying to define suitable shelter.

4 Q Well, when you became aware of the second Stone &  
5 Webster study, did you make any change in any of the  
6 questionnaires?

7 A (Eckert) We made no change in any of the four  
8 questions. They remained absolutely the same all the way.

9 Q Now were you intending to indicate to the owners of  
10 the building that if they did not have a shelter area which was  
11 encompassed by masonry walls or a basement that that was not a  
12 suitable shelter in your Question 4?

13 A (Eckert) No, no. There wasn't any intent like that.  
14 I merely was providing information without any thinking about  
15 or setting up a relationship say among the four questions.

16 Q Well, you say --

17 A (Goble) Excuse me.

18 Q -- that Question 4 was the real, the pertinent  
19 question here that you really wanted the answer to.

20 A (Eckert) Yes, that was an important question for  
21 sure.

22 Q And can I ask you why answered --

23 A (Goble) Excuse me, could I just --

24 Q -- why you asked the first three?

25 A (Goble) Could I make a comment on that?

1 A (Eckert) Let me answer his question real quick.

2 A (Goble) All right.

3 Q Dr. Goble, were you part of the shelter questionnaire

4 --

5 A (Goble) No.

6 Q -- design?

7 A (Goble) No, it was just myself.

8 I was not part of the design. On the other hand, we  
9 did have conversations, and I did want to mention that in this  
10 context I had a concern for checking the Stone & Webster  
11 March -- the accuracy of the Stone & Webster March survey where  
12 we'd already seen numerous errors.

13 So I believe I expressed on occasions the suggestion,  
14 and this was merely what I wanted to point out, that this form  
15 could also be used to provide some further information checking  
16 the results of the March study, and I just wanted to mention  
17 that because I thought Bob -- I don't know how influential that  
18 was in his decision, but I thought he might have forgotten  
19 those conversations with me.

20 I did not design this study, but I did give him  
21 information about things that I wanted information about.

22 Q Did you have a position, Doctor, on whether or not it  
23 would bias the study to indicate on whose behalf you were  
24 conducting it?

25 A (Eckert) Are you asking me?

1 Q I'm asking Dr. Goble.

2 A (Eckert) Dr. Goble.

3 Q We're already heard Profess Evdokimoff's position on  
4 that question.

5 A (Goble) Yes, I was -- I had nothing to do with  
6 designing this study, and I don't think I have an opinion  
7 that's particularly worth testifying to as to what kind of bias  
8 would be -- might be introduced.

9 JUDGE SMITH: Would this be a good time to take a  
10 lunch break?

11 MR. LEWALD: I only have a few more questions, but it  
12 doe. t matter. I can do that after lunch as well as before.

13 JUDGE SMITH: All right. Return at one --

14 MR. LEWALD: No purpose would be served by doing that  
15 now.

16 JUDGE SMITH: Okay, 1:15.

17 (Whereupon, at 11:58 a.m., the hearing was recessed,  
18 to resume at 1:15 p.m., this same day, Tuesday, May 17, 1988.)  
19  
20  
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AFTERNOON SESSION

(1:18 p.m.)

Whereupon,

ROBERT GOBLE

VICTOR EVDOKIMOFF

ROBERT ECKERT

having been previously duly sworn, resumed the witness stand herein, and was examined and further testified as follows:

JUDGE SMITH: On the record.

MR. DIGNAN: Yes. I am now delivering to the Attorney General the documents he requested from New Hampshire Yankee yesterday. I have an extra set for Mr. Brock.

MR. OLESKEY: I have a set of notes, Your Honor, for Mr. Dignan. And also for Mr. Flynn.

MR. FLYNN: Thank you.

MR. OLESKEY: I gave you, as the record shall reflect, a second set of notes, drawing your attention to two matters and ask for the panel judgment on that, which I understand you'll give.

JUDGE SMITH: Yes.

Mr. Lewald?

MR. TURK: May I ask, just by way of inquiry of Mr. Oleskey, in yesterday's conversation he indicated that there was a certain portion of the notes that he wished not to produce, at least until his cross-examination of staff notes

1 has been completed. Do we have that yet or is that --

2 MR. OLESKEY: No, that's what I was just indicating,  
3 Mr. Turk, I had given to the panel at 1:10 explaining to the  
4 panel what the two matters were. One, a mental impression; and  
5 one, the issue that I wanted held until after the cross-  
6 examination.

7 JUDGE SMITH: He means the Board.

8 MR. OLESKEY: Yes. Thank you, Judge.

9 MR. LEWALD: Your Honor, we have distributed to the  
10 Board and to the parties a copy of excerpts from the EG&G  
11 article offered by Furson and Profio, and have included therein  
12 pages 25, 26, 32 and 34; and it is our view that, while these  
13 aren't the best copies in the world they're at least legible  
14 and can be read.

15 And Applicant would like to offer this in evidence,  
16 and I think it was identified as Applicants' Exhibit 34.

17 JUDGE SMITH: I understand there are no objections  
18 now. Applicants' Exhibit 34 is received.

19 (The document referred to having  
20 been previously marked for  
21 identification as Applicants'  
22 Exhibit 34, and was received  
23 in evidence.)

24 THE WITNESS: (Eckert) Can I also indicate before we  
25 start --

1 JUDGE SMITH: Who's speaking.

2 THE WITNESS: (Eckert) I'm sorry. In going through  
3 Exhibit 12 I notice that some responses were missing and my  
4 assistant is now going through those to produce those extra  
5 copies, so they'll be in addition to Exhibit 12 which is  
6 the --

7 JUDGE SMITH: You mean Attachment 12 to your  
8 testimony?

9 THE WITNESS: (Eckert) I'm sorry. That's correct,  
10 yes.

11 JUDGE SMITH: All right.  
12 Mr. Lewald?

13 MR. LEWALD: I didn't hear the beginning of that.  
14 These are additions to Attachment 12?

15 THE WITNESS: (Eckert) It's additional survey forms,  
16 correct, responses.

17 MR. LEWALD: Have they been circulated or --

18 THE WITNESS: (Eckert) She's now going through the  
19 process of getting those ready to distribute or to reproduce.

20 BY MR. LEWALD:

21 Q Dr. Eckert, what was the basis for your statement in  
22 certain of these questionnaires that New Hampshire Yankee  
23 intends to use your building as a shelter?

24 A (Eckert) What was the basis of this statement? I  
25 think it was my interpretation of the Stone & Webster -- that

1 they had funded the Stone & Webster study.

2 Q The emergency response plan, is that of the State of  
3 New Hampshire, is it not?

4 A (Eckert) Yes.

5 Q And not New Hampshire Yankee?

6 A (Eckert) Correct.

7 Q Did you give any thought to asking the owners of the  
8 building that in the event the State of N. Hampshire in the  
9 interest of the health and protection of its citizens may call  
10 upon you to ask you to use your building for shelter, and if  
11 so, would you accede to that request?

12 A (Eckert) No, I did not consider putting that in. As  
13 I said before we were trying to, I think, identify the parties  
14 involved; and that's where that came from.

15 Q You were trying to identify the parties involved?

16 A (Eckert) That's right.

17 Q And who are the parties you're trying to identify?  
18 New Hampshire Yankee?

19 A (Eckert) New Hampshire Yankee.

20 Q The Attorney General?

21 A (Eckert) And the Attorney General. And I identified  
22 Stone & Webster as having done the sheltering study.

23 Q I think I asked you before the noon recess that if  
24 the point of your questionnaire was to get an answer to  
25 Question 4, what was your purpose in asking Questions 1, 2, and

1 3?

2 A (Eckert) The purpose of Question -- well, the  
3 general purpose was to provide some background information;  
4 that's why I asked all these questions. We were interested in  
5 Question 1 because we wanted to find out if people had been  
6 notified that their building was on a list of a potential  
7 shelter.

8 Q And what's the purpose of finding that out, if you're  
9 looking to an answer to Question 4?

10 A (Eckert) Well, we were looking for answers to all  
11 these questions; and this was one question of interest we had.

12 Q Were you looking to Question 1, 2, and 3 to interact  
13 with Question 4?

14 A (Eckert) No, I was not. These were independently  
15 determined questions set into here without any purpose of  
16 interaction between them.

17 Q Then there was no real purpose insofar as to looking  
18 to the -- looking to Question 4 and answering Questions 1, 2,  
19 and 3?

20 A (Eckert) Well, no, not really.

21 Q I guess you've lost me now. There was a purpose or  
22 there is not a purpose?

23 (Eckert) There was no intent to have there be a  
24 relationship where answers to one question might affect answers  
25 to another question.



1 Q As far as you were concerned, all these questions  
2 stood independently?

3 A (Eckert) Yes, as far as I was concerned.

4 Q And yet, the significant question was number 4;  
5 correct?

6 A (Eckert) It was -- it's certainly one of high  
7 interest, and I would say it's probably the most interesting  
8 and most significant relative to access to space in the beach  
9 area.

10 Q And it's your view that the answers to 1, 2, and 3  
11 would shed no light on the answer to number 4?

12 A (Eckert) They were not put in there to shed light on  
13 Question 4. It seems that in looking at Question 4 you might  
14 be able to shed light on it from some of the other questions,  
15 but it was not designed that way initially.

16 Q Then you deny any attempt was being made to identify  
17 a particular shelter or kind of shelter that the owners might  
18 consider their buildings to afford?

19 A (Eckert) That was not a purpose of the survey, to  
20 try to identify types of shelters.

21 Q Is it your view that shelter place space has no  
22 suitability unless it has a direct access from the outside of  
23 the building?

24 A (Eckert) That it has no suitability without direct  
25 access from the outside?

1 Q Yes?

2 A (Eckert) That's not my view.

3 Q That's not your view?

4 A (Eckert) No.

5 Q What was the purpose of putting Question 3 in your  
6 survey questionnaire?

7 A (Eckert) That question came from trying to extend  
8 our knowledge a little bit on accessibility. It's an  
9 accessibility kind of question. And we had observed from our  
10 field work that some of these shelters had bulkhead doors, and  
11 this is in terms of the '86 works, I'm talking about the  
12 basement-type shelters only.

13 Some of them have bulkhead doors where access might  
14 be more easy than access through internal doors to a basement  
15 where one would have to pass through a private resident, say.

16 So we were trying to get a feeling for what the  
17 overall situation might be in terms of the owner's perception.

18 Q And assuming that you did get some returns on that  
19 subject, what did you intend to do with that information?

20 A (Eckert) I think just add it to our data base, so  
21 that we would have a better understanding of accessibility,  
22 access in the beach area.

23 Q That would help your data base?

24 A (Eckert) It would help my understanding, our  
25 understanding of accessibility.

1 Q Among the instructions to Salmon Falls is to -- well,  
2 it was to undertake to do for the Attorney General was to  
3 acquire a data base, was it?

4 A (Eckert) It wasn't directly to acquire a data base;  
5 it was to make some -- make a comparison between the Stone &  
6 Webster study to check for accuracy and so forth, and so that's  
7 what we were doing. And this is a small aspect of that.

8 Q Well, did you do the questionnaire on your own  
9 without any guidance or direction from the Attorney General?

10 A (Ecker ) We knew the general -- the Attorney General  
11 was interested in questions relating to shelter, and that  
12 concluded access, it also included people's attitudes about  
13 whether or not they would let people in, that was kind of a  
14 major question, so that was --

15 Q So what you're telling me is, there was no direct  
16 request by the Attorney General that you conduct a survey of  
17 this nature?

18 A (Eckert) There was a request to conduct a survey.

19 Q There was a request?

20 A (Eckert) Yes.

21 Q And that's what you represented in the questionnaire?

22 A (Eckert) That's correct.

23 Q Now, at the bottom of page 62 you say that, more than  
24 four of every five responses came from Hampton, with 28  
25 responses coming from other towns: four from North Hampton;

1 five for Rye; and nine for Seabrook. And I ask you whether the  
2 towns other than Hampton, whether the size of that response  
3 sample is meaningful.

4 A (Eckert) Yes, I consider that a meaningful response,  
5 some of those.

6 Q And you think that you can project to the total  
7 population in Rye, North Hampton on the basis of that response?

8 A (Eckert) I think that I would have to defer to  
9 someone like Dr. Luloff to make that answer. I'm not sure that  
10 we can make a projection from -- to those very towns.

11 Q Well, you're not sure you can make a projection to  
12 the population in the town of Hampton from the responses to  
13 your study --

14 A (Eckert) We have to be clear about whether we're  
15 talking about a projection or people's, I think, attitudes when  
16 they answered the survey. Again, this isn't my expert area,  
17 but I believe the surveys indicated how those people felt at  
18 the time they answered the survey.

19 Q Indicated how the people felt on the controversy that  
20 you polled, but it doesn't do anymore than that, does it,  
21 Doctor?

22 A (Eckert) Well, on the situation we presented with  
23 our survey.

24 Q On the top of page 65 of your testimony you say that  
25 you performed a second survey because you wanted to know for

1 those owners who said that they would admit people in their  
2 establishments in the event of a radiological emergency,  
3 whether that meant that they would admit people just into the  
4 common public areas such as: lobbies, hallways, basements, et  
5 cetera, of the building or whether it meant that they would  
6 also admit people into the private rooms of the hotel/motel  
7 guests?

8 A (Eckert) Yes, that's right.

9 Q And that was what you wanted to find out?

10 A (Eckert) Right, basically.

11 Q And can I ask you, if you wanted to find that out why  
12 didn't you ask that question?

13 A (Eckert) Well, I think we did ask that question. I  
14 want to refer to the questionnaire.

15 Q Can I direct your attention to the last page of the  
16 questionnaire?

17 A (Eckert) Yes.

18 Q Or the Attachment 12?

19 A (Eckert) Well, I still maintain that that's the  
20 question we asked in this survey.

21 Q Well, don't assume it; it is or it isn't, isn't it?

22 A (Eckert) It is. We asked whether the motel -- who  
23 has the right essentially to allow the public into a room for  
24 which a customer has paid.

25 Q The question as put in the survey doesn't say

1 anything about common public areas such as: lobbies; hallways;  
2 basements, et cetera, does it?

3 A (Eckert) No, it doesn't. But I would assume that  
4 where you have rooms you have hallways and that would be the  
5 other -- the only public space, perhaps, in a motel would be  
6 that type of space, hallways and maybe dining areas, if that  
7 was there.

8 Q Yes, but your purpose as you say of what you wanted  
9 to know was with respect to the owners that said that they  
10 would admit people, as to whether they were referring to the  
11 public lobbies or the lobbies, the public areas, hallways,  
12 basements or the private rooms or perhaps both. But your  
13 question was just -- the survey question is just directed to  
14 one of these aspects, is it not?

15 A (Eckert) It is directed to whether the question of  
16 who would allow the public into a motel/hotel room. You're  
17 correct in that.

18 Q Which are the private rooms of the hotel/motel  
19 guests?

20 A (Eckert) Right.

21 Q Who drew up this question?

22 A (Eckert) This is one that we drew up.

23 Q What?

24 A (Eckert) I drew this up with my assistant.

25 Q Did you consult anybody with expertise in human

1 behaviorism in drawing this up?

2 A (Eckert) We consulted with Dr. Luloff again, after  
3 we had written this document, written the instrument.

4 Q After you had written it and sent it?

5 A (Eckert) I'm not sure of the exact date that he  
6 looked at it, I would have to check on that.

7 Q What response did you get -- well, let me first ask  
8 you, how many of these went out?

9 A (Eckert) Let's see. There was a low number. Yes,  
10 indicate we had 10 respondents here. I think the number that  
11 went out was 19 or 20. In other words, it was the number that  
12 indicated, yes, to the fourth question, I believe, in the  
13 original survey.

14 Q Did you consult with anybody else other than Dr.  
15 Luloff?

16 A (Eckert) Not about the survey.

17 Q What did he say about the form of the language here?

18 A (Eckert) I don't recall his special comments, but  
19 he -- I mean, his specific comments, but he indicated that it  
20 was acceptable for this purpose.

21 Q And what purpose is that?

22 A (Eckert) The --

23 Q Is that the purpose that appears in your testimony or  
24 the purpose of the questionnaire?

25 A (Eckert) This is -- he attested or he agreed that -

1 to use this survey to try to answer these questions, the  
2 question of entry into the customer's room. He was specific to  
3 the survey rather than the exact testimony of my purpose that I  
4 stated here. So he agreed that he was answering the question  
5 about whether who would let people in the motel rooms or  
6 whether that would be acceptable.

7 Q But you had that information at the time, didn't you,  
8 as to who said that he would let people in?

9 A (Eckert) We knew that people had said that they  
10 would not or that they would, yes.

11 Q Did Dr. Luloff have the benefit of what appears in  
12 your testimony on the top of page 65?

13 A (Eckert) I don't believe that he had seen this  
14 written testimony when he looked at this survey form?

15 Q Dr. Goble, on page 67 of the testimony and the last  
16 question on that page and the answer, and you're talking about  
17 0.9 protection factor; and then, at the very last sentence in  
18 that answer you say, "The protection provided by structures  
19 with 0.9 shielding is even less than Aldrich, et al., have  
20 assumed would be provided the average person at other sites in  
21 the country, even if no protection action was recommended," and  
22 you cite Aldrich, et al., February 1978. Are you referring to  
23 the reactor safety study that Aldrich is referring to on page  
24 14 of his testimony -- excuse me, page 14 of his article?

25 A (Goble) Well, I would have to refresh my memory with



1 the article. But the Aldrich article concerns itself with the  
2 reactor safety study which attempted to make average statements  
3 about the company.

4 Q Aldrich is using a weekly average, is he not, in this  
5 relation that you're referring to?

6 A (Goble) I'm sorry. You mean, weekly in the sense  
7 that he's averaging -- he's averaging over time and the -- it's  
8 a question of behavior patterns and the norm, if you want to --  
9 most people structure their lives on a weekly basis. You have  
10 a week when you -- a set of week days when you have an  
11 occupational pattern, and a weekend, so in that sense -- is  
12 that the sense in which you're meaning a weekly?

13 Q I'm asking you in the sense that you're using it?  
14 You're not comparing the same thing, are you, Doctor?

15 (Continued on next page.)

et/18

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1717  
1 A (Goble) The --

2 Q You're not saying that 0.9 offers less shielding  
3 protection than no protection at all, are you?

4 A (Goble) No, I'm not saying that. What I'm saying  
5 is --

6 Q Isn't that what you're implying by using the Aldrich  
7 article?

8 A (Goble) Well, if I were -- I mean, if that's the way  
9 the reader is reading this, then I've not written it very well.  
10 The sense in which Aldrich is defining it and the impression  
11 that I wanted to give was simply that the normal person, in a  
12 normal place, living a normal life, on the average is spending  
13 more of his time -- I mean, is spending -- is being -- spends  
14 enough of his time in better sheltering facilities than a .9  
15 shielding factor.

16 Q Is that your purpose?

17 A (Goble) Yes, that .9 is not very good.

18 Q And you're not trying to say .9 is less --

19 A (Goble) I'm not trying to say that .9 is greater  
20 than 1; I'm not trying to say that.

21 Q Now, you would agree, would you not, that your  
22 reference to Aldrich is a weekly average that he is referring  
23 to here?

24 A (Goble) Well, I don't remember. However, -- the  
25 first answer is, I don't remember, although I would not be

1 surprised if that's true since that's the usual time period  
2 over which people try to average activity -- the activities.

3 MR. LEWALD: That concludes my examination.

4 JUDGE SMITH: All right. We'll take a break and set  
5 up now, we'll have the demonstration.

6 (Whereupon, at 1:45 p.m. Jack Whetstine, computer  
7 adviser to the Board, presented a demonstration of computer  
8 capabilities.)

9 JUDGE SMITH: As Mr. Oleskey indicated he had given  
10 us two pages of notes containing bracketed material. One page  
11 material bracketed indicated information that he wants to have,  
12 he wants to delay revealing until after cross-examination. We  
13 agree that that is appropriate. And the other bracketed  
14 material will be deleted primarily because it does reflect  
15 counsel's mental impression of situation; and that's  
16 appropriate deletion.

17 Mr. -- wait a minute.

18 Mr. Flynn, do you have questions?

19 MR. FLYNN: Yes, Your Honor. I had previously  
20 indicated that I did not have any cross-examination planned for  
21 this panel, but I wish to follow up on two lines which were  
22 opened up by Mr. Lewald's examination. I will be brief, I  
23 believe I will be done in 15 minutes.

24

25

## 1 CROSS-EXAMINATION

2 BY MR. FLYNN:

3 Q Good afternoon, gentlemen, I'm Joseph Flynn and I  
4 represent the Federal Emergency Management Agency.5 My first questions will be addressed to Dr. Eckert.  
6 In the testimony beginning at page three in the prefiled  
7 testimony, Dr. Eckert, you indicate that you are an associate  
8 professor of forest resources and graduate program coordinator  
9 in the Department of Forest Resources at the University of New  
10 Hampshire.11 Now, when I turn to your resume which appears as  
12 Attachment 3 to the prefiled testimony I note that you do not  
13 indicate the subject matter of your Ph.D., but I would assume  
14 that it has to do with forestry; am I correct?

15 A (Eckert) That's correct.

16 Q And Attachment 3 is a five page document and it lists  
17 numerous articles, research grants, and one lecture. In my  
18 examination of that resume it appears to me that all of those  
19 articles, the lecture and the research grants have to do with  
20 the subject of forestry in general; am I correct in that?

21 A (Eckert) Generally, yes.

22 Q Is there anything in the resume that indicates a  
23 familiarity with the subject of human behavior?

24 A (Eckert) No.

25 Q Now, turning back to your testimony at pages three

1 and four you refer to a number of surveys which you have  
2 conducted, am I correct that in none of those surveys were you  
3 measuring human behavior?

4 A (Eckert) That's correct.

5 Q And on page three of your testimony you say: "I have  
6 received funding from the United States Environmental  
7 Protection Agency to conduct large scale studies of the impact  
8 of air pollutants on forests," and I believe you cite those  
9 large scale studies as evidence of your competence to do  
10 surveys of the type that you've testified about this week; is  
11 that correct?

12 A (Eckert) That citation is meant to indicate that I  
13 handle large quantities of data, and for making comparative  
14 studies of one data collection with another, that I'm qualified  
15 to do that.

16 Q Now, the particular survey which was the subject of  
17 Mr. Lewald's examination consisted of 233 questionnaires which  
18 were mailed out and you got a response rate of 27 percent; is  
19 that correct?

20 A (Eckert) We got a response rate of 70, about 72  
21 percent.

22 Q Doing the arithmetic very roughly in my head, it  
23 would seem to me that you got something under 200 responses; am  
24 I right?

25 A (Eckert) We actually got 152 responses based on 211

1 surveys that we counted as our starting point. 233 were mailed  
2 out, but the difference of 22 comes from surveys that were  
3 undeliverable and situations like that.

4 Q So you were working with 152 responses and each of  
5 those responses included, at most, the answers to four  
6 questions?

7 A (Eckert) That's correct.

8 Q Would you consider that a large scale study?

9 A (Eckert) I would consider it a reasonably -- I'd say  
10 it's a moderate to small scale study.

11 Q Thank you.

12 The next set of questions that I have will be  
13 addressed to Dr. Goble.

14 I will refer you, Dr. Goble, to page 15 and 16 of the  
15 testimony; would you take a moment to look at that?

16 (Pause)

17 BY MR. FLYNN:

18 Q Is it fair to say, Dr. Goble, that the purpose of  
19 that section of your testimony is to indicate those  
20 circumstances under which sheltering as opposed to evacuation  
21 is the most effective protective action or indeed the only  
22 protective action?

23 A (Goble) That's correct.

24 Q Is it also fair to say that, the circumstances under  
25 which sheltering is most effective protective action are rather

1 limited, and your testimony indicates what the limitations are?

2 A (Goble) Yes. Limited but important.

3 Q And those circumstances are that there would be a  
4 puff release, there would be little or no warning; and little  
5 or no warning in advance of the release; and thirdly, that you  
6 would know at the time that the protective action is decided  
7 on, that the duration will be short, and that there will be no  
8 deposits of radionuclides on the ground; is that correct?

9 A (Goble) Well, I think you're confusing two  
10 situations. There are really two situations referred to here.  
11 One is an early release -- perhaps I have to go back to pages  
12 13 and 14 which is the principal portion that I'm talking  
13 about.

14 The main situation of concern for emergency planning  
15 is the situation in which there's a relatively early release  
16 for the substantial amount of radioactive material including  
17 material that's likely to pose a problem because of ground  
18 deposition and possible inhalation doses. Okay, that's the  
19 major problem that I'm addressing.

20 Now, there is a second problem which is a less severe  
21 problem which is discussed at the bottom of page 15, which is  
22 the release of -- a release that consists primarily of noble  
23 gases and is of reasonably short duration.

24 Q I will come back to the subject of the early release,  
25 but for the moment let us concentrate on the puff release.

1           Would you agree that a puff release is one which is  
2 of short duration and that the relative duration is known in  
3 advance, and also that it is constituted by noble gases and not  
4 particulates?

5           A     (Goble) Well, I don't want to get into defining the  
6 puff release. I would agree that there's a situation, which is  
7 what I'm trying to talk about at the bottom of page 15 that  
8 meets that description. People argue about what counts as a  
9 puff.

10          Q     Would you not agree that it makes a difference at the  
11 time that a decision is made whether you know how long the  
12 release is going to last?

13          A     (Goble) Yes.

14          Q     So that, unless you know in advance that it is going  
15 to be of short duration, you don't assume that?

16          A     (Goble) No is too strong a word. Unless you have  
17 good reason to believe that the release would be of short  
18 duration you might -- you would not assume that.

19          Q     Well, one --

20          A     (Goble) You -- say again?

21          Q     One circumstance that comes to mind when you might  
22 know that would be a controlled venting?

23          A     (Goble) For example?

24          Q     You're suggesting that there are others?

25          A     (Goble) I --



1 JUDGE SMITH: Well --

2 THE WITNESS: (Goble) I would prefer not to testify  
3 to different possible accident characteristics. I think that  
4 given time I could conjure up another kind of accident. But I  
5 don't think it's the -- I don't think this sort of accident is  
6 the major concern in any event.

7 BY MR. FLYNN:

8 Q I will accept your characterization that this is not  
9 the major concern or as major concern as the early release, but  
10 I want to ask you a few more questions before we go back to the  
11 early release.

12 A (Goble) That's fine.

13 Q I want to make a distinction between a precautionary  
14 measure and a protective action. I don't know whether you're  
15 familiar with the prefilled testimony that FEMA has filed with  
16 the Board, but I would ask you whether it is necessary for the  
17 purpose of my questioning to define for you what I mean by  
18 those terms?

19 A (Goble) I think I understand the terms.  
20 Perhaps --

21 Q If there's any doubt I will be happy to --

22 A (Goble) Perhaps it would be better if you defined  
23 them.

24 Q What I mean by precautionary action is something  
25 which is recommended for the protection of people in advance of

1 the necessity for doing so, specifically in advance of any  
2 release of radiation. And I distinguish that from a protective  
3 measure which is taken to protect the public from the effects  
4 of a release which has already taken place or which is  
5 imminent.

6 A (Goble) All right. So the -- can I just make a  
7 clarification. The distinction you would make is that, for a  
8 precautionary measure you don't know whether or not there's  
9 going to be a release, but you're worried; and protective  
10 measure you have good reason to anticipate a release if it  
11 hasn't already started?

12 Q Yes.

13 A (Goble) Okay.

14 Q Now --

15 JUDGE SMITH: And it is imminent.

16 THE WITNESS: (Goble) Right.

17 BY MR. FLYNN:

18 Q I will ask you to assume for the sake of the question  
19 which I'm about to ask you that, a precautionary action is  
20 taken at a level of emergency classification, less severe than  
21 general emergency; are you familiar with the usage of emergency  
22 classification levels?

23 A (Goble) Yes.

24 Q Now, my question is, at a time when a precautionary  
25 measure is being recommended, that is to say, before a release

1 has occurred or is known to be imminent, would it not always be  
2 appropriate to recommend evacuation for areas within two miles  
3 of the source, namely, the nuclear powerplant?

4 A (Goble) Say the question again, please.

5 Q The focus of the question is, a recommendation to be  
6 made at -- as a precautionary measure which is to say, at the  
7 time when it is not yet known that a release will occur, but  
8 simply that it may be possible if conditions at the plant  
9 degrade. And the question is, under those circumstances is it  
10 not always preferable to evacuate the population within two  
11 miles of the plant?

12 A (Goble) Preferable you mean to --

13 Q Sheltering them?

14 A (Goble) -- sheltering them and -- or doing nothing.  
15 Well, we're assuming you have a good basis for doing a  
16 precautionary measure.

17 This goes to the definition of what is imminent. And  
18 I'm hesitating because I'm trying to phrase my answer with a  
19 certain amount of care. The -- it is certainly preferable if a  
20 release is not imminent.

21 Now, at issue in Seabrook the evacuation times at  
22 Seabrook establish a time scale on which one has to think about  
23 what is or is not imminent. What is or is not imminent. In  
24 Seabrook where the population may be trapped for a number of  
25 hours means that you have to be concerned with what might

1 happen in a few hours as opposed to what might happen in half  
2 an hour to one hour.

3 But with the caveat that you are going to initiate  
4 precautionary evacuation, where you have no reason to expect,  
5 you've done the best you can at projecting how bad things are  
6 likely to do, you have no reason to expect that a release will  
7 begin for several hours, then early evacuation would be the  
8 preferable thing to do.

9 Q Thank you.

10 Let us turn now to the question of an early release,  
11 and in this portion of your testimony I assume you were talking  
12 about releases which include a ground shine component; is that  
13 correct?

14 A (Goble) Yes.

15 Q And would you agree that the radionuclides which are  
16 deposited on the ground by their nature tend to be relatively  
17 long-lived?

18 A (Goble) Well, I would agree that the most important  
19 ones are, yes.

20 Q So that if there is a ground shine component it is  
21 something that would concern us for days and weeks, in any  
22 event, more than just a few hours?

23 A (Goble) I would agree that -- I would agree that you  
24 would be concerned for days and weeks. I would not agree that,  
25 that means you wouldn't worry about what was happening in the

1 initial few hours relatively close to the plant.

2 Q In your analysis the -- with an early release, and I  
3 assume you mean by that, the release which occurs within an  
4 hour or a few hours of the onset of accident conditions, in  
5 your own analysis sheltering is the preferable protective  
6 action; am I correct in that?

7 A (Goble) Sheltering in the situation in which it can  
8 be implemented, and in the situation which appears to hold at  
9 Seabrook under peak summer population conditions when there are  
10 long delays in evacuation times, yes.

et/17 11 (Continued on next page.)

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1 Q For how long a period of time do you assume that the  
2 people who would go to shelter would remain in shelter?

3 A (Goble) In the event of an early -- we're still  
4 taking about this case, this severe, early case?

5 Q Yes.

6 A (Goble) I think we're talking about a matter of  
7 hours. This is not intended to be a long-term sheltering.

8 Q And under those circumstances, are the people who are  
9 sent to shelter and then evacuated not exposed to a significant  
10 amount of ground shine?

11 A (Goble) They would be exposed to a potentially  
12 significant amount of ground shine, that's right.

13 Q And is it not also the case that while they were in  
14 shelter they are exposed to inhalation doses?

15 A (Goble) Inhalation doses and, although reduced,  
16 cloud shine and ground shine.

17 Q So, is it not possible under those circumstances that  
18 the cumulative dose could be greater for a strategy which has  
19 people going to shelter and then evacuating than it would be  
20 for an evacuation-only strategy?

21 A (Goble) It's possible, and that exactly poses the  
22 problem of emergency planning with -- that's why the  
23 implementation of sheltering, the effective implementation of  
24 sheltering, both getting people in and getting people out, is  
25 very important.

1 Without planning, I think it's very likely that that  
2 would happen.

3 MR. FLYNN: Thank you, Dr. Goble. I have no other  
4 questions.

5 JUDGE SMITH: Mr. Turk.

6 MR. TURK: Thank you.

7 I'd like to move --

8 JUDGE SMITH: Certainly.

9 (Pause.)

10 CROSS-EXAMINATION

11 BY MR. TURK:

12 Q Good afternoon, gentlemen. I don't think I have  
13 introduced myself before. I am Sherwin Turk with the NRC  
14 staff.

15 I'd like to turn to Page 6 of your testimony. And in  
16 the top partial paragraph on that page there's a statement that  
17 reads, "Without sheltering, this population would have to  
18 remain outdoors or in automobiles virtually unprotected from  
19 radiation exposure for many hours while waiting to evacuate."

20 And I assume that this sentence speaks to the summer  
21 beach population; is that correct?

22 A (Goble) That's correct.

23 Q And is it correct also that the scenario that you're  
24 describing involved what we've heard referred to as the peak  
25 summer weekend?

1           A     (Goble) Well, there are gradations, but the peak  
2 summer weekend is certainly the worst case. However, you get  
3 substantial evacuation times for summer weekends, and for  
4 fractions of the peak populations.

5           Q     But your testimony describes population sizes. For  
6 instance, if I'm not mistaken there's a reference to  
7 approximately 11,500 persons for Seabrook, and approximately  
8 46,000 population for Hampton beach; do you recall that?

9                     I'm sorry, Page 35: 11,400 for Seabrook beach, and  
10 43,800 for Hampton beach.

11                    Now those are the peak weekend scenario population  
12 estimates, aren't they?

13           A     (Goble) Yes.

14           Q     And that's the thrust of your testimony, isn't it,  
15 this population?

16           A     (Goble) No, I think the testimony deals with the  
17 summer beach population of which this peak summer weekend is  
18 the worst case. But there is testimony, both provided by Tom  
19 Adler to the Attorney General, and by KLD Associates for the  
20 Applicant, that indicates that there is substantial evacuation  
21 times for less than peak conditions.

22           Q     When your testimony indicates, as I believe it does,  
23 that there is inadequate shelter space for the beach  
24 population, aren't you there referring to the peak weekend  
25 summer beach population?



1           A       (Goble) The comparisons we have done are with the  
2 peak summer weekend population. On the other hand, there is  
3 substantial shortfalls. So that if you wanted to scale the  
4 population figures down significantly, you would still see  
5 potential problems.

6                    If you look, I think it's Page 49, we have a summary  
7 table.

8                    So there is a substantial gap between those peak  
9 figures and the space that we have identified as available.

10           Q       Your testimony on Page 6 indicates that the summer  
11 beach population would have to remain outdoors or in  
12 automobiles for many hours while waiting to evacuate.

13                    Did you have a figure in mind in terms of how long a  
14 period of time they might have to remain in their cars or  
15 outside?

16           A       (Goble) Well, the -- the best figures perhaps are  
17 the ones provided by Adler in testimony that's recently been  
18 submitted which explicitly deals -- previous testimony has  
19 indicated times for clearing the entire emergency planning  
20 zone.

21                    For the purposes of this testimony, I think we're  
22 most concerned with the amount of time it takes people to  
23 travel relatively short distances to get out of the beach  
24 areas, and there's testimony provided by Adler -- there are two  
25 sets of calculations. One was filed last fall which

1 specifically gave times for leaving the beach areas, and then  
2 the latest piece of testimony that was just submitted. In each  
3 case there are times for clearing the beach, or clearing this  
4 region, which are in excess of six hours.

5 Q And when you use the word "clearing", you're talking  
6 about removing the last person.

7 A (Goble) That's right.

8 Q So I take it you --

9 A (Goble) And median numbers, if you like, or 90  
10 percent numbers run from four to six hours. He gives a  
11 distribution. You have an essentially immobile traffic jam.

12 Q You would agree that the traffic jam would be smaller  
13 in time duration when you have a smaller crowd at the beach.

14 A (Goble) Yes.

15 Q So that if you weren't using a peak summer weekend  
16 beach population estimate, but rather, a midweek summer  
17 population estimate, the traffic jams would be shorter in  
18 duration.

19 A (Goble) Well, there's a problem with that.

20 Q You don't agree to that?

21 A (Goble) I don't fully agree. I don't know how to --  
22 let me explain the one difference which is the -- and my  
23 recollection from Adler's testimony which should stand on its  
24 own rather than my recollection -- the summer weekday  
25 evacuation times are compounded by -- a little bit by numbers

1 of people working in the general area, so that there's --  
2 there's not a simple proportionate decrease when you have a  
3 smaller beach population. And I don't remember exactly how it  
4 pans out, but summer weekdays also had substantial evacuation  
5 times; perhaps a little bit shorter, but it was a small amount  
6 shorter, not an enormous amount shorter for presumed beach  
7 populations.

8 Q If there were to be a shorter evacuation time  
9 estimate than that for the summer weekend beach population,  
10 Scenario 1 as presented in the ETE study, would that affect --  
11 let me start again.

12 If the evacuation time estimate was to be shorter  
13 than that for a summer weekend beach population, for instance,  
14 if there was a midweek scenario or an off-season scenario, do  
15 you believe that it would still -- well, which of the two  
16 protective responses do you believe would be more appropriate,  
17 sheltering or evacuation?

18 A (Goble) Well, depends on how much -- how much  
19 shorter, and I think -- I think a detailed analysis would have  
20 to be done to -- and I think in fact it's a critical question  
21 at what level of population you -- with what you can anticipate  
22 about possible accidents you would make such a decision. I  
23 think it requires a detailed analysis. It requires some  
24 modeling.

25 Q You're not able to provide an answer to that right

1 now; is that correct?

2 A (Goble) Well, I certainly -- I certainly would not  
3 wish to provide an answer that would be used as the basis for  
4 developing emergency plans. I think it's a serious problem  
5 that requires a considerable amount of analysis.

6 I've done some preliminary analysis, and if you make  
7 the time short enough, you'd rather have people evacuate.

8 Q If you could make the evacuation time short enough?

9 A (Goble) That's right.

10 Q Why is that?

11 A (Goble) That's -- I feel I've said that someplace,  
12 but that's because --

13 JUDGE SMITH: I'm sure many times.

14 Is that really in dispute, that point?

15 MR. TURK: Well --

16 THE WITNESS: (Goble) If you can take --

17 JUDGE SMITH: Wait, I --

18 THE WITNESS: (Goble) I'm sorry.

19 MR. TURK: Your --

20 JUDGE SMITH: All right, go ahead.

21 MR. TURK: I don't recall an answer to a question  
22 posed that way.

23 JUDGE SMITH: Okay. If you feel you have to go that  
24 way.

25 MR. TURK: I think it's the last question on this

1 series, Your Honor.

2 THE WITNESS: (Goble) Okay.

3 JUDGE SMITH: Proceed. You may answer.

4 THE WITNESS: (Goble) If -- the advantage of an  
5 evacuation is you've got people away from the highest  
6 concentrations of radioactivity. And if you can do that  
7 reasonably expeditiously, and taking -- and if, further, you're  
8 fortunate enough to be able to take advantage of a certain  
9 amount of warning time, which you sometimes have, then you will  
10 get lower exposures for people, so that's a better thing to do.

11 BY MF. TURK:

12 Q You have all had an opportunity now to look at the  
13 shelter space that exists in the beach areas; is that correct?

14 A (Goble) Well, we've looked at -- I should let Bob  
15 answer.

16 We have looked at a significant portion of the  
17 shelter space. We have not done a comprehensive survey of  
18 sheltering space.

19 Q Do you believe that the shelter space on average for  
20 the beach area presents something than a 0.9 protection factor?

21 MS. WEISS: Objection. I just -- when you say  
22 shelter space, are you referring to the publicly accessible  
23 buildings as Stone & Webster classified them in their second  
24 study, or are you referring to all the buildings on the beach,  
25 including private cottages?

1 MR. TURK: I thank counsel for the instruction.

2 My question said on average the shelter space that  
3 exists in the beach area.

4 MS. WEISS: You mean for all the buildings on  
5 average?

6 I would just like to understand the question.

7 JUDGE SMITH: I think the question is capable of  
8 creating some uncertainty on the part of the witness. Simply  
9 clarify it. Is it all the public -- access to the public and  
10 private, or whatever?

11 MR. TURK: All right. Let me see if I can try it  
12 again.

13 BY MR. TURK:

14 Q Dr. Goble, do you have an opinion as to the average  
15 shielding protection offered by the buildings that exist in the  
16 beach area, and I'm including all buildings, public and  
17 private?

18 A (Goble) Okay. Averaged over all buildings, I would  
19 say that one is -- and I assume the average is proportional to  
20 space available or something.

21 I would say you are in the range of .9 cloud  
22 shielding factors.

E19 T20 23 Q Given that consideration, do you believe that it is  
24 inappropriate for the State of New Hampshire to consider that  
25 evacuation provides a preferable protective response when

1 considered vis-a-vis sheltering for the summer beach  
2 population?

3 A (Goble) Could you just state your question again,  
4 please?

5 MR. TURK: Well, let me ask to have the question  
6 reread by the reporter.

7 JUDGE SMITH: Read it, please.

8 (Accordingly, the pending question was read  
9 back by the court reporter.)

E19

10 (Continued on next page.)

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1 THE WITNESS: (Goble) I think the main thrust of  
2 our testimony is that it's inappropriate, and I think that we  
3 were aware of that consideration when we wrote the testimony.

4 BY MR. TURK:

5 Q Are you saying then that sheltering in the existing  
6 building in the beach area provides a preferable protective  
7 response to evacuation for the summer beach population?

8 A (Goble) No. I'm saying that -- what the testimony  
9 is -- what I'm saying is that there is a problem, right? And  
10 the problem is that you have long evacuation times and for the  
11 most important accident scenarios people are going to be  
12 exposed to substantial doses of radiation.

13 The question is -- this is a problem that is  
14 particular to the Seabrook reactor. So the question is -- the  
15 emergency planning question is what do you do about this  
16 problem, and the answer of a six-hour traffic jam doesn't seem  
17 like a very satisfactory answer. Now --

18 Q Dr. Goble, if you put yourself in the shoes of an  
19 emergency planner for the State of New Hampshire, and you have  
20 to decide in advance knowing what you know about existing  
21 shelter space, which protective response is likely to be  
22 preferable? Which of the two options are you more likely to  
23 choose?

24 Are you able to answer that?

25 A (Goble) I can answer that with one clarification



1 which I'd like to provide myself and see if you can accept,  
2 okay?

3 I think there are two issues, and I think they are  
4 both addressed in our testimony. One issue is what does one do  
5 with -- in the existing situation with the existing plans, and  
6 I think our testimony is very clear that under the -- in the  
7 existing situation with the existing plans, we do not recommend  
8 sheltering at all in this situation.

9 So were the reactor to be operating, were there to be  
10 an emergency, were these the plans, I would -- and were I  
11 there -- I would, without hesitation, recommend evacuation, but  
12 I would not be happy, but I wouldn't hesitate either, all  
13 right?

14 The attempt to implement sheltering in the existing  
15 situation with the existing plans would just create a mess,  
16 okay.

17 Now if you instead -- so that's the answer at one  
18 level of decision.

19 On the other hand, if you ask me would I have done  
20 anything different starting in 1980 or so in developing  
21 emergency plans, then reach this point, the answer is it seems  
22 to me, surely something better could have been done.

23 (Pause.)

24 BY MR. TURK:

25 Q Let me focus for a minute, Dr. Goble, also on Page 13

1 of your testimony.

2 At the top of that page I believe you're describing  
3 situations in which sheltering, if it were successfully  
4 implemented, would be the most effect protective measure for  
5 the beach population. And you indicate there at the top of  
6 Page 13 that except for accidents involving very small  
7 radioactive releases, evacuation, when it's feasible, is the  
8 preferred protective response.

9 Now in most circumstances that you can imagine, do  
10 you believe it would be possible for an emergency planner or  
11 responder to predict with reliability the size of a radioactive  
12 release?

13 A (Goble) No.

14 Q I'm sorry?

15 A (Goble) No.

16 Q And in most circumstances that you can postulate, do  
17 you believe it would be possible for an emergency planner or  
18 responder to predict reliability the duration of the release in  
19 advance of the release?

20 A (Goble) Not to predict reliably. It may be that  
21 there may be indications sometimes.

22 Q As a general rule what do you believe?

23 A (Goble) As a general rule, I believe it's very  
24 difficult to predict either the amount or the duration of  
25 release. It's not -- it's not, fortunately, an occurrence that

1 we have very much practical experience with.

2 Q In that same paragraph you indicate that the  
3 conditions in which sheltering would be preferred to evacuation  
4 are those in which the accident develops rapidly; that is,  
5 situations in which exposure would begin in times that are  
6 short compared to the times that it would take to complete an  
7 evacuation.

8 Now tell me if I misunderstand you, but I believe you  
9 agree that you cannot predict reliably in advance how long a  
10 release may last or how large the release may be.

11 Now isn't it a very limited situation where this  
12 condition as described in your testimony as I've now read it  
13 would actually exist assuming an accident were to occur?

14 A (Goble) Well, I think I've been through this point  
15 before. This is a limited situation which however is the crux  
16 of the problem for emergency planning. This is the situation  
17 in which you can hope to do real good by effective emergency  
18 planning, or verges on it.

19 It's the serious accidents which happen relatively  
20 quickly are the ones you are of most -- are the ones that pose  
21 the most challenge that you're most concerned with.

22 Q Dr. Goble, would you agree --

23 JUDGE LINENBERGER: Excuse me, Mr. Turk. I need a  
24 clarification here.

25 With respect to the sentence Mr. Turk was questioning

1 you about, Dr. Goble, situations that occurs -- the phraseology  
2 "situations in which exposure would begin in times that are  
3 short compared to," et cetera. Now when you say exposure would  
4 begin, are you talking about the rise time of a source term  
5 pulse, or what do you mean by "situations in which exposure  
6 would begin in times that are short" in the context of the  
7 sentence?

8 THE WITNESS: (Goble) Okay. The sentence is  
9 qualitative, is intended to be a qualitative statement. I hope  
10 it reads as such.

11 What I'm concerned about is not any slow rise of  
12 exposure. I'm concerned about will substantial exposures -- a  
13 substantial release of radioactivity, a substantial amount of  
14 radioactivity actually be encountering people.

15 Now in a -- if you postulate a release that extends  
16 over a very long time that slowly rises, then I'm not so  
17 concerned about the initial first exposure. But the types of  
18 accidents that I'm concerned about are accidents that have --  
19 that typically are relatively short duration that involve high  
20 releases of radioactivity, or relatively short duration of the  
21 bulk of the radioactivity getting out, okay, and it's the bulk  
22 of the radioactivity that would be released that's of concern  
23 to me.

24 JUDGE LINENBERGER: Okay. Your answer was couched in  
25 terms of duration of release, and my confusion is all rolled up

1 in the time it takes the exposure to begin, and perhaps you  
2 didn't mean it quite that way. So, forgive me, let's go on.

3 THE WITNESS: (Goble) Okay.

4 JUDGE LINENBERGER: Sorry, Mr. Turk.

5 MR. TURK: No, that raises a good question, Your  
6 Honor.

7 BY MR. TURK:

8 Q And that is, does the testimony need to be amended  
9 here to change the word "begin" to something else?

10 A (Goble) Well, if you think it's -- if you think it's  
11 confusing, I could say substantial exposures would begin.

12 Would that be an adequate clarification?

13 JUDGE LINENBERGER: Does that express your meaning?

14 THE WITNESS: (Goble) Yes.

15 JUDGE LINENBERGER: Don't change your meaning for my  
16 benefit.

17 BY MR. TURK:

18 Q As I understand this clarification, what you are  
19 saying is if a substantial exposure, or substantial dose would  
20 be incurred prior to the time it would take to complete an  
21 evacuation, that's the instance you're referring to as being  
22 preferable for shelter; is that correct?

23 A (Goble) Yes.

24 Q And I believe also that you would agree that it's in  
25 most cases not possible to predict reliably whether a

1 substantial release would be incurred prior to the time it  
2 would take to complete an evacuation; is that correct?

3 A (Goble) No, I don't -- I don't think that's quite  
4 right.

5 I'm hesitating because I'm trying not to make  
6 something complicated appear too simple.

7 You have a real concern if you have entered into a  
8 core melt and a release has begun or has not begun that there  
9 might be a relatively -- that there might be a large,  
10 relatively short duration of release, and it's that situation  
11 that it is anticipating that situation even if you can't be  
12 certain that that's what's happening that may be appropriate to  
13 direct your choice of emergency strategies.

14 Q But you agree that's a limited type of situation.

15 A (Goble) A limited type of situation, but important.

16 Q But as a general rule then you would continue to  
17 believe that it's difficult to predict reliably the amount or  
18 duration of a release in advance of that release.

19 A (Goble) That is correct. But the difficulty of  
20 doing it does not mean, it seems to me, that one should exclude  
21 those situations from emergency planning. They are in fact the  
22 problem of emergency planning and you should figure out what's  
23 the most effective way of dealing with that situation, with its  
24 attendant unknowns.

25 Q So what you would recommend then would be that

1 evacuation would be the preferred protective response in most  
2 cases. However, there are other cases when that's not true.  
3 Am I right so far?

4 A (Goble) No, the -- No, what I would recommend is  
5 that a detailed analysis be made of potential accident  
6 characteristics for this reactor at this reactor site, an  
7 evaluation of what you can predict to what you cannot predict  
8 be made, and a determination of what's the most effective  
9 approach in situations in which it's certainly true there will  
10 be certain amounts of uncertainty.

11 And to my knowledge, that analysis has not been  
12 conducted. I certainly have seen no evidence of it, and I'm  
13 not going to guess without something to go on what would be the  
14 most commonly recommended strategy once a core melt was begun.

15 Q So you believe it would be appropriate for the state  
16 to consider both options, or at least hold both options in the  
17 reserve, depending upon the conditions as they develop; is that  
18 correct?

19 A (Goble) I believe that both options require a  
20 thorough evaluation in the light of conditions at Sealbrook, and  
21 I could guess at what the results of such an evaluation would  
22 be. I think they could well be that both options would need to  
23 be held in reserve, particularly considering the high  
24 variability in the population that's present. Sometimes you  
25 have a very large population on the beach. Sometimes you have

1 quite a small population with the corresponding variation in  
2 evacuation time estimates.

3 Q In other words, Doctor, you believe that the State of  
4 New Hampshire should not rule out using a sheltering option  
5 with existing shelters for the beach population; is that  
6 correct?

7 A (Goble) I think it should not be ruled out as part  
8 of their planning process. I mean I think that a great deal of  
9 planning effort needs to go into considering sheltering as an  
10 option.

11 I would certainly not encourage them to consider  
12 sheltering to be an option to be carried along in an unplanned-  
13 for sheltering of the beach population, to be carried along as  
14 an unplanned-for option that might be adopted under unspecified  
15 circumstances.

16 But as part of the preliminary planning process, it  
17 certainly should be considered.

18 Q All right.

19 I'd like to follow up for a moment on something that  
20 Mr. Flynn was asking in his cross-examination.

21 At the bottom of Page 15 you describe certain  
22 circumstances in which sheltering would be the preferred  
23 protective response, and I wasn't sure how this broke out;  
24 whether it was a single situation or two -- I believe in your  
25 response to Mr. Flynn you indicated there were two separate



1 situations considered here.

2           Could you paraphrase this for me so I get a better  
3 understanding of the thrust of this paragraph?

4           A     (Goble) Okay. The paragraph has two sentences. One  
5 sentence is a discussion -- is a reprise of the previous  
6 discussion about severe early accidents. The second situation  
7 introduces a new situation, a less serious release almost  
8 exclusively of noble gases.

9           Q     And do I understand in this paragraph, with respect  
10 to the first situation which you describe as a rapidly  
11 developing severe accident for which you believe would be  
12 preferable for people to go to shelter rather than be in their  
13 cars or wait outside, you are referring to the shelter as it  
14 exists in the Seabrook beach area?

15           And incidentally, when I use the phrase "Seabrook  
16 beach area", I'm including the whole beach: Hampton Beach,  
17 Seabrook, et cetera.

18           A     (Goble) Okay.

19           Q     I assume you are also.

20           A     (Goble) Yes.

21           The statement is a general statement that's better --  
22 if you're waiting around, it's better to be sheltered than not.  
23 I intend it to apply to the Seabrook situation, but that does  
24 presuppose that you actually -- that people get into the  
25 shelters, that they get out of them, that the process is not

1 prolonging the evacuation times unduly, et cetera, et cetera,  
2 depending on the characteristics of the accident.

3 Q Well, what's the bottom line then with respect to  
4 this scenario you describe?

5 Do you believe that with the existing shelter space  
6 in the Seabrook beach area that this type of situation would  
7 suggest that sheltering would be preferable?

8 A (Goble) All right. The situation is very simple  
9 conceptually, okay? And that's what I'm referring to. It's  
10 very complex to implement, but the concept is very simple.

11 The delay in evacuation that's occurring on the beach  
12 is essentially entirely waiting in line, waiting for your turn  
13 to evacuate. If you could spend that time in a shelter rather  
14 than out in the open or in your car, you would be better off.  
15 And you would be better off even -- you would be a little bit  
16 better off in a poor shelter. You would be significantly  
17 better off if you were in suitable shelter.

18 Now the testimony is speaking to the possibility if  
19 that could be arranged, that would be preferable. And the fact  
20 that it's conceptually possible, it seems to me means that the  
21 situation should be addressed in the planning process and one  
22 should figure out to what extent could one take advantage of  
23 the opportunity that there would be to provide shelter to  
24 people who are otherwise simply waiting in line for their turn  
25 to evacuate while a potential release is going on. So that's

1 the thrust of that sentence.

E21

2 (Continued on next page.)

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1           Q     Is it your position, then, that the State should  
2 develop instructions to the population, that those people who  
3 are able to find, quote, "Suitable shelter," and then  
4 presumably the State would go on to define what a suitable  
5 shelter is, that those people should wait indoors, other  
6 persons who could not find that so-called suitable shelter  
7 should evacuate?

8           A     (Goble) You're asking me on the witness stand to  
9 develop a set of plans which is a reasonably complex  
10 undertaking. And my position is that, that such a possibility  
11 ought to have been evaluated. There are a variety of  
12 possibilities that should have been evaluated in determining  
13 protective action responses. However, there are quite a few  
14 problems in implementation, a number of which are documented in  
15 our testimony, and I wouldn't want to give the impression that  
16 the development of a particular version of this plan is clearly  
17 the most appropriate one or that is it simple to do.

18                     But I think the opportunity potential provided by  
19 shelters is one that requires more exploration than has been  
20 given to it.

21           Q     Are you aware of whether the State has made that kind  
22 of an analysis as to whether instructions should be given to  
23 people to shelter or not shelter based on the kind of shelter  
24 space they may find available to them? You don't know?

25           A     (Goble) Well, I've read the plan. Certainly there

1 is -- there are no provisions for doing that in the plans.

2 Q But you don't know whether that kind of a concept has  
3 been considered?

4 A (Goble) The -- I know that -- I know a few things.  
5 I know that the State has responded to inquiries that it is not  
6 done -- has not made any attempt to develop -- develop or use  
7 models that would compare alternative response strategies to  
8 determine what would be more or less effective.

9 Q Based on the type of accident; is that correct?

10 A (Goble) Based on -- well --

11 Q You're referring -- what you're saying, as I  
12 understand it, is the State has not done an accident specific  
13 analysis?

14 A (Goble) To my knowledge, they've not done any kind  
15 of quantitative analysis which can be generic in form by  
16 averaging over a possible analyses. They've not compared  
17 protective response strategies.

18 And so to that extent I don't know -- I don't know on  
19 what other basis they have rejected pursuing these  
20 possibilities, but I know they've not attempted to do any kind  
21 of quantitative comparison of effectiveness of response  
22 strategies.

23 JUDGE SMITH: Can we take a break now, Mr. Turk, --

24 MR. TURK: Yes.

25 JUDGE SMITH: -- without disturbing your cross

1 examination. 10 minutes.

2 (Whereupon, a 10 minute recess was taken.)

3 JUDGE LINENBERGER: Ladies and gentlemen, the Board  
4 is concerned that a great deal of discussion recently with this  
5 panel of witnesses, and presumably discussion yet to come with  
6 this panel of witnesses leaves the record somewhat confused and  
7 somewhat ambiguous with respect to the Board's attempt in later  
8 days to synthesize a decision based on the testimony.

9 Let me be a little more explicit. There are  
10 statements -- there is a statement, for example, that the  
11 average DRF for an average person shelter space in the beach  
12 area is of the order of .9. Well, I don't see how that can be  
13 so. If it is so, I can see it leading to a contradictory  
14 situation. And the record, as it stands now, is certainly not  
15 going to shed light on that contradiction.

16 There are statements about gaseous releases, and it  
17 is difficult to determine whether, in the context of the  
18 answers to certain questions as well as in the context of the  
19 questions themselves, whether gaseous releases means strictly  
20 that, gaseous, without particulate matter, that can contribute  
21 to fallout or whether it includes particulate matter that can  
22 contribute to fallout.

23 There are discussions about whether people are better  
24 off remaining in their cars for certain periods of time versus  
25 better off getting out if they can.

1           Okay. I think some of the answers to some of those  
2 questions are ambiguous in that, if there is no fallout, one  
3 situation obtains; if there is fallout, automobile bodies can  
4 interdict particulate matter and keep it from settling on the  
5 skin of the occupant.

6           There are a host of, forgive me, fuzzy kinds of  
7 situation such as this that are going to be awfully difficult  
8 to clarify at decision writing time.

9           I just make a plea now without going to specific  
10 questions, to clarification. I don't promise not to come back  
11 to some of those questions, make a plea now, try both  
12 interrogator and panel, try to be as explicit as possible about  
13 the assumptions, conditions, circumstances that are subsumed  
14 within the question and within the answers.

15           Thank you.

16           MR. TURK: Your Honor, I'm going to move down to No.  
17 6 on the cross-examination plan.

18           BY MR. TURK:

19           Q     Dr. Goble, you indicated in earlier examination here  
20 that when you were doing your earlier drafts of testimony you  
21 had not yet seen, and I'm -- or known of NUREG-1210; do you  
22 recall that testimony?

23           A     (Goble) Yes.

24           Q     Now, when did you first become aware of the existence  
25 of NUREG-1210?

1           A     (Goble) I don't recall when I first became aware of  
2 its existence. I was -- I was told to read it by my colleagues  
3 on the project, and I didn't get around to reading it until  
4 some time late fall of 1987.

5           Q     And when you say, you were told to read it by your  
6 colleagues, you mean attorneys with Mass. AG?

7           A     (Goble) No, I'm sorry, this -- I thought I said my  
8 colleagues working on the Three Mile Island project.

9           Q     So you began reading it in the fall of 1987?

10          A     (Goble) That's correct. Well, late fall, early  
11 winter. November, December, some time around then.

12          Q     You've never been trained in using NUREG-1210 by  
13 members of the NRC staff, have you?

14          A     (Goble) No.

15          Q     Have you ever had conversations with members of the  
16 NRC staff or other persons involved in drafting NUREG-1210  
17 about the contents of that document?

18          A     (Goble) No. At least not substantive conversations.

19          Q     At pages 16 and 17 of your testimony there's a  
20 discussion of NUREG-1210, and you indicated, and I'm going to  
21 quote here: "The strategy is premised on the observation that  
22 for most nuclear reactor sites only a few hundred people live  
23 within the area of two to three miles from the plant, and  
24 therefore that this immediate area can be evacuated on almost  
25 all cases before plume arrival," close quote.



1           Who provided this part of your testimony? Who  
2 drafted that sentence?

3           A     (Goble) I think I drafted it. The -- I think I  
4 drafted it. I worked -- I worked with Ms. Sneider and it's  
5 possible that she altered -- made some suggestion about  
6 altering the phrasing sort of thing.

7           Q     So that statement, then, is based entirely upon your  
8 interpretation of NUREG-1210?

9           A     (Goble) That's correct. And simply from reading it;  
10 it's not based on research as to what the sources in NUREG-  
11 1210, it's based on -- simply on what the document says itself.

12          Q     How long did you spend reading the document?

13          A     (Goble) Well, I've picked it up and put it down  
14 numerous times. I don't think I can really answer that.

15          Q     Do you remember how many volumes are in that  
16 document?

17          A     (Goble) Yes, there are five volumes.

18          Q     Did you read each volume?

19          A     (Goble) Well, I may not have read all of it because  
20 I -- what I have done, that's part of picking it up and putting  
21 it down, is to select things that I was particularly concerned  
22 with. We've used it as a source in doing the planning that  
23 we've been doing on the Three Mile Island project. I've read  
24 most of it.

25          Q     On page 17 of your testimony you indicate, and I'm

1 going to read the sentence again, quote: "NUREG-1210 in fact  
2 specifically addresses exceptions to its generic assumptions  
3 including the type of situation we are faced with like the  
4 Seabrook site, where due to the high density population  
5 evacuation before or shortly after plume release is  
6 impossible." I think I've put the emphasis incorrectly. The  
7 last portion reads: "Where due to the high density  
8 population," perhaps there should be a comma there.

9 A (Goble) Yes.

10 Q "Evacuation before or shortly after plume release is  
11 impossible. NUREG-1210 calls this situation entrapment," close  
12 quote. Now, who provided that sentence or those two sentences  
13 in your testimony?

14 A (Goble) Again, I basically wrote the sentences. It  
15 has gone through a certain editorial process, I can't say that  
16 no one suggested changes in wording.

17 Q Dr. Goble, if I suggest to you that NUREG-1210 is not  
18 premised on nuclear sites having 200 to 300 people within two  
19 to three miles of a site, but rather applies generically even  
20 to high density population sites, would that change your  
21 testimony?

22 A (Goble) No. My testimony is based on my reading of  
23 what's in NUREG-1210, which I think is pretty clear. Now,  
24 perhaps we have this problem of the use of the word "premise."  
25 The -- my use of the word merely refers to statements made

1 in -- statements made in the text that were intended as a basis  
2 for conclusions that were drawn. And the text explicitly  
3 states that because -- well, I don't remember the exact quote,  
4 but because at most sites only a few hundred people live within  
5 two to three miles, therefore, something or another, it's in  
6 that sense that I'm using the term "premise."

7 So -- well, if -- so to answer your question, I'm  
8 sorry. Your question was, if you told me it wasn't premised on  
9 that would that change my testimony. The answer is, first, it  
10 wouldn't change my testimony about the subject at hand which is  
11 not based on, primarily on 1210.

12 Second, I would be surprised because that does not  
13 agree with my recollection of NUREG-1210.

14 I put a copy of volume four in my briefcase, if you  
15 wanted to take a few minutes we could -- I could show you the  
16 phrases in it.

17 Q Well, I don't think that's necessary right now.

18 Apart from the language that appears in NUREG-1210,  
19 you're not aware of any other interpretations of NUREG-1210,  
20 authoritative interpretations which would support your view  
21 that NUREG-1210 would call a high population density site to be  
22 a site characterized by entrapment, is that correct?

23 A (Goble) That's correct.

24 May I ask -- well, go ahead.

25 What's concerning me, and perhaps I'm -- I'm feeling

1 worried about Judge Linenberger's remarks, is that we're  
2 getting confused by vocabulary. And I don't want to -- I don't  
3 want to be put in the position of pushing a particular  
4 definition of entrapment.

5           What I'm concerned about is a situation which I think  
6 NUREG-1210 addresses and it's the situation that I'm  
7 addressing, which is, essential immobility of an exposed  
8 population for many hours. That's the situation we're talking  
9 about.

10           And perhaps the term "entrapment" does not apply to  
11 all such situations at which case. That's all I'm talking  
12 about, is the situation, where you have a population that's  
13 essentially immobile for four to six hours or more.

14           Q     And that's -- those words don't appear in NUREG-1210,  
15 that's a situation which you are now applying NUREG-1210 to?

16           A     (Goble) That's -- I don't think in any of this  
17 testimony I'm applying NUREG-1210. What I'm trying to do, and  
18 the purpose of introducing this was simply to indicate the  
19 relationship between our analysis and NUREG-1210. NUREG-1210  
20 which is a generic documents; talks about situations in which  
21 you can have an immobilized population; and indicates that in  
22 such situations sheltering needs to be considered in -- at  
23 Seabrook, on high beach populations one has an immobilized  
24 population.

25           Q     Doctor, I'd like to discuss, to some extent, the

1 testimony at the bottom of page 17 of your prefiled testimony  
2 where you discuss the possible dose reductions that might be  
3 obtained if effective implementation of sheltering were  
4 possible.

5 Now, I'd like to ask you, first of all, a rather  
6 elementary question I think and that is, do you agree that  
7 ground shine doses accumulate with time, assuming that the  
8 release -- that plume passage continues over an area?

9 A (Goble) Yes.

10 Q Would you also agree that the longer or that as the  
11 time of plume passage is extended, there is a likelihood that  
12 additional hot spots of radiation may be created which had not  
13 existed earlier in the plume's passage?

14 A (Goble) Yes.

15 (Continued on next page.)

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1 Q Now, if we assume that persons in the beach area go  
2 to shelter rather than evacuate, and that the plume  
3 continues -- that the release continues over time while people  
4 are in shelters, wouldn't you agree that it's likely that those  
5 persons run an increased chance of incurring doses from ground  
6 shine the longer they remain in their shelters?

7 Is that confusing?

8 A (Goble) I fear this is one of these unspecified  
9 situations in which I think one needs to do quite a bit of  
10 detailed analysis.

11 JUDGE SMITH: You asked a comparative question, but  
12 you didn't give the situation and circumstance to which you  
13 compare it, nor for that matter has the witness in his answer.  
14 So there we are.

15 THE WITNESS: (Goble) I haven't answered it yet.

16 MR. TURK: We're in a box --

17 JUDGE SMITH: No, I meant the answer that he's being  
18 examined on now.

19 MR. TURK: We're in the box then that Dr. Linenberger  
20 sought to keep us from entering.

21 JUDGE SMITH: Yes.

22 MR. TURK: Let's see if we can both be --

23 JUDGE SMITH: You're talking about degrading shelters  
24 and increased particulates deposit on the ground. Then you  
25 asked him wouldn't there be a danger of greater exposure.

1 Greater than what?

2 MR. TURK: Greater with time. That the risk of  
3 exposure increases with time.

4 JUDGE SMITH: Over time.

5 MR. TURK: Yes.

6 THE WITNESS: (Goble) I don't think that's actually  
7 the question you want to ask.

8 MR. TURK: Well, that's the one I've asked, Doctor.

9 (Laughter.)

10 MR. TURK: Let's try mine first.

11 If there is a problem in your understanding of it,  
12 let me know and I'll see if I can rephrase it.

13 JUDGE SMITH: Answer the question if you can. But if  
14 you don't think the question makes sense, explain why.

15 THE WITNESS: (Goble) Okay. The -- well, if the  
16 question is will there be more radioactivity outside that  
17 somebody might potentially be exposed to later on in the plume  
18 passage, the answer to that is yes.

19 MR. TURK: That's the question I should have asked,  
20 Doctor. Thank you.

21 THE WITNESS: (Goble) Okay.

22 BY MR. TURK:

23 Q And what we've been talking about right now has been  
24 the ground shine.

25 If we also consider cloud shine, would you agree that

1 the longer the person remains in shelter the more likely it is  
2 that his exposure to cloud shine will increase over time while  
3 he's in that shelter?

4 A (Goble) Well, radiation doses are cumulative. So  
5 that -- now I want to specify the conditions that we're talking  
6 about.

7 If we imagine a radioactive cloud that has some  
8 duration, you receive a dose from the cloud that depends on how  
9 much radioactive material is in the cloud at that particular  
10 time. But you accumulate doses if -- if the cloud lasts for a  
11 period of time, you've got a dose from the first part of the  
12 cloud, then a dose from a subsequent part.

13 Now is that what you're addressing, or are you --

14 Q Well, that's part of it.

15 A (Goble) Okay.

16 Q And there's other situations I think you can fairly  
17 anticipate, and that is over time the plume is going to be  
18 moving a little bit. It's not going to be stationary in one  
19 set direction over exactly the same locations on the ground.

20 Would you agree to that?

21 A (Goble) In most cases, yes.

22 Q So that if someone is in a shelter, which at the  
23 beginning of the release may not be close to the cloud, as time  
24 goes on there's a possibility, or the possibility increases  
25 that the cloud will move closer to that person.



1 That's correct, isn't it?

2 A (Goble) That's correct.

3 It's also possible that somebody sitting in a shelter  
4 might have the cloud move away from him, right.

5 Q I understand.

6 But one other point we should touch on and that is,  
7 if you have a situation at Seabrook where there was a low wind  
8 speed, let's say on the order of four miles per hour, do you  
9 believe it's likely that the plume will pass in a predictable,  
10 straight fashion, or only a limited area of the beach?

11 A (Goble) Well, as the wind speed becomes lower,  
12 things become less predictable. Things aren't very -- and four  
13 miles per hour is pretty low in that context.

14 Furthermore, the beach itself makes life not very  
15 predictable as well.

16 Q The beach what?

17 A (Goble) The fact that you're on a beach also  
18 introduces additional uncertainties into what you can expect  
19 the plume will do.

20 Q Why -- let me see if I understand that.

21 Why are you saying that?

22 A (Goble) Because the meteorology on a shoreline is  
23 complicated.

24 That doesn't sound like an answer. That sounds like  
25 a restatement of what I said.

1 Q No, I understand you.

2 All right, I'd like to ask you again, Dr. Goble, to  
3 turn to Page 20 and 21 of your testimony where you list these  
4 nine different factors which you believe affect whether or not  
5 you could have a successful implementation of a sheltering  
6 response for the beach population.

7 And when I look at that list of nine, I see two which  
8 I believe are the most important. I would like to see if you  
9 would agree with me. Those would be Nos. 2 and 3 on your list:  
10 The existence of adequate amounts of sheltering space, and good  
11 shielding factors for that sheltering space.

12 Wouldn't you agree that those are the two critical  
13 elements of any determination of whether or not to go to  
14 shelter?

15 A (Goble) Well, I certainly agree that they are  
16 critical. I think -- I think implementation of a sheltering  
17 strategy requires more than the existence of space and these  
18 other issues address implementation.

19 Q And would you also agree that those two factors are  
20 more important than the other factors listed on Pages 21 and  
21 21?

22 In other words, Doctor, if you don't have shelter to  
23 go to, what's the difference what the rest of the plan for  
24 shelter looks like?

25 A (Goble) That's right.

1           On the other hand if people won't get into the  
2 shelters, what difference does it make how good they are.

3           My instinct as somebody from a technological  
4 background is to start with physical facilities. They are  
5 things I understand, and so my instinct is simply to agree with  
6 you to say Items 2 and 3 are the starting point for an  
7 analysis. But in fact I've done a lot of work with people who  
8 always argue with me that it's not just conditions of machines  
9 and the environment that's important, it's what people will do.  
10 And the fact is the sheltering space, the shielding factors by  
11 themselves are not enough to protect people.

12           So emotionally I want to agree with you.  
13 Intellectually I'm forced to introduce a bit of hesitation. I  
14 think these are critical factors. I think the implementation  
15 which these other issues address is also critical.

16           Q     Now in Item No. 3 you use the phrase "good shielding  
17 factors".

18                     What do you mean by that?

19           A     (Goble) Okay. On whatever page it was that I was  
20 quizzed on before, I gave some representative figures for what  
21 I thought were suitable shielding factors.

22           Q     As I recall, your testimony was on the order of 40 to  
23 50 percent dose savings?

24           A     (Goble) Yeah, of that order.

25           Q     One question I guess I should raise in general. At

1 different places in your testimony -- I believe Dr. Goble can  
2 answer and if anyone else wants to add, please do.

3 At different places in your testimony there are  
4 references to positions which had been expressed by FEMA with  
5 respect to beach shelter. And I just want to confirm that your  
6 citation to FEMA is essentially a reference to the documents  
7 you've read and your understanding of what FEMA has said based  
8 on your reading.

9 A (Goble) That's correct.

10 Q Is that correct?

11 A (Goble) That's correct.

12 Q Is that true for the other members of the panel?

13 A (Eckert) Yes.

14 Q And, Dr. Goble, on Page 35 of your testimony you  
15 estimate the number of persons in the beach area for the New  
16 Hampshire portion of the EPZ to be 70,500. It's at the bottom  
17 of Page 35. And your testimony then goes on to discuss how  
18 many shelter spaces would be required for that number of  
19 people. And I want to see if I understand something.

20 These are not the number of persons who are on the  
21 beach itself. These are persons in the beach area; is that  
22 correct?

23 A (Goble) That's correct.

24 Q And some of those persons would be on the beach,  
25 correct?

1 A (Goble) Yes.

2 Q And others would be in buildings; is that correct?

3 A (Goble) Presumably, yes.

4 Q And still others might be on sidewalks in the  
5 shopping districts; is that correct?

6 A (Goble) That's correct.

7 Q And some might be in their summer residences.

8 A (Goble) Yes.

9 Q And others might be in their permanent residences if  
10 they have them in the beach area; is that correct?

11 A (Goble) It's a relatively small number, and I'm not  
12 certain, and the reason I'm not certain is thinking about the  
13 methodology through which these were calculated when people  
14 were counting parking spaces, what counted as a parking space.

15 But if parking space is included, parking spaces  
16 included driveways of permanent residences, of which there are  
17 only a few, then yes; the answer would be yes.

18 JUDGE HARBOUR: Does it include people in their  
19 automobiles driving around, or in their vehicles?

20 THE WITNESS: (Goble) Well, I would say yes. The  
21 methodology is one of counting parking spaces and multiplying  
22 by vehicle occupancy; a reasonably crude methodology. So that  
23 if you are imagining somebody driving around looking for a  
24 parking place when every parking place was full, then that  
25 would be -- I would say it counts people in vehicles.

1 JUDGE HARBOUR: I wasn't trying to quiz you. It's  
2 your testimony. I just wanted to find out what you meant by  
3 your testimony.

4 THE WITNESS: (Goble) Yes. Well, that's right.  
5 It's an approximate number. Most of the people will  
6 be on or near the beach.

7 BY MR. TURK:

8 Q I want to turn very briefly to the discussion in your  
9 testimony as to the reduction factor that you estimated for  
10 available shelter space, and this turns to Dr. Eckert.

11 At the bottom of Page 42 and the top of Page 43  
12 there's a discussion about a reduction factor that was  
13 estimated for the percentage of floor space covered by stored  
14 objects and equipment. And then your testimony says that you  
15 reduced the square footage by this reduction factor.

16 How did you determine how to estimate this number for  
17 each of the buildings you evaluated?

18 A (Eckert) What we did for each building was to take  
19 an estimate from each person who was in the field with me on  
20 the percentage of floor area that was taken up by objects or  
21 furnaces, and convert that to a percentage, and then take an  
22 agreement on the percentage of that floor space that was taken  
23 up. So it was a visual estimate.

24 Q So you estimated approximate floor space taken up by  
25 objects that were stored there already, and then you simply

1 deducted that estimate from the total square footage of the  
2 shelter.

3 A (Eckert) Yes, that's right.

4 Q And in doing that I take it you assumed that whatever  
5 was placed on the floor already would simply remain in place in  
6 the event the building was to be used as a shelter; is that  
7 correct?

8 A (Eckert) In certain cases, as I've stated here, we  
9 would assume that the best disposition of that material would  
10 be taken by the people moving into the shelter. That is, that  
11 they might -- in the example I have cited here in the Surf  
12 Hotel, there are intrusions of bedrock into the basement. And  
13 we assume there that stored material would be moved where  
14 people could not access very well.

15 So we used that approach in terms of putting together  
16 our estimates.

17 Q Apart from the Surf Hotel basement where you find an  
18 area was not high enough to stand in, did you assume that  
19 objects would be moved over to the side?

20 A (Eckert) We assumed that the objects would perhaps  
21 be piled in a corner or compressed to yield the most floor  
22 space.

23 Q Did your people actually estimate how much  
24 compression they could obtain from moving things over to the  
25 side?

1           A     (Eckert) We didn't actually test the compression of  
2 that. We did take measurements to estimate the percent floor  
3 space in a couple of cases to check ourselves.

4           Q     So it's a pretty rough estimate, isn't it?

5           A     (Eckert) Yes, it's a rough estimate.

6           Q     Did you assume that objects would be placed on top of  
7 each other?

8           A     (Eckert) Yes.

9           Q     How high?

10          A     Well, to the ceiling, or we tried to come up with  
11 some reasonable estimate.

12          Q     Was that a uniform estimate?

13          A     (Eckert) Well, we had the same procedure in mind  
14 when we made our estimates. In other words, we used the same  
15 standard that we'd pile as high as reasonable, and then try to  
16 make an estimate from that.

17          Q     Out of curiosity, on Page 46 of the testimony you  
18 indicate that the police station would "in any case be  
19 unavailable as a shelter in the event that of an emergency."

20                 What do you base that upon?

21          A     (Eckert) That is based on my personal assessment of  
22 the situation with the police station. First of all, it is a  
23 fairly small, crowded building with many rooms, some of which  
24 are unavailable. They are under very tight security there:  
25 the ammunition room, evidence room and so forth.



1                   So I assumed since that would be -- could  
2 potentially be an emergency center of operations, that it would  
3 not be available during the -- you know, during an emergency  
4 for the storage of people that need sheltering.

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5                   (Continued on next page.)  
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1 Q You don't have any direct knowledge as to whether or  
2 not the police officials would permit people in during an  
3 emergency, do you?

4 A (Eckert) I don't have direct knowledge of whether  
5 they would let people in. I know that the security is tight,  
6 and you can't get past the front door without a lot of  
7 explanation as to who you are.

8 Q That's in non-emergency situations.

9 A (Eckert) In a non-emergency situation.

10 There is also some information that the police might  
11 not even be there during an emergency. Just how that enters  
12 in, I'm not sure I want to speculate on at this moment.

13 Q I'd like to explore a little bit again, Dr. Eckert,  
14 on Page 47 where you discuss the differences between the Stone  
15 & Webster estimate of shelter space and your own. And the  
16 second question and answer on that page you talk about what you  
17 term the major reasons for these differences.

18 Have you made any breakdown for each of the reasons  
19 stated in your answer as to how much of the difference is  
20 accounted for by each of those categories?

21 A (Eckert) I haven't broken it down exactly according  
22 to those categories. The information is available. It could  
23 be broken down that way.

24 Q Do you recall which of these different categories  
25 accounted for the most significant difference between your

1 estimate and Stone & Webster's estimate?

2 A (Eckert) I would say that, and this is based on the  
3 first analysis, that it's the inclusion of private space  
4 misidentified as public space in the buildings.

5 Q And what are you referring to there? Are you  
6 referring to whole buildings which --

7 A (Eckert) In some cases whole buildings were  
8 identified. In some cases private living areas. It would be  
9 perhaps a tie, though, with inappropriate wood-framed  
10 structures that were identified as shelters.

11 Remember, according to their definition of what they  
12 were seeking were masonry and basements, and we found a lot of  
13 the places were actually wood frame.

14 MR. TURK: Your Honor, may I have a moment?

15 JUDGE SMITH: Certainly.

16 MR. TURK: I've moved on to Page 2 of the cross-  
17 examination outline. I hope I can eliminate a bit of this  
18 based on Mr. Lewald's prior examination.

19 (Pause.)

20 BY MR. TURK:

21 Q Dr. Eckert, I'd like to move to consideration of  
22 Massachusetts AG's Exhibit 19, which is the survey response you  
23 obtained, and we did have some questioning on that earlier  
24 today.

25 MS. SNEIDER: Excuse me. Your Honor, would this be

1 an appropriate time, I do have those missing pages now to hand  
2 that out?

3 JUDGE SMITH: Well, I'm afraid we have some bad news  
4 for you. We're going to send you back for some more work. We  
5 think that a clean copy of Exhibit 19 with numbers on it should  
6 be prepared and substituted, because it's going to be very  
7 difficult to have proposed findings.

8 So, in cooperation with -- well, I guess it's really  
9 your burden -- that the page numbers should be the same as the  
10 page numbers provided by the Applicant, but they should be  
11 clean, because otherwise proposed findings will be very  
12 difficult.

13 MS. SNEIDER: That's fine, Your Honor.

14 I just thought it might be helpful, at least for the  
15 convenience of the parties now to at least --

16 JUDGE SMITH: Okay, if you want to do it now for the  
17 purpose of this --

18 MS. SNEIDER: And I'll resubmit it as soon as I get  
19 back to Boston an entire new, complete copy with page numbers.

20 JUDGE SMITH: That's good. That's fine.

21 MR. LEWALD: Your Honor, we haven't yet seen it, and  
22 to just introduce it without some pre-filing, short as it may  
23 be, seems to be somewhat of a --

24 JUDGE SMITH: These are just clean sheets.

25 MR. DIGNAN: These are new.

1 MR. LEWALD: These are new?

2 JUDGE SMITH: Oh, we misunderstood that. We were  
3 talking --

4 MR. DIGNAN: We understand these are new sheets that  
5 were not included in the prefiled testimony nor included in the  
6 offer at the time it went in.

7 JUDGE SMITH: These are new additional sheets,  
8 additional survey. We didn't understand that.

9 MS. SNEIDER: The testimony refers to 152 responses.  
10 When Dr. Eckert was going through the attachment with the  
11 numbered pages at lunchtime today, he realized that it didn't  
12 include 152. I don't know how that happened. So during lunch  
13 we went through, found the missing responses, and made copies  
14 of those responses. And I apologize that it happened.

15 JUDGE SMITH: How many new ones do you have?

16 MR. LEWALD: Sixteen, probably.

17 MS. SNEIDER: The 16 responses from establishments  
18 that weren't included. There is also two establishments that  
19 filed two responses.

20 JUDGE SMITH: Okay, well --

21 MS. SNEIDER: So there is 18 pieces of -- 18 survey  
22 responses.

23 JUDGE SMITH: You provide those to the other parties  
24 so they can examine them overnight, because we're not going to  
25 be done with this panel tonight, obviously. And then after all

1 that is done and if there is no particular problems with the  
2 new sheets, then we will have a new Exhibit 19 including them,  
3 and numbered, and everything. Okay.

4 Well, the new will necessarily have to be put at the  
5 end even though they may be out of sequence because of the  
6 cross-examination on the numbers earlier.

7 We also noted that during the examination the copies  
8 with numbers on them provided by counsel for the Applicant did  
9 not have all of the information that the original --

10 MR. LEWALD: That --

11 JUDGE SMITH: -- Exhibit 19. However -- let me  
12 finish -- none of the missing information was the subject of  
13 any cross-examination. So we see no significance to it.

14 MR. DIGNAN: What happened, Your Honor, when the  
15 copying instructions were given, the people were instructed,  
16 for our purposes, to copy the front and those backs where  
17 comments were written.

18 But, in addition, as I understand it, on the backs  
19 were some additional information giving I think the name of the  
20 establishments is what I think it is, and we didn't ask them to  
21 bother copying for that for our purposes.

22 JUDGE LINENBERGER: That's another category of  
23 mismatch in that, for example, checking the bound copy I count  
24 in two pages, including the cover page, and I read some  
25 information at the very bottom here on the front side that is

1 not reproduced at the very bottom of the numbered pages.

2 In other words, not only were the backs of some pages  
3 not copied, but the bottoms of some pages of the front side  
4 were not copied.

5 MR. DIGNAN: Is this the one that's numbered Page 2,  
6 Doctor, and it came up short on the last line --

7 JUDGE LINENBERGER: Yes, sir.

8 MR. DIGNAN: -- of the handwriting?

9 I see that.

10 JUDGE LINENBERGER: And I don't know if it's the only  
11 one. I just happened to spot that one.

12 JUDGE SMITH: But as it turns out, it doesn't matter;  
13 it doesn't matter.

14 So if we just get the new ones in and we have them  
15 numbered, we'll be all right.

16 MR. DIGNAN: I think it was short in the original  
17 copy was what our problem was.

18 JUDGE SMITH: No, he's observing situations where the  
19 original copy contained information that your copy did not.  
20 But in any event, it never was covered, it was not the subject  
21 of cross-examination, so it doesn't matter.

22 MR. TURK: Your Honor, while we are noting procedural  
23 matters, I want to note that I would like to raise a scheduling  
24 issue before we leave today, and I would like to reserve about  
25 five or 10 minutes to talk about the rest of the schedule for

1 the week.

2 JUDGE SMITH: That would be fine. That would be  
3 helpful.

4 MR. TURK: Would this be a good place to break, or do  
5 you want me to continue another 15 minutes?

6 JUDGE SMITH: Well, I think you ought to continue.

7 MR. TURK: All right.

8 JUDGE SMITH: Then we'll take a few minutes about  
9 five o'clock to let the reporter go, and then we'll talk about  
10 scheduling.

11 MR. DIGNAN: Your Honor, I -- part of that scheduling  
12 discussion may spill into something that I would like at least  
13 to have on the record.

14 JUDGE SMITH: Okay.

15 BY MR. TURK:

16 Q Dr. Eckert, I'm going to direct these questions to  
17 you, and would start off by asking you whether the whole point  
18 of this, and some questioning did go on about this earlier by  
19 Mr. Lewald.

20 As I understand the purpose of this survey, it was to  
21 determine whether the respondents were agreeable to having  
22 their businesses, their buildings used as shelter in the event  
23 of an emergency; is that correct?

24 A (Eckert) I would say that the major reason for doing  
25 the survey was to find out the attitudes of those owners, yes.



1 Q Now, if a respondent believed that his building was  
2 not suitable as a shelter, might that not affect his response  
3 to whether or not he'd be willing to have his building used as  
4 a shelter?

5 A (Eckert) I don't know that. I would assume so on a  
6 personal level. But professionally, I really can't comment on  
7 what a person's view of a shelter -- how that might affect how  
8 he would answer the survey.

9 Q But wouldn't you see as a matter of common sense  
10 that if there's a hypothetical person who believed his building  
11 was inappropriate for shelter, that he would indicate, no, I'm  
12 not going to make this available for shelter; isn't that true?

13 A (Eckert) As a matter of common sense, I can see that  
14 happening.

15 Q And nowhere in this survey questionnaire that went  
16 out to the respondents was it indicated what the definition of  
17 shelter was, or the circumstances in which the building might  
18 be used as shelter.

19 That's correct, isn't it?

20 A (Eckert) Well, we indicated in terms of the  
21 circumstances that it would be a radiological emergency. We  
22 did ask in Question 2 about the masonry walls and so forth  
23 which gives a perception of shelter that was delivered by Stone  
24 & Webster.

25 So there is at least, I think, an image in there of

1 shelter.

2 Q And do you believe that the respondents understood  
3 correctly the use to which it had been proposed that their  
4 buildings be used as a shelter?

5 MS. WEISS: Objection. He's asking for pure  
6 speculation. And beyond that, this witness has said many times  
7 that human behavior is not his area of expertise.

8 MR. TURK: I think the question can be answered by  
9 the witness.

10 MS. WEISS: I'm sure that he could answer it. I  
11 don't think that it would be meaningful or probative.

12 JUDGE SMITH: Overruled.

13 You may answer.

14 THE WITNESS: (Eckert) I'm sorry. I can answer the  
15 question. Okay.

16 Probably you'd better restate the question.

17 MR. TURK: To make it easier, let me ask for a  
18 reading, Your Honor.

19 JUDGE SMITH: Would you read it back, please?

20 (Accordingly, the pending question was read  
21 back by the court reporter.)

22 (Continued on next page.)

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1 THE WITNESS: (Eckert) I guess the answer to that  
2 would be, and this is more of a personal opinion, that the  
3 person who read this would get the understanding that their  
4 space had been proposed for use as a sheltering, you know, in a  
5 radiological emergency and that people would be coming to their  
6 place potentially and seeking shelter. And I think that's the  
7 image that we really wanted to convey, was one that people  
8 might come and they might want to shelter during a radiological  
9 release of some kind.

10 I believe that's the image they got; that's as far as  
11 I can go with that.

12 BY MR. TURK:

13 Q That's the extent of the image that's presented in  
14 the survey form, isn't that right?

15 A (Eckert) I believe so, yes.

16 Q Now, if you turn to number page 10 which is the  
17 Voyager Motor Lodge, Hampton Beach, that's the current  
18 numbering system, I recognize that tomorrow we'll have a  
19 different set of numbers, possibly.

20 Do you see that response?

21 A (Eckert) Yes, I do.

22 Q And in answer to Question No. 4 the respondent said,  
23 no, they would not let people into their building in the event  
24 of a radiation release at Seabrook, do you see that?

25 A (Eckert) Yes, I do.

1 Q And then on the back side of that form the respondent  
2 apparently wrote the following sentence, quote: "Our first  
3 responsibility is to our patrons, and we would be hard pressed  
4 to provide shelter for them. We would have no extra space for  
5 any other people," close quote. Did I read that correctly?

6 A (Eckert) Yes, you did.

7 Q Now, as I read that statement I get a feeling that  
8 the respondent didn't really understand the use to which his  
9 building had been proposed to be used as shelter. Do you have  
10 an impression on that?

11 A (Eckert) Well, I really -- I can't comment on the  
12 person's understanding, number one.

13 Number two, a written in response was not counted in  
14 our survey results. We intended and did only use answers to  
15 our questions. And I guess I'd have to read this and think  
16 about it a little bit to see if I really did come to an  
17 understanding of what the person was talking about here.

18 Q Well, we know it's a motel, it's the Voyager Motor  
19 Lodge?

20 A (Eckert) Right.

21 Q We know that the patrons of that motor lodge are  
22 people who use the facility either for -- as a motel room or if  
23 there's a restaurant, possibly in the restaurant; isn't that  
24 right?

25 A (Eckert) Yes.

1 Q We know that those people do have space to use the  
2 facility in normal circumstances; isn't that right?

3 A (Eckert) Yes.

4 Q And we know that as the concept of shelter is being  
5 used, at least from the Stone & Webster study, it's not that  
6 people be housed for long period of time or any extraordinary  
7 efforts be made to take care of people, it's simply that they  
8 stay indoors; isn't that correct?

9 A (Eckert) That's my impression, yes.

10 Q But this respondent doesn't have that same  
11 understanding --

12 MS. WEISS: Objection.

13 BY MR. TURK:

14 Q -- wouldn't you agree?

15 MS. WEISS: Objection. I don't think that that is  
16 apparent at all on the face of that response.

17 MR. TURK: Well, let's see if the witness can answer  
18 it.

19 JUDGE SMITH: Well, if that's the basis of your  
20 objection, your objection is as objectionable as --

21 MS. WEISS: There's no foundation for the question.  
22 The question assumes that that responder had a particular thing  
23 in their head and it's certainly not clear that that's what  
24 they had. In fact, I would say it's the opposite.

25 JUDGE SMITH: I think that, unless you can

1 demonstrate what relevance his interpretation is of this, the  
2 objection should be sustained. It does not preclude you from  
3 arguing that inference in your proposed findings. But unless  
4 you can link it to something that he did and transfer that into  
5 his testimony, the objection should be sustained.

6 MR. TURK: Well, Your Honor, the point of the  
7 testimony is an assertion before you that the business owners  
8 and managers in the beach area will not permit their  
9 buildings --

10 JUDGE SMITH: I understand that.

11 MR. TURK: -- to be used as shelter.. And that -- I  
12 believe that presumes that the respondents to this survey  
13 understood what it was that they're being asked to do.

14 JUDGE SMITH: No question.

15 MR. TURK: And I believe it would be important if the  
16 proponent of the survey and the testimony could give us his  
17 best opinion on whether or not there was a good understanding  
18 by the respondents sufficient to support the assertion of his  
19 testimony.

20 JUDGE SMITH: But when you get him -- no matter how  
21 his answer comes out here, what are you going to do with it?  
22 How does that enhance his testimony or detract from it or  
23 anything else? Unless you can translate that -- unless you can  
24 carry that over to some -- how would it -- would it change his  
25 decision; are you arguing that, would it change his testimony?

1 MR. TURK: I need to ask him that question.

2 MS. SNEIDER: Your Honor, I have another problem with  
3 Mr. Turk's question and that is, Mr. Turk isn't clarifying in  
4 what way the sheltering response that would be recommended  
5 differs from what is proposed here in the survey. So when he's  
6 talking about an understanding of sheltering I don't think  
7 we're clear at all what Mr. Turk is referring to.

8 JUDGE SMITH: Mr. Turk, I --

9 MR. TURK: I didn't understand that last comment from  
10 the Mass. AG's office, Your Honor. I understand the Board's  
11 indication that argument can be made when proposed findings are  
12 filed on this matter.

13 JUDGE SMITH: She's questioning what is the basis of  
14 your assumptions that the nature -- assumptions as to the  
15 nature of the shelter anticipated in your question. Your  
16 question, as I understand it, would have us infer from this  
17 response that the Voyager Motor Lodge is anticipating a long-  
18 term sheltering such as a registered guest might have as  
19 compared to shorter-term sheltering as envisioned elsewhere,  
20 even in their testimony. Is that --

21 MR. TURK: Which they understood previously to be  
22 shelter for a period of several hours.

23 JUDGE SMITH: Right. Now, Ms. Sneider wants to know,  
24 where did you get that several hours?

25 MS. SNEIDER: Well, I would just like to point out

1 that the top of the survey form says, "Sheltering would be for  
2 a short period of time, possibly three to six hours."

3 MS. WEISS: There are many possible interpretations  
4 of that person's response. At least two which I could think of  
5 that are perfectly consistent, and I think are most plausibly  
6 consistent with correct understanding of shelter; and that's  
7 why I object to this question. It assumes some inconsistency  
8 that hasn't been established, and to which this witness  
9 certainly can't testify.

10 JUDGE SMITH: I think it's -- I think it's all  
11 argument from this unless -- you still have not yet  
12 demonstrated how this witness has used this information in his  
13 testimony, in his opinion, and how, if you convince him, that  
14 that information was interpreted incorrectly, it changes  
15 anything as compared to arguing to us.

16 MR. TURK: All right.

17 JUDGE SMITH: Based upon what we know generally about  
18 life in motels.

19 MR. TURK: Let me see if I can ask a clarifying --

20 (Laughter)

21 MR. TURK: Ms. Weiss --

22 JUDGE SMITH: We've become very expert at checking in  
23 with no luggage. We have honest faces, they believe us.

24 (Laughter)

25 MR. TURK: Your Honor, let me see if I can ask a



1 clarifying question.

2 BY MR. TURK:

3 Q Dr. Eckert, I believe you indicated a few minutes ago  
4 that you did not consider the information written on to these  
5 response forms in your survey results, other than the responses  
6 to the questions themselves, the check marks?

7 A (Eckert) That's correct.

8 Q So that, for instance, on this document you didn't  
9 take into consideration the quotation which I read previously  
10 about, "Our first responsibility is to our patrons, et cetera?"

11 A (Eckert) No, because we're using tabulated data from  
12 these answers.

13 Q So, it's correct then that you did not consider this  
14 information?

15 A (Eckert) That's correct. It's available --

16 Q How did you treat the response to this Question No. 4  
17 for the Voyager?

18 A (Eckert) I treated it by entering it as one of many  
19 observations to come up with some overall inferences about the  
20 data set. So it's only one of 152 observations that we used.

21 Q And you accepted the check mark to the -- in the  
22 space marked "no" next to Question No. 4 -- you treated it as a  
23 "no?"

24 A (Eckert) That's correct.

25 Q On the back of this sheet, wouldn't you agree that

1 the Voyager Motel is indicating that they have space to shelter  
2 their own patrons?

3 A (Eckert) They're indicating that on the back of the  
4 sheet.

5 Q So aren't they, in effect, telling you that they will  
6 shelter the people whom they're already providing lodging for?

7 A (Eckert) They may be, but that wasn't part of, you  
8 know, the interpretation of our actual data analysis.

9 Q You didn't consider that statement then in your  
10 results?

11 A (Eckert) That's correct.

12 MR. TURK: Your Honor, I need to consider whether I'm  
13 going to pursue the line of questions about these different  
14 responses in light of the Board's instruction. Since it's --  
15 and that's the instruction concerning this really being  
16 argument.

17 JUDGE SMITH: Well, if you can convince him that he  
18 scored that incorrectly, that's another matter. I'm just  
19 saying -- but unless that is your objective, unless that is  
20 something to --

21 MR. TURK: I think I've taken enough time today  
22 without dragging this out further, I'd like to think about it  
23 tonight and come back --

24 JUDGE SMITH: Well, I think that considering the  
25 quantity of the record and the value of an individual possible

1 change in answer, I hope you'll take that into account.

2 MR. TURK: Yes, I will. I also note that it's 10 to  
3 5:00 and I did want to get into some scheduling discussions.

4 JUDGE SMITH: All right.

5 MR. TURK: So if we could break for the evening.

6 JUDGE SMITH: No, we want the scheduling discussion  
7 on the record.

8 MR. TURK: Yes.

9 MR. DIGNAN: I don't care about the whole scheduling  
10 discussion being on the record, let me tell you what I'd like  
11 on the record, Your Honor, and we can get that out of the way,  
12 maybe, and then -- or at the Board's pleasure.

13 As I understand we left things this morning vis-a-vis  
14 Mr. Thomas. The Attorney General of the Commonwealth was to  
15 inform the Board as to whether or not the Commonwealth wanted a  
16 subpoena to issue for Mr. Thomas. Now, I don't know whether  
17 they made their mind up on that or not.

18 I also heard the Chairman indicated that the Board  
19 had said that it may want Mr. Thomas for its own reasons, which  
20 would, I assumed perhaps incorrectly, meant that the Board  
21 might be thinking if there is no request for a subpoena the  
22 Board may issue one.

23 All I'm asking the Board to do is, let's quickly  
24 settle it. If the Commonwealth doesn't want him, fine. Then  
25 let's find out, does the Board want him. Let's get the

1 subpoena out and get it rolling. Because what I don't want to  
2 have happen is the thing to just delay while people decide  
3 whether or not they're going to subpoena Mr. Thomas.

4 I have no intention of asking for a subpoena for Mr.  
5 Thomas. I don't believe Mr. Flynn does. I don't believe Mr.  
6 Turk does. I don't know what Mr. Brock is thinking about.

7 But why don't -- if anybody wants the subpoena  
8 including the Board let's kick it out tonight and get the ball  
9 rolling otherwise it might intrigue the Board that I was  
10 interested that the Board was not going to definitely work next  
11 Monday, there's a reason for that. It happens to be my  
12 birthday. It is also to the day, the 14th anniversary of the  
13 first time I walked into an AEC hearing room on behalf of  
14 Seabrook. And it is my fervent hope there will be no 15th  
15 anniversary.

16 MS. WEISS: Tom, you've used that --

17 JUDGE SMITH: Or 28th.

18 MS. WEISS: Tom, you've used that same line 13 of  
19 those 14 --

20 MR. DIGNAN: And as a result I would just like to see  
21 that Thomas thing come to some conclusion. If Mr. Thomas is  
22 not going to appear voluntarily or that should be the running  
23 assumption, let's get the subpoena out and let whatever action  
24 any counsel is going to represent is going to take. And that  
25 was my only purpose in requesting that to be moved along rather

1 than to leave it in limbo.

2 JUDGE SMITH: Well, we stated that the party, and I  
3 might say, party and entity with the greatest interest in  
4 having Mr. Thomas appear is the Intervenors. The Board  
5 indicated in our telephone hearing conference that we required  
6 the attendance of quite a few people including Mr. Thomas, but  
7 that was as a package to resolve all pending motions before us,  
8 and what we believe to be a fair approach to it for all  
9 parties.

10 In addition, we did believe that there was the  
11 Board's own direct interest in the quality of the record or let  
12 me say, the integrity of the -- the integrity of the record,  
13 and our responsibility to protect it. That we believed would  
14 require the appearance of additional witnesses other than Mr.  
15 Thomas.

16 We get back to Mr. Thomas because we think that if  
17 that's going to happen it's only fair that he be informed that  
18 these things are happening and be here. So that's how the  
19 Board's interest gets here. The Board does not know whether we  
20 would, on our own, require Mr. Thomas without the urging of the  
21 Intervenors.

22 MR. DIGNAN: Well, could we --

23 JUDGE SMITH: Perhaps not. Probably not.

24 MR. DIGNAN: Could we get a deadline set for when the  
25 Intervenors are to inform you as to whether they want that

1 subpoena.

2 JUDGE SMITH: I can't imagine you don't want Mr.  
3 Thomas. I mean, don't you --

4 MR. OLESKEY: I had said this morning that we wanted  
5 to talk to Mr. Thomas' attorney to see what he was advising Mr.  
6 Thomas. I don't yet know if Mr. Thomas has an attorney.

7 MR. DIGNAN: That's my problem. I have reason to  
8 believe he doesn't yet have an attorney, that he's still  
9 thinking about it, and it may be in his interest to think about  
10 it a long time, for all I know. And I just want a deadline for  
11 when a subpoena is going to be demanded and let's get it out if  
12 we're going to have one rather than two weeks from now Thomas  
13 picks his lawyer, a week after that the Attorney General makes  
14 his decision, and then we get a subpoena, we get an argument  
15 about a subpoena and before you know it we're in the month of  
16 July dealing with Mr. Thomas.

17 MR. OLESKEY: The Intervenors have not -- never put  
18 Mr. Thomas under the gun in this hearing; I'm not going to put  
19 him under the gun now.

20 MR. DIGNAN: Well, I'll put him under the gun.

21 MR. OLESKEY: Yes, I think you're trying to do that,  
22 counsel, very ably.

23 MR. DIGNAN: I want to put him under the gun on at  
24 least getting it settled whether a subpoena is going to be  
25 asked for it on him, and issued, and get the ball rolling.

1 MR. OLESKEY: In addition, Your Honor, I want to see  
2 personally. I don't know how the other Intervenors feel, what  
3 my judgment is when we finish the cross-examination of Mr.  
4 Bores and Mr. Lazarus. There may not be material differences  
5 between the positions when that happens.

6 MR. TURK: Would you like an attorney comment on  
7 that?

8 MS. WEISS: No.

9 MR. OLESKEY: No. Frankly, no.

10 JUDGE SMITH: The subpoena of Mr. Thomas should be  
11 looked at from the point of view of scheduling, not from the  
12 point of view of Mr. Thomas' problems and that type of thing,  
13 but strictly scheduling. Any subpoena we'd issue I'm sure is  
14 not going to hurt anybody's feelings; that's just the way  
15 hearings and trials are run, we try to assure that the schedule  
16 will remain intact and that Mr. Thomas may even prefer a  
17 subpoena so it is clear that he is not appearing here as an  
18 interloper in another matter, I don't know.

19 It is neutral. A subpoena is neutral as far any  
20 indication. All it does is allow us to schedule the hearing.  
21 If you think that there's a substantial possibility that you're  
22 going to want Mr. Thomas' views on these matters, as Mr. Backus  
23 did -- no, I'm sorry, Mr. -- who moved -- Mr. Brock moved to --  
24 do you still have a motion pending to depose Mr. Thomas? That  
25 motion is denied because it is subsumed by our other order that

1 we would have him come to the hearing. So you don't have  
2 anything unless you get Thomas to this hearing.

3 I think you're in a situation where you should have a  
4 subpoena for him, so that he has enough time. So the rules  
5 provide that he has to have a subpoena and enough time to move  
6 to quash. And so that clock should start running.

7 MR. OLESKEY: I'm not prepared to make that decision  
8 tonight, Judge, personally.

9 JUDGE SMITH: Well, would you make it soon. I mean,  
10 tomorrow morning.

11 MR. OLESKEY: Soon as --

12 JUDGE SMITH: I'm missing something, what are the  
13 factors?

14 MR. OLESKEY: I've given you the two factors in my  
15 mind. I can't --

16 JUDGE SMITH: Tell me again.

17 MR. OLESKEY: I said this morning and I say again,  
18 that now that FEMA has agreed to pay for a lawyer for Mr.  
19 Thomas I want to do Mr. Thomas and his lawyer the courtesy of  
20 consulting with him to see what advice the lawyer is going to  
21 give Mr. Thomas about appearance here.

22 Secondly, I want to see what my judgment is when Mr.  
23 Bores and Lazarus are through testifying on cross-examination,  
24 because when the motion was filed for further deposition  
25 testimony it wasn't apparent to me that we'd have the



1 opportunity to interrogate those two gentlemen here, which we  
2 now have.

3 MR. DIGNAN: Could I comment on that, those two  
4 reasons. The first reason is, if Mr. Thomas is going to have a  
5 lawyer who will tell Mr. Oleskey what his advice to his client  
6 is going to be in this matter before he executes it, he better  
7 think about another lawyer. But wholly apart from that, it  
8 seems to me this question of Mr. Bores and Mr. Lazarus is easy,  
9 you put the subpoena out and if at the end of the Bores and  
10 Lazarus they don't want him, you just say to the Court, I don't  
11 wish to execute on the subpoena and he doesn't have to come.

12 I'm interested in one thing, getting a clock running  
13 because --

14 JUDGE SMITH: That's right --

15 MR. DIGNAN: -- as Your Honor has pointed out,  
16 there's a due process provision that is going to take some time  
17 anyway in this subpoena and I want to get that clock moving.

18 JUDGE SMITH: Yes. As far as courtesy to the lawyer  
19 and Mr. Thomas is concerned I appreciate that, that's a good  
20 thing to do. But if you were under the gun to issue a  
21 subpoena, and he's certainly going to understand that for  
22 scheduling purposes we have required you to act, and that you  
23 don't -- for that reason you really don't have much choice if  
24 you're going to be conservative in protecting your litigation  
25 down the road.

1 I mean, I don't really think that you, practically  
2 speaking, have a choice, and certainly nothing to apologize to  
3 Mr. Thomas about, you are under the gun on that.

4 MR. OLESKEY: I'm sure that we will -- the  
5 intervenors will discuss this, this evening, Your Honor, and  
6 we'll take it up --

7 JUDGE SMITH: Well, we'll have a report first order  
8 of business tomorrow morning, please.

9 MR. OLESKEY: Certainly.

10 MR. TURK: Your Honor, the larger scheduling matter  
11 that I wanted to address was to see if I could get some feel  
12 for how much examination there may be of Dr. Bores and Mr.  
13 Lazarus, so that I can then report back to Washington to the  
14 other two NRC staff employees as to when they might expect to  
15 have to appear here. And I'm assuming now that Mr. Thomas will  
16 not be appearing this week, and that the next order of business  
17 after the Bores and Lazarus testimony --

18 JUDGE SMITH: That Thomas will not appear this week?

19 MR. TURK: I'm assuming that they --

20 JUDGE SMITH: I think that's a pretty good  
21 assumption.

22 MR. TURK: -- by Mr. Flynn's and Mr. Oleskey's  
23 remarks. Apparently, a lawyer is going to be retained and  
24 there will be some decision as to whether or not he would  
25 appear.

1 MR. OLESKEY: I'm basing my remarks on what Mr. Flynn  
2 has reported, counsel.

t/26 3 JUDGE SMITH: Mr. Thomas is not going to be here this  
4 week, we know that.

5 MR. TURK: Let me --

6 JUDGE SMITH: At least, if he comes it won't be, you  
7 know, I would imagine it would not be for the purpose of  
8 testifying, although one of the things we had in mind is that  
9 he would be here to hear those people testify or his counsel.

10 So for scheduling purposes --

11 MR. TURK: Yes, sir.

12 JUDGE SMITH: For scheduling purposes I think that we  
13 will not have any testimony from Thomas. We will count on the  
14 cross-examination here and possibly Mr. Thomas may decide to  
15 come here or his counsel may decide to come here and join in  
16 the cross-examination of this panel. I mean of Bores and  
17 Lazarus, I don't know.

18 You know what my guess is, that we'll have no more  
19 witnesses this week.

20 MS. WEISS: Mr. Chairman?

21 JUDGE SMITH: Other than Bores and Lazarus.

22 MS. WEISS: It seems to me that we would get to  
23 Matthews and Congel by Friday.

24 JUDGE SMITH: The answer to that lies right there in  
25 your hands.

1 MS. WEISS: I mean, assuming that you're almost done  
2 with this panel.

3 MR. TURK: I am. Assuming that I drop my examination  
4 on the survey responses.

5 MS. WEISS: And then Mr. Eckert's got his tape to  
6 show, but that would give us the better part of two days for  
7 Bores and Lazarus. I would think Matthews and Congel should be  
8 ready to go by Friday, we're going to be here.

9 MR. TURK: Well, I would like not to have to bring  
10 them for a half day session. If I'm going to have to wait till  
11 Friday, then I might as well wait until next week.

12 JUDGE SMITH: Friday is -- we can make that a full  
13 day session, if you want.

14 MR. TURK: Well, what I'm concerned about, Your  
15 Honor, is that they would have to make two trips, and they do  
16 have other responsibilities. Mr. Matthews --

17 JUDGE SMITH: Well, we're moving a large operation  
18 back and forth every week, too, and that's -- but I don't -- I  
19 guess it's not all that important whether we take Friday off or  
20 not; I guess everybody could use the time. I don't know, it's  
21 up to the parties.

22 MR. GLESKEY: We're ready to examine on Friday, if  
23 that's the Board's pleasure, and assuming that we're at a point  
24 with Bores and Lazarus.

25 JUDGE SMITH: Do you think it would be possible that

1 you get to them earlier? Are they here now, by the way?

2 MR. TURK: No.

3 MS. WEISS: Given that --

4 MR. TURK: I assume you're talking about Congel and  
5 Matthews.

6 JUDGE SMITH: Well, do we have to be on the record  
7 now?

8 MR. DIGNAN: No.

9 JUDGE SMITH: All right, we're adjourned until 9:00  
10 a.m. tomorrow.

11 (Whereupon, at 5:03 p.m. the hearing was adjourned to  
12 reconvene tomorrow morning at 9:00 a.m., Wednesday, May 18,  
13 1988, at the same place.)  
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This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:  
Name: PUBLIC SERVICE COMPANY OF  
NEW HAMPSHIRE, et al.  
Docket Number: 50-443-OL, 50-444-OL  
Place: CONCORD, NEW HAMPSHIRE  
Date: May 17, 1988

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken electronically by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the recording is a true and accurate record of the foregoing proceedings.

*(S/ Kent Andrews)*

(Signature typed): KENT ANDREWS

Official Reporter  
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