

ORIGINAL

# UNITED STATES NUCLEAR REGULATORY COMMISSION

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ATOMIC SAFETY AND LICENSING BOARD PANEL

In the Matter of: )

EVIDENTIARY HEARING )

PUBLIC SERVICE COMP'NY OF )

NEW HAMPSHIRE. et al )

(SEABROOK STATION, UNITS 1 AND 2) )

DOCKET: 50-443-OL  
50-444-OL  
OFFSITE EMERGENCY  
PLANNING

Pages: 11541 through 11780

Place: Concord, New Hampshire

Date: May 18, 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 EVIDENTIARY HEARING )

11 Wednesday,  
12 May 18, 1988

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

16 The above-entitled matter came on for hearing,  
17 pursuant to notice, at 9:03 a.m.

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

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

JUDGE JERRY HARBOUR, MEMBER  
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(No Appearances)

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

(9:03 a.m.)

JUDGE SMITH: Do you have a report, Mr. Oleskey?

MR. OLESKEY: Yes, Your Honor. Under the circumstances, since the Intervenors do want Mr. Thomas and feel his testimony is important, I should think that we would need a subpoena. On that point, however, I do recall looking back at the transcript, particularly of the second Voir Dire of Mr. Thomas on sheltering on, I believe, November 4th, that the Board had said to all the Intervenors, you will have a later time to do the examination, which Mr. Dignan has been allowed to do now twice out of sequence to the sheltering issue.

In that respect, it seems to me it's as much the Board's subpoena as the Intervenors because you promised us, and properly so, that we could complete that line.

JUDGE SMITH: The Board has not doubted for one moment that you have a right to have Mr. Thomas here. That's entirely different than whether Mr. Thomas will appear as a Board witness or not. That, you've just pointed out an additional reason --

MR. OLESKEY: Yes, that's right.

JUDGE SMITH: -- why you can have Mr. Thomas' appearance here. Is this microphone amplified?

(Pause)

JUDGE SMITH: The Board has had an opportunity to

1 reflect on the discussion last night off the -- after we closed  
2 the record on the scheduling of FEMA witnesses. Looking back  
3 over the months preceding us, we simply think that FEMA has  
4 taken a much too relaxed an attitude about its responsibility  
5 to fit into a hearing which requires that these issues be  
6 resolved with some type of reasonable dispatch, not only for  
7 Applicants but for all of the litigants.

8           You've requested huge amounts of time. We recognize  
9 that FEMA is not a regulatory agency, it's an executive agency,  
10 but you haven't cooperated with this Board in allowing us to  
11 discharge our duties under the Administrative Procedure Act to  
12 give a fair and prompt hearing to all the parties.

13           This is particularly true when one realizes that this  
14 is a problem of FEMA's own making. It presented testimony  
15 which was perishable, and it has not taken an aggressive  
16 position in coming forward with a fresh record.

17           We want your people here next week. We'll have the  
18 staff witnesses on Tuesday and you can take Wednesday, Thursday  
19 and Friday in any way that you want to, to bring your people  
20 here. That's not the panel; that's McLaughlin, Peterson and  
21 Krimm.

22           Anything further?

23           MR. FLYNN: Your Honor, I don't know what the  
24 reaction of my management will be --

25           JUDGE SMITH: Well, we're going to issue a subpoena

1 if we have to, but you've messed around with us too much and we  
2 want them here. We want to get this hearing going.

3 MR. FLYNN: That was going to be my request, Your  
4 Honor, I think a subpoena should be issued.

5 JUDGE SMITH: All right.

6 Anything further?

7 MR. DIGNAN: Do I understand, Your Honor, from the  
8 colloquy between you and Mr. Oleskey, then, a subpoena will  
9 issue for Mr. Thomas, also?

10 JUDGE SMITH: Yes. Right.

11 MR. DIGNAN: And the clock will start running on  
12 that, too.

13 JUDGE SMITH: Now, as I understand it, if you want to  
14 consult with him, that's one thing, you can do that soon,  
15 otherwise we'll pick the time and hour and place of their  
16 appearance.

17 MR. FLYNN: I will get back to you later today, Your  
18 Honor.

19 JUDGE SMITH: All right.

20 And this is something that rarely do we ever have to  
21 do at a hearing, rarely.

22 All right. Let me see, we are now ready, I believe,  
23 for New Hampshire. Well, let me see, you still have -- you're  
24 almost done, right?

25 MR. TURK: That's right, Your Honor.



1 JUDGE SMITH: Yes, okay.

2 MR. OLESKEY: Your Honor, I have one procedural  
3 matter, I understand that to have the Sholly-Beyea testimony  
4 put in rejected testimony file, I have to officially offer it  
5 again and have the Board reiterate that it's rejected and then  
6 have it referred to that file; could we do that at this time?

7 JUDGE SMITH: Well, that'd be fine, yes.

8 MR. OLESKEY: May the record reflect that I have made  
9 the offer, the Board has previously ruled that the testimony is  
10 not accepted and I'd like it put in the rejected testimony  
11 file.

12 JUDGE SMITH: All right, give it a exhibit number.

13 MR. OLESKEY: I think it will be exhibit -- Mass. AG  
14 Exhibit Identification 20, Your Honor, unless you're running a  
15 separate number for rejected testimony.

16 JUDGE SMITH: No, it follows sequence. All right.  
17 Massachusetts Exhibit 20 for identification is rejected for the  
18 reasons stated on May 10th.

19 (The document referred to was  
20 marked for identification as  
21 Mass. AG Exhibit 20, and was  
22 rejected.)

23 JUDGE SMITH: Mr. Turk.

24 MR. TURK: Thank you, Your Honor.

25

1 Whereupon,

2 ROBERT GOBLE

3 ROBERT ECKERT

4 VICTOR EVDOKIMOFF

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

7 RESUME CROSS-EXAMINATION

8 BY MR. TURK:

9 Q Dr. Eckert, let me see if my understanding of what  
10 you did with the survey is correct. Essentially what you did  
11 was, you mailed out these surveys to the respondents; correct?

12 A (Eckert) Correct.

13 Q And you made no attempt to try to incorporate the  
14 written comments on those forms into your tabulation of  
15 results?

16 A (Eckert) That's correct.

17 Q And you also made no attempt to screen the survey  
18 responses to determine if there may be some inherent bias in  
19 the respondents' answer; is that correct?

20 A (Eckert) That's correct.

21 Q And you also made no attempt to screen those survey  
22 responses to determine whether the respondents' understanding  
23 of the concept of shelter as it was being discussed with  
24 respect to their buildings was correct; is that right?

25 A (Eckert) That's right.

1 Q And it's also correct that you made no attempt to  
2 determine whether the respondents understood that their  
3 buildings would be used only in the summer season?

4 A (Eckert) That's correct.

5 Q And you also made no attempt to determine whether the  
6 respondents' answer to Question No. 4 may have been motivated  
7 by some factor other than their pure willingness to allow their  
8 building to be used as a shelter; is that correct?

9 A (Eckert) That's correct.

10 Q And you also made no attempt to determine whether  
11 your survey form itself may have prompted a negative response  
12 to Question No. 4; is that correct?

13 A (Eckert) It's correct in the sense that we didn't,  
14 you know, we tried to set it up in a nonbiased way, but we  
15 don't really have a way to check for that in the data.

16 Q And you also recognize that a possibility exists that  
17 a respondent to the survey may well have had other factors  
18 motivating his response other than his pure willingness to  
19 allow his building to be used as shelter; is that correct?

20 A (Eckert) I would say that my personal opinion is  
21 that, that's probably correct.

22 Q And have you made any attempt, now that you have  
23 received the survey responses, to go through those written  
24 comments of the respondents to see whether there has been some  
25 negative feeling towards the plant or New Hampshire Yankee

1 which may have motivated the response to Question 4?

2 A (Eckert) No, we've not done that; we just presented  
3 the material as information which could be perused by the  
4 panel, the hearing.

5 Q And that means --

6 A (Eckert) I mean this group.

7 Q -- pure mathematical tabulation of the responses?

8 A (Eckert) The only thing we dealt with was a  
9 tabulation of the four questions.

10 Q Doctor, in some cross-examination by Mr. Lewald there  
11 is discussion about your testimony on page 56, in the middle of  
12 the page there is discussion of the, purported tenfold increase  
13 in the square footage of a particular building?

14 A (Eckert) That's correct.

15 Q And as I recall Mr. Lewald asked you whether your  
16 notes with respect to that particular building contained or  
17 showed a total square footage for the building in question?

18 A (Eckert) That's correct.

19 Q And my recollection is, you answered, no, that your  
20 notes didn't show a total square footage?

21 A (Eckert) That's right, because there's no tax  
22 assessor's card for that building.

23 Q Do your notes reflect any determination by your  
24 people as to the approximate square footage for portions or all  
25 of that building?

1           A     (Eckert) We didn't measure that one because there  
2 wasn't a tax assessor's card, and because the -- in other  
3 words, we didn't have that data, and the facility had a gate  
4 around it and it was locked, and it was not part of our  
5 original 26 where we really were taking the measurements; this  
6 was part of our checking of the 1987 survey.

7           Q     Do your notes reflect any numbers for square footage  
8 whatsoever with respect to that building?

9           A     (Eckert) No, because we didn't measure that.  
10 However, if I can comment on the shelter survey form that Stone  
11 & Webster submitted where we talked about paced be ore and Mr.  
12 Lewald suggested that pacing might be equivalent to three feet.  
13 Our major complaint is that the multiplication error occurred,  
14 and this was submitted as square foot or possibly square yards.

15                     And if you take this square yard and bring it back to  
16 square feet you get a motel that's bigger than the Hampton  
17 Beach Casino; and my point is that this is just inaccurate and  
18 inappropriate for submission in any kind of a survey which is  
19 out trying to determine how much shelter space there might be  
20 in the sea coast area.

21           Q     Can you refresh my recollection as to the name of  
22 that particular building?

23           A     (Eckert) It's called the Seaside Motel.

24           Q     And did you personally go to that location?

25           A     (Eckert) I did not personally, but my field

1 supervisor did.

2 Q Are you representing here today that you believe that  
3 building contains only 700 -- excuse me, 780 square feet?

4 A (Eckert) No, all I'm saying is that that  
5 multiplication as it appeared on the shelter survey form was an  
6 incorrect multiplication.

7 Q Do you believe that the building is substantially  
8 larger than 780 square feet?

9 A (Eckert) Yes, I do.

10 Q Do you have an estimate as to how large the building  
11 might be?

12 A (Eckert) I don't have an estimate. The only  
13 information I have is, on the size is that submitted, 15,600  
14 square feet or yards submitted by Stone & Webster, because we  
15 did not measure the building and there's no tax assessor's form  
16 available for it.

17 Q All right.

18 Mr. EVDOKIMOFF, I'd like to turn to your testimony  
19 for a moment. In questioning on the 16th you indicated that  
20 you went to the various realtors in the area of the Seabrook  
21 and Hampton Beach -- beach locations, at a certain time in the  
22 summer of 1987; do you recall your testimony?

23 A (EVDOKIMOFF) Yes. What -- Mr. Turk, what page are  
24 you referring to in the testimony?

25 Q Well, I don't have a transcript page I can give you

1 readily, but I ask if you can recall your testimony along those  
2 lines?

3 A (Evdokimoff) Yes, I do.

4 Q Yes?

5 A (Evdokimoff) Yes, I do.

6 Q And as I recall, you indicated that you visited those  
7 realtors during the week before Labor Day?

8 A (Evdokimoff) Right, which was --

9 Q In the summer of 1987?

10 A (Evdokimoff) -- September -- I started September  
11 1st, which I believe was a Tuesday.

12 Q It is correct then that the realtors you met with  
13 provided you with the keys to those locations which were still  
14 available as of that date?

15 A (Evdokimoff) Yes.

16 Q For the Labor Day weekend?

17 A (Evdokimoff) Yes.

18 Q Would you agree that other buildings or substantially  
19 large numbers of other buildings had already been rented out  
20 for that Labor Day week?

21 A (Evdokimoff) What we were talking about was, that  
22 particular time what was available. They may well have been  
23 available for the next week, but they could well have been  
24 unoccupied at the moment. I don't really know what percent,  
25 you know, because we gave an indefinite time period; we said

1 Labor Day or perhaps a week after, it was indefinite.

2 So, you know, it wasn't firm, as we were thinking of  
3 coming up the Labor Day weekend of the week after, is what I  
4 said.

5 Q And as I recall your discussions with the realtors  
6 included representation by you that you were interested in  
7 renting a place for yourself and your family; is that correct?

8 A (Evdokimoff) We were considering, and we just wanted  
9 to get some idea of prices, yes.

10 Q Would you agree that many of the better buildings  
11 would have already been rented out and were not among the ones  
12 that were shown to you or made available to you for that --

13 MS. WEISS: Objection.

14 BY MR. TURK:

15 Q -- interviewing?

16 MS. WEISS: Pure speculation, no foundation.

17 MR. TURK: I think the witness can answer based on  
18 his own knowledge.

19 JUDGE SMITH: Overruled.

20 THE WITNESS: (Evdokimoff) It's tough to say, Mr.  
21 Turk, because I have no idea of what -- what the average price  
22 or what most people would be paying for a room, you know, for a  
23 cottage in the area.

24 But I feel that what I saw was representative even  
25 though it was a small sample. As I said, I saw extremes. I



1 saw very run down cottages. And on the other hand I saw what I  
2 would consider fairly nice cottages or apartments to stay in.

3 So I would dispute that. I think it, even though it  
4 was a small sample I saw both extremes, and I tried to convey  
5 to the realtors that, you know, I was -- I wanted to look at a  
6 fairly wide range in terms of how much we were willing to pay.

7 BY MR. TURK:

8 Q You have rented buildings for yourself and your  
9 family in the past, haven't you?

10 A (Evdokimoff) Yes.

11 Q And have you gone through the same sort of a  
12 procedure in those instances where you look at several  
13 locations before choosing the one that you wish to rent?

14 A (Evdokimoff) Yes.

15 Q And in doing that, in your own experience, would you  
16 have -- have you accepted just any location to rent or would  
17 you have tried to find the best location within your price  
18 range?

19 A (Evdokimoff) We would try to find the best location  
20 within our price range.

21 Q And you would agree that that's probably true for the  
22 people who rent in the Seabrook beach area for the summer or  
23 for portions of the summer; isn't that right?

24 A (Evdokimoff) I would assume that's correct, yes.

25 Q You're not representing to the Board and the rest of

1 the parties in this case that the sampling you saw was  
2 representative in a quantitative sense of the buildings  
3 available?

4 A (Evdokimoff) I think -- I think it's -- in a  
5 quantitative sense, yes, but it is a small sample. So if you  
6 were going to look at statistical inferences from a sma.  
7 sample I think with that caveat, I think it is a quantitative  
8 estimate.

9 Again I feel, you know, I looked at almost 500  
10 cottages, and based on what I looked at and what I was able to  
11 go into, I think it was fairly representative even though it  
12 was a small number.

13 (Continued on next page.)

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1 MR. TURK: Your Honor, in light of the Board's  
2 instruction or comment yesterday that the verbal comments  
3 written on the survey response forms are a matter of argument  
4 and perhaps could be explored that way through proposed  
5 findings, I'm not going to pursue that line today, and that  
6 does conclude my examination.

7 JUDGE LINENBERGER: Dr. Goble, at Pages 46 and 47  
8 there is a discussion of the results of your analysis with  
9 respect to the survey returns, and a discussion of the  
10 statistical basis for making a comparison between the Salmon  
11 Falls results and the Stone & Webster study.

12 And on Page 46, the next to the last sentence of the  
13 first answer appearing there, there is the sentence that says,  
14 "In situations where randomization has been performed, as is  
15 the case here," et cetera.

16 Now I should like to understand what you mean in that  
17 context by the performance of randomization.

18 THE WITNESS: (Eckert) Well, what we did was to, in  
19 our initial survey of the shelter using the first Stone &  
20 Webster report, we randomly chose 23 establishments to make our  
21 comparison with. And this was done by assigning random numbers  
22 from a computer algorithm to each establishment. And then we  
23 went through and chose -- we assigned all the numbers to all of  
24 the establishments, and then we chose 20 percent of those in a  
25 way that was proportional to the size of each town, the number

1 of establishments in each town, because we wanted to get a  
2 sense, duplicate that size distribution, which is a reverse J-  
3 shape distribution, in our subsample.

4 And by doing the randomization, we assured that there  
5 was no relationship between any one shelter that we chose and  
6 the next shelter that we chose, so that it would be entirely  
7 randomly chosen that way to remove any bias such as we didn't  
8 choose all the green ones or the red ones.

9 That's the procedure we followed.

10 JUDGE LINENBERGER: Complete change of subject here,  
11 and I go into this with some hesitation, but I recognize that  
12 you gentlemen make no claim to possessing an expertise in  
13 behavioral factors. I should like to inquire, and I ask this  
14 of the panel, anyone may respond who chooses to, if you recall  
15 a discussion sometime ago, not in this session, or if you are  
16 aware of a discussion sometime ago that the Board had with Dr.  
17 Mileti in which it was suggested, and I believe I may have  
18 suggested it, that responses to the Stone & Webster survey  
19 results with respect to the question of an owner/operator of  
20 some structure allowing the public to come in for purposes of  
21 sheltering may have been emotionally biased by virtue of a --  
22 well, I'll use my own words here for want of better ones -- a  
23 feeling of animosity between the proprietor and the fact of the  
24 existence of an as yet not operating nuclear plant.

25 In that discussion with Dr. Mileti, he offered his

1 opinion that indeed that could be the case. He offered his  
2 observation that historically he has seen some basis for  
3 believing that people predictively may say one thing, and when  
4 a crisis arises, let's say out altruistic motivations, do the  
5 opposite.

6 Now this is a longwinded introduction to a question  
7 I'm going to have trouble phrasing to you, phrasing to you in a  
8 way that won't incur the wrath of certain counsel present. But  
9 has it occurred to you that indeed the results of your survey  
10 and the Stone & Webster may indeed suffer in the sense of not  
11 being an accurate prediction of what might happen if a nuclear  
12 event should occur should that plant go into operation?

13 THE WITNESS: (Goble) I've grabbed the mike, but if  
14 you want to add something.

15 Let me say, first, I don't recall the discussion  
16 between you and Professor Miletic, though I am quite familiar  
17 with his views on the subject.

18 Secondly, I want to disclaim expertise in this  
19 subject, but you ask did it occur to us. And, furthermore, I  
20 think we're trying to take -- in this testimony we're trying to  
21 present an integrated picture so that my judgment of the  
22 importance of these results, whatever level of expertise I  
23 bring to bear on it, I think is of interest to you.

24 And what I think is that, one, yes, it did occur to  
25 us, and I think it introduces what I consider an unknown factor

1 in interpreting the results. I don't think you can go directly  
2 from those statements to a prediction for the number of people  
3 who will or will not make their facilities available.

4 I think that the best discussion of how to weigh this  
5 evidence is, and I think some of this, at least we tried to put  
6 this into our testimony, is given by Professor Renn who is also  
7 familiar with Professor Mileti's view, and his judgment is  
8 that, yes, people's responses are affected by animosity, but  
9 this can also affect people's behavior in the following sense.  
10 No: the people -- I think he agrees with Professor Mileti that  
11 in an emergency situation people try to be altruistic, they try  
12 to do the best they can to help other people.

13 On the other hand, people also within their minds try  
14 to contain some consistency of understanding of a situation and  
15 belief, and that if people had available a rationale which  
16 might have grown out of that animosity, or might have grown out  
17 of other information they had before, a rationale for believing  
18 that it was not the altruistic thing to do. It was not the  
19 good thing to do to admit people to a shelter, that they might  
20 then not do it, and that the results of the survey provides  
21 some information about the potential, about that potential, and  
22 it's something that one has to worry about in making plans.

23 It's not that you know exactly what will happen. It's  
24 another one of the planning problems for putting into place a  
25 sheltering strategy at the site.

1 THE WITNESS: (Evdokimoff) Judge Linenberger, I have  
2 a few comments, and I, as a teacher and professor and as a  
3 radiation safety officer, I've talked with perhaps thousands of  
4 people about radioactivity and trying to communicate to them  
5 the hazards. And it's my feeling that the perception of risks  
6 of radiation is a very big component in dealing with people.

7 Again, I'm not a sociologist, but I have a lot of  
8 experience talking to people about radiation, both lay people.  
9 For example, in our medical center we have construction workers  
10 and union people who are very concerned about their health. So  
11 I have some sense of that.

12 I would like to share with you, if I could, just a  
13 few observations I had when I talked to some of the renters,  
14 and I talked to the police. I asked a couple of questions, and  
15 I didn't put this in my testimony because I don't feel I'm a  
16 person with a background in social psychology. But I would  
17 just like to add this if I might.

18 When I asked the renters what they thought about  
19 these shelters -- I'm sorry, what they thought about these  
20 cottages as shelters to protect from a radiation accident, two  
21 of the people said they are not lead-lined. And I said, oh.  
22 Yes. Well, everybody knows that you need lead to shield these  
23 cottages from radiation. So I add that.

24 So, granted, two people are not -- two people are not  
25 a valid sample, but you asked the question and I thought I

1 would just give you my comments.

2 I also talked with the fire and police departments,  
3 and they were -- I asked them if the sirens went off at  
4 Seabrook, what do you think your fire people would do. And the  
5 deputy chief said to me, I think half of them would go home and  
6 try to get their families out of here, because there's no way  
7 that we're going to stay here if there's an accident.

8 And I talked with the police, and I sort of got the  
9 same opinion.

10 So, granted, these are just observations. They  
11 weren't put in my testimony, but it at least is a sense that I  
12 had in talking to some of the people, and some of the realtors  
13 that perhaps people would not be cooperating. And, granted,  
14 people might well do something entirely different in an  
15 emergency, but I think radiation, in my two years of  
16 experience, scares people. And we have a nuclear medicine  
17 department in University Hospital, and we have to talk to our  
18 nurses about radiation because we have radioactive patients on  
19 the floor and so forth, and it's difficult.

20 But I think that that's very difficult think to deal  
21 with in people's minds -- the perception of risk of  
22 radioactivity. In fact, our health physics society has  
23 undertaken, you know, trying to work with better methods to  
24 communicate to the public on educational efforts, you know, to  
25 inform people about what the real risks are from radioactivity.



1           So I don't know if I've answered your question, but  
2 I just want to communicate some of my -- what was communicated  
3 to me and perhaps they will be helpful; perhaps they won't.

4           MR. DIGNAN: Your Honor, with all deference and  
5 understand it was in response to the Board's question, I move  
6 to strike the remarks of Dr. Evdokimoff on the grounds that,  
7 (a) not responsive to the question; (b) not competent to give  
8 part of it; and (c) a lot of it was rank hearsay, particularly  
9 that about that. I move for the record.

10           I understand the Board may want to overrule it  
11 because it was in response to a Board question, but I have got  
12 to move that go out, and ask for a ruling.

13           MS. WEISS: Mr. Chairman, we would simply observe  
14 that when Dr. Linenberger asked the question he knew full well  
15 that the witnesses would be offering their views as experts in  
16 their fields and not as experts in human behavior, and they  
17 gave answers that were as responsive as they could be for the  
18 Board, and we would object to striking it.

19           JUDGE SMITH: You're speaking for what Judge  
20 Linenberger knew?

21           MS. WEISS: Yes, that Judge Linenberger observed that  
22 they were not experts and asked for their points of view.

23           MR. TURK: Your Honor, if I may be heard for a  
24 moment.

25           I recall Judge Linenberger's question to relate to

1 the surveys that were conducted by this group, I believe Dr.  
2 Eckert as I understand it, and Stone & Webster; nothing else.  
3 So I don't see that the answer of Mr. Evdokimoff was responsive  
4 to the question.

5 (Board confer.)

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6 (Continued on next page.)  
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1 JUDGE SMITH: Your objection's overruled.

2 JUDGE LINENBERGER: Permit me to --

3 MR. DIGNAN: Your Honor -- excuse me, Your Honor, I  
4 apologize.

5 Just so the record can be absolutely clear, as I said  
6 I'm making this for appellate purposes. It was not an  
7 objection. It was a motion to strike, and I assume the ruling  
8 is my motion is denied.

9 JUDGE SMITH: Yes, and I guess --

10 (Board confer)

11 JUDGE SMITH: The motion to strike is overruled.

12 MR. DIGNAN: Thank you, Your Honor.

13 JUDGE LINENBERGER: Complete change of subject,  
14 but -- oh, perhaps, Mr. Dignan, I should comment to you here  
15 that I personally find the comments of the panel, with respect  
16 to the question I asked, helpful. And I, in complete candor,  
17 cannot predict to what extent I will use them at  
18 decisionwriting time, but I can say that I do not categorically  
19 reject them. So I do find them helpful.

20 MR. DIGNAN: I assumed that was the case, Your Honor,  
21 and that is why I made the motion. I assume that the Board had  
22 a reason for the question and took the answers, and I just  
23 wanted to be sure I was protected up the line if certain uses  
24 are made of it; let's put it that way.

25 JUDGE LINENBERGER: Certainly.

1 JUDGE SMITH: The Board has not -- this is Judge  
2 Linenberger's position. The Board has not arrived at a  
3 consensus itself.

4 MR. DIGNAN: I understand. I hope the Board  
5 appreciates that that motion is made with great respect for the  
6 Judge asking the question, and with no intention to differ with  
7 the panel, but it's simply to protect a legal position.

8 JUDGE LINENBERGER: A question was asked, I believe  
9 yesterday, of one of you gentlemen. My memory is not good  
10 enough to say which one answered it. But the question had to  
11 do with what you gentlemen think might be an appropriate  
12 average dose reduction factor to assign to the structures in  
13 the beach area that were the subject of consideration here.

14 And if I heard correctly the question and the answer,  
15 the question asked for an average. The answer came back 0.9.  
16 Forgive me for nitpicking that, but if that is indeed an  
17 average, then on the consideration that all structures are not  
18 created equal, I would be inclined to assume that some  
19 structures had a value of more than 0.9, and if 0.9 were the  
20 average, then I would infer that some structures had a value  
21 higher than 0.9; lower dose reduction factor, higher number.

22 If they had a value higher than 0.9, I am led to,  
23 naively perhaps, to a contradiction here that if any building  
24 had a value greater than 0.9, it should not have been  
25 considered under the ground rules, as I understood them, of the

1 survey.

2 So I'm asking for clarification here of that answer  
3 of 0.9 as an average DRF for the survey structures.

4 THE WITNESS: (Goble) Yes, I gave the answer, and so  
5 let me try to clarify it.

6 There was a certain amount of discussion of what was  
7 being averaged over and as I understood the question when Mr.  
8 Turk finally rephrased it, it was averaging over all of the  
9 buildings in the beach area.

10 Now if one looks at all the buildings in the beach  
11 area, a very large -- a very substantial fraction of them are  
12 cottages which have -- which are very light structures, and in  
13 fact one would expect dose reduction factors somewhat less --  
14 less/more -- I always have this problem -- greater than .9,  
15 less protection.

16 And it also includes large buildings and areas in  
17 large buildings which also offer very little shielding where  
18 there are substantial expanses of windows and so forth.

19 So we're not talking about the buildings within a  
20 particular survey at that time. We're talking about buildings  
21 all -- the buildings all over the beach.

22 And, furthermore, I was doing some rounding in all  
23 this. I said the range of .9. It's customary and I think  
24 appropriate in this business to give dose reduction factors  
25 only to a single digit, because there are many unknowns in all

1 of this. So to say .9, if you came out with an average of .85,  
2 you might still call that the range .9.

3 So we were talking about all the buildings, not the  
4 buildings on a specific survey such as either of the Stone &  
5 Webster surveys.

6 THE WITNESS: (Evdokimoff) Judge Linenberger, Mr.  
7 Lewald handed me yesterday a document from Burson and Profio,  
8 and in it were -- and I had not read it. And he was asking me  
9 a question about 0.9. In it -- the assumptions that led Burson  
10 and Profio, which were referenced by Aldrich are in it, and it  
11 says that in order -- a construction, in order to receive 0.9  
12 from cloud shine, would require, and I'm quoting from Page 32.  
13 It says, "For attenuation, consider a wood-frame house with a  
14 roof," and the xeroxing is a little difficult to read, and I  
15 can't read the next word, "consisting of a quarter-inch of wood  
16 or asphalt shingles, three-quarters of an inch of sheathing and  
17 rafters, and a half an inch of gypsum board, for an average  
18 mean density of 3.2 grams per cubic centimeter. Hence, A  
19 equals 0.9. Assume the walls are wood sheathing, siding studs  
20 and gypsum board equivalent to a mean of 3.4 grams per cubic  
21 centimeter, and A equals 0.9 approximately."

22 Now, in eight of the 12 houses that I looked at,  
23 there was no gypsum board, and gypsum board has a density close  
24 to concrete, about 2.3 grams per cubic centimeter.

25 So, you know, in answer to your question, many of the

1 cottages, or at least it would be eight out of 12 that I saw  
2 was just wood and there was no gypsum board in there. So if  
3 you were to use the assumptions of Burson and Profio, they  
4 would be much higher than .9; probably approaching 1, because  
5 it's probably no more than -- let's assume that there is in  
6 there the three-quarters of an inch of wood, but there is no  
7 gypsum board. And gypsum, according to Burson and Profio, is  
8 what cuts the attenuation down because of the density.

9 So because many of them are unwinterized and don't  
10 have the paneling. So these in fact could be greater than .9,  
11 approaching 1. So for cloud shine, there would be less  
12 protection, and that would also affect the ground shine which  
13 would -- because there's less mass and there's less density,  
14 because wood as you know has a density of maybe .7 or .9 grams  
15 per cubic centimeter. So, therefore, you know, there is going  
16 to be less attenuation, so the exposures would be higher than  
17 .9 and .4.

18 JUDGE LINENBERGER: Just so the record is not  
19 confused, did you by any chance mean that the gypsum board  
20 would, compared with wood, increase the attenuation, not reduce  
21 the attenuation?

22 THE WITNESS: (Evdokimoff) It would increase the  
23 attenuation because it's denser.

24 JUDGE LINE/BERGER: All right.

25 I have noted a frequent distinction being made

1 between cloud shine and ground shine, and in certain instances  
2 that involve geometrical considerations that distinction  
3 certainly can be important.

4 A distinction has also been made on occasion by you  
5 gentlemen with respect to the nature of the plume and whether  
6 it contained -- whether it does or does not contain  
7 particulates that could settle out and contaminate services at  
8 ground level or structures or whatever.

9 Leaving geometrical considerations out of it, I  
10 should like to inquire what is your basis for, under certain  
11 conditions, seeming to exclude the possibility, and I may be  
12 wrong here, this is a perception on my part that you have  
13 excluded under certain conditions the possibility that a plant  
14 release will contain particulates, and look at it solely as a  
15 strictly gaseous release, perhaps only noble gases.

16 I'm a little confused about that, and also confused  
17 about the possibility that in reality a plume may not be  
18 exclusively gaseous in nature; may very well contribute to  
19 fallout and ground or building contamination, or people  
20 contamination, whatever, and therefore this, in turn, leads to  
21 confusion on my part about the application of .9 frequently  
22 just to cloud shine.

23 I confess that what I have said does not comprise a  
24 clean question to you, but I think it's an area I would like to  
25 hear you talk about if you would, please.



1 THE WITNESS: (Goble) Okay, let me try to be  
2 responsive, and you should interrupt if I'm not making it  
3 clear, please.

4 The accidents which I think are of most concern for  
5 emergency planning are ones involving substantial releases of  
6 radioactivity relatively early on in the sequence of events.  
7 These accidents, exactly as you suggest, are very likely to  
8 contain, besides noble gases, they will contain iodines  
9 probably, though there's controversy, but particularly in the  
10 case of an early accident this is very important, they will  
11 contain iodine in gaseous form, and they may well contain  
12 particulates which are radioactive as well.

13 And I'll come back to those accidents in just a  
14 minute. I think they are the most important thing. I would  
15 like to dispose of the other accidents I talked about second.

16 It is possible, though of less, I think, concern, and  
17 Mr. Turk was trying to get me to think of conditions beyond --  
18 or Mr. Flynn, excuse me -- Mr. Flynn was trying to get me to  
19 think of conditions beyond controlled venting when this might  
20 happen.

21 It's possible that you might have a release that  
22 essentially comprised noble gases. And that was the second  
23 kind of accident that I did mention in my testimony, and I fear  
24 that it was confusing to get it mixed up with the other  
25 accidents.

1           The amount of iodine is very important, if I can now  
2 come back to it. In specifying that I want to say -- I don't  
3 want to say just gaseous, because a gaseous release that  
4 contains a substantial amount of iodine poses different  
5 problems. The iodine in gaseous form will also attach itself  
6 to surfaces and could produce ground shine as well.

7           So the release of iodine in substantial quantities  
8 poses a problem that's akin to the problem with particulates,  
9 and there's considerable debate about how much iodine is likely  
10 to be released, and the default values -- there was testimony  
11 by the Applicant that people were surprised at amounts of  
12 iodine that might be released.

13           The evidence, well, there is considerable debate. In  
14 my opinion, in an early accident it's quite likely that  
15 substantial amounts of iodine will be released, and that will  
16 pose a problem both for ground shine and inhalation.

17           So the second type of accident I was talking about  
18 was really just noble gases. The serious early accident is  
19 likely to result in the release of, besides noble gases, iodine  
20 and various kinds of radioactive particles.

21           JUDGE LINENBERGER: Okay, fine.

22           Now to go to the second part of my confusion, the  
23 famous 0.9 that we've talked so much about. Does that somehow  
24 take account of both ground and airborne radioactivity, or only  
25 airborne, or what does it encompass?

1 THE WITNESS: (Goble) All right. The famous .9 that  
2 we're talking about is for cloud shine, and that's for airborne  
3 radioactivity extending through the dimensions of the plume of  
4 radioactivity.

5 Now it's an interesting historical question, why  
6 does -- which I think is at the basis of your question -- why  
7 is everybody focusing on the .9 for cloud shielding when we've  
8 had at least questions and perhaps testimony implying that  
9 ground shine is a very important component of the dose, perhaps  
10 the most important component of the dose. So why do we keep  
11 talking about the cloud shine shielding factors.

12 Now my interpretation of this is that this is a  
13 historical curiosity that has to do with the kinds of dose  
14 projections that people were using back when they were talking  
15 about design base accidents that were situations much more like  
16 the second type of accident I was talking about; a release  
17 primarily of noble gases.

18 And where people were trying to do dose projections  
19 where an issue was might you or might you not exceed protective  
20 action guidelines rather than how big is the risk. And for the  
21 case of noble gases, your concern is cloud shine. And  
22 historically people have just used those kinds of dose  
23 projection methods in things like, for example, the decision  
24 chart that's in the New Hampshire plans.

25 Implicitly assumes in lots of ways that you are only

1 dealing with cloud shine, because the duration of exposure is  
2 only the duration -- in it is only the duration of the passage  
3 of the plume that uses a cloud shine shielding factor. That  
4 decision chart and the format used goes back to dose  
5 projections that were designed really for design-based  
6 accidents rather than the more serious accidents that are the  
7 primary concern of emergency planning.

8 JUDGE LINENBERGER: Thank you, sir. I believe that's  
9 all I have.

10 JUDGE HARBOUR: My first questions go to Dr. Eckert.  
11 In your answers yesterday you were referring to the  
12 survey instrument, and this was in response to questions that  
13 had to do with whether Dr. Luloff had examined these  
14 beforehand.

15 Just exactly when you responded that he had looked at  
16 the survey instrument, what did you mean when you say survey  
17 instrument?

18 THE WITNESS: (Eckert) I meant the questionnaire  
19 that we sent to the owners.

20 JUDGE HARBOUR: Was that just the four questions, or  
21 did it include all of the introductory material?

22 THE WITNESS: (Eckert) It included the introductory  
23 material, the entire page as you see it.

24 JUDGE HARBOUR: All right. In your mailings to --  
25 the four waves of mailings, was there anything sent with these

1 questionnaires other than just the single page?

2 THE WITNESS: (Eckert) It was just the single page.

3 JUDGE HARBOUR: And in going through the percent of  
4 responses yesterday, I have to confess that I got confused.  
5 The numbers -- I'll read to you the numbers which I got on  
6 percent responses that I thought that I understood here.

7 And on the first wave August 26, 27 percent response.  
8 The second wave September 9th, two versions of it, 48 percent  
9 response. The third wave October 9th, 15 percent response.  
10 The fourth wave November 3rd, 10 percent response. And if  
11 that's correct, that comes to 100 percent.

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

13 JUDGE HARBOUR: And that's 100 percent of all the  
14 responses that you received; is that correct?

15 THE WITNESS: (Eckert) Yes, and I can clarify a  
16 little bit.

17 Yesterday, I was talking -- I got the number 233 in  
18 my mind, and that's how many we mailed out.

19 JUDGE HARBOUR: Yes.

20 THE WITNESS: (Eckert) Our responses are 152, which  
21 is 72 percent of that. So the percentages are exactly the  
22 same. We wound up getting 152 returns.

23 JUDGE HARBOUR: So those would be then -- those  
24 percentages would be based on the population of 152.

25 THE WITNESS: (Eckert) That's correct.

1 JUDGE HARBOUR: All right. Thank you.

2 How many multiple responses are included? That is,  
3 the same person or different persons within the same  
4 establishment responding.

5 THE WITNESS: (Eckert) They were screened out, to my  
6 knowledge. We may have had like a father and son respond from  
7 the same establishment.

8 JUDGE HARBOUR: Now that's on any one mailing you're  
9 talking about; is that correct?

10 THE WITNESS: (Eckert) Yes.

11 JUDGE HARBOUR: But what about on successive  
12 mailings?

13 THE WITNESS: (Eckert) Any repeats, you know, if  
14 there was a repeated -- a cross in the mail and the person  
15 answered the survey twice, we caught that and only used I think  
16 the first response that came back.

17 JUDGE HARBOUR: But those multiple responses are  
18 included in your Attachment 12.

19 THE WITNESS: (Eckert) I believe so. I don't recall  
20 exactly.

21 JUDGE HARBOUR: I noted --

22 THE WITNESS: (Eckert) Yes, I think a number of  
23 those --

24 JUDGE HARBOUR: -- some of those which is why I'm  
25 asking the question.

1 Do you know how many -- well, does the existence of  
2 multiple responses affect your 152 total response that  
3 you're --

4 THE WITNESS: (Eckert) No, it doesn't.

5 JUDGE HARBOUR: All right, thank you.

6 THE WITNESS: (Eckert) That's accurate.

7 JUDGE HARBOUR: Who is Salmon Falls Research  
8 Associates, Incorporated? For example, when was it  
9 incorporated?

10 THE WITNESS: (Eckert) It was incorporated in June  
11 of '87. And it's a S chapter corporation.

12 JUDGE HARBOUR: And I understand that you are a vice  
13 president?

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

15 JUDGE HARBOUR: Are the other principals also at the  
16 university?

17 THE WITNESS: (Eckert) Yes, we're all at the  
18 university over there.

19 JUDGE HARBOUR: How were you contacted by the  
20 Massachusetts Attorney General's office, or did you contact the  
21 Massachusetts Attorney General's office in order to perform  
22 this work that you've performed?

23 THE WITNESS: (Eckert) The contact for Salmon Falls  
24 to get involved came through Dr. Luloff who is the president of  
25 the firm, and he was doing former work. He was doing work

1 earlier for the Attorney General, and they asked him to do some  
2 work, and he turned around and asked the rest of us if we were  
3 interested in doing it.

4 JUDGE HARBOUR: But was he doing work earlier as a  
5 private person?

6 THE WITNESS: (Eckert) Yes.

7 JUDGE HARBOUR: Or was he doing it under Salmon  
8 Falls?

9 THE WITNESS: (Eckert) He was not doing it under  
10 Salmon Falls. He was a private person.

11 JUDGE HARBOUR: So for performing the work for the  
12 Massachusetts Attorney General's office, does Salmon Falls have  
13 a contract?

14 THE WITNESS: (Eckert) That's correct.

15 JUDGE HARBOUR: And how many other contracts do you  
16 have?

17 THE WITNESS: (Eckert) You mean other than Salmon  
18 Falls?

19 JUDGE HARBOUR: No, how many other contracts does  
20 Salmon Falls have other than with the Massachusetts Attorney  
21 General's office?

22 THE WITNESS: (Eckert) It has approximately four  
23 right now.

24 JUDGE HARBOUR: Four.

25 THE WITNESS: (Eckert) Yes.



1 JUDGE HARBOUR: Now, the other two witnesses here, do  
2 you belong to the Salmon Falls Research Associates?

3 THE WITNESS: (Evdokimoff) No, I don't; no.

4 THE WITNESS: (Goble) No.

5 JUDGE HARBOUR: All right. So how many principals  
6 are there again? I'm sorry.

7 THE WITNESS: (Eckert) There are six principals.

8 JUDGE HARBOUR: Six.

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1 JUDGE HARBOUR: Did you make any effort to ascertain  
2 if the respondents to the survey believed that by negative  
3 responses that they could deny access and have an influence on  
4 the hearings and licensing of the powerplant?

5 THE WITNESS: (Eckert) No, we didn't make that sort  
6 of effort. We tried to stick fairly closely to mailing the  
7 questionnaires out and we would just base our responses on  
8 that. We -- there really isn't -- well, we didn't ask, for  
9 example, possibly in the next survey, if we did it, we might  
10 ask something about the attitudes of the person toward the  
11 plant. I don't know how we'd phrase that question, but that  
12 would be a way to answer that, and we didn't do that in this  
13 survey.

14 JUDGE HARBOUR: I know that there was media and  
15 newspaper coverage of, either your survey or other persons'  
16 surveys, but I don't recall what the timing of this coverage  
17 was. When or, first of all, do you recall newspaper coverage  
18 associated with your survey?

19 THE WITNESS: (Eckert) I don't. Our survey was  
20 almost all back in, say, before the C-10 people started  
21 working. So I suspect the C-10 activities may have been the  
22 one that got the most publicity.

23 JUDGE HARBOUR: And that was in October of 1987, I  
24 believe?

25 THE WITNESS: (Eckert) I think so, yes. Because

1 we -- we had more than 75 percent of our response in on the  
2 October 9th -- before the October 9th one when they were out  
3 beginning to do their work.

4 JUDGE HARBOUR: Well, were you ever contacted by the  
5 media to --

6 THE WITNESS: (Eckert) No, I was never contacted and  
7 Salmon Falls was never contacted.

8 JUDGE HARBOUR: That's all I have, thank you.

9 JUDGE SMITH: Other Intervenors?

10 Ms. Weiss.

11 CROSS-EXAMINATION

12 BY MS. WEISS:

13 Q Good morning, gentlemen.

14 Just briefly with respect to the work that you're  
15 doing, Dr. Goble, for the TMI Public Health Fund, isn't it true  
16 that all the projects funded by the TMI Public Health Fund are  
17 approved by the Court after opportunity and comment to object  
18 by the utility company?

19 MR. FLYNN: Objection, the question is leading. The  
20 panel -- even though Ms. Weiss is not associated with the  
21 Attorney General's Office, nevertheless, this should not be  
22 considered cross-examination, this should be considered in the  
23 nature of redirect.

24 JUDGE SMITH: Ms. Weiss, do you want to be heard?  
25 The question is clearly leading. On the other hand it does not

1 strongly suggest an answer contrary to what she could develop  
2 on belabored cross-examination.

3 MS. WEISS: It's, you know, it's true we could start  
4 at this late date saying that we're not really cross-examining,  
5 but we'll move a heck of a lot faster if we could get through  
6 it as we have in the past.

7 JUDGE SMITH: Yes. Do you have any trouble with the  
8 compound fact of the question? Overruled.

9 THE WITNESS: (Goble) Yes.

10 BY MS. WEISS:

11 Q With respect to the discussion yesterday that the  
12 definition of entrapment in NUREG-1210, why is an entrapment  
13 situation an exception in NUREG-1210 to the assumption that  
14 close-in evacuation is always a preferable option?

15 MR. TURK: Your Honor, I'm going to have to raise an  
16 objection at this point. The witness's testimony yesterday  
17 indicated that he had no knowledge of NUREG-1210 beyond what he  
18 read in the document. The question asks for something that  
19 really would be speculative on the part of the witness as to  
20 matters he has absolutely no knowledge of.

21 MS. WEISS: That's --

22 MR. TURK: And the document, in terms of what NUREG-  
23 1210 says, the document is available for all of us to cite and  
24 leave argument --

25 MS. WEISS: Well, that's not true. It's not in

1 evidence, and it hasn't been judicially noticed, but you asked  
2 this witness a half an hours worth of questions on his  
3 interpretation of NUREG-1210. It's true, he didn't consult  
4 with the authors, but he read the five volumes, and he  
5 understands it; and his testimony frequently cites it and I'm  
6 entitled to follow up on the line which you clearly opened.  
7 You asked 15 minutes specifically on entrapment.

8 MR. TURK: Your Honor, the whole point of my  
9 examination and the result was that the witness conceded that  
10 he had no knowledge of it apart from his own reading and  
11 interpretation of it.

12 The question asked by Ms. Weiss is, why does NUREG-  
13 1210 say something?

14 JUDGE SMITH: Why what?

15 MR. TURK: Why does NUREG-1210 contain certain  
16 statements? The question, why, I don't think is capable of  
17 being answered by this witness.

18 JUDGE SMITH: Let's find out. Maybe he does, maybe  
19 it explains it within the document that he read.

20 MR. TURK: Well, within that context I wouldn't  
21 object. If the question was, what does NUREG-1210 say about  
22 something, I have no objection.

23 JUDGE SMITH: Overruled. But you can explore the  
24 basis for his answer, of course.

25 MR. TURK: Of course, noting Ms. Weiss' concern about

1 moving the hearing along, I just as soon we didn't have to open  
2 an other door that requires closing later.

3 MS. WEISS: You can answer, Dr. Goble.

4 MR. LEWALD: May I have the question, I think I'm  
5 lost at this point.

6 JUDGE SMITH: Could you restate, rather than going  
7 back to rereading, could you state it again.

8 MS. WEISS: Yes.

9 BY MS. WEISS:

10 Q With reference to the discussion of entrapment  
11 yesterday the question is, why is an entrapment situation an  
12 exception to the general principle that close-in evacuation is  
13 a preferable option?

14 MR. TURK: I have to note my objection again, Your  
15 Honor. If the question was, what does the document state, I  
16 would have not objection. If the question is, why, again,  
17 that's something the witness has no knowledge of and it's pure  
18 speculation.

19 MS. WEISS: That's the same objection you just  
20 overruled.

21 JUDGE SMITH: You may answer.

22 THE WITNESS: (Goble) Okay. I'm a little bit  
23 baffled by this legal discussion. It seems --

24 JUDGE SMITH: Well, do you understand the question?

25 THE WITNESS: (Goble) Well, I think I understand the

1 question. Let me ask you, perhaps --

2 JUDGE SMITH: Don't ask me.

3 THE WITNESS: (Goble) -- about my answer.

4 JUDGE SMITH: Ask the -- you state your understanding  
5 of the question --

6 THE WITNESS: (Goble) Okay.

7 JUDGE SMITH: -- and see if Ms. Weiss agrees with  
8 you.

9 THE WITNESS: (Goble) I felt, especially the second  
10 time the question was asked, that I was being asked to give my  
11 judgment as to why entrapment -- a situation of entrapment  
12 makes an exception to a general rule which is enunciated in  
13 NUREG-1210 that evacuation is a preferred strategy in close.

14 So I felt that -- that's how I interpreted the  
15 question, and I thought it was a question about my judgment as  
16 an emergency planner.

17 JUDGE SMITH: Okay.

18 THE WITNESS: (Goble) And that I could answer it  
19 that way.

20 JUDGE SMITH: Do you agree with the premise of the  
21 question? Do you agree that the --

22 THE WITNESS: (Goble) I agree that NUREG-1210 does  
23 generally recommend early evacuation and notes that there are  
24 certain exceptions, and that's in the written document. And  
25 that's the basis; that's my belief.

1 JUDGE SMITH: That's the basis for your belief?

2 THE WITNESS: (Goble) That's right, just what I've  
3 read.

4 JUDGE SMITH: In NUREG-1210?

5 THE WITNESS: (Goble) That's right.

6 JUDGE SMITH: You have not formed your own  
7 independent view of whether the premise is correct or rather a  
8 rule as you state -- as you explained. You stated that NUREG-  
9 1210 sets out a general rule which I would infer you recognize  
10 as being a general rule independent of 1210, now I'm not sure?

11 THE WITNESS: (Goble) Yes. I concur -- if NUREG-  
12 1210 is to be interpreted as I interpreted it from my reading  
13 of it as saying, this is a general rule which has exceptions, I  
14 concur with it as a general rule with exceptions, and it's my  
15 belief that situations involving entrapment represent  
16 entrapment defined as immobility of the population for several  
17 hours constitutes an exception.

18 JUDGE SMITH: And what is the reasoning behind that?

19 THE WITNESS: (Goble) And the reasoning behind  
20 that --

21 JUDGE SMITH: And you can identify the reasoning that  
22 you have taken from 1210 or the reasoning that you understand  
23 from other source, but identify it?

24 THE WITNESS: (Goble) All right. The reasoning  
25 behind -- this is a rule -- this is a matter in which I formed



1 my own judgment before reading 1210, all right. And it  
2 involves an analysis of accident conditions, potential accident  
3 conditions and modeling consequences under a range of  
4 conditions. And it's clear that the severity of consequences  
5 in a serious accident is very sensitive to evacuation times.

6 That's -- I mean, we can model -- we model it  
7 quantitatively to try to get a feeling for what are the  
8 parameters involved, but it's also common sense. If you  
9 believe people exposed for several hours in a radioactive area  
10 it's common sense that that's potentially a serious problem.

11 So that's the basis for it -- the basis as far as my  
12 own studies of potential accident consequences and how you  
13 might attempt to mitigate them.

14 Now, I then read NUREG-1210 and its judgments in the  
15 main with some differences, agree with the judgments of my  
16 colleagues who have been working on this problem. And since  
17 it's a document that has been cited in these proceedings, and  
18 since it's also -- I consider it an important document.

19 JUDGE SMITH: Well, I think your --

20 THE WITNESS: (Goble) I was relating my answers to  
21 that document. It was not the basis for my judgment.

22 JUDGE SMITH: All right.

23 THE WITNESS: (Goble) Now, based on that -- I think  
24 I've answered your question, but I'm not sure, have it? Your  
25 question was -- I mean, how much detail do you want about why

1 it's a bad idea to leave people exposed for hours in a  
2 radioactive area?

3 BY MS. WEISS:

4 Q Well, my interest is just to make sure that you've  
5 been able to give a full answer to the question of why  
6 entrapment is an exception to the general principle of  
7 early -- of evacuation of the close-in areas?

8 A (Goble) All right. So the -- and the only thing  
9 then, perhaps, I haven't said is that, in most of the  
10 situations -- in most situations as described in NUREG-1210  
11 it's anticipated that you can evacuate people quite quickly.  
12 That there's only hundreds of people in close and it's assumed  
13 there aren't major impediments to evacuation, so you can get  
14 people out quite quickly.

15 So, we're comparing, really, quite short time periods  
16 with longer time periods.

17 Q Now, just with reference to your understanding of  
18 NUREG-1210, is it your understanding that that document defines  
19 entrapment as limited to situations where the impediment to  
20 evacuation is a physical impediment or caused by bad weather?

21 A (Goble) That's not my understanding. This is the --  
22 the document lists -- gives a list of possible things that can  
23 result in entrapment, and it includes in the list a high  
24 population density.

25 Q Dr. Evdokimoff, or if -- I guess I prematurely give

1 you your doctorate.

2 A (Evdokimoff) Okay. Whichever you like, Mr.

3 Q Mr. Evdokimoff, you didn't seek out the worse  
4 cottages to inspect from the inside, did you?

5 A (Evdokimoff) No; as I said, as I told Mr. Lewald  
6 yesterday I was concerned about bias, if I had gone into a  
7 realtor and said that I'm representing the Attorney General's  
8 Office, you know, it could go one way or the other. You know,  
9 I think there could be a greater bias in there.

10 So I just went in with the, you know, saying that my  
11 family and I were looking for a place to stay in a week or two  
12 and, you know, just what do you have and, you know, try to get  
13 a price range, after I found out what the price was.

14 Q Insofar as the degree to which these 12 cottages  
15 which you inspected from the inside may or may not have been  
16 representative of the larger number of cottages on the beach,  
17 you have physically viewed from the outside close to 500 of  
18 those cottages; is that correct?

19 A (Evdokimoff) Probably more, Ms. Weiss, because I  
20 formerly, in my survey, talked about 459, but, you know, I  
21 probably at one time or another covered every single street and  
22 didn't include it in the survey. So I would guess that  
23 probably add another 100 to 200 that I didn't take credit for.

24 Q And can you say then from your personal observation  
25 of these -- the large number of cottages from the outside

1 whether or not the 12 that you viewed from the inside are  
2 fairly representative of the range of cottages in the beach  
3 area?

4 A (Evdokimoff) Yes, I think that's true.

5 Q I guess it's Dr. Eckert who was asked the question  
6 about whether you endeavored to find out whether auxiliary  
7 apartments attached to commercial establishments on the beach  
8 were actually occupied by owners and managers, that's correct,  
9 that was the question directed towards you?

10 A (Eckert) Yes, I think so.

11 Q Is it your understanding of Stone & Webster second  
12 study that the definition of publicly accessible shelter space  
13 was intended to include such auxiliary apartments?

14 A (Eckert) That's not my understanding of it.

15 Q Regardless of who might occupy them?

16 A (Eckert) Yes. They were intending to avoid private  
17 space.

18 Q With regard to the Seaside Motel, which we had a  
19 great deal of questioning about, this was not one of the 23  
20 selected by your random sample which you visited and measured;  
21 is that correct?

22 A (Eckert) That is correct.

23 Q And you do not make a representation in your  
24 testimony that the Seaside Motel's dimensions are 780 square  
25 feet, do you?

1           A     (Eckert) No, that referred only to the  
2 multiplication error.

3           Q     Your testimony simply points out that there's an  
4 obvious multiplication error on the face of the Stone & Webster  
5 sheet; is that correct?

6           A     (Eckert) That's correct.

7           Q     Can you look at page 58 of your testimony as  
8 originally filed and before amended?

9           A     (Eckert) Yes, I have that.

10          Q     In the eighth line down from the top, in fact the end  
11 of that first full paragraph on page 58.

12          A     (Eckert) Right.

13          Q     It reads in the original version, quote: "This  
14 figure minus the documented erroneous square footage leaves  
15 710,866 square feet and minus the speculated square footage  
16 errors leaves 571,800 square feet;" is that correct?

17          A     (Eckert) That is correct.

18          Q     And then is it correct that in your corrected version  
19 you removed the last part of the sentence which subtracts the  
20 speculated square footage errors?

21          A     (Eckert) Right.

22          Q     Could you explain to me why you did that, please?

23               MR. LEWALD: I'm going to object to this, Your Honor.  
24 He has stricken from his testimony, his filed testimony certain  
25 paragraphs and certain -- and elsewhere certain lines. It is

1 no longer part of his testimony, and now what Ms. Weiss is  
2 doing is introducing it now as part of his testimony and I'm  
3 going to object to that. I think it's putting this in by the  
4 back door. And if the witness has not presented it as his  
5 direct testimony it shouldn't come in via the back door in  
6 cross-examination.

7 JUDGE SMITH: The copy doesn't --

8 MS. WEISS: I remember Mr. Lewald went into a long  
9 line of questioning with Mr. Evdokimoff about why he had  
10 excised certain material from his final draft. He accused him  
11 of disguising addresses, if I recall correctly.

12 MR. TURK: I don't recall accusation, Ms. Weiss.

13 JUDGE SMITH: What -- specifically, what testimony  
14 was stricken?

15 MR. LEWALD: What was stricken is what Ms. Weiss is  
16 referring to is the first full paragraph on page 58.

17 JUDGE SMITH: My copy doesn't show that.

18 MS. WEISS: It wasn't --

19 MR. LEWALD: Well, the last phrase and minus  
20 speculated square footage errors leaves 571,800 square feet.  
21 Now, the speculated square foot errors is dealt with in a  
22 preceding paragraph in earlier testimony which is not part of  
23 this testimony.

24 JUDGE SMITH: Well, it wasn't stricken, it was --

25 MS. WEISS: Withdrawn.

1 JUDGE SMITH: -- withdrawn.

2 MR. LEWALD: It's withdrawn, yes.

3 JUDGE SMITH: Yes. All right.

4 MR. LEWALD: Well, stricken with honor. I didn't  
5 mean to imply that the Board had stricken it.

6 JUDGE SMITH: No, I thought that the witness on the  
7 stand had disavowed it. I inferred from your remarks. I  
8 recall now. But the fact is, you did examine him on those  
9 matters.

10 MR. LEWALD: It's not part of the testimony.

11 JUDGE SMITH: I beg your pardon?

12 MR. LEWALD: I say, that phrase is not part of his  
13 current testimony.

14 JUDGE SMITH: That's correct. However, you did  
15 examine him on that subject matter.

16 MR. LEWALD: I did not.

17 MS. WEISS: Examined him on --

18 MR. LEWALD: I examined him on his -- on two matters  
19 where he had withdrawn the numbers of the places that he looked  
20 at on Ashworth -- I believe it's Ashworth Street. He had  
21 removed that 136 because the Attorney General apparently told  
22 him there wasn't any 136.

23 And I also examined him on why there was a difference  
24 of 10 cottages that were representative in his earlier  
25 testimony which now appeared as 12 cottages. And these were

1 the areas that I inquired about.

2 JUDGE SMITH: Let's take our morning break. Do you  
3 have anything further to say on it?

4 MR. BACKUS: Your Honor, before you take a break, if  
5 I could, back on May 10th when we filed our motion to recusal  
6 you said on the record that after we got the transcript we  
7 could renew the motion in writing, and I'd like to do that at  
8 this time and hand copies of the motion to the Board and the  
9 parties.

10 JUDGE SMITH: Okay. We'll take a 15 minute break.  
11 Are you going to file it with the secretary?

12 MR. BACKUS: The service list has been served.

13 JUDGE SMITH: Okay.

14 (Continued on next page.)  
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T31

1 MS. MITCHELL: Your Honor, just for the record, the  
2 Town of Kensington joins Mr. Backus's renewed motion.

3 JUDGE SMITH: Okay. First, we want to take up Mr.  
4 Dignan's motion to strike the answer to Judge Linenberger's  
5 question to the panel, and we have revisited that motion. We  
6 have had a discussion during the break involving the legal  
7 aspects of it and the evidentiary aspects of it.

8 And the Board is going to grant the motion and strike  
9 the answer -- the portion of the answer -- could you read the  
10 answer back? No, no, just the answer?

11 (Whereupon, the court reporter attempted to  
12 play back the answer to one of Judge Linenberger's  
13 questions.)

14 JUDGE SMITH: Does anybody have any doubts in their  
15 mind what the answer was that was subject to the motion?

16 It was the comments about the interviews with the  
17 police department and the fire department, and their response  
18 that they would not stay on the job. Those are the comments,  
19 it will be clear in the transcript, which the Board will  
20 strike, and report that we will not consider those answers in  
21 our decision.

22 Now going to the motion for recusal. We had a chance  
23 to not really read it but just get the essence of it during the  
24 break, and I do have a couple of questions on it.

25 One is, I understand that the motion is limited to

1 the testimony of Mr. Thomas, and if necessary, the other FEMA  
2 witnesses. You are not making a motion that we step down from  
3 the case.

4 MR. BACKUS: That's right.

5 JUDGE SMITH: Okay. And what did you have in mind  
6 about the mechanism of the other witnesses?

7 MR. BACKUS: Well, it seems to us that the issue that  
8 we are about to get into, which has been controversial  
9 throughout this proceeding, is the issue of the FEMA position,  
10 and that is what, it seems to us, requires the Board's decision  
11 on whether it can sit on the testimony that bears on that issue  
12 which is why I wanted to raise the issue, first of all, at the  
13 earliest possible time which I think is my obligation.

14 JUDGE SMITH: Yeah.

15 MR. BACKUS: And, secondly, before we started with  
16 the testimony of the NRC witnesses.

17 The motion is particularly directed toward this  
18 Board's evaluation of the testimony of Mr. Thomas. But insofar  
19 as that is intertwined or involves the same subject matter that  
20 may be involved, apparently will be involved with the NRC  
21 witnesses from Region 1 that we're about to hear, we think the  
22 Board should take that into consideration.

23 JUDGE SMITH: Well, maybe I misunderstand.

24 Is this a motion to the Board to exercise its own  
25 discretion and step down, or is this a motion that, if granted

1 and on appeal, would require the Board to step down?

2 MR. BACKUS: I think, in the first instance, it's a  
3 motion directed to the discretion of the Board. I have not  
4 had, as I said, time to do the legal research, to review the  
5 cases.

6 JUDGE SMITH: All right.

7 MR. BACKUS: We are not waiving our right to claim  
8 that there is a legal requirement that the Board step down. We  
9 just don't have the legal --

10 JUDGE SMITH: In this motion.

11 MR. BACKUS: Right.

12 JUDGE SMITH: All right. In any event, I wish to  
13 have representation from the lawyers involved, in addition to  
14 you, that they believe that there is a solid legal basis for  
15 this motion.

16 And, Ms. Weiss, I'll call upon you. I know that you  
17 are familiar with the law of recusal in NRC and the court  
18 cases, and I want your representation that you believe that  
19 this motion -- if you are joining in it, in fact -- that this  
20 motion has the necessary and appropriate legal support.

21 MS. WEISS: I do join the motion, Your Honor, and I  
22 do believe that it has merit.

23 JUDGE SMITH: Have you taken into account the  
24 position that the Union of Concerned Scientists represented by  
25 you have taken in previous motions?

1 I'm talking about legal support.

2 Do you believe that this motion has legal support,  
3 case precedents?

4 MS. WEISS: I'm not sure whether it has NRC case  
5 precedents, Your Honor. I have not researched it.

6 JUDGE SMITH: Do you think it has United States  
7 Court, Federal Court precedents?

8 MS. WEISS: I haven't done legal research for this  
9 motion, Your Honor. I do believe, however, that the record  
10 suggests prejudgment.

11 JUDGE SMITH: Do you support this motion without  
12 reservation?

13 Do you believe that it has legal support?

14 MS. WEISS: Yes, Your Honor.

15 JUDGE SMITH: Now I want the Massachusetts Attorney  
16 General's representation on it, too.

17 MR. OLESKEY: I'll make the same representation, Your  
18 Honor.

19 MR. BROCK: Your Honor, for the Town of Hampton, we  
20 would also make that representation.

21 MR. BACKUS: Your Honor, may I just note for the  
22 record that at the direction of the Board I did prepare a  
23 handwritten affidavit. I apologize for it being handwritten,  
24 but I have distributed it to your desk up there -- I trust you  
25 have it -- and to the parties.

1 JUDGE SMITH: And you have -- Mr. Brock is here.

2 MR. BACKUS: Mr. Brock has taken my acknowledgement.

3 I would also just note for the record that this  
4 motion has been served on the service list in a form that had a  
5 few typos in it, so it will be reserved, but it has gone out on  
6 the service list.

7 JUDGE SMITH: Ms. Weiss, you may proceed.

8 MS. WEISS: There's a pending objection.

9 JUDGE SMITH: Gentlemen, I want to revisit this.

10 I want you to really think, you lawyers, your  
11 position that you believe that federal precedent supports this  
12 motion. I have put you on the spot. I have asked you, you have  
13 had an opportunity to consider, I want your considered  
14 representation after you've had a chance to think about it and  
15 reflect.

16 MS. WEISS: Yes, Your Honor.

17 JUDGE SMITH: All right, proceed.

18 MS. WEISS: There's a --

19 MR. DIGNAN: Your Honor, could I get into this to  
20 this extent?

21 Could I respectfully suggest to my brothers and  
22 sisters of the bar that they review carefully the decision of  
23 Houston Lighting & Power Company, South Texas Project, Units 1  
24 and 2, CLI-82-9, 15 NRC 1363 (1982)?

25 MR. TURK: Your Honor, for further reference, I'd

1 mention some other cases not referenced by Mr. Dignan. And one  
2 would be Metropolitan Edison Company, Three Mile Island, Unit  
3 1, CLI-85-5, 21 NRC 566 (1985). Also, a Limerick decision. I  
4 believe that's ALAB-819, 22 NRC 681 (1985).

5 In addition, there's I believe two Seabrook  
6 decisions, ALAB-749, 18 NRC 1195 (1983); and ALAB-748, 18 NRC  
7 1313 (1983).

8 JUDGE SMITH: Ms. Weiss.

9 MS. WEISS: There's a pending question and a pending  
10 objection.

11 MR. DIGNAN: Excuse me. And to add to that, Your  
12 Honor, the federal doctrine which permits a federal trial  
13 judge, a trial judge charging a jury to comment on the  
14 evidence.

15 JUDGE SMITH: Mr. Dignan, I believe that the law is  
16 so clear on this point. That is why I was moved to ask the  
17 lawyers if they really in good conscious think that there is  
18 legal support for it. I think that we're entitled to that  
19 before we move along.

20 I mean it's one thing -- if I understood it to be a  
21 motion calling upon the Board to exercise its discretion to  
22 step aside on this, that's one thing.

23 But as a motion which would require the Board as a  
24 matter of law to step aside and refer it to the Appeal Board,  
25 as we're required to do, I want the representation that they

1 believe, professionally believe that there is -- that it is  
2 well founded legally by precedents.

3 MR. BACKUS: Your Honor, I would just like to  
4 respond.

5 I am aware of the federal doctrine that the federal  
6 trial practice allows judges to comment on the evidence. I  
7 don't believe that allows judges to misstate the evidence, and  
8 the gist of our motion is precisely that.

9 And I have, of course, made that representation that  
10 you asked for on behalf of my client and for myself.

11 JUDGE SMITH: Well, since you signed the motion I  
12 didn't ask you to take it. The others did not sign it nor did  
13 their names, as far as I can see, appear.

14 MS. WEISS: There's a pending question and an  
15 objection, Your Honor.

16 JUDGE SMITH: Okay. What was the -- do you recall  
17 what --

18 MS. WEISS: Yes, it went to the testimony in the  
19 original deleted from the final version on Page 58, with regard  
20 to speculated square footage errors.

21 JUDGE SMITH: We didn't take that up at the break.  
22 Sorry. We were more concerned about the other two matters.

23 Would you restate the question?

24 MS. WEISS: Well, the question was simply why that  
25 material was deleted from the final version.

1 If you're on Page 58 of the testimony --

2 JUDGE SMITH: Now there's a difference -- we're on  
3 Page 58 and the material that was deleted is what?

4 MS. WEISS: It's the material at the end of the last  
5 sentence of the first full paragraph on that page that reads,  
6 "and minus the speculated square footage errors leaves 571,800  
7 square feet."

8 JUDGE SMITH: And it's your view, Mr. Lewald, that  
9 you had not examined on that?

10 MR. LEWALD: It's my view that I had not examined on  
11 that.

12 And further, what Ms. Weiss is trying to do pretty  
13 obviously is to now introduce as direct testimony what the  
14 witness himself had not included in the testimony currently  
15 filed, but which was included in a prior version.

16 The reference here on Page 58 that Ms. Weiss referred  
17 to, the antecedent of that reference is on Page 54 of the old  
18 testimony. And that embraces a paragraph that says as follows:

19 "Based on personal knowledge and information obtained  
20 from longtime residents of Hampton and informed speculation on  
21 the part of Salmon Falls," et cetera.

22 Now, that section -- the Salmon Falls witness, Dr.  
23 Eckert, chose not to include it in his testimony as filed here.  
24 And the effect of this question, Ms. Weiss is now trying to out  
25 it in his direct testimony.



1 MS. WEISS: It's my understanding that what you just  
2 read on Page 54 --

3 MR. LEWALD: It's not cross-examination --

4 MS. WEISS: -- still is in the testimony.

5 MR. LEWALD: -- of his direct testimony.

6 MS. WEISS: It's my understanding that the testimony  
7 on Page 54 that Mr. Lewald refers to is still part of the  
8 direct testimony. It has not been deleted, unless my copy is  
9 wrong.

10 JUDGE SMITH: I'm looking at the corrected testimony  
11 dated May 3rd. Now what -- would you point to me from the  
12 testimony on Page 54 which is in issue here?

13 MS. WEISS: The material that starts -- the second  
14 half of the first paragraph on that page, "Based on personal  
15 knowledge and information obtained from longtime residents of  
16 Hampton, and informed speculation on behalf of Salmon Falls, it  
17 is likely there are another 70 owner's/manager's/employee's  
18 apartments. If these apartments are of the same average size  
19 as those above, they would total over 99,000 square feet."

20 It's my understanding that's still in the testimony.

21 MR. LEWALD: My understanding that this had been  
22 excised from the testimony.

23 JUDGE SMITH: My copy doesn't show -- let's see, we  
24 don't have that transcript with us. My copy doesn't show that.

25 MR. LEWALD: I don't have the errata with me that was

1 filed in connection with the corrected testimony that was  
2 introduced.

3 MR. TURK: Your Honor, if it helps, my reading of the  
4 errata compared to my earlier version of the testimony  
5 indicates that the statements on Page 54 still are in the  
6 testimony. But there are, I believe, two other instances where  
7 references to speculation were withdrawn by the witness in the  
8 revised testimony, and both of those instances appear on Page  
9 58 of the old testimony, and are not in the new testimony.

10 (Board confer.)

11 JUDGE SMITH: Two of us simply have lost -- I don't  
12 know. Two out of three Board members do not understand. We  
13 have lost the logic of the debate, and we don't know what the  
14 debate is, what the dispute is. Somebody is going to have to  
15 explain it again.

16 MS. WEISS: Well, my question was simply why has that  
17 material been deleted. And the burden is on my brothers to  
18 explain the objection.

19 JUDGE SMITH: It's just that we don't understand; two  
20 of us do not understand what's happening, and you're going to  
21 have to explain.

22 MR. LEWALD: I don't understand what's happening  
23 either, and that's part of my problem.

24 We have a certain part of the testimony which was in  
25 an earlier version which is no longer there. I assume it's

1 deleted and the witness isn't offering it as his testimony.  
2 And now Ms. Weiss wants to know -- ask the witness, please  
3 testify as to those matters in which you no longer are putting  
4 in your testimony.

5 JUDGE SMITH: I thought I was with everybody until up  
6 to that point, and I thought I was still with everybody up to  
7 the point where you said, well, we didn't examine about that.  
8 Where I lost the thread of the logic is how do we get to Page  
9 54. How did we get to that?

10 Everybody else seems to have gone there, but I didn't  
11 go with them.

12 MR. LEWALD: What the witness had done in the  
13 corrected testimony is to take the areas, I believe, where he  
14 was referring to speculation, and removed it from his current  
15 testimony. And I had included, maybe erroneously, I don't  
16 know, the paragraph on Page 54 which referenced informed  
17 speculation on the part of Salmon Falls, and I had assumed that  
18 that was also deleted from the corrected version of the  
19 testimony.

20 MS. WEISS: But it's not.

21 MR. LEWALD: And what was being done now was to try  
22 and -- through this question -- put back the informed  
23 speculation of Salmon Falls, which I objected to.

24 JUDGE SMITH: All right. Overruled.

25 JUDGE LINENBERGER: Given the point, however, that

1 Page 54 does -- of the corrected testimony -- Page 54 does  
2 contain the information that Mrs. Weiss is inquiring about,  
3 does that alter your objection?

4 MR. LEWALD: Well, it's a matter that I did not  
5 cross-examine on because I didn't think it was part of the  
6 testimony. And I think in that that is left in the testimony  
7 where it's stricken elsewhere, leaves me in general confusion  
8 as to whether it's in or out or just mistakenly left in or  
9 purposefully left in.

10 If it is purposefully left in, then I would not  
11 object to the question, but I --

12 MS. WEISS: I suggest we might clear up the confusion  
13 if the witness were permitted to answer.

14 JUDGE SMITH: You may answer.

15 That's good advise, Ms. Weiss.

16 THE WITNESS: (Eckert) What am I answering?

17 (Laughter.)

18 THE WITNESS: (Eckert) Anything?

19 BY MS. WEISS:

20 Q Turn to Page 58.

21 JUDGE SMITH: I hope you strike gold with this  
22 question.

23 (Laughter.)

24 THE WITNESS: (Eckert) I don't think so.

25 MS. WEISS: I make no such representation.

1 BY MS. WEISS:

2 Q Turn to Page 58.

3 A (Eckert) Okay.

4 Q Why did you remove the language, "and minus the  
5 speculated square footage errors leaves 571,800 square feet"?

6 A (Eckert) Okay. I removed that because on Page 54 I  
7 had stated those figures, and I didn't think I needed to  
8 restate them, and I felt it was more important to indicate that  
9 most of that space was in wood-frame structures. So I did not  
10 include it here because it's included earlier.

11 Q So the 710,866 square feet includes those 70-odd  
12 owner's/manager's/employee's apartments that you believe exist?

13 MR. TURK: Could I hear that again?

14 BY MS. WEISS:

15 Q Does the 710,866 square foot figure on Page 58  
16 include what you believe to be another 70  
17 owner's/manager's/employee's apartments?

18 A (Eckert) Yes, that is what I refer to as the  
19 documented erroneous square footage.

20 Q Okay. Now, you discuss beginning on page 49 and for  
21 a few pages thereafter the lack of accessibility of some of the  
22 buildings contained in the Stone & Webster survey.

23 Did you have some criteria in your own mind for  
24 accessibility?

25 A (Eckert) Yes, I did. We're referring now to the

1 work we did to review the original 90-some shelters indicated  
2 in the first Stone & Webster where we went in the field.

3 And we defined accessibility for our purposes as once  
4 you're on the site, the site either being in the yard of the  
5 facility or in the building because some don't have yards,  
6 first of all, the kind of doorway you find, and then whatever  
7 the pathway would be to the basement, which at that time was  
8 our consideration for shelter. That is the definition of  
9 accessibility that we used.

10 Q And do you have an estimate of how much the square  
11 footage in the Stone & Webster study is not accessible under  
12 those criteria?

13 A (Eckert) I don't have a specific square footage  
14 estimate. We do have, I think as the last page of the  
15 attachment with all of the photographs, a summary that  
16 indicates the places we found that had different accessibility  
17 problems, and we broke them out according to that which we  
18 could refer to, and that then summarizes what we saw as  
19 accessibility problems and which establishment had those  
20 problems.

21 Q If you took a look at that, could you give me an  
22 estimate of what percentage of the space was inaccessible?

23 A (Eckert) I could give you an estimate of the number  
24 of places that we found that had different problems of  
25 accessibility, and one could do the multiplications to see how

1 much space was involved.

2 Q Would you do that, please?

3 A (Eckert) Yes, hang on.

4 Again, I'm looking at a page called Summary of  
5 Access, and one category we had for difficult access was access  
6 through private residences. That is, someone would have to  
7 enter the living quarters, and mostly in some of the smaller  
8 motels go through, perhaps into the kitchen and find the  
9 basement door. And in that case, we had 13 percent of the  
10 number that we looked at in the first survey, which was 23.  
11 Thirteen percent of those, roughly, had that kind of access  
12 problem.

13 Another category is entry point difficult to locate  
14 from outdoors assuming owner's permission. An example of that  
15 would be, for example, the Moulton Hotel on Route 1A, or maybe  
16 the Surf Hotel where the hotel is part of a large wooden  
17 structure continuous more or less with other buildings, and  
18 there are lots of shops along the front.

19 The actual entrance to the motel is a single doorway  
20 that is hard to see. There is actually a photo in there, I  
21 think, of that that indicates a doorway that's hard to find.  
22 So that if someone was told to go to the Moulton, or was trying  
23 to access the basement they knew must exist below the building,  
24 the only way into that is through the small doorway. And in  
25 that specific case that's the one we describe, I think. You

1 have to go upstairs, wind around across, over the back roof,  
2 downstairs and into a hatchway in the back. Or you approach  
3 the back of the building and climb over a chain link fence to  
4 go in.

5 And the Surf, I believe, is next door to that, and the  
6 only entrance to the basement of that is through a candy shop  
7 which is not kind of identified with the Surf Hotel, but it's  
8 in there, and you have to go back through the kitchen.

9 Those are -- those kinds of problems we found in  
10 about 30 percent if I count them up.

11 There are other problems we found were seasonally  
12 open facilities, and there I think of the churches -- not  
13 seasonally, but weekly, weekendly. The churches are open  
14 certain hours on the weekends. Seasonally open, a lot of the  
15 restaurants and so forth. So I have it broken down that way,  
16 but not a space estimate.

E31 17 (Continued on next page.)  
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T/32

1 Q So, I take it, then, that your figure of 710 or  
2 11,000 square feet on page 58, when you provide that you  
3 haven't subtracted the inaccessible space; correct?

4 A (Eckert) That's correct.

5 Q Does the panel or anybody on it have an opinion as to  
6 the appropriateness of the 10-square-foot-per-person criteria  
7 for sheltering?

8 A (Goble) It's pretty crowded. On the other hand it's  
9 a standard figure, and I think -- I think it's pretty hard to  
10 know how tightly people will squeeze together in an emergency  
11 situation. You might better have addressed that to Professor  
12 Renn. But it's a standard figure which, however, is considered  
13 a minimal figure, that most people use a range that extends  
14 upward from 10 square feet.

15 Q Is there any empirical data you're aware of which  
16 suggests that people will crowd to that degree?

17 JUDGE SMITH: I think you're slipping now from -- to  
18 an adversarial type of cross-examination which I would not  
19 recognize you have a right to do at this time.

20 MS. WEISS: That's stumps me.

21 JUDGE SMITH: Well, do you understand that different  
22 parties depending upon the relationship with the witnesses have  
23 different standards for permissible cross-examination, I think  
24 you know about that.

25 MS. WEISS: Probably there was an observation in the

1 testimony that questioning the 10 square foot criteria, but I  
2 couldn't lay my hands on it.

3 JUDGE SMITH: There is no objection, however, I'm  
4 just pointing out that you seem to be going in that direction,  
5 and we won't approve of it too much.

6 THE WITNESS: (Goble) Should I answer the question?

7 JUDGE SMITH: Yes, you may.

8 THE WITNESS: (Goble) The answer is, I'm not aware  
9 of the literature on that, it's possible that Professor Renn  
10 is.

11 BY MS. WEISS:

12 Q With regard to the questions posed by Mr. Flynn and  
13 then by Mr. Turk seeking your agreement with the proposition  
14 that it would always be preferable in the summertime to  
15 recommend evacuation for the close-in areas, you responded,  
16 it's my recollection, that that depended on how imminent the  
17 release might be and that the ETEs for Seabrook establish a  
18 time scale with which you must measure imminence, is that  
19 correct?

20 A (Goble) That is correct.

21 MR. TURK: Your Honor, I would note an objection to  
22 the characterization, it may come to late, at least with  
23 respect to my cross-examination.

24 BY MS. WEISS:

25 Q And I believe you said that if a release would not

1 come for, my notes show an example of 10 hours, then it would  
2 be preferable --

3 MR. FLYNN: Objection, leading.

4 BY MS. WEISS:

5 Q -- to evacuate; is that correct?

6 MR. FLYNN: Objection, leading.

7 MS. WEISS: Just asking for a characterization of his  
8 old testimony, to see if my recollection is correct of the  
9 testimony he gave yesterday.

10 MR. FLYNN: Your Honor, the record speaks for itself.  
11 If these questions are simply setting the context for some  
12 additional questions that are not leading and I don't have Ms.  
13 Weiss testifying, I withdraw the objection. But as I  
14 understand what's going on, Ms. Weiss is attempting to  
15 reenforce what is already in the record and that's entirely  
16 unnecessary.

17 MS. WEISS: No, this is laying the basis for further  
18 questioning.

19 MR. FLYNN: Then I'll withdraw the objection.

20 MR. TURK: Could we have a transcript cite, Ms.  
21 Weiss?

22 MS. WEISS: I don't have a transcript.

23 MR. TURK: If I lent you mine would that help?

24 MS. WEISS: No. The question is, does the witness  
25 recollect that testimony.

1 THE WITNESS: (Goble) I recollect saying something  
2 like that. I would say something like that, and I think I  
3 remember saying it.

4 BY MS. WEISS:

5 Q My question to you is, what if the release is  
6 imminent within a half an hour, would that change your answer?

7 MR. TURK: Well, what's the answer that we're  
8 changing?

9 MS. WEISS: With regard to the preferability of  
10 evacuation for the close-in population.

11 THE WITNESS: (Goble) Okay. I think I -- I think  
12 also I testified as to this and said that, on the time scale it  
13 was very short compared to the evacuation time, that I thought  
14 that sheltering provided could be implemented would be  
15 preferable in the Seabrook case.

16 BY MS. WEISS:

17 Q And is it your testimony that the New Hampshire plan  
18 does not provide a reliable guide for the responder in the  
19 midst of the accident to choose between those two options?

20 A (Goble) Yes.

21 Q Dr. Eckert, you were asked to comment by Mr. Turk on  
22 the degree to which your questionnaire indicated the  
23 circumstances under which a building might be used for shelter;  
24 and I believe you responded that the questionnaire does mention  
25 that it's talking about a radiological emergency. Doesn't the

1 questionnaire also stipulate that it would be used for a short  
2 period of time such as three to six hours?

3 A (Eckert) Yes, it does.

4 MS. WEISS: I have no further questions.

5 JUDGE SMITH: Ms. Sneider. Oh, Mr. Brock?

6 MR. BROCK: Yes, Your Honor, just a couple followup  
7 on a line raised by Ms. Weiss.

8 CROSS-EXAMINATION

9 BY MR. BROCK:

10 Q Mr. or Dr. Eckert, if you could refer again to page  
11 58 of your testimony. And that figure of, if I understood your  
12 answers to Ms. Weiss' questions, that figure of 710,866 square  
13 feet does not allow for any deduction for space which you  
14 believe would be inaccessible to beachgoers in the event of an  
15 emergency; is that correct?

16 A (Eckert) yes, that's correct.

17 Q And further down the page reference is made to the  
18 fact that assessor cards in your survey for the Town of  
19 Hampton, 50 percent of those cards were examined; is that  
20 correct?

21 A (Eckert) That's correct.

22 Q And is it fair to say that the survey that you did of  
23 those cards indicated there were some significant  
24 overstatements of square footage in the assessor cards?

25 A (Eckert) Yes, I would say so.

1 Q And let me ask if the 710,866 square feet makes any  
2 deduction for -- well, strike that. Assuming that the square  
3 footage errors contained in the assessor cards which you  
4 examined continued into the other half, the other 50 percent of  
5 the assessor cards for the Town of Hampton, would that result  
6 in an additional deduction of square footage from the 710,000  
7 figure?

8 A (Eckert) Yes, it would.

9 Q Would that, in your opinion, be a significant  
10 reduction?

11 A (Eckert) I think so, based on what we had observed  
12 so far.

13 Q And let me also ask, if the 50 percent of the  
14 residences examined through assessor cards included information  
15 which indicated that a number of these residences designated or  
16 a number of these buildings designated by Stone & Webster as  
17 public shelters in fact were private residences?

18 A (Eckert) Yes.

19 Q And is it fair to say that assuming that the private  
20 residence error continued into the second half of the --  
21 continued into the other assessor cards which were not examined  
22 by Salmon Falls, wouldn't that result in an additional  
23 deduction in square footage from the 710,000 figure?

24 A (Eckert) Yes, it would.

25 Q And is it fair to say that that would be a

1 substantial reduction?

2 MR. FLYNN: Your Honor, I object, this is leading. I  
3 apologize for not interjecting the objection earlier, but  
4 clearly this entire line of questioning is inappropriately  
5 leading.

6 JUDGE SMITH: Not all of it, but you have  
7 interspersed there, I think, to leading. You know, that -- for  
8 example, that last question was --

9 MR. BROCK: All right, Your Honor.

10 JUDGE SMITH: -- but as you elicit the factual data,  
11 that's permissible.

12 JUDGE HARBOUR: Whose examination are you basing your  
13 examination on?

14 MR. BROCK: I'm sorry, I don't understand the  
15 question, Your Honor.

16 JUDGE HARBOUR: I mean, why isn't this line of  
17 questioning first time cross-examination on these points?

18 MR. BROCK: Well, I believe the issues were raised by  
19 Attorney Weiss as to the 710,000 figure and what additional  
20 deductions would be appropriate to reach a figure that would  
21 actually be available to the public in the event of an  
22 emergency; I'm simply exploring that.

23 JUDGE HARBOUR: Go ahead.

24 JUDGE SMITH: That's -- we're not approving that,  
25 there's no objection.

1 MR. BROCK: Thank you, Your Honor.

2 BY MR. BROCK:

3 Q Dr. Eckert, let me just restate what I believe was  
4 the last question. Is it fair to say that the additional  
5 private residences, assuming they're projected into the other  
6 50 percent of the Hampton assessor cards which you did not  
7 examine, would that result in a substantial reduction, in your  
8 opinion, from -- of the available square footage from the  
9 710,000 figure?

10 A (Eckert) Yes. I believe it would provide a  
11 substantial reduction from the 710,000 square foot figure. At  
12 the same time I want to indicate that the purpose of Salmon  
13 Falls was not to make final space estimates. Our purpose was  
14 to do a verification-type study of the Stone & Webster work, so  
15 that I don't think any of these figures should be construed as  
16 the final space estimates, merely resulting from the  
17 repeatability kind of study that we did.

18 Q Stone & Webster made no deductions for these assessor  
19 errors or private residences, as you've just testified to; is  
20 that correct?

21 A (Eckert) That's correct; they didn't detect them.

22 Q And is it also fair to say that this 710,000 figure  
23 does not take into account any owners who may refuse to permit  
24 the public access to shelters in an emergency?

25 A (Eckert) No, it doesn't -- it's independent of that.



1 Q So to the extent any owners would refuse access that  
2 could further reduce this figure?

3 A (Eckert) Certainly.

4 MR. BROCK: Thank you. Nothing further.

5 MR. LEWALD: Point of clarification. I think the  
6 figure was potential space. Is the witness' testimony that  
7 somehow this would be no longer potential space?

8 JUDGE SMITH: Do you want to ask that question out of  
9 order?

10 MR. LEWALD: I was just wondering if that was his  
11 answer.

12 THE WITNESS: (Eckert) I guess I understand we're  
13 talking about potential space all the time.

14 JUDGE SMITH: Mr. Brock, do you have --

15 MR. BROCK: That's all, Your Honor, thank you.

16 JUDGE SMITH: I meant Mr. Backus, do you have  
17 following questions?

18 MR. BACKUS: No, I don't, Your Honor.

19 JUDGE SMITH: Ms. Sneider?

20 MR. TURK: Your Honor, just by way of clarification  
21 of our procedure, if I have a few additional questions is it  
22 appropriate for me to ask them now or wait for the redirect and  
23 then get into anything further?

24 JUDGE SMITH: Well, I guess normally we would not  
25 have expected any additional questions. Probably it's neater

1 if you ask them now, so Ms. Sneider can take them all. But how  
2 many rounds are we going to have. Are you going to ask  
3 questions based upon -- these questions by Intervenors, this  
4 most recent round was in the form of quasi-redirect, leaving  
5 the last person to address the witnesses and clean up any voids  
6 in the record, the sponsor of the witness.

7 MR. TURK: My questioning, Your Honor, goes to Board  
8 questions.

9 JUDGE SMITH: All right, this is a good time for it.

10 MR. FLYNN: I also have some questions. I have a  
11 short line which was opened by Ms. Weiss' questioning; I don't  
12 have to do it right now, but I would like to have the  
13 opportunity before this panel is dismissed.

14 JUDGE SMITH: All right.

15 MR. LEWALD: Your Honor, just for the record, I do  
16 have a few questions, but I could wait for redirect. Some of  
17 the questions that I have may be canceled out on redirect,  
18 except we've had a lot of redirect.

19 JUDGE SMITH: Well, let's find out. Let's -- go  
20 ahead with your questions.

21 MR. TURK: Thank you, Your Honor.

22 FURTHER CROSS-EXAMINATION

23 BY MR. TURK:

24 Q I'd like to address with Dr. Goble very briefly a  
25 line of questions raised by Judge Linenberger in which you were

1 discussing the significance of iodine that might be released as  
2 part of a plume. And you indicated in your testimony that the  
3 iodine presented a problem both for ground shine and cloud  
4 shine. But I'd like to ask you, isn't it true that the  
5 greatest significance of the iodine release would be with  
6 respect to the inhalation does?

7 A (Goble) No, but perhaps I should explain that. The  
8 -- it's always a question, what's the greatest significance.  
9 The iodine is very readily taken up by the thyroid and  
10 consequently if you inhale iodine you get -- you can get a  
11 substantial dose to the body which you accumulate right away  
12 and can cause potential injury to the thyroid, either in the  
13 short term or the long term.

14 That the point at which, however, you are talking  
15 about really serious releases where there can be threats of  
16 early injuries, possibly early deaths. The critical of them,  
17 the critical doses that are received occur -- occur in any sort  
18 of a mix from ground shine, cloud shine, and inhalation to the  
19 whole body, to the lung; these are the areas that are the most,  
20 well, red marrow, the lung, the gastrointestinal tract are the  
21 areas most sensitive for early injuries and possibly  
22 fatalities.

23 And iodine -- the mix of iodine contributes very  
24 importantly when there's a large percentage of iodine released  
25 in such accidents to the exposures, to those organs; and that's

1 received as much from cloud shine, ground shine as from the  
2 inhaled dose which goes into the thyroid.

3 Q In terms of the -- I'm looking to see if I can avoid  
4 getting into too much of a digression on source term. Let me  
5 pass on the iodine issue for now.

6 You had also indicated in response to Judge  
7 Linenberger that it was a matter of historical curiosity, as  
8 you phrased it, as to why the dose reduction factor for  
9 structures was directed at savings associated with cloud shine;  
10 do you recall that testimony?

11 A (Goble) Yes.

12 Q And I wanted to say, first of all, that's your own  
13 opinion on the matter; I mean, there's no documentary support  
14 for your statement that there's a historical --

15 A (Goble) That's a historical speculation, and I am  
16 not really a historian --

17 Q A speculation on your part?

18 A (Goble) It's a speculation on my part.

19 Q And also I'd like to ask you a little bit about the  
20 use of shelter as it applies to the cloud shine dose. It's my  
21 understanding that ground shine accumulates with time; would  
22 you agree with that?

23 A (Goble) Well, the radionuclides which produce ground  
24 shine accumulate with time for the duration of the passage of  
25 the plume.

1 Q I'm sorry, you did say ground shine, right?

2 A (Goble) Ground shine is radiation that you receive  
3 in an instance, though you may receive it continuously, that  
4 results from radionuclides, radioactive material which is  
5 deposited on the ground. Now, the material is accumulating  
6 over time.

7 Q Yes.

8 A (Goble) You were continually exposed to the  
9 radiation produced by this material.

10 Q And then it would be true, also, that the dose a  
11 person would receive from ground shine increases over time?

12 A (Goble) That -- you would expect it to increase for  
13 the duration of passage of the plume. There -- I'm sorry.  
14 Dose accumulates, that's the definition of dose.

15 JUDGE SMITH: Are you talking about dose accumulation  
16 simply or dose accumulation plus dose rate?

17 THE WITNESS: (Goble) Yes. He's -- I was mixing --

18 MR. TURK: I'll break it into two categories.

19 THE WITNESS: (Goble) I was mixing the two things.  
20 Dose accumulates over time, that's our definition of dose.  
21 Dose rates, which is perhaps what Mr. Turk is asking me, you  
22 stop me if I'm wrong, you would expect to -- dose rates from  
23 ground shine you would expect to increase over time for the  
24 period in which the material is being deposited; you're getting  
25 more material, so the dose rate will increase. Once the plume

1 is passed, then you've got whatever material there is. You  
2 would expect to continue receiving doses, but the rate would be  
3 approximately constant.

4 BY MR. TURK:

5 Q Let me see if I can clarify. As I understand it, if  
6 there is a single particle of radioactive material on the  
7 ground and it's a long lived radionuclide, that would be a  
8 rather constant radiation --

9 A (Goble) That's correct.

10 Q -- source. So that the rate of dose with respect to  
11 that particle would be constant over time?

12 A (Goble) That's correct.

13 Q However, as time continued you would be accumulating  
14 the dose received from that particle of radioactive material?

15 A (Goble) That's correct.

16 Q And it's also true that if the deposition continues  
17 over time, so that there are more radionuclides depositing in  
18 the same area with time, then each of those additional  
19 particles would also produce a radiation dose; is that correct?

20 A (Goble) That's correct.

21 Q So that the total dose over time would reflect both  
22 the continuing exposure to the initial radioactive material as  
23 well as this increased dose resulting with the greater  
24 accumulation of radioactive particles over time; is that  
25 correct?

1 A (Goble) Yes, that's right.

2 MR. TURK: I have nothing, Your Honor.

3 JUDGE SMITH: Mr. Flynn?

4 FURTHER CROSS-EXAMINATION

5 BY MR. FLYNN:

6 Q Dr. Goble, I'd like to follow up on a question that  
7 Ms. Weiss asked you. Now, the question that I want to refer  
8 you to had to do with sheltering being the preferred protective  
9 action, and the context of the question was -- I don't remember  
10 the precise question but your answer was to the effect that,  
11 sheltering is the preferred protective action when there is an  
12 imminent release which is to be of short duration and  
13 sheltering can be implemented; have I correctly paraphrased  
14 what you've said?

15 A (Goble) I believe so, yes. I would like to have  
16 said that.

17 Q In any case, that is your position?

18 A (Goble) That's right.

19 Q Now, going back to the examination which I did  
20 yesterday, I would take it that part of your answer is that  
21 you're talking about a serious early release and not a puff  
22 release?

23 A (Goble) That's correct. Puff -- many people use  
24 puff in various ways. But not -- not the accident that I was  
25 discussing with Judge Linenberger, that's just noble gases.

1 Q I want to focus on the accident that you were  
2 discussing with Ms. Y ss.

3 A (Goble) That's right.

4 Q It was a serious accident --

5 A (Goble) A serious -- that's right, a serious early  
6 accident.

7 Q And according to your definition that release would  
8 include particulates and airborne iodine?

9 A (Goble) That's right.

10 Q Radioactive iodine?

11 A (Goble) That's right.

12 Q Now, when you talk about sheltering being the  
13 preferred protective action, what you mean is that, the people  
14 close to the plant would go into shelter and then at an  
15 appropriate later time would leave shelter and evacuate; is  
16 that correct?

17 A (Goble) That's correct.

18 Q So, when you say, sheltering is the preferred option,  
19 to be more complete, what you mean is sheltering followed by  
20 evacuation?

21 A (Goble) That's correct.

22 Q And if you will recall the discussion that we had  
23 yesterday, I think implicit in that was the idea that you would  
24 prefer such an approach where the evacuation -- where the  
25 sheltering does not ultimately delay the evacuation; am I



1 correct in that?

2 A (Goble) Yes.

3 Q Now, to clarify a bit what you meant by where the  
4 sheltering could be implemented, I take it, that part of what  
5 you intended is that the mechanics of getting people to shelter  
6 and then getting them out of shelter again at the appropriate  
7 time would not cause undue confusion; am I correct that that's  
8 implicit in what you said?

9 A (Goble) That's -- I would -- and defining it as a  
10 technical problem, I would say, confusion which causes undue  
11 delay which would result in greater exposures.

12 Q You do perceive that that is a potential problem?

13 A (Goble) Yes.

14 Q In fact, the planning would have to involve a clear  
15 set of messages telling people where to go and a clear set of  
16 messages telling them how to receive further information about  
17 when to leave, would it not?

18 A (Goble) Yes.

19 Q Now, I also take it that what you mean by your  
20 observation that sheltering is a preferred protective action  
21 when sheltering can be implemented, you mean that there is  
22 suitable shelters for the people to go to?

23 A (Goble) That's correct.

24 Q And the import of the testimony of this panel is  
25 that, on Hampton Beach and Seabrook Beach there is not a large

1 enough pool of suitable shelter for people to go to? Is that  
2 not the substance of your testimony?

3 A (Goble) It's -- well, the substance of our testimony  
4 has two pieces. It's essentially the substance. Let me state  
5 it --

6 Q I think the question is simple.

7 A (Goble) Let me try to answer it --

8 Q Could you give me --

9 A (Goble) -- in two pieces.

10 Q Can you give me a, yes or no, and then elaborate if  
11 you need to?

12 MS. WEISS: He already gave you an essential yes.

13 THE WITNESS: (Goble) I said, essentially, yes.

14 JUDGE SMITH: Ms. Weiss, don't interfere.

15 THE WITNESS: (Goble) I gave you a, yes, and now may  
16 I elaborate.

17 MR. FLYNN: You may.

18 THE WITNESS: (Goble) That's what I thought I was  
19 doing. The -- we have not done a comprehensive analysis of  
20 shelter availability, nor have we made any sort of an effort to  
21 identify what kind of upgrading of existing shelters would be  
22 feasible, at whatever level of upgrading. All right. So we  
23 have not done a comprehensive analysis of what's available.

24 On the other hand, we've reviewed the documents that  
25 were provided to us about other analyses of availability.

1 We've performed checks on these documents. And we've done --  
2 as we've seen the testimony, pretty elaborate, though not  
3 comprehensive survey done by Dr. Eckert of what's there; and  
4 based on that, we would certainly conclude that there does not  
5 appear to be sufficient sheltering space -- sufficient suitable  
6 sheltering space at present.

7 But I don't want to give the impression that we have  
8 done a comprehensive analysis, that's everything there, nor do  
9 I want to give the impression that we have looked at what the  
10 possibilities are for changing the situation.

11 MR. FLYNN: Thank you, I have no other questions.

12 JUDGE SMITH: Ms. Sneider? How much redirect do you  
13 believe that you will have?

14 MS. SNEIDER: I would say about half an hour.

15 JUDGE SMITH: All right. Well, let's take it up  
16 after lunch. Return at 1:00 please.

17 (Whereupon, at 11:49 a.m. the hearing was recessed to  
18 reconvene at 1:00 p.m. this same day, Wednesday, May 18, 1988,  
19 at the same place.)  
20  
21  
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## AFTERNOON SESSION

(1:02 p.m.)

Whereupon,

ROBERT GOBLE

ROBERT ECKERT

VICTOR EVDOKIMOFF

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

## REDIRECT EXAMINATION

BY MS. SNEIDER:

Q Good afternoon. I'd like to start off with a few questions for Dr. Eckert.

Dr. Eckert, yesterday Mr. Lewald asked, I believe, asked you some questions regarding the survey form of the Seaside Motel; do you recall that?

A (Eckert) Yes, I do.

Q And I believe your testimony was that the square footage there was a reflection of square footage that was paced off; is that right?

A (Eckert) That's right, according to their form.

Q Have you reviewed any other survey forms of Stone & Webster's in which there was indication that the square footage was paced off?

A (Eckert) Yes. We discovered here and there paced-off measurements. Two examples: one is the Purple Pickle Deli;

1 and Rocky's Real Estate are two other examples where --

2 MR. LEWALD: Could I ask where that appears in the  
3 testimony?

4 THE WITNESS: (Eckert) What?

5 MR. LEWALD: I said, could I ask where that appears  
6 in the testimony?

7 THE WITNESS: (Eckert) I'm not sure it's in my  
8 testimony as presubmitted, but I'm referring to the Stone &  
9 Webster survey shelter forms.

10 BY MS. SNEIDER:

11 Q And was there any indication on those survey forms  
12 whether the square footage was to be rated as square yards or  
13 square feet?

14 A (Eckert) The measurements were indicated as feet --

15 MR. LEWALD: I object to this line of questioning,  
16 Your Honor. We're talking about documents that are not in  
17 evidence, and no one has any idea, particularly I don't have  
18 any idea what documents he's referring to, what he alleges are  
19 mistakes. It's something that's now appearing for the first  
20 time.

21 JUDGE SMITH: Was it covered on cross; I have no  
22 memory of it?

23 MS. SNEIDER: Well, it was covered on cross, and we  
24 can produce the survey forms which are the Applicants' survey  
25 forms. Was the square -- the square footage total on the

1 shelter survey form for the Seaside Motel, and what Mr. Lewald  
2 was alleging is that perhaps it was -- it was supposed to be  
3 read as yards rather than square feet; and I'm asking the  
4 witness to look at these other survey forms to see if that  
5 would be consistent with the way they treated paced off square  
6 feet in other survey forms.

7           There's nothing on the original one that says yards  
8 or feet; and the witness read it as feet and Mr. Lewald  
9 suggested it should be read as yards.

10           JUDGE SMITH: Okay.

11           MS. SNEIDER: That's all.

12           MR. LEWALD: That was not my purpose or my cross-  
13 examination. My cross-examination was the fact that the  
14 testimony misrepresented what was on the Stone & Webster form.  
15 And it solely related to that. And now we're coming in with  
16 some other instances in which Mr. Eckert is saying the Stone &  
17 Webster forms were inaccurate, for the first time.

18           MS. SNEIDER: Excuse me. The testimony says there  
19 are a number of inaccuracies, and then they gave certain  
20 examples of inaccuracies. We never said that it was limited to  
21 that one inaccuracy in the testimony, just that there were --  
22 that they would say, oh, there's 12 of this type of inaccuracy,  
23 and, for example, this is one of them.

24           JUDGE SMITH: That's not redirect following cross,  
25 that's my problem with it.

1 (Board conferring)

2 JUDGE SMITH: Overruled.

3 JUDGE HARBOUR: Do you have copies of those sheets  
4 that you're examining him, because we think we understand what  
5 you're doing, but we would like to see the sheet that the  
6 witness is being asked to compare?

7 MS. SNEIDER: I have one copy now, at the break I can  
8 or before the break I can have other copies made.

9 JUDGE HARBOUR: Could we just look at it --

10 MS. SNEIDER: Sure.

11 JUDGE HARBOUR: -- a few seconds.

12 (Documents shown to Board and opposing counsel.)

13 MR. LEWALD: Hard to tell from that form which was on  
14 the original form and which has been added to it.

15 BY MS. SNEIDER:

16 Q Dr. Eckert, on those other survey forms where the  
17 area was paced off, is there any indication as to whether the  
18 paced off area was measured in feet or in yards?

19 A (Eckert) On the two in question they're indicated to  
20 be measured in feet, although the notice, paced, is also on the  
21 same page. Therefore, I continued my assumption for the third  
22 one we talked about.

23 JUDGE HARBOUR: If you multiply the paces times the  
24 paces, does the answer come up arithmetically consistent?

25 THE WITNESS: (Eckert) Well, these are -- what I

1 believe is meant is that they were paced off and then converted  
2 to feet, because we don't have any disagreement with the square  
3 footage, it's multiplied out as 750 square feet, say, in case  
4 of the Purple Pickle Deli. And the same here, this is  
5 indicated as 1,000 square feet per story, so --

6 JUDGE HARBOUR: Now, when you say, here, what are you  
7 referring to there?

8 THE WITNESS: (Eckert) I'm sorry, the Rocky's Real  
9 Estate form indicates 40 times 25 equals 1,000 square feet with  
10 the notation "paced." So from that I assumed that all of them  
11 were, that were paced off, were actually the figures I read  
12 were feet and not yards.

13 BY MS. SNEIDER:

14 Q So your assumption that the calculation of area for  
15 the Seaside Motel was calculated based on feet is in  
16 conformance with the way the similar measurements were handled  
17 on those other survey forms; is that right?

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

19 Q Turning to page 53 of your testimony, I believe Mr.  
20 Lewald asked you some questions yesterday about documentation  
21 for the 77 private residences?

22 A (Eckert) I believe he did, I couldn't -- I can't  
23 remember exactly.

24 Q And I just want to get this clear, do you have  
25 documentation that -- for the 77 private residences?



1 A (Eckert) Yes, we do. Since the apartments were  
2 indicated to exist on the tax assessor's cards, and for 49 of  
3 those 77 the actual dimensions of the apartments were listed.

4 Q Now, turning to page 62 of your testimony, I believe  
5 Mr. Lewald also asked you yesterday some questions regarding  
6 the response rate to your survey from the various towns; do you  
7 recall that?

8 A (Eckert) Yes.

9 Q Can you tell me, Dr. Eckert, how many shelters are  
10 listed in Stone & Webster for the Town of North Hampton?

11 A (Eckert) There --

12 MR. TURK: May I inquire, are we talking about the  
13 second shelter study of Stone & Webster? Yes, I assume?

14 MS. SNEIDER: Yes.

15 THE WITNESS: (Eckert) There are four.

16 BY MS. SNEIDER:

17 Q So a response rate from four shelter owners in the  
18 Town of North Hampton would be 100 percent response rate; is  
19 that right?

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

21 Q And how many shelters does Stone & Webster list for  
22 the Town of Seabrook?

23 A (Eckert) Seabrook, 17 I believe.

24 Q And for the Town of Rye?

25 A (Eckert) 23.

1 Q Well, just to complete it, and also how many shelters  
2 in the Town of Hampton?

3 A (Eckert) 205 shelters.

4 Q So your response rate then was over 50 percent for  
5 all of the towns?

6 A (Eckert) That's right; it was over 50 percent for  
7 all the towns.

8 Q Do you have any -- based on your work reviewing the  
9 shelters in the New Hampshire beach area, do you have any  
10 opinion as to the average size of a motel room in the beach  
11 area or if you could give me a range?

12 A (Eckert) I guess I would give the range of maybe 8  
13 by 10 feet to 10 by 12 feet, something like that.

14 Q And would you say that an owner of one of these  
15 motels would typically rent that room to two people?

16 A (Eckert) I would imagine two, two to three people.

17 Q And according to the Stone & Webster study how many  
18 people do they intend would shelter in a room, in the range  
19 that you've given?

20 MR. LEWALD: I'm going to object to the --

21 THE WITNESS: (Eckert) Ten or so.

22 MR. LEWALD: -- preliminary -- this is a question  
23 without any qualification. I'm not sure that there is any  
24 testimony to this. If there is, I don't know where it is.

25 JUDGE SMITH: I understood you were alluding to

1 the -- referred to the standard of 10-square-feet-per-person.

2 MR. LEWALD: 10-square-feet-per-person, but I think  
3 this question is, how many people in a room. And I think it's  
4 quite different.

5 MS. SNEIDER: Well, based on the 10-square-feet-a-  
6 person assumption --

7 MR. LEWALD: If she's asking for calculation, I don't  
8 object to that.

9 JUDGE SMITH: Well, that's what I understood it to  
10 be.

11 THE WITNESS: (Eckert) Ten, I answered.

12 JUDGE SMITH: Friends?

13 THE WITNESS: (Eckert) Yes.

14 (Laughter)

15 MR. TURK: Your Honor, I don't know -- I'd like to  
16 clarify the record for a moment. As far as I'm aware Stone &  
17 Webster dealt with buildings as a whole without looking at  
18 whether the space available was in the motel room, in the  
19 lobby, or in the restaurant or elsewhere. So if there's a 10  
20 square foot average per person, it's for the entire building  
21 space, as I understand it, and I assume counsel would agree to  
22 that. I note Ms. Sneider is nodding her head.

23 MS. SNEIDER: Right. And part of that room is not in  
24 motel rooms.

25

1 BY MS. SNEIDER:

2 Q So this in followup to some of Mr. Turk's questions  
3 to you yesterday. Do you think the fact that owners might be  
4 willing to shelter only their own patrons means that they would  
5 also be willing to shelter these additional numbers of people  
6 in the motel rooms?

7 MR. TURK: I have to object to that; I don't know  
8 where that comes from. If that's reference to my cross-  
9 examination, I don't recall that.

10 MS. SNEIDER: Well, I think there was a whole line of  
11 questions saying, people have indicated that they would be  
12 willing to shelter patrons in their own hotel, how did you  
13 consider that.

14 MR. TURK: I think Ms. Sneider is referring to the  
15 response on number page 10 of Massachusetts Exhibit 12 where  
16 the respondent indicated she had space enough for her own  
17 patrons but not to take in other people.

18 MS. SNEIDER: Well, I think your line of questioning  
19 was leading to, people are sheltering their own patrons  
20 anyways, you know, they're not being asked to do anything more  
21 than that, was the suggestion.

22 JUDGE SMITH: That's to what it's addressed. I do  
23 recall your questioning going in that direction. I'm not sure  
24 it goes as far as Ms. Sneider said it does, but you did invite  
25 the inference that at least the patrons would be taken care of

1 and perhaps more.

2 But I'm troubled by the logic of the question. I  
3 wonder if -- could you restate the question. Do you want it  
4 read back?

5 MS. SNEIDER: Sure, why don't we read it back.

6 JUDGE SMITH: Would you read it back, please.

7 (Whereupon, the Court Reporter played back the  
8 pending question.)

et/34

9 (Continued on next page.)

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1 JUDGE SMITH: I think there's some flawed logic in  
2 there.

3 MS. SNEIDER: I'm not sure what the Board means.

4 JUDGE SMITH: What flawed logic means?

5 MS. SNEIDER: Well, I know flawed logic. I guess I  
6 don't see the flawed logic.

7 JUDGE SMITH: The word "only" -- describe more what  
8 you mean by the question. Maybe it does --

9 MS. SNEIDER: Well, perhaps I can phrase it this way.  
10 Do you see a distinction between the willingness to  
11 shelter your own patrons and a willingness to shelter the  
12 additional numbers of people that Stone & Webster alleges could  
13 potentially be sheltered in these rooms.

14 JUDGE SMITH: All right. I think I understand that.

15 MR. TURK: Your Honor, that's not redirect, though.  
16 My question was at Page 11523; actually it starts on 11522. It  
17 did in particular with Page No. 10 of Massachusetts Exhibit 12,  
18 and that was the Voyager Motel, and the questioning was  
19 directed to the fact that Dr. Eckert took into consideration  
20 only the tabulated result, only the response to Question No. 4  
21 being a yes or no, and did not consider the information on the  
22 back of that page as to the motel owner's willingness to take  
23 in their own patrons only.

24 MS. SNEIDER: Well, on Page 11523 I see a question  
25 that says, "And then on the back side of that form the

1 respondent apparently wrote the following sentence, 'Our first  
2 responsibility is to our patrons, and we would be hard pressed  
3 to provide shelter for them.'" And then you went on.

4 JUDGE SMITH: There's no part of that dialogue that I  
5 can see that goes to -- that would invite the inference that  
6 because they are presumably willing to take care of their own  
7 patrons, that they are willing to take extra people. That  
8 wasn't the thrust of the examination.

9 MS. SNEIDER: Well, then it goes on to Page 11524,  
10 "We know that those people do have space to use the facility in  
11 normal circumstances; isn't that right?"

12 JUDGE SMITH: That refers, I guess, to the patrons.

13 MS. SNEIDER: And then it goes, "And we know that as  
14 the concept of shelter is being used, at least from the Stone &  
15 Webster study, it's not that people be housed for a long period  
16 of time or any extraordinary efforts be made to take care of  
17 people. It's simply that they stay indoors; isn't that  
18 correct?"

19 And I think the point of this is that this is  
20 something extraordinary in terms of what they do on a day-to-  
21 day basis, to shelter this additional number of people. There  
22 is a distinction there that I think is somewhat extraordinary.

23 JUDGE SMITH: I don't read it there. I just don't  
24 see it. It's not there.

25 Sustained.

1 BY MS. SNEIDER:

2 Q Dr. Eckert, what, in your opinion, is a normal level  
3 of sampling that is acceptable to a statistician?

4 A (Eckert) That's kind of a broad question.

5 MR. LEWALD: Do you understand it?

6 THE WITNESS: (Eckert) Certainly.

7 In most studies statisticians use samples that are  
8 smaller than you'd expect to make predictions from. Many --  
9 the purpose of a sample really is to get an estimate of what's  
10 there at not too great an expenditure and so forth. And many  
11 times these samples run less than 10 percent of the total  
12 population; often 5, even down to as low as 1 percent  
13 occasionally.

14 If you recall the predictions on election night, they  
15 come in after less than 1 percent of the vote is in.

16 So I would say, in my experience, a sample size runs  
17 usually around 5 percent to 10 percent; most often 5.

18 BY MS. SNEIDER:

19 Q And what would be considered a high level of  
20 sampling?

21 A (Eckert) I would consider a high level of sampling  
22 anything over about 20 percent; higher than usual.

23 Q So a sample of 50 percent then would be considered  
24 very high?

25 A (Eckert) I would consider that unusually high, yes.



1 Q Professor Evdokimoff, I have a couple of questions  
2 for you.

3 First of all, to clear up some of the confusion about  
4 the street addresses, do all the cottages in the beach area  
5 have street numbers?

6 A (Evdokimoff) Well, I had some difficulty in locating  
7 some of these places. The realtors would give out keys and it  
8 would have on it 7 or 9, and in some instances I had a hard  
9 time finding them. And some of them were not marked, and I had  
10 to go maybe to three or four cottages before I found the right  
11 one. It was just not apparent in some instances where it was.

12 So, in answer to your question, some of them, in my  
13 recollection, were not marked and required a little searching  
14 to find the right one; just going to different doors until the  
15 key worked. And if it opened it up, that's what I went into.

16 Q And I believe you testified yesterday that in  
17 addition to the 12 cottages that you inspected the interior of,  
18 that you also looked inside the windows of perhaps 50 to 60?

19 A (Evdokimoff) Yes, that's correct.

20 Q Were the 12 cottages that you inspected  
21 representative of the cottages that you had looked into the  
22 windows of?

23 A (Evdokimoff) I'm not sure what you mean by that.  
24 Representative in terms of what shielding potential, or  
25 deteriorating, or what do you mean by that?

1 Q Well, your description of the 12 cottages in your  
2 testimony, would you say that they were in line, representative  
3 of what you saw when you looked inside windows of the other 50  
4 and 60?

5 MR. FLYNN: Objection; leading.

6 JUDGE SMITH: She didn't lead the witness until the  
7 witness indicated that help was required on the question, and  
8 that's perfectly appropriate. The problem is you look at the  
9 weight you give such a question and answer.

10 MS. SNEIDER: You can answer the question.

11 THE WITNESS: (Evdokimoff) Could you repeat the  
12 question, please, Ms. Snelder?

13 BY MS. SNEIDER:

14 Q Were the interiors of the 12 cottages you described  
15 in your testimony representative of the types of interiors you  
16 saw when you looked into the windows of the 50 to 60 other  
17 cottages in the beach area?

18 A (Evdokimoff) Yes. As I said, I looked at a -- my 12  
19 represented a spectrum of the one-story cottages which are  
20 generally, in my opinion, in the worst shape. And then what I  
21 call the apartments are generally in better shape.

22 And, you know, there were -- there were instances  
23 where there were people not in these cottages because there  
24 were for rent signs, and I could just walk around and just look  
25 in the windows. And, you know, I could pretty much, just by

1 poking around and looking in the windows, I could get a good  
2 idea of what was there.

3 And so I would say, you know, I didn't see anything  
4 different in them. So the answer to your question would be  
5 yes.

6 Ms. Sneider, I would like to add one thing yesterday  
7 regarding what Mr. Lewald has asked me about a particular  
8 cottage that I looked at. And upon reflection, the one cottage  
9 I didn't recognize, some of the cottages are in the back of --  
10 in other words, there may be a street number, but there are  
11 cottages that are lined up in the back.

12 And in looking at that picture, it's highly probable  
13 that what I was referring to was the cottage in the back of the  
14 one I could not recognize. So I would just like to clarify  
15 that for the record.

16 Q Thank you.

17 Okay, Dr. Goble, I believe Mr. Turk asked you this  
18 morning some questions, as well as yesterday, about the --  
19 about releases and the build up of ground shine over a period  
20 of time.

21 A (Goble) Yes.

22 Q And Mr. Flynn also asked you a number of questions  
23 yesterday about NUREG-1210 and about puff releases. And I  
24 think I'd just like to get a little bit of clarification on  
25 that whole line of questioning.

1 To begin with, would you agree with a statement found  
2 on Page 22 of Volume 4 of NUREG-1210 which states that all  
3 major life-threatening releases resulting from core melt  
4 accidents would be zero to two-hour puffs?

5 MR. FLYNN: Objection; leading and also the document  
6 speaks for itself.

7 MS. SNEIDER: The document is not in evidence at this  
8 time. It's to clarify certain questions that they asked about  
9 NUREG-1210, particularly puff releases and natures of releases.

10 MR. FLYNN: Your Honor --

11 MR. TURK: I don't see how this is redirect.  
12 Whatever may be the point we made about NUREG-1210, no one's  
13 examined on this page, and it's not in the testimony of the  
14 witness. It's not redirect. It's simply an effort to expand  
15 the direct examination.

16 JUDGE SMITH: What do you say as to Mr. Turk's point?

17 MS. SNEIDER: Well, you know, there's a lot of  
18 questions about releases and whether sheltering would be  
19 preferred in certain situations versus evacuation. This is a  
20 foundation for Dr. Goble to explain with a little bit more  
21 clarity, especially in light of Dr. Linenberger's questions  
22 that he wished more clarify in this analysis, and that's where  
23 this is leading to; a little bit more clarity in the choice of  
24 decision between evacuation and sheltering.

25 JUDGE SMITH: All right.

1 MR. TURK: Your Honor, I don't share the belief that  
2 this is going to present any clarity on the issue. The direct  
3 testimony says what it says about circumstances in which  
4 sheltering may be a preferred response over evacuation. Mass.  
5 AG had a chance to give that a good shot. They put it in their  
6 direct testimony. There was cross-examination on the direct.  
7 And this is an attempt to try to expand beyond what's there.

8 JUDGE SMITH: Well, we take her representation for  
9 her purposes.

10 MR. FLYNN: The other problem that I have is there's  
11 a perfectly appropriate way to pose an opinion question to a  
12 witness on direct examination, and it's not necessary to lead  
13 the witness, nor is it for the question to put in evidence the  
14 portion of the document that the examiner wishes to refer to.

15 JUDGE SMITH: Would you -- I missed it.

16 MR. FLYNN: My original -- I had a twofold object.  
17 One was that the question was leading; and the second is that  
18 the document speaks for itself.

19 Now, Ms. Sneider is correct that the document is not  
20 in evidence, but that's part of my objection, and that is,  
21 she's attempting to put in part of the document by a leading  
22 question.

23 JUDGE SMITH: She's trying to --

24 MR. FLYNN: She hasn't -- I think what she's  
25 attempting to do is ask the witness an opinion. But as I said

1 a moment ago, there is a nonleading way to do that.

2 JUDGE SMITH: Well, let's take it that way. Let's  
3 take it that she's seeking the opinion of the witness, and  
4 let's get to the answer.

5 However, I think you are tending to lead more than  
6 you really have to. I don't think there is any great need for  
7 it here.

8 MS. SNEIDER: Just seemed like an abbreviated way to  
9 get to the point.

10 JUDGE SMITH: Beg your pardon?

11 MS. SNEIDER: Seemed like an abbreviated way to get  
12 to the point.

13 JUDGE SMITH: Yes, I realize that that is what you  
14 are doing. You are not really trying to lead this panel.  
15 You're not putting ideas in their minds that would not  
16 otherwise exist. I appreciate that.

17 THE WITNESS: (Goble) Okay, so I should answer the  
18 question if I remember it.

19 JUDGE SMITH: All right, what's the matter? What's  
20 the matter now?

21 THE WITNESS: (Goble) I'm sorry, I --

22 MR. TURK: I don't know if the witness is familiar  
23 with this statement in NUREG-1210, or whether it comes to his  
24 mind, or he's seen the context in which it appears and the kind  
25 of dose it's talking about.

1 JUDGE SMITH: All right.

2 MR. TURK: I think an open question from Ms. Sneider  
3 could --

4 MS. SNEIDER: I think he's quite capable --

5 MR. TURK: -- eliminate all the problems.

6 JUDGE SMITH: Wait a minute.

7 THE WITNESS: (Goble) Suppose I state my  
8 understanding of the question, and answer it? No?

9 MR. TURK: It's accommodating, but I don't know if it  
10 takes care of my problem.

11 THE WITNESS: (Goble) Okay.

12 JUDGE SMITH: All right. Had you finished your  
13 remarks?

14 MR. TURK: Yes.

15 JUDGE SMITH: What's your understanding of the  
16 question?

17 THE WITNESS: (Goble) Okay. My understanding of the  
18 question is do I agree that the duration of release for  
19 serious, by serious we mean potentially life-threatening  
20 accidents, whether the duration of release for all of them -- I  
21 think that's what you said -- do I agree that all of them have  
22 a duration between zero and two hours. Do I agree with a  
23 statement in NUREG-1210 on some page that all of them have a  
24 duration zero to two hours.

25 And I guess my answer would be -- I guess my answer

1 is that I don't agree that all of them necessarily would.  
2 That's a strong statement. I think that's by far the most  
3 likely case. If you are going into an early accident which  
4 releases enough radioactivity, usually the process is violent  
5 enough you get the bulk of the radiation, although not all of  
6 the radiation, out pretty fast.

7 I wouldn't want to say -- I wouldn't want to say that  
8 that would be true in all cases. And, in fact, some of the  
9 accidents given in the reactor safety study which produced  
10 potentially life-threatening doses do have projected durations  
11 of release somewhat longer than two hours.

12 But most of the time it's the case, and I don't want  
13 to quarrel too much with the NUREG-1210 people, that's a  
14 training manual, and when they say all they may be intending  
15 that to mean effectively all.

16 BY MS. SNEIDER:

17 Q Can you tell me what the average warning time would  
18 be for that type of release?

19 MR. TURK: Your Honor, we're really going off into  
20 the area of accident sequences and scenarios that has been  
21 excluded previously from testimony.

22 (Board confer.)

23 MR. TURK: And there's nothing that -- there's  
24 nothing that was raised in cross-examination dealing -- as I  
25 recall -- dealing with that.



1 JUDGE SMITH: Well, it was offered as being a follow  
2 on to Judge Linenberger's, and we don't believe that it is.  
3 And if you have an objection --

4 MR. TURK: I do.

5 JUDGE SMITH: -- it would be sustained.

6 MS. SNEIDER: This goes to the line of questioning  
7 about suggesting that people should -- the determination should  
8 always be evacuation rather than sheltering. It goes to Mr.  
9 Flynn's line of questioning, I believe to Mr. Turk's. My  
10 follow-up questions was about the predictability of this type  
11 of accident. It all goes to the sequence where the suggestion  
12 was that you should always tell people to evacuate, and the  
13 warning time seems to fit in directly to Dr. Goble's analysis  
14 of what the appropriate strategy is.

15 If it is 10 hours warning typically, then he would --  
16 I assume he would agree that it would be in conformance with  
17 his testimony that people should evacuate.

18 MR. TURK: It's a nice argument, Your Honor, but I  
19 don't see that that's the question that was posed to the  
20 witness.

21 What I heard her say is how much warning time are you  
22 likely to have with core melt, or words to that effect.

23 MS. SNEIDER: This type of short-duration accident.

24 MR. TURK: Well, there's nothing that we're talking  
25 about here about a short-duration accident.

1 MS. SNEIDER: We were just talking about the zero to  
2 two-hour puff release. So it's --

3 JUDGE SMITH: Was that -- that wasn't Mr. Flynn's  
4 cross-examination to which you are following, though, is it? I  
5 don't recall that.

6 MS. SNEIDER: There was a line of questions, I  
7 believe, both from Mr. Turk and Mr. Flynn yesterday that went  
8 to -- I don't recall it exactly, but the insinuation was they  
9 were trying to get the witness to agree that you should always  
10 evacuate rather than shelter.

11 It also goes somewhat to Mr. Turk's line of  
12 questioning today about the buildup of radiation, and I think  
13 it helps explain Dr. Goble's position a little bit clearer why  
14 he considers the sheltering option very essential.

15 MR. FLYNN: I join in Mr. Turk's objection, and I  
16 would like to suggest that my questions were not dependent upon  
17 any assumptions about warning time.

18 JUDGE SMITH: They weren't?

19 MR. FLYNN: We did talk about a release being  
20 imminent, but I don't think that's the line of questioning that  
21 Ms. Sneider is referring to.

22 The questions that I posed to Dr. Goble about the  
23 serious early release I would submit were independent of  
24 whether there was a -- excuse me, perhaps I -- no, I withdraw  
25 the remarks.

1 MR. TURK: Your Honor, the rabbit trail that we're  
2 being led down is going to require, or possibly require one or  
3 another party come in and say, no, the warning times for  
4 different scenarios are going to be different, and here's what  
5 we predict is going to be the probability of how much warning  
6 time you're going to have. All of it's beyond the questioning  
7 that we have done today and beyond the scope of an admissible  
8 issue for litigation here.

9 MS. SNEIDER: I asked the same questions about  
10 warning times of the Applicants' witnesses, and I believe I got  
11 responses to that. So I don't see where this is going to  
12 require a great deal of rebuttal. There was plenty of time  
13 when the State of New Hampshire was up here and the Applicants.  
14 We did get into this area.

15 (Board confer.)

16 (Continued on next page.)

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1 JUDGE SMITH: Objection sustained.

2 MS. SNEIDER: Your Honor, can I make an offer of  
3 proof at this time --

4 JUDGE SMITH: Certainly.

5 MS. SNEIDER: -- and have the --

6 JUDGE SMITH: All right.

7 MS. SNEIDER: -- I would like to be able to say what  
8 the witness would answer, I'd rather that the witness say it  
9 himself by way of an offer of proof.

10 JUDGE SMITH: Do you know what the answer is you  
11 expect to get?

12 MS. SNEIDER: Since the answer is of such a technical  
13 nature, I would feel more comfortable if the witness said it.

14 JUDGE SMITH: All right.

15 Can you answer the question?

16 THE WITNESS: (Goble) I think the question was a  
17 question about -- of warning time, that's where we -- which --  
18 I don't know how technical --

19 MS. SNEIDER: Warning times for these --

20 THE WITNESS: (Goble) Oh, for these --

21 MS. SNEIDER: -- short-duration, life-threatening  
22 releases.

23 THE WITNESS: (Goble) That's right. The -- one  
24 doesn't -- the --

25 MR. DIGNAN: May I observe this is the darnedest

1 offer of proof I've ever seen. Your Honor, I understood the  
2 latitude Your Honor likes, but I think the proper procedure is  
3 counsel to say, quote, "I offer to prove A, B, C," and that's  
4 the way of an offer of proof --

5 MS. SNEIDER: Okay, I'll --

6 JUDGE SMITH: She's really in essence asking for  
7 technical help at the same time she's asking for the offer of  
8 proof --

9 MS. SNEIDER: Your Honor --

10 JUDGE SMITH: -- she can consult with the witness  
11 then if she wants to.

12 MR. DIGNAN: I have no objection to her consulting  
13 with the witness, but this is a record matter and it ought to  
14 go in --

15 MS. SNEIDER: Your Honor --

16 JUDGE SMITH: Now, this is not going to be available  
17 for --

18 MR. DIGNAN: No, I know it isn't --

19 JUDGE SMITH: -- proposed findings.

20 MR. DIGNAN: -- but I believe it's presumably being  
21 made for a right of appeal, you don't make one otherwise. And  
22 I'd like at least the offer of proof to be clear, so that the  
23 Board hears it, I hear it, and the Board, for all I know, may  
24 wish to reconsider its ruling once it hears a clear offer of  
25 proof. And what we're getting is a disjointed thing that then

1 goes up to the Appeal Board or higher and everybody looks at it  
2 and says, well, we're not sure it might have meant this or it  
3 might have meant that.

4 And it seems to me the proper way an offer of proof,  
5 at least any time I've ever seen it in a court of law, be an  
6 administrative or judicial, has always been for an attorney to  
7 stand up and say, Your Honor, I offer to prove, if allowed I  
8 offer to prove A, B, C, D.

9 JUDGE SMITH: Go talk to your witness, your advisor  
10 or whatever he is.

11 (Counsel and witness conferring.)

12 JUDGE SMITH: Let's take a five minute break.

13 (Whereupon, a brief recess was taken.)

14 JUDGE SMITH: Ms. Sneider.

15 MS. SNEIDER: Your Honor, if the witness was allowed  
16 to respond to the question he would testify, in essence, that  
17 according to the generic literature these early or these  
18 serious puff release accidents, there are warning times from  
19 one half hour to two hours. He would add one qualification to  
20 that, that there is some research indicating that there would  
21 also be -- that there could be serious accidents with longer  
22 warning times -- some serious accidents that might have longer  
23 warning times.

24 MR. FLYNN: Your Honor, I would submit that the offer  
25 of proof as stated by Ms. Sneider contradicts what the witness

1 has said in the past. He himself has made a distinction  
2 between --

3 MR. DIGNAN: Well, wait a minute, she's made the  
4 offer of proof, do we have to argue about it. It's her right.  
5 It's her inalienable right to make an offer of proof, do we  
6 have to then argue about it.

7 MR. FLYNN: May I finish my remark --

8 MR. DIGNAN: I mean it, Your Honor.

9 (Laughter)

10 MS. WEISS: You may want to reconsider this.

11 JUDGE SMITH: Do you feel that the world is ganging  
12 up against you this morning, Mr. Flynn.

13 (Laughter)

14 MR. FLYNN: Your Honor, I'm used to that.

15 The only point I wanted to make was that the witness  
16 himself has made a distinction in his testimony between a puff  
17 release and a serious release.

18 JUDGE SMITH: Okay.

19 Ms. Sneider. When this gets done we get to see a  
20 videocassette.

21 BY MS. SNEIDER:

22 Q I'd just like to ask you, this is a followup to  
23 questions about the ability to predict what's going to happen,  
24 with respect to these fast, severe, early releases of short-  
25 duration, can you predict such a release?

1 JUDGE SMITH: What kind of a release, short-duration  
2 and what?

3 THE WITNESS: (Goble) Severe.

4 MS. SNEIDER: Severe.

5 JUDGE SMITH: There was another modifier in there?

6 MR. TURK: Fast and early.

7 JUDGE SMITH: Yes, right. Fast, early, severe,  
8 short-duration.

9 MS. SNEIDER: Maybe I should rephrase it.

10 BY MS. SNEIDER:

11 Q Can you predict the severe accident of short-  
12 duration, the severe, early accident of short-duration?

13 MR. TURK: Your Honor, I --

14 JUDGE SMITH: Now, wait a minute.

15 All right, what's your objection?

16 MR. TURK: It doesn't make sense to me, first of all.

17 JUDGE SMITH: I think it does.

18 MR. DIGNAN: Can I respectfully inquire as to when  
19 the interrogator really meant the word "release" instead of the  
20 word "accident."

21 JUDGE SMITH: Oh, I missed that.

22 MS. SNEIDER: Release. Thank you.

23 JUDGE SMITH: Okay.

24 MR. DIGNAN: Any time, Ms. Sneider.

25 MR. TURK: And, Your Honor, I think it's been asked



1 and answered in my cross-examination already. It's trotting  
2 over the same ground, I don't see a difference from what we've  
3 already covered.

4 MS. SNEIDER: Well, I think I'm defining, probably,  
5 more than you did, this type of accident. And I believe it was  
6 after a series of your questions that we got an indication from  
7 the Board that some of the responses had been, perhaps, a bit  
8 too general and we're trying to just define some of those  
9 responses a little bit better.

10 JUDGE SMITH: Do you understand the question?

11 THE WITNESS: (Goble) I think so, but may I ask one  
12 question myself, which is, did I ever answer the question about  
13 warning times?

14 MS. SNEIDER: No, you were instructed not to.

15 THE WITNESS: (Goble) Okay.

16 (Laughter)

17 THE WITNESS: (Goble) Okay, I won't.

18 JUDGE SMITH: Do you understand this question?

19 THE WITNESS: (Goble) Yes. Yes, I understand it.  
20 And my answer to it is, that you cannot definitely predict a  
21 release --

22 JUDGE SMITH: You mean, you cannot always?

23 THE WITNESS: (Goble) That's right.

24 JUDGE SMITH: Always.

25 THE WITNESS: (Goble) That's right. Yes. You could

1 make a definite confident prediction and be wrong, for example.  
2 You cannot always -- you cannot correct or you cannot always  
3 correctly predict that a release will occur. And the timing of  
4 this is perhaps of considerable importance in emergency  
5 planning. The timing of what's happening.

6 And what you -- what makes you think a release might  
7 be imminent is that you've entered into a core melt, a serious  
8 release where puff is being used by NUREG-1210 in this context  
9 just means short-duration; it was not limiting what was coming  
10 out, okay.

11 So for a serious accident you can fear that a release  
12 is imminent if you've entered into core melt or severe core  
13 degradation leading to melt. And then at issue, for whether or  
14 not you're going to have a release, is whether or not the  
15 containment will hold the radioactivity that's going to be  
16 released by the degrading core.

17 And essentially, what happens is there's a relatively  
18 early crisis point at which the -- in which the reactor vessel  
19 melts through the core, slumps down is one of the poetic ways  
20 people describe that. And at that point, either -- at that  
21 point you don't know what will happen; containment might hold  
22 or it might not.

23 If containment -- if there is containment it's likely  
24 that there will be a relatively long period of time --

25 JUDGE SMITH: Let's --

1 THE WITNESS: (Goble) Okay. So what you don't know  
2 is, what you can predict -- let me -- I'll just summarize and  
3 try to make it quick. What you can predict is that there might  
4 be a release relatively soon and you'll know about it  
5 relatively soon or there might be a substantial delay in  
6 release and you won't know which of those things will happen  
7 once you enter into core melt.

8 BY MS. SNEIDER:

9 Q In light of what you have just said, could you  
10 explain to me why you believe a sheltering option would be  
11 preferable strategy?

12 A (Goble) Yes. The --

13 MR. TURK: I think we're trotting over the same  
14 ground that's been explored in cross already.

15 JUDGE SMITH: That's exactly the reason for redirect,  
16 isn't it? Going over the same ground that was explored on  
17 cross. I mean, hoping to get maybe a different answer, but if  
18 she were not doing that I'd be hearing you objecting that is  
19 not redirect.

20 MR. TURK: I'll withdraw the --

21 JUDGE SMITH: That's your universal, generic  
22 objection.

23 (Laughter)

24 MR. TURK: I like the record that I've got, Your Honor

25 JUDGE SMITH: Do you withdraw it?

1 MR. TURK: Yes.

2 THE WITNESS: (Goble) I think it's likely to be  
3 prudent to recommend sheltering because of the potential for an  
4 imminent release. If it turns out that the release does not  
5 happen, the containment has held, then there's likely to be a  
6 substantial period of time, whereby substantial I mean at least  
7 several hours, probably many hours when you would expect it to  
8 hold and when there would be ample time at that point to  
9 evacuate the beach population.

10 BY MS. SNEIDER:

11 Q I believe you responded to a question this morning to  
12 Mr. Turk that you would recommend that people shelter for the  
13 duration of the release and then that they evacuate, it may  
14 have been to Mr. Flynn; is that right?

15 A (Goble) Yes.

16 Q Okay. And Dr. Linenberger indicated some questions  
17 yesterday about whether people would be better off remaining in  
18 their cars versus sheltering, and what I'd like to ask you  
19 right now is why you believe it would be better for people to  
20 shelter rather than -- to shelter for the duration of the  
21 release rather than remain in their cars, particularly with  
22 respect to the particulate releases that we were talking about?

23 A (Goble) All right. A shelter provides some  
24 protection against all three forms of exposure, and a suitable  
25 shelter will provide significantly more protection than will a

1 car, which will provide very little protection.

2 JUDGE SMITH: And this is all your answer is, as  
3 relates to particulate -- protection against particulate  
4 deposits?

5 THE WITNESS: (Goble) Well,--

6 MS. SNEIDER: Why don't we first address  
7 particulates.

8 JUDGE SMITH: All right, that is suppose to be your  
9 question, wasn't it?

10 THE WITNESS: (Goble) Yes. For particulates you do  
11 worry about inhalation of particulates as well as ground  
12 deposition. And you worry about -- and a building will provide  
13 some protection against inhalation more than you would expect a  
14 car.

15 Similarly you worry about ground shine. Furthermore,  
16 you might worry about materials deposited on the car and/or --  
17 and also on the person in the car.

18 BY MS. SNEIDER:

19 Q And why would you worry about the ground shine  
20 depositing or the particulates depositing on the person in the  
21 car?

22 A (Goble) I want to say because it can happen. If you  
23 have a person sitting in a car for several -- there is a  
24 question about how much -- if the windows of the car are open  
25 you would certainly expect air flow through the car and

1 deposition on the people contained within the car. Now, I  
2 guess there's a question, to what extent on a hot summer day  
3 you could keep your windows closed, that would certainly reduce  
4 skin deposition quite a bit.

5 Q Now, Mr. Turk asked you some questions about  
6 deposition of particles increasing over time. In light of that  
7 do you have an opinion as to whether it would be better to  
8 evacuate quickly or to shelter and then evacuate?

9 JUDGE SMITH: And that's the only consideration he's  
10 to bring into his --

11 MS. SNEIDER: Well, I'm afraid if I ask much more  
12 I'll be accused of leading the witness, so I guess start off in  
13 a general way.

14 THE WITNESS: (Goble) Let me guess where you're  
15 going. The -- my discussion with Mr. Turk was --

16 MR. DIGNAN: I object. A question goes out, the  
17 witness' answer starts with, let me guess where you're going.

18 JUDGE SMITH: Well, that was slow.

19 MR. DIGNAN: My objection?

20 JUDGE SMITH: Yes.

21 MR. DIGNAN: I can get lulled like everybody else.

22 JUDGE SMITH: You would have done that 13 years ago.

23 (Laughter)

24 BY MS. SNEIDER:

25 Q Do you understand the question, Dr. Goble?

1           A       (Goble) I think I understand the question. I  
2       assume that -- let me try and answer the question. My  
3       discussions with Mr. Turk concerned the buildup of deposited  
4       radioactivity. And the -- what we've -- the previous question,  
5       about two or three, concerned the duration of the release that  
6       was to be expected for these sorts of accidents. And that  
7       duration to be expected is relatively short, typically two  
8       hours or less.

9           And I take it -- well, that time period, two hours,  
10      is short compared with the time expected for evacuation of the  
11      summer beach population. So that one will have a -- well  
12      before the bulk of the people would be evacuated you might have  
13      accumulated most of the ground deposited material that is  
14      producing a ground shine dose.

15           JUDGE SMITH: And that the buildup of particulates on  
16      the shelter would not be sufficient to offset the other --

17           THE WITNESS: (Goble) The protection --

18           JUDGE SMITH: -- the answer you started out with, how  
19      you take into account the buildup of particulates or the  
20      degrading of a shelter, in your view, and you didn't come back  
21      to that.

22           THE WITNESS: (Goble) Okay. Well, for ground shine  
23      I wouldn't call it degrading of the shelter. The shelter --

24           JUDGE SMITH: So you don't understand the question to  
25      be that, the degrading of the shelter?

1 THE WITNESS: (Goble) I don't consider it to be a  
2 degrading of the shelter. The shelter works the way it works.  
3 It interposes mass between the stuff that's radiating and the  
4 person who might be irradiated; and it has that mass and it  
5 interposes it.

6 The issue that I was discussing with Mr. Turk was an  
7 accumulation of material, so there would be more radiation for  
8 the shelter to be protecting against. And if it were the case  
9 that when we're talking about a very sustained release where  
10 this material would be continuing to be building up for hours  
11 and hours and hours, that would provide more urgency for moving  
12 people away from it than if you had accumulated what was going  
13 to accumulate, and the dose that -- or exposure that one was  
14 receiving was going to be then thereafter relatively constant.

15 (Continued on next page.)

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137  
1 BY MS. SNEIDER:

2 Q In that type of situation where you're sheltering  
3 people for the duration of the release, and these particulates  
4 have built up outside, how would you address Mr. Turk's  
5 concerns about people evacuating through this ground  
6 deposition?

7 MR. TURK: And may I get clarification?

8 We are talking about shelters in the Seabrook beach  
9 area?

10 MS. SNEIDER: Yes. Right now the question is  
11 addressed to the evacuation after sheltering.

12 MR. TURK: Given the shelter that exists in the  
13 Seabrook beach area.

14 MS. SNEIDER: Right, but that's not what the question  
15 is addressed to.

16 MR. TURK: Oh.

17 MS. SNEIDER: This could be any shelter. I'm only  
18 asking -- the question is going to evacuation after sheltering.

19 MR. TURK: Your Honor, I would like the record to be  
20 clear. Are we talking about shelter in some hypothetical  
21 sense, or are we talking about the protective response for the  
22 people in the Seabrook beach area, which is the focus of this  
23 hearing?

24 JUDGE SMITH: Well, your objection or your request  
25 for clarification probably would have been appropriate to the

1 earlier question. But right now since she's talking solely  
2 about walking through or traveling through ground shine no  
3 matter what the sheltering had been, I don't understand your  
4 concern. I mean, it's not relevant. The sheltering is not  
5 relevant to her present question.

6 Do you understand her question relates only to  
7 evacuating through -- having left the shelter and evacuating  
8 through the deposits on the ground?

9 MR. TURK: I misunderstood. I thought she was  
10 talking about this combined response of shelter first, then  
11 evacuate versus evacuate immediately.

12 JUDGE SMITH: Well, serial. I mean sooner or later I  
13 think she's putting it all together.

14 THE WITNESS: (Goble) Okay. The -- we're  
15 hypothesizing that the ground-deposited material has  
16 accumulated, and we're talking about the doses that you expect  
17 just from the ground-deposited material for the moment. So  
18 we're not considering any previous protection afforded by the  
19 shelter.

20 Then, at issue is really -- there are really two  
21 questions in evacuating people from this area with ground  
22 shine.

23 One, is whether it's possible under these  
24 circumstances to get them out, spending less time than in the  
25 traffic jam that gave rise to the original evacuation time

1 estimates.

2 And two, whether having had the benefit of knowing  
3 what had happened, you could direct them away from the most  
4 contaminated areas.

5 And both of those seem to me possible, but they would  
6 require planning; that you don't need to have everybody waiting  
7 in their cars to evacuate; you could have them waiting in the  
8 shelters. It would also be possible, it seems to me, to know  
9 what areas are most contaminated and to get people out, but it  
10 would require a significant planning effort to be prepared to  
11 do so.

12 MS. SNEIDER: Okay. I have just one more question.

13 BY MS. SNEIDER:

14 Q I believe Judge Harbour asked you yesterday whether  
15 your population counts for the beach area included people in  
16 their cars. And I just wanted to ask you for clarification if  
17 you know whether Dr. Adler included people driving in cars in  
18 the beach area when he produced his population figures.

19 A (Goble) I don't know.

20 MS. SNEIDER: Okay. I'm finished.

21 JUDGE SMITH: Anything further from this panel?

22 MR. LEWALD: I have two questions.

23 RE CROSS EXAMINATION

24 BY MR. LEWALD:

25 Q Dr. Eckert, is it your position as a statistician

1 that you can opine across the board what is an adequate  
2 percentage of sampling without knowing something about the  
3 population you want to sample, or without knowing something  
4 about the method of sampling that you intend to employ?

5 A (Eckert) No, my position is that -- well, it would  
6 be --

7 Q That is not your position?

8 A (Eckert) That's not my position.

9 Q Isn't that what, in essence, you have told Ms.  
10 Sneider?

11 A (Eckert) I seem to recall she asked for my  
12 impression of a usual kind of sample that a statistician might  
13 encounter in terms of sample sizes.

14 Q But you didn't know what the population she was  
15 concerned with, or, indeed, the method of sampling to be  
16 employed, did you?

17 A (Eckert) She didn't relate those to me.

18 Q Now in answer to, I think it was Judge Harbour's  
19 question with regard to the questionnaire or the survey  
20 instrument, you made the statement, I believe, that no attempt  
21 was made to inquire within the survey instrument into the  
22 attitude of the respondents toward operation of the plant.

23 Am I misstating your answer?

24 A (Eckert) I believe that's about correct.

25 Q That would be about what you said?

1 A (Eckert) I'll accept that's about what I said, yes.

2 Q Could we look at, for example, on Attachment 12 which  
3 is part of Exhibit 19, and on the page that we have indicated  
4 as 117, and the second paragraph of the questionnaire, and the  
5 second sentence?

6 You say, "It is important that your views on this  
7 issue become known."

8 Now the issue you're referring to is an evacuation  
9 plan, isn't it?

10 A (Eckert) That's correct, and the use of the  
11 shelters.

12 Q And is it your position that the evacuation plan has  
13 nothing to do with the operation of the plant?

14 A (Eckert) With the operation of the plant?

15 Q Of the plant; whether or not the plant is licensed.

16 A (Eckert) No, it has a lot to do with it.

17 Q It has everything to do with it, doesn't it?

18 A (Eckert) Yes.

19 Q Now on Page 56, if I can go back to this point one  
20 more time, and if I could ask you to turn to Page 56, and if I  
21 could also ask you to look at your copy, which I know you have,  
22 of Applicant's Exhibit No. 37 which is the Stone & Webster  
23 shelter survey form for the Seaside Motel which we have been  
24 discussing throughout.

25 Now, in your testimony on Page 56 you say in the

1 third paragraph, the second sentence, "In one of these cases  
2 they wrote," -- now the they is Stone and Webster -- "they  
3 wrote that '65 times 12 equals 7800. '"

4 Now that is not a full quote of what appears on the  
5 structure description -- under the structure description in  
6 Applicants' Exhibit No. 37, is it, Doctor?

7 A (Eckert) No.

8 MS. WEISS: I object on the grounds that this is not  
9 fair recross. He's going over an issue which he himself raised  
10 on cross, and this was not raised by the Board or raised by Ms.  
11 Sneider. It's just an effort to get the last shot in, Your  
12 Honor, and these witnesses have been here for a long time.

13 MR. DIGNAN: Not based on Ms. Sneider?

14 MS. WEISS: Excuse me, not raised by the Board.

15 MR. DIGNAN: Were you out of the room?

16 MS. WEISS: I withdraw that.

17 MR. LEWALD: Your Honor, this has come up several  
18 times.

19 MR. DIGNAN: She's withdrawing -- she's withdrawing  
20 it.

21 MS. WEISS: Well, I withdraw the reference to Ms.  
22 Sneider.

23 You are certain you have a right to come back on  
24 everything that she redirects on?

25 MR. DIGNAN: That's the usual rule.

1 MS. WEISS: That's not my understanding, not when  
2 it's an issue that you raised.

3 JUDGE SMITH: All right. Come on. I'm wondering  
4 about your status of carrying the ball on these objections. I  
5 know that --

6 MS. WEISS: Well, Your Honor, that's the first  
7 objection I've made this afternoon. I'm not carrying the ball  
8 on these objections.

9 JUDGE SMITH: Who counts.

10 MS. WEISS: Well, apparently somebody is.  
11 You know, we've been getting --

12 JUDGE SMITH: Overruled.

13 MS. WEISS: -- objections from this side without  
14 reference to whose witness it is.

15 JUDGE SMITH: Well, any time that we can be helped  
16 with our judgments, we appreciate it.

17 Overruled.

18 MR. LEWALD: Your Honor, could I have the question  
19 read again to the witness so I don't lose the sequence of the  
20 examination --

21 JUDGE SMITH: Please.

22 MR. LEWALD: -- which I submit the objection was  
23 designed to do.

24 (Accordingly, the pending question was read back  
25 by the court reporter.)

1 THE WITNESS: (Eckert) The answer is no.

2 BY MR. LEWALD:

3 Q And in front of what you purport is the quote from  
4 Stone & Webster is the word "paced"; is it not?

5 A (Eckert) That is correct.

6 Q And on your copy of this form you have indeed circled  
7 "paced" in red crayon, have you not?

8 A (Eckert) That's right.

9 Q Now again in an answer, I think to Judge Harbour's  
10 question, you in essence assured Judge Harbour that you took  
11 whatever steps you could, or that you did indeed take steps to  
12 make sure that the questions in your survey instrument did not  
13 introduce any bias in the questions; was that your testimony,  
14 in essence?

15 A (Eckert) Yes.

16 Q What steps did you take?

17 A (Eckert) We wrote the questionnaire and we were  
18 approaching the questionnaire with independent questions in  
19 mind. And then when that was done, we had that reviewed by Dr.  
20 Luloff, who agreed that the questionnaire could go out.

21 There was no purposeful design of intermixing the  
22 questions so that we would perhaps try to influence the answer  
23 to question by the other.

24 Q What steps did you take to guard against the  
25 introduction of bias or systematic error in the questionnaire?



1           A       (Eckert) Do you mean relative to the questions  
2 themselves?

3           Q       Relative to the survey instrument.

4           A       (Eckert) The step we took was to have it reviewed by  
5 Dr. Luloff.

6           Q       And that's the steps you took to make sure that there  
7 was no systematic error in the document?

8           A       (Eckert) Other than being careful ourselves not to  
9 introduce a known bias there, we then had that reviewed by Dr.  
10 Luloff, yes.

11          Q       And by yourselves, you're referring to whom, Doctor?

12          A       (Eckert) Myself and my chief assistant.

13          Q       Doctor, referring to the second survey, and I use the  
14 term "second survey" in the manner that you have used it, and  
15 referring again, if I could, to Page 65 of your testimony, and  
16 if I may repeat again, the reason as I understand it that you  
17 say you wanted to do a second survey.

18               MS. SNEIDER: Objection. There's been no cross-  
19 examination since Mr. Lewald is on the second survey.

20               MR. LEWALD: Your Honor -- well, there has been  
21 considerable testimony as to the capacity of the private space  
22 and public space in public access buildings. And it is this  
23 subject that I am inquiring into. There has been testimony of  
24 criticism of Stone & Webster study for failing to allocate  
25 sufficient space to the private residents, and I'm coming at

1 this on the other side of the point.

2 JUDGE SMITH: Sufficient space to the private?

3 MR. LEWALD: The allegation is that Stone & Webster  
4 improperly included in their survey of the so-called public  
5 access building those areas, or those buildings that were  
6 either owner-occupied, employee-occupied, or occupied by  
7 somebody else, but nevertheless were in the nature of private  
8 residents. And it is this matter that I would like to inquire  
9 into.

10 JUDGE SMITH: And the second survey that you're  
11 referring to.

12 MR. LEWALD: The second survey was directed to this  
13 very question, I believe.

14 MS. SNEIDER: I don't see that, Your Honor. The  
15 second survey went to the use of motel rooms.

16 JUDGE SMITH: That's the one -- the second survey  
17 being the very, very last one.

18 MR. LEWALD: The very last one inquiring as to those  
19 hotel owners or managers who answered yes to Question 4.

20 JUDGE SMITH: Yes. I don't see the relationship.

21 MR. LEWALD: My question is -- I want to ask Dr.  
22 Eckert why he did not pose the reciprocal to that question to  
23 every owner that answered no, to find out whether that answer  
24 pertained to his private quarters within the facility, the  
25 public access building, or whether it appeared -- whether or

1 not it intended to cover lobbies, hallways, basements, and et  
2 cetera, of the building, the very matter that he was looking  
3 for information from the people who answered yes.

4 And it seems if we're concerned with the areas of  
5 lobbies, hallways, basements, et cetera, and common public  
6 areas in public access buildings along with the private areas,  
7 that there is no less reason for asking those who answered no  
8 than there is for asking those who answered yes as to what  
9 their answer pertained to.

10 JUDGE SMITH: I understand. Okay, I agree.

11 MR. LEWALD: This is the purpose of my question.

12 JUDGE SMITH: I understand now. What I don't  
13 understand is whose cross-examination are you following on. I  
14 understand the purpose, and I think it would have been  
15 legitimate cross, but I don't know whose cross you are  
16 following on.

17 MR. LEWALD: Well, I believe the matter did come up,  
18 Your Honor.

19 JUDGE SMITH: All right.

20 MR. LEWALD: But if -- I would ask the indulgence of  
21 the Board if it did not on the basis that I forgot to ask it  
22 when I intended to.

23 JUDGE SMITH: All right, that's adequate in itself.

24 BY MR. LEWALD:

25 Q Doctor, you have heard this colloquy, I think, and

1 can I ask you did you consider at any point in time circulating  
2 those hotel or public access building owners who answered no to  
3 Question 4 on your questionnaire as to what space they were  
4 referring to?

5 A (Eckert) No, we didn't consider asking that  
6 question.

7 Q And what was the basis of not doing it if indeed --  
8 well, let me strike that. Obviously, if you didn't consider  
9 it, you had no basis.

10 MR. LEWALD: That concludes my examination.

11 JUDGE SMITH: All right. Anything further?

12 MR. TURK: Your Honor, one brief line. I don't mean  
13 to prolong this. It gets at the redirect of Ms. Sneider. I  
14 hope to be three minutes.

15 JUDGE SMITH: That's three minutes for you, and then  
16 you open up the whole cascade.

17 Go ahead.

18 You've already used some of it.

19 (Laughter.)

20 MR. DIGNAN: Seven seconds gone, Your Honor.

21 MR. TURK: Dr. Goble, real quickly if you can, I just  
22 want to see if I understand your testimony on one respect.

23 RE CROSS EXAMINATION

24 BY MR. TURK:

25 Q As I understand it, you agree that you do not know in

1 advance whether you're going to have an early containment  
2 failure or not; is that correct?

3 A (Eckert) Yes.

4 Q And also you would agree that you cannot predict  
5 reliably in advance of an occurrence whether or not other  
6 safety systems may fail which had not failed when you first  
7 enter a severe accident which might produce containment  
8 failure.

9 A (Eckert) That's correct.

10 Q So that even when you're going into a core melt  
11 situation, and let's hope it never happens anywhere, but if a  
12 plant was to go into a core melt such as at Seabrook, you would  
13 agree that you simply would not know at that point whether or  
14 not your containment was going to hold; would you agree?

15 A (Eckert) Yes.

16 MR. TURK: All right, I have nothing further.

17 JUDGE SMITH: Anything further?

18 (No response.)

19 JUDGE SMITH: All right, you may step down,  
20 gentlemen, and we'll take a --

21 MS. SNEIDER: Excuse me, Your Honor.

22 JUDGE SMITH: Somebody speaking?

23 MS. SNEIDER: Yes, I am.

24 It appeared that Dr. Goble wanted to add something  
25 there, and I was concerned that he may have been cut off.

1 THE WITNESS: (Goble) I don't think I need to add  
2 it. I think I said what I was saying before.

3 JUDGE SMITH: All right. Take our afternoon break,  
4 and next we're going to have Dr. Eckert, and he's going to  
5 sponsor the videocassette and his short testimony.

6 Fifteen minutes.

7 (Whereupon, the witnesses were excused.)

8 (Whereupon, a recess was taken.)

9 (Applicants' Cross-Examination  
10 Outline on Testimony of Robert  
11 L. Goble, Ortwin Renn, Robert T.  
12 Eckert and Victor N. Evdokimoff;  
13 and NRC Cross-Examination Plan  
14 of panel follows:)

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1/16/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

before the  
ATOMIC SAFETY AND LICENSING APPEAL BOARD

_____ )	
In the Matter of )	
PUBLIC SERVICE COMPANY )	Docket Nos. 50-443-OL
OF NEW HAMPSHIRE, et al. )	50-444-OL
(Seabrook Station, Units 1 )	(Offsite Emergency
and 2) )	Planning Issues)
_____ )	

APPLICANTS' CROSS-EXAMINATION OUTLINE  
ON TESTIMONY OF ROBERT L. GOBLE,  
ORTWIN RENN, ROBERT T. ECKERT AND  
VICTOR N. EVDOKIMOFF

Applicants' Cross-Examination intends to inquire into the following matters in challenge to the credibility of the witnesses and their testimony.

The qualification of the panel members in the field of emergency planning.

The basis for the conclusion that the bulk of the buildings in the beach area are totally unsuitable for sheltering. (p. 7)

What is the NHRERP reference that summer beach evacuation times will range from 5 to 10 hours? (pp. 14-15).

The characteristics of beach population ? (pp. 11, 12).  
The concept of entrapment under NUREG-1210? (pp. 16-17).

The definition or concept of suitable shelters, better shelters? (pp. 16-17).

Whether it is possible to satisfy the so-called "general conditions" which the panel say must exist in order that sheltering can be successfully implemented. Can panel give examples of other sites where certain of their requirements have been implemented. Is it the panel's position that sheltering of the Beach population at Seabrook is impossible? See Testimony at 19-20.

The nature and kind of buildings located on Hampton and Seabrook beaches. Any other beach studies? (p. 22)

How was representative sample of summer cottages in the beach area determined? (p. 24) Each beach area?

How were 12 representative cottages selected for inspection?

Source for protective factor listing? (p. 24)

Source for Aldrich tables? (p. 25)

Derivation of caveat for use of protective factors. Whose caveat? (p. 25)

Method for typical cottage dimensions determination. Inquire into cottage floor plan. (p. 28)

Details of 17 Epping and 7 Boston and 136 Asworth and Asworth and J. Street.

What is minimal shielding for cloudshine, ground shine and protection from inhalation of radiological material? (p. 30)

What shielding protection must be afforded to render a Hampton beach building suitable for shelter? (p. 31)



Is Evdokimoff's caveat on use of Aldrich tables  
pertinent to all structures and locations in Aldrich tables  
33?

Appropriateness of NHRERP air change figures? (p. 32)

Were High, Adler and Befort population numbers chosen  
solely on the basis of the time of date compilations? (pp.  
35, 36)

What was purpose in your testimony in starting with  
Stone & Webster's March 1986 study when you were aware of its  
subsequent revision and reorientation in August 1987? (p.  
37)

Check population numbers listed on p. 39.

How was panel's statistical random sample first  
selected? (p. 31) Second selection?

What was the process for estimating "reduction factors"?  
(p. 43)

What was the nature of the statistical analysis referred  
to on p. 44?

Inquire into the alleged mistakes and inaccuracies in  
the Stone & Webster August 1987 study listed on pp. 54-57.

What is informed speculation? Basis?

Compare the shelter area remaining after panel's  
discounting for errors and speculation (p. 58) with  
population to be sheltered (p. 35).

Nature of the survey conducted by Salmon Falls reported as the full survey in attachment 12 to panel testimony? (p. 61)

Does attachment 12 contain all the survey material? Procedures? (p. 61)

Examine the statement that "the protection provided by structures with .9 shielding is even less than Aldrich, et al have assumed would be provided at other sites in the country even if no protective action was recommended" (Aldrich, et al. Feb. 1978). (p. 67)

Question panelist Renn's estimates for people to be sheltered. (pp. 70 to 78)

Derivation of message reported on p. 72.

Inquire into basis for the maximum numbers (p. 78) and assumptions of Seabrook shelter implementation estimates. (p. 79)

Determine whether witnesses have made any comparison between the results of applying Salmon Falls reduction factor and Stone & Webster's August 1987 study availability factor to square footage totals of the 23 structures examined by Salmon Falls Research Associates.

Examine the applicability of the Renn literature references for the counterbalancing the propositions advanced in the Renn testimony. (pp. 81-84).

By their attorneys,

*George H. Lewald*

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11682  
NRC Staff Cross-Examination Plan:

Testimony of Ortwin Renn  
(Included in Goble, et al. panel)

1. Does he agree that evacuation is a preferable protective response for the Seabrook and Hampton beach populations, as compared to sheltering (pp. 7,

2. Determine relative importance of factors listed on pp. 20-21 as necessary conditions for implementation of a sheltering response for a beach population.

3. Explain meaning of statement concerning the "most remote beach areas" (p. 73).

4. Determine basis for statement concerning advice of self-appointed leaders (p. 75-76).

5. Determine extent to which his estimate of the time required to implement a shelter response is duplicative and exaggerated (pp. 78 and 76-77).

6. Determine extent to which any such time estimate is representative of expected response time (p. 78). Should the Licensing Board require this time estimate to be utilized in any protective action decision?

7. Determine whether he believes the opinion poll data provide a quantitatively reliable prediction of how people will behave in a radiological emergency (p. 80). Determine whether Quarantelli's work, if assumed to relate to the same type of disaster as this, would support that conclusion (p. 80).

8. Determine his ability to predict reliably how people will behave here (pp. 81).

NRC Staff Crosss-Examination Plan: Testimony of Goble, et al.  
on Sheltering Contentions

1. Determine assumption inherent in statement concerning population having to remain outdoors or in automobiles for many hours while waiting to evacuate (p. 6).
2. Determine which protective response they believe is preferable for the beach population in these circumstances (p. 7).
3. Determine whether Goble agrees that even if evacuation cannot be completed before plume arrival, it is still the preferred response for areas within 2-3 miles of a plant, for other than a puff release where duration can be known in advance (p.13).
4. Determine whether Goble contends the existing shelter space will be "available" in an emergency so as to provide a better protective response than evacuation (p. 15).
5. Determine shortcomings in this approach, considering inability to provide more than a .9 DRP, and need to evacuate later through accumulated groundshine after having incurred a considerable dose already (p. 15).
6. Determine Goble's familiarity with NUREG-1210; when he first saw it, how long he read it, when he used it, any discussions with authors or users (pp.16-17).
7. Determine limits on use of sheltering as a protective option, even if better structures existed here (p. 17).
8. Determine relative importance of factors listed on pp. 20-21 re conditions necessary to implement shelter.
9. Determine whether Goble's estimate as to the number of people who would require shelter assumes that people would leave their own buildings to seek better shelter (p. 35).
10. Determine how the "reduction factor" was estimated, in conjunction with stored objects and equipment (pp. 42-43).
11. Determine basis for assuming police station would be unavailable (p. 46).
12. Determine effect of each separate factor resulting in the difference between Eckert's and the S & W surveys (p. 47).
13. Determine effect of redevelopment on quality of shelter space (p. 60).

14. Determine Eckert's familiarity with conditions under which survey was conducted, the potential for prior alerting by others opposed to the plant (particularly in Hampton) and potential for bias among the respondents (pp. 61-62).

15. Determine extent to which respondents understood the use to which their buildings would be put; the duration of such use, and the limited circumstances in which they might be used as shelters (pp. 61-66 and Appendix 12).

16. Determine possibility the respondents in Hampton may have participated as part of a campaign to influence this proceeding or to stop Seabrook (pp. 62, 64). In this regard, determine dates of each of the three mailings and response rates for each, particularly for Hampton.

17. Determine extent to which the survey results indicate (a) lack of understanding of the term "shelter" as used by NH; (b) belief that the shelter arrangement was equivalent to housing; (c) belief that the shelter would be for seasons other than just the summer season; (d) possible hostility toward the plant or its owners as the motive for providing negative responses; and (e) that the survey itself, with its first information to the recipients, may have provoked an angry and negative response (Appendix).

1739

1 JUDGE SMITH: During the break the Reporter gave me  
2 a typed version of the comments made by Dr. Evdokimoff to Judge  
3 Linenberger, and we see them and we believe in all of the  
4 comments, exactly two pages, should be deleted. And we're  
5 going to put them in the transcript showing that the motion was  
6 granted and what was granted.

7 It begins with Dr. Evdokimoff saying: "Judge  
8 Linenberger, I have a few comments, and I as a teacher and  
9 professor, et cetera." And it ends: "In fact, our Health  
10 Physics Society has undertaken, you know, trying to work with  
11 better methods to communicate to the public on educational  
12 efforts, you know, to inform people about what the real risks  
13 are from radioactivity." And we'll bind it into the  
14 transcript.

15 (Transcript excerpts that  
16 was stricken follows:)  
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11683  
MOTION TO STRIKE granted

THE WITNESS: (Evdokimoff) Judge Linenberger, I have a few comments, and I, as a teacher and professor and as a radiation safety officer, I've talked with perhaps thousands of people about radioactivity and trying to communicate to them the hazards. And it's my feeling that the perception of risks of radiation is a very big component in dealing with people.

Again, I'm not a sociologist, but I have a lot of experience talking to people about radiation, both lay people. For example, in our medical center we have construction workers and union people who are very concerned about their health. So I have some sense of that.

I would like to share with you, if I could, just a few observations I had when I talked to some of the renters, and I talked to the police. I asked a couple of questions, and I didn't put this in my testimony because I don't feel I'm a person with a background in social psychology. But I would just like to add this if I might.

When I asked the renters what they thought about these shelters -- I'm sorry, what they thought about these cottages as shelters to protect from a radiation accident, two of the people said they are not lead-lined. And I said, oh. Yes. Well, everybody knows that you need lead to shield these cottages from radiation. So I add that.

So, granted, two people are not -- two people are not a valid sample, but you asked the question and I thought I



would just give you my comments.

I also talked with the fire and police departments, and they were -- I asked them if the sirens went off at Seabrook, what do you think your fire people would do. And the deputy chief said to me, I think half of them would go home and try to get their families out of here, because there's no way that we're going to stay here if there's an accident.

And I talked with the police, and I sort of got the same opinion.

So, granted, these are just observations. They weren't put in my testimony, but it at least is a sense that I had in talking to some of the people, and some of the realtors that perhaps people would not be cooperating. And, granted, people might well do something entirely different in an emergency, but I think radiation, in my two years of experience, scares people. And we have a nuclear medicine department in University Hospital, and we have to talk to our nurses about radiation because we have radioactive patients on the floor and so forth, and it's difficult.

But I think that that's very difficult think to deal with in people's minds -- the perception of risk of radioactivity. In fact, our health physics society has undertaken, you know, trying to work with better methods to communicate to the public on educational efforts, you know, to inform people about what the real risks are from radioactivity.

*EVR*

1 JUDGE SMITH: I guess we're ready to proceed.

2 MR. TURK: Your Honor, one brief procedural note, I  
3 handed a copy of my cross-examination plan to the Reporter,  
4 both of Dr. Renn and this past panel.

5 MR. DIGNAN: Your Honor, I wanted to be sure I  
6 understood the scope of that ruling. As I understand the  
7 ruling as now articulated by the Chair, it is in essence a  
8 grant of the entire motion that was made; have I correctly  
9 understood it?

10 JUDGE SMITH: Yes, that is my memory. The entire  
11 motion -- the entire comment is --

12 MR. DIGNAN: Is stricken.

13 JUDGE SMITH: -- is stricken. But there was more  
14 than one answer.

15 MR. DIGNAN: That's right. You --

16 JUDGE SMITH: You can look at --

17 MR. DIGNAN: No, I'm not concerned. But the reason I  
18 made the inquiry is that the sequence was, when you made your  
19 initial ruling -- I should say the second ruling, the first  
20 ruling after you had reconsidered the matter, I had understood  
21 it to be limited to the remarks about the Sheriffs and the --  
22 excuse me, the policemen and the firemen.

23 JUDGE SMITH: You're right.

24 MR. DIGNAN: And that was only a portion of my  
25 motion.

1 JUDGE SMITH: Right.

2 MR. DIGNAN: But now as I understand it the Board has  
3 granted the entire motion which went to the entire speech.

4 JUDGE SMITH: That's correct. And that's exactly why  
5 I came back to it, because I recognized there were other  
6 aspects of it that should have been stricken, too.

7 MR. DIGNAN: Thank you, Your Honor.

8 MS. WEISS: For clarification, Your Honor, it's just  
9 the answer of Dr. Evdokimoff to that question?

10 JUDGE SMITH: Yes.

11 MR. DIGNAN: Yes, that's all the motion went to.

12 JUDGE SMITH: It's here, anybody can look at it and  
13 see what it is that we're striking. It will be in the  
14 transcript.

15 Proceed, please.

16 Whereupon,

17 ROBERT ECKERT

18 having been previously duly sworn, was recalled as a witness  
19 herein, and was examined and further testified as follows:

20 DIRECT EXAMINATION

21 BY MS. SNEIDER:

22 Q Dr. Eckert, have you submitted testimony in this  
23 proceeding on behalf of the Attorney General for the  
24 Commonwealth of Massachusetts, dated April 25th, 1988 with  
25 Attachment 1 to that testimony which is a videotape?

1 A (Eckert) Yes, that's correct.

2 Q And is this testimony true and accurate, to the best  
3 of your knowledge and belief?

4 A (Eckert) Yes, it is.

5 Q And at this time would you like to have the Board  
6 admit this testimony and have it bound into the transcript and  
7 to have the Attachment admitted as an exhibit?

8 A (Eckert) Yes, I would.

9 MS. SNEIDER: Your Honor, I move to have the  
10 testimony of Dr. Eckert admitted.

11 JUDGE SMITH: Is this verbatim of the audio on the --  
12 verbatim?

13 MS. SNEIDER: Yes.

14 JUDGE SMITH: Well, then that solves your problem,  
15 Mr. Reporter, you won't have to transcribe it from the audio.  
16 It is verbatim?

17 THE WITNESS: (Eckert) Yes, it's absolutely  
18 verbatim.

19 JUDGE SMITH: My name is Robert Eckert?

20 THE WITNESS: (Eckert) Yes.

21 JUDGE SMITH: Are there objections?

22 MR. LEWALD: Yes, Your Honor. The objection is that  
23 this purports to be illustrative of problems that the  
24 beachgoers in Hampton and Seabrook would have with regard to  
25 sheltering-in-place, should they be instructed to shelter.

1                   And on the face of the testimony it would appear  
2   that the video was shot in December of 1987 at a time in which,  
3   obviously, there are not beachgoers.

4                   And secondly, there's no representation that this  
5   would be -- this film, nor could there be, that this film is  
6   representative of what beachgoers would find in the summer.  
7   It's a -- these are pictures taken during the lay-down period,  
8   if you will, in the beach area in which cottages are in various  
9   shapes, forms of repair.

10                  And we just would submit that it's not a fair  
11   representation of what's there in the summer.

12                  (Board conferring)

13                  MS. SNEIDER: Your Honor, may I address that?

14                  JUDGE SMITH: I beg your pardon?

15                  MS. SNEIDER: May I address that?

16                  JUDGE SMITH: Yes.

17                  MS. SNEIDER: Two things, Your Honor. First, I think  
18   Mr. Lewald's problems with the testimony would go to the weight  
19   of the evidence, and I believe the witness is prepared to  
20   testify he spent a great deal of time at the beach area in the  
21   summer. That it is a fair and accurate representation with  
22   qualifications which are pointed out in the video. And I  
23   believe Mr. Lewald can adequately cross the witness.

24                  Another point I'd like to make, Your Honor, is that  
25   sheltering was not introduced as a viable option in the New

1 Hampshire plan until September, so it was a little difficult  
2 for us to do a video in the summer when we weren't expecting  
3 that sheltering would be an option.

4 JUDGE SMITH: Well, you have captured exactly what  
5 the Board's own discussion was, and so you might predict that  
6 you're going to prevail. We do have some confusion here.

7 What is -- on the second paragraph of the first page,  
8 it says, "The video was shot during December '87 when few  
9 people are around and the towns virtually closed down.  
10 However, these are scenes of the beach area during Labor Day  
11 weekend '87."

12 Will that be obvious to us, on the video, what you  
13 mean by that?

14 THE WITNESS: (Eckert) Yes, it will. There are cuts  
15 from those periods of times.

16 JUDGE SMITH: Okay. So your objection -- your motion  
17 to -- by your motion, I guess it is to strike, is overruled.

18 Okay. Go ahead.

19 MR. LEWALD: The objection was to it being  
20 admissible.

21 JUDGE SMITH: Oh, is that --

22 MR. LEWALD: But the effect of the ruling is the  
23 same, Your Honor.

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(The prefilled testimony of Robert Eckert on behalf of the Attorney General from the Commonwealth of Massachusetts on sheltering contentions follows:)

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before Administrative Judges:  
Ivan W. Smith, Chairperson  
Gustave A. Linenberger, Jr.  
Dr. Jerry Harbour

In the Matter of	)	
	)	
PUBLIC SERVICE COMPANY OF	)	Docket Nos.
NEW HAMPSHIRE, ET AL.	)	50-443-444-OL
(Seabrook Station, Units 1 and 2)	)	(Off-site EP)
	)	April 25, 1988

TESTIMONY OF ROBERT ECKERT  
ON BEHALF OF THE ATTORNEY GENERAL  
FOR THE COMMONWEALTH OF MASSACHUSETTS  
ON SHELTERING CONTENTIONS

Department of the Attorney General  
Commonwealth of Massachusetts  
One Ashburton Place  
Boston, MA 02108-1698  
(617) 727-2265



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TESTIMONY OF ROBERT ECKERT ON BEHALF OF THE  
ATTORNEY GENERAL FOR THE COMMONWEALTH  
OF MASSACHUSETTS ON SHELTERING CONTENTIONS<sup>1/</sup>

My name is Robert Eckert. I'm with Salmon Falls Research Associates, Inc., and we have worked for the Massachusetts Department of the Attorney General evaluating Stone and Webster's report on sheltering.

This video was shot during December 1987, when few people were around and the towns were virtually closed down. However these are scenes of the beach area during Labor Day Weekend 1987.

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This testimony is the transcript of the narrative of the videotape attached hereto as Attachment 1.

The purpose of this video is to illustrate problems beach-goers in Hampton and Seabrook would have with sheltering in place, should they be instructed to seek shelter in the event of a radiological emergency at Seabrook Station nuclear power plant.

Some of these problems are that the potential shelters are unmarked, the buildings do not look like shelters, and most are of light wood-frame construction which would afford little protection against radiation. These buildings are crowded on narrow strips of barrier beach, surrounded by roadless marshes, 2 to 3 miles from the plant, and any movement away from the beaches would be toward the plant, which is often in full view.

During the video we will travel a route through Hampton and Seabrook Beaches, stopping at various locations to show what choices beach visitors would have in seeking shelter. We will indicate our locations on a topographic map.

As you view the scenes in this video, ask yourself, "Which places look safe and where would I seek shelter?"

If there were an emergency at Seabrook Station, this is the message people would hear -- "ATTENTION, ATTENTION -- Because of a problem at Seabrook Station, beaches are now closed. Please leave the beach and go indoors immediately. Listen to the radio for more information."

At Seabrook Beach, the only buildings between the beach and Route 1A are private residences. To find public shelter, people on the southern end of the beach would likely exit by

this cut through the dunes and go down Haverhill Street to Route 1A.

Once at Route 1A, there is little public shelter in sight -- only Poore Steve's Ice Cream stand in the distance. People moving toward Poore Steve's would be moving directly toward the plant.

This potential shelter (Poore Steve's) contains a small crowded kitchen and a crawl space under part of the building. The crawl space was wrongly listed as a full basement in Stone & Webster's report. Most of the space in the building is glassed-in or screened porch, which is now boarded up for the winter. The plant is in full view of Poore Steve's. Would people choose to come here, and, once here, to stay?

People at the Hooksett Street beach access would also be surrounded by small wood frame residences and would likely exit down Hooksett Street, toward the plant, to Route 1A.

Once at Route 1A, these are the potential shelters an alarmed beach-goer would see: Preston's Country Store, Ceal's Clam Stand, Arizona Turquoise jewelry store, Captain Don's Fish Market, DiBurro's Market, Mac's Clam Bar, and the Seabrook Beach Police Station.

Ceal's Clam Stand is listed as a potential shelter by Stone & Webster, as is the Arizona Turquoise jewelry shop next door. These buildings would not provide even minimal protection from radiation.

In the distance is Captain Don's Fish Market, another choice for shelter. The second story of Captain Don's is a private residence, as can be seen in these views of the upstairs windows. This residence was included as public shelter by Stone and Webster. This potential shelter is one of the closest to the plant, separated from it by only the harbor.

Even closer than Captain Don's are these private residences, which are supposed to provide shelter for those who live there.

Crossing over the bridge to Hampton Beach, we arrive at Hampton Beach State Park, one of the most congested of the beach areas. This parking area is very full in the summer and often the exit is jammed for hours under normal conditions.

People on the beach here would likely exit down this walkway, directly toward the plant. The bathhouse, with vents open to the outside, and the storage building, which is usually locked, are designated as potential shelters, and could hold only a small number of people at this beach.

People following instructions to seek shelter in public buildings would go toward the center of town by moving across this grassy area toward the cottages in the distance, about 250 yards away.

This is the view a family seeking shelter would see if they ran toward town from the State Park.

These small cottages are not winterized and are in general disrepair. Most are rented to summer vacationers, and, according to Stone and Webster, are supposed to provide shelter for those staying in them.

The "daytripper" who is instructed to seek shelter in a public building would likely head down this street, River Street, toward the main part of Hampton Beach.

Arriving at Ocean Boulevard, these are the potential shelters one would see ... looking south ... looking north.

The Harris Realty building might look like shelter to some. It has a high proportion of glass in the front of the building, and Stone & Webster overestimated the public space in this building by 2,600 square feet, by including the private apartments plainly in view on the second story, and by overestimating the basement space. Next door, included as public shelters, are the Harris Cottages -- seven cottages of approximately 200 square feet each.

Beachgoers on Hampton State Beach would have to leave the beach by this kind of stairway, or climb the iron fence. The snow fencing is not present in the summer.

Once off the beach, their choices of potential shelters include these buildings. All have a high proportion of glass.

From another stairway further north, these are the potential shelters beachgoers would see. The east wall of the Playland Arcade is entirely open in the summer. Many of these buildings are also open to the outdoors in the summer, even though their open areas are now covered with garage doors and boards. These buildings cannot be sealed off from air exchange, as exemplified by this fan which is blowing in the wind even in December when this was filmed.

People trying to get off the beach near the entrance to Route 51 have these choices of wood-frame structures.

For those people who couldn't find shelter on Ocean Boulevard, or hoped to find better shelter, and decided to go down some of the side streets, the Mai Kai Restaurant on Ashworth Avenue looks like a substantial building. This building is listed by Stone & Webster as having a full basement as part of its shelter space. If people decided to go to the basement, the only exterior is through this hatch -- and unfortunately for them there is nothing here but a crawl space.

Beachgoers moving off Ocean Boulevard in search of shelter might decide on a side street like J Street as we see here. On this street the selection of potential shelters consists of wood-frame buildings containing various businesses such as motels, rooming houses and small restaurants. Most of these buildings have a high proportion of glass in their walls.

Moving down J Street and arriving at Ashworth Avenue, one block west of Ocean Boulevard, these are the choices -- some motels and a large number of small cottages.

If the beachgoer did not like what he saw here and still chose to seek shelter, he could move down one of the side streets off Ashworth, but would only see small cottages, the marsh, and finally Seabrook Station.

These cottages are small, in various states of disrepair, not insulated and have a high proportion of window area in their walls. Often the windows can't be closed.



The O'Neil Cottages here are listed by Stone & Webster as potential shelters. They are small, uninsulated and have windows that cannot be closed, like the louvered window you can see on this cottage.

These final views show typical streets and the buildings on them in Hampton Beach. As you watch these buildings roll by, ask yourself if you would feel safe sheltering from radiation here.



1 (Whereupon, a videotape was shown.)

2 JUDGE SMITH: Were you the camera person?

3 THE WITNESS: (Eckert) No, only the voice.

4 JUDGE SMITH: Ms. Sneider.

5 MS. SNEIDER: I thought the testimony was already in  
6 evidence.

7 JUDGE SMITH: I beg your pardon?

8 MS. SNEIDER: The witness is available for cross-  
9 examination.

10 JUDGE SMITH: Don't you want to offer the cassette?

11 MS. SNEIDER: Yes. I thought I had already offered  
12 that.

13 JUDGE SMITH: No, I only had the transcript -- I  
14 mean, the written part. The cassette needs an exhibit number.

15 MS. SNEIDER: All right. I believe that's Exhibit  
16 21.

17 (The videocassette referred  
18 to was marked for  
19 identification as  
20 Mass. AG Exhibit 21.)

21 MR. LEWALD: Our objection runs to the cassette as  
22 well as to the testimony, and I assume that will be denied as  
23 well as the testimony.

24 JUDGE SMITH: The same basis.

25 All right. The Massachusetts Attorney General

1 Exhibit 21, videocassette described in the direct testimony is  
2 received.

3 (The videocassette referred to  
4 having been previously marked  
5 for identification as  
6 Mass. AG Exhibit 21 was  
7 received in evidence.)

8 JUDGE SMITH: All right, he's ready for cross-  
9 examination.

10 CROSS-EXAMINATION

11 BY MR. LEWALD:

12 Q Dr. Eckert, I understand hearing your response to the  
13 Board that you were not the photographer of what we have seen?

14 A (Eckert) That is correct.

15 Q Are you able to tell us, what percentage of the  
16 frames shot in this video, in connection with this video we  
17 have seen?

18 A (Eckert) I don't think I understand your question.

19 Q Well, I don't -- I assume that you took some pictures  
20 of the area in Seabrook and in Hampton, and from these you have  
21 put together the video that we now have seen?

22 A (Eckert) This was a specific project where we made  
23 the video -- it wasn't from a compilation of pictures we  
24 already had. In other words, we went out and shot the video on  
25 specific streets. So if I understand you correctly -- maybe

1 I'm not answering your question.

2 Q Well, did you go out and shoot the Labor Day scenes?

3 A (Eckert) No. The Labor Day scenes were provided by  
4 the subcontractor who did the video work.

5 Q And who is that?

6 A (Eckert) Atlantic Media Services at Portsmouth.

7 Q They supplied you with the Labor Day scenes?

8 A (Eckert) That's correct.

9 Q Did you select them or did they select them?

10 A (Eckert) We selected them together. We viewed the  
11 footage that he had and I sat there with him and we chose ones  
12 that were from random shots that he had during that period of  
13 time.

14 Q Now, the December scenes, were they a selection of  
15 something the subcontractor did?

16 A (Eckert) The subcontractor shot those and I was  
17 present during the whole thing, so that they were a selection  
18 from ones that he had made in my presence.

19 Q So that you and the subcontractor edited the pictures  
20 that were taken?

21 A (Eckert) Yes, that's right; we worked together on  
22 that.

23 Q Do the whole set of videos appear anywhere?

24 A (Eckert) Do you mean the complete set of all the  
25 random shots?

1 Q Yes?

2 A (Eckert) We used almost all of the ones that we  
3 have. There may be some that we didn't use, that don't appear  
4 in the compilation that we showed you.

5 Q Maybe you misunderstood my question. I was asking,  
6 do these appear elsewhere? Are they obtainable elsewhere?

7 A (Eckert) I don't think so. They're just, I guess,  
8 suppose the property of Atlantic Media Services and Salmon  
9 Falls and the Attorney General's Office right now.

10 Q Well, we could get them from Atlantic, then, is that  
11 what you're saying?

12 A (Eckert) Oh, I think so; yes.

13 Q Now, on page two of your testimony you use the  
14 phrase, "Beachgoers," do you see that? "Beachgoers in Hampton  
15 and Seabrook?"

16 A (Eckert) Yes.

17 Q What do you mean by beachgoers?

18 A (Eckert) Well, I meant beach visitors; anybody who  
19 is on the beach at the time.

20 Q You are not trying to distinguish a beachgoer from  
21 someone who might have hired a cottage or who might own a  
22 cottage who is at the beach --

23 A (Eckert) No.

24 Q -- from the transients, the day people who might walk  
25 in?

1 A (Eckert) Right. That's correct.

2 Q And what do you mean by "beach visitors," same thing?

3 A (Eckert) Yes, I do.

4 Q Now, in reference to the southern end of the beach,  
5 the Seabrook Beach, what people are referred to as being on the  
6 southern end of the beach?

7 A (Eckert) Is there a specific place in the transcript  
8 you're referring to?

9 Q On page two?

10 A (Eckert) Okay. I believe that I meant just the same  
11 set of beachgoers or beach visitors who would be there on a  
12 summer day.

13 Q Is there any public beach parking in that area?

14 A (Eckert) I think most of it is private. I'm trying  
15 to recall what I've seen around there.

16 Q Most of it is from the cottages that are along that  
17 stretch of beach, is that not correct?

18 A (Eckert) I'd say certainly a majority of that space  
19 is for those people.

20 Q And that would still hold true if we move up to the  
21 next section which you showed exiting the beach at Hooksett,  
22 would it not?

23 A (Eckert) That would be the same, they're a  
24 continuous neighborhood more or less.

25 Q And it would be expected that people on the beach in

1 that area, those two areas, pretty much all came from the  
2 cottages and the homes, whatever, along that area of beach?

3 A (Eckert) I don't have information on that, it might  
4 be an expectation, but I can't testify one way or the other.

5 Q Would you say it wasn't so?

6 A (Eckert) I would not say it's not so.

7 Q Where would the people come from if they did not  
8 either live there, rent there, or room there?

9 A (Eckert) They would be visitors from Massachusetts  
10 and so forth. There are places to park further south right on  
11 the Massachusetts line, Massachusetts/New Hampshire line; and  
12 there are some visitors that come there. I know I'm not a  
13 resident of that area so --

14 Q Further south we're in Salisbury, are we not?

15 A (Eckert) Right. Right on the Salisbury line,  
16 between Salisbury and Seabrook.

17 Q Now, assuming there were an incident at the plant  
18 that called for closing of the beaches, am I to understand that  
19 you are indicating that I would go north towards Hampton, were  
20 there an incident, rather than to go into Salisbury to look for  
21 -- assuming I was looking for public access shelter?

22 JUDGE SMITH: Mr. Lewald, can I interpose here. The  
23 word "closing the beaches" has taken a special meaning in the  
24 hearing and I wonder if you selected the word "closing," it was  
25 a studied selection.

1 MR. LEWALD: Well, I was using it, I thought, in the  
2 sense that we had been --

3 JUDGE SMITH: All right.

4 MR. LEWALD: -- it had been used here, that is,  
5 asking people to leave the beaches.

6 (Board conferring)

7 MR. LEWALD: I'm not certain -- if you put a question  
8 to me I have not -- I was --

9 JUDGE SMITH: You answered the question, but I don't  
10 understand the logic of the question and the answer. I mean, I  
11 understand that you're repeating the situation in the  
12 testimony, but I don't understand the logic of it.

13 MR. LEWALD: Well, I was referring to the question or  
14 rather the sentence, "That the beaches are now closed," as it  
15 appears on page two of the testimony, which is, "Please leave  
16 the beach and go indoors immediately."

17 And it was in this reference that I was asking the  
18 witness.

19 JUDGE SMITH: All right.

20 MR. LEWALD: And the point of my question is, would  
21 they not -- in that area, would they not go south into  
22 Salisbury rather than north toward Hampton, if indeed, anybody  
23 was seeking public access shelter.

24 THE WITNESS: (Eckert) The answer is, that once you  
25 move out to Route 1-A, if a person is truly seeking public

1 shelter, the only public shelter that is within sight is Poor  
2 Steve's.

3 There was an expanse of marsh there that extends  
4 quite a bit south, and I certainly wouldn't say that people  
5 wouldn't go south, you know, they may go in either direction.

6 But the only visible public kind of shelter is a  
7 little bit to the north.

8 BY MR. LEWALD:

9 Q You don't serious think that people in that section,  
10 the lower end of Seabrook Beach would go back to Hampton, do  
11 you, in the event of an incident with this kind of a message  
12 that you have set forth in your testimony?

13 A (Eckert) I don't know. I think personally I  
14 wouldn't, but I can't speak for those. There's --

15 Q Do you have any reason to believe that anybody else  
16 would think differently than you?

17 A (Eckert) If part of my family was up in Hampton  
18 across the bridge, I'd go that way to get them. There's a  
19 problem of separation of families and things like that, that  
20 some of the people may be at the, you know, up in the Hampton  
21 State Park and some down on the southern aspects of Seabrook.

22 Q Are you telling me if you went to the beach with your  
23 family you might drop some up at the Hampton Beach State Park  
24 while you went down to the Seabrook Beach, Salisbury line?

25 A (Eckert) Well, I think if you have teenage kids,



1 sometimes you don't have the control you want, and sometimes  
2 they do separate and go across the bridge and spend time apart.

3 Q Doctor, you also say with regard to the Seabrook,  
4 excuse me, the Hampton sections of your video that you have  
5 shown typical streets, am I saying that right?

6 A (Eckert) I think so; yes.

7 Q How did you arrive at your conclusions that these  
8 were typical streets?

9 A (Eckert) Well, we arrived at that from having spent,  
10 at that time, I think four months in that area taking photos  
11 and, you know, visiting the places and doing the early aspects  
12 of our field work and then followup work, so that is based on  
13 my view of what that area is like. And so I do represent that  
14 those are typical, in my opinion, kinds of streets that people  
15 would run into.

16 Q And if you were there four months was there any  
17 reason why you waited until December to take a picture?

18 A (Eckert) Well, we didn't make the decision to make  
19 the video until later.

20 Q But you did take some September Labor Day shots or  
21 these were taken --

22 A (Eckert) Yes, those were taken by Atlantic Media  
23 Services before they were subcontracted to us for this video.

24 Q Well, they were all taken by Atlantic, were they not?

25 A (Eckert) That's true.

1 MR. LEWALD: I have nothing further.

2 JUDGE SMITH: Do you have questions?

3 MR. HUNTINGTON: No questions, Your Honor.

4 JUDGE SMITH: Mr. Flynn?

5 MR. FLYNN: I have no questions, Your Honor.

6 JUDGE SMITH: Mr. Turk.

7 MR. TURK: Very briefly, Your Honor.

8 CROSS-EXAMINATION

9 BY MR. TURK:

10 Q I just want to get one clarification, Dr. Eckert, on  
11 the bottom of page three, the last sentence on the page  
12 referring to Ceal's Clam Stand and the Arizona Turquoise  
13 Jewelry Shop, you indicate, quote: "These buildings will not  
14 provide even minimal protection from radiation," close quote.  
15 Do you consider yourself qualified to provide expert opinion on  
16 that?

17 A (Eckert) Technically I do not.

18 Q I just want to get one other clarification with  
19 respect to the photographs that we see in the video. Is my  
20 impression correct that the photographs of persons on the beach  
21 in the Labor Day period utilize telephoto lens?

22 A (Eckert) Yes, I believe that's true.

23 Q And doesn't that tend to have the effect of  
24 compressing objects or persons within the scene -- within the  
25 field of vision so that -- well, isn't that true?

1           A       (Eckert) It may be. I don't work with photography  
2 that much, so I would say it may do that.

3           Q       But wouldn't you agree that it would tend to make  
4 people appear to be closer together spacially than they  
5 actually might appear if you were using a regular lens instead  
6 of telephoto?

7           A       (Eckert) I'm not sure, it might -- well, it might  
8 depend on the magnification and so forth. I might generally be  
9 true. I've taken a few pictures --

10          Q       It is generally true, isn't it, Doctor?

11          A       (Eckert) I guess based on my personal experience I'd  
12 say I've experienced that in my slides. So there is some  
13 compression effect.

14                   MR. TURK: Thank you.

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15                   JUDGE LINENBERGER: Just one question, Dr. Eckert.  
16 On page two you place in quotations a message that is  
17 represented here as what the beach people would hear. and I  
18 should just like to inquire the basis for your representation  
19 that this is the message people would hear?

20                   THE WITNESS: (Eckert) Let's see, that message was  
21 provided me, I think, as the version available -- it was  
22 supplied by the Massachusetts Attorney General's Office to me  
23 as the current message at the time we made the video. So  
24 that's the source of that.

25                   JUDGE LINENBERGER: Thank you, sir.

1 JUDGE SMITH: Are there Intervenors?

2 MS. WEISS: No questions.

3 JUDGE SMITH: Okay.

4 MR. LEWALD: I have one question based on what Mr.  
5 Turk asked.

6 FURTHER CROSS-EXAMINATION

7 BY MR. LEWALD:

8 Q You were questioned as to the type of, I think it was  
9 a photo telegraphic lens or something, I'm not a -- I know  
10 nothing about photography, so please excuse me if I'm using the  
11 wrong term?

12 A (Eckert) I don't either.

13 Q Well, we had a process, apparently, to take pictures  
14 of the beach that had a telescopic effect where we could bring  
15 in the people or the objects --

16 A (Eckert) Yes.

17 Q -- in close proximity?

18 A (Eckert) You're referring to the zoom lens effect  
19 where things move up?

20 Q Yes. And am I correct in assuming that the opposite  
21 kind of process was used or lens or -- was used to take  
22 pictures of the typical streets and typical shelters?

23 A (Eckert) We -- yes, I think so. We had a normal  
24 lens, whatever that would be, on the video camera and it had  
25 the zoom capability. So, I think both types of shots are

1 present.

2 MR. LEWALD: I have nothing further.

et/39

3 (Continued on next page.)

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1 JUDGE SMITH: Ms. Sneider?  
2 All right, you're excused.  
3 THE WITNESS: (Eckert) Thank you.  
4 JUDGE SMITH: Thank you.  
5 (The witness was thereupon excused.)

6 (Applicants' Cross-Examination  
7 Outline of Testimony on Robert  
8 Eckert on Behalf of Mass. AG  
9 follows:)

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May 16, 1988

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
before the  
ATOMIC SAFETY AND LICENSING BOARD

_____ )	
In the Matter of )	
)	
PUBLIC SERVICE COMPANY OF )	Docket Nos. 50-443-OL
NEW HAMPSHIRE, et al. )	50-444-OL
)	
(Seabrook Station, Units 1 and 2) )	(Off-site Emergency
)	Planning Issues)
_____ )	

APPLICANTS' CROSS-EXAMINATION  
OUTLINE OF TESTIMONY ON  
ROBERT ECKERT ON  
BEHALF OF MASS AG

Applicants cross-examination intends to inquire into the following matters with respect to the witness's testimony:

Explain what is intended by "beach-goers" in Hampton, Seabrook? (p. 2.) By "beach visitors" (p. 2). Where is the topographical map referred to on (p. 2)? What "people" are referred to as being "on the southern end of the beach" (p. 2); at the Hooksett Street beach area? Inquire as to why these "people" would be seeking "public access shelter buildings"? (p. 2)

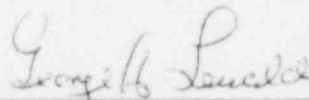
What does witness believe a shelter looks like? (p. 2)

Were any video frames taken of houses on Atlantic Avenue and Ocean Avenue in Seabrook? Why not?

What was the process by which typicality of streets and buildings in Hampton was determined? (p. 7)

The purpose of this testimony?

By their attorneys,



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1 JUDGE SMITH: Will your witnesses be ready now?

2 MR. TURK: In a few minutes.

3 JUDGE SMITH: Okay. Mr. Oleskey has some business.

4 MR. OLESKEY: Judge, I've given you four subpoenas  
5 following our discussion of last night and this morning. One  
6 is for Mr. Krimm, one is for Mr. McLaughlin. I believe they  
7 are both for 9:00 on the 25th, next Wednesday. Then for Mr.  
8 Peterson at 2:00 the 25th, and Mr. Thomas at 9:00 on the 27th.

9 I picked those dates and times somewhat arbitrarily,  
10 merely to establish an order of precedence and priority,  
11 understanding that we may or may not be ready to begin that  
12 sequence on Wednesday, the 25th at 9:00, and feeling that it's  
13 unlikely that we will be able to do Mr. Krimm and Mr.  
14 McLaughlin together between 9:00 and 12:00, and start Mr.  
15 Peterson at 2:00.

16 The point I want to make is I would like to do those  
17 people separately for various reasons, and we can discuss that  
18 now or later.

19 JUDGE SMITH: We told counsel for FEMA that when we  
20 directed the appearance of these witnesses they could decide  
21 within that time frame when they appeared. And we accepted the  
22 subpoenas in that light; that these are just marker times.

23 MR. OLESKEY: I've also indicated some document  
24 production --

25 JUDGE SMITH: Right.

1 MR. OLESKEY: -- for each of the witnesses.

2 JUDGE SMITH: Well, let's complete this one thought.

3 The actual timing of the arrival of witnesses will  
4 be -- we will give deference to Mr. Flynn, but it is something  
5 that should be, as we always have done, negotiated among the  
6 parties.

7 MR. OLESKEY: It may be from Mr. Flynn's comments of  
8 yesterday that there will be disagreement about the order of  
9 priority of appearance between the three Washington officials  
10 and Mr. Thomas.

11 JUDGE SMITH: Well, they may not even come. I don't  
12 know if they decided to move to quash these or not.

13 MR. FLYNN: Let us assume for the sake of this  
14 discussion that they will appear.

15 JUDGE SMITH: With that assumption, they appear at  
16 the times that you want them to appear, but with the objective  
17 in mind that we will have their testimony all in within those  
18 three days.

19 MR. FLYNN: Yes, that is my understanding that if  
20 they appear on Wednesday as a group, that we are committed they  
21 will leave on Friday.

22 JUDGE SMITH: Well, that is the objective, yes, and  
23 we're going to work hard to hold to that.

24 MR. FLYNN: Yes, I appreciate that.

25 JUDGE SMITH: We can't make that an ironclad

1 guarantee, because it would depend upon responsiveness and  
2 things like that. Assuming they are responsive to questions  
3 and things move along, that is our schedule objective.

4 MR. FLYNN: I appreciate that.

5 I also assume, although I also recognize that it has  
6 not been established by our conversation, that Mr. Thomas would  
7 not have been examined before Wednesday. I don't see how that  
8 can fit into the schedule.

9 JUDGE SMITH: Yes, that's right, that's right. I see  
10 there is a problem there, but somebody has got to go first. I  
11 don't know.

12 MR. FLYNN: I understand that as well.

13 And I also --

14 JUDGE SMITH: This does not foreclose you from  
15 bringing a witness or so back after Mr. Thomas testifies.

16 MR. FLYNN: Very good.

17 JUDGE SMITH: Nor does it authorize it. It's just  
18 out for proposal, you know. We will go to our traditional  
19 needs.

20 MR. FLYNN: Yes, I think that's clear.

21 JUDGE SMITH: But there is another problem here, and  
22 that is, to your Washington officials there is a rather lengthy  
23 document request which I haven't read. I just looked at it.  
24 There is five categories of documents, and I wonder can we  
25 characterize what they are, Mr. Oleskey?

1 MR. OLESKEY: It's the same request that was attached  
2 to the discovery motions earlier for the same officials. So it  
3 is something that Mr. Flynn will have had for several weeks.

4 And it may be, as I said to you earlier in a brief  
5 colloquy, that it would be Mr. Flynn's view that those things  
6 have all essentially been produced already.

7 JUDGE SMITH: All right. And I also understand that  
8 you are authorized to accept service of the subpoenas for  
9 Messrs. Krimm, Peterson and McLaughlin.

10 MR. FLYNN: Yes, Your Honor.

11 JUDGE SMITH: I mean that's accepting service of  
12 them, nothing else.

13 MR. FLYNN: Yes, and I -- and I will be happy to do  
14 that today.

15 JUDGE SMITH: All right.

16 MR. OLESKEY: We'd like to make copies after they  
17 have been executed by the Board, if we may.

18 JUDGE SMITH: Then you do that, and then you're going  
19 to serve Mr. Thomas yourself.

20 MR. OLESKEY: Yes.

21 JUDGE SMITH: And I have one question. I informed  
22 Massachusetts Attorney General that it is not necessary to  
23 tender fees to federal witnesses, but I do assume that Mr.  
24 Thomas is free to come as a part of his employment; you know,  
25 he's paid and --

1 MR. FLYNN: Yes, Your Honor.

2 JUDGE SMITH: Mr. Thomas is free as part of his  
3 employment to come in response to the subpoena?

4 MR. FLYNN: Yes.

5 JUDGE SMITH: Okay.

6 MR. TURK: Your Honor, may I inquire of the Mass.  
7 AG's office if they have had any further communications with  
8 Mr. Thomas as to whether or not he would appear?

9 MR. FLYNN: Yes, I called Mr. Thomas this afternoon  
10 at our break and informed him that I believed the subpoens  
11 would be issued today, and told him of the date I had asked for  
12 in the subpoena, and told him that the bottom of the subpoena  
13 indicates that a challenge has to be made on or before the date  
14 that it's due.

15 He indicated that he would be likely to challenge the  
16 subpoena, but did not now have counsel. It was unclear to me  
17 whether he would have retained counsel in time to make the  
18 challenge through counsel or intended to do it himself.

19 JUDGE SMITH: Okay.

20 MR. OLESKEY: Thank you, Judge.

21 JUDGE SMITH: Do we need anything before we have Dr.  
22 Bores?

23 MR. TURK: I'd like to have a brief recess, Your  
24 Honor; just five minutes.

25 JUDGE SMITH: DO we bring any papers with us, or are

1 you going to provide whatever we need?

2 MR. TURK: I'll be introducing document. I'll give  
3 you copies.

4 MR. OLESKEY: Before we take that recess, may I make  
5 a point about the examination to follow, if it's convenient?

6 JUDGE SMITH: The examination what?

7 MR. OLESKEY: To follow of Bores and Lazarus.

8 JUDGE SMITH: To follow.

9 MR. OLESKEY: Yes, I'd like to request tha. the  
10 examination be severed with Dr. Bores going first.

11 As you will see from a cross-examination plan I've  
12 planned in handwriting last night, the vast majority of the  
13 questions, depending on his answers but I think will go this  
14 way, will be Dr. Bores.

15 We will come to a point of overlay in one area that I  
16 think is in some way, the most important, and that would be  
17 their individual recollections of two important RAC meetings of  
18 April 15 and July 30, 1987. Especially the latter meeting  
19 appears to be the meeting which has engaged all of our  
20 attention and especially the Board in connection with the  
21 argument that their recollections individually, and in a sense  
22 jointly, differ in some respect to Mr. Thomas.

23 I would like, therefore, to examine Dr. Bores first  
24 and have Dr. Lazarus excused from the hearing, and also  
25 understanding that no one on behalf of the NRC staff or

1 otherwise engage in the hearing will communicate to Dr. Lazarus  
2 concerning Dr. Bores's examination.

3 I would believe, and if it would be helpful, I'll  
4 give the Board my cross-examination plan now so that you will  
5 have it on your break, that the Lazarus examination will be  
6 much shorter. And with the exception of the two RAC meetings  
7 of April and July, would not be repetitive of the Bores  
8 examination, so that we wouldn't be losing a lot by honoring  
9 the request that I'm making.

10 JUDGE SMITH: Okay.

11 MR. DIGNAN: Can I inquire just so I understand  
12 what's being asked for?

13 Mr. Oleskey, perhaps I have a sense of delicacy of  
14 it. You're asking for sequestration, are you not?

15 MR. OLESKEY: Yes, I am, counsel.

16 MR. DIGNAN: And in its purest form. That is to say,  
17 no one is to -- all I want to know is what you're asking for  
18 because, believe me, I want to be sure we all abide by it.

19 MR. OLESKEY: I don't know if that's the purest form.  
20 I'm asking that no one, whether on the NRC staff or  
21 otherwise --

22 MR. DIGNAN: That's what I understand.

23 MR. OLESKEY: -- talk to Dr. Lazarus about the  
24 examination of Dr. Bores before I begin Dr. Lazarus or, indeed,  
25 any time until I complete him.

1 JUDGE SMITH: And I assume, to complete your thought,  
2 that you would have us direct Mr. Lazarus not to read the  
3 transcript, too.

4 MR. OLESKEY: Yes, thank you.

5 JUDGE SMITH: Okay. Does anybody object to that?

6 MR. TURK: I certainly do, Your Honor. Let me go  
7 through my reasons.

8 JUDGE SMITH: Well, let's take the break so we can  
9 look at the cross-examination plan. See, he hasn't given much  
10 of his reasons except a general reason that memories are being  
11 probed and impressions --

12 MR. OLESKEY: Yes, that we're talking in some sense  
13 about memory and credibility on some matters that the Board has  
14 felt very important, and that I would like to get each person's  
15 memory unaided by recollection of the other, other than as they  
16 may have already been since they both have produced memoranda  
17 that you have.

18 MR. BACKUS: Can I just say, Your Honor, that in  
19 regard to the motion that was filed this morning if the Board  
20 is going to entertain argument on that, we'll do it at anytime  
21 the Board desires.

22 JUDGE SMITH: Well, we have a problem there, and we  
23 haven't really wrestled with it yet, what to do about it. We  
24 just can't take it up -- I don't want to take it up now. I  
25 want to get going with these people.



1 MR. BACKUS: All right.

2 JUDGE SMITH: But just let me sum up that you have  
3 not anticipated in your motion that anybody else would be heard  
4 from on that motion, and it is void of any legal support. And  
5 the Board does not have traveling with it all of the research  
6 materials it might need. That's exactly why I wanted other  
7 counsel, especially Ms. Weiss, to affirm that they themselves  
8 believe that there is legal support for it.

9 MR. BACKUS: We're ready to address that whenever the  
10 Board wants to.

11 JUDGE SMITH: Okay.

12 Let's take our break.

13 Could we have the cross-examination plan?

14 MR. OLESKEY: Yes, Your Honor.

15 (Whereupon, a recess was taken.)

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16 (Continued on next page.)

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1 MR. TURK: Your Honor, let me say, first of all,  
2 that approximately eight days ago, May 10th, we had a telephone  
3 conference call with the Board in which the Board indicated it  
4 wanted Dr. Bores and Mr. Lazarus to appear.

5 At no time from the date of that telephone conference  
6 call, in fact, no time prior to that until the moment Mr.  
7 Oleskey raised the point in this hearing room today,  
8 approximately 10 minutes ago, did he ever indicate that he  
9 wished to proceed with the sequestration, and a separate  
10 examination of witnesses.

11 My preparation for presentation of our testimony  
12 before the Board, at the Board's request, was not based upon an  
13 assumption we would be presenting witnesses separately.

14 So, in the first instance, I would note that it's  
15 quite untimely, unfair surprise for Mr. Oleskey to now tell me  
16 before we go into presenting our testimony that he wants  
17 separate witnesses. If that was his intention, he could have  
18 raised that point much earlier.

19 Secondly, it's my understanding that the Board wishes  
20 to have the staff present its understanding of the evolution of  
21 FEMA's position. And with respect to the NRC regional  
22 employees, being Dr. Bores and Mr. Lazarus, their understanding  
23 primarily relates to the evolution of the FEMA position through  
24 the RAC, or at least expressions within the RAC.

25 It had been my intention, and it continues to be my

1 intention to present Dr. Bores and Mr. Lazarus as a panel. And  
2 I intend to do more than simply introduce their memoranda of  
3 October 15, 1987. It's my intention to conduct direct  
4 examination of them. I believe that approach would help the  
5 Board to get a complete, comprehensive, chronological  
6 understanding of the evolution of FEMA's position.

7 In any event, regardless of what you decide with  
8 respect to sequestration of witnesses for cross-examination,  
9 it's my intention to conduct the direct examination.

10 I note Mr. Oleskey has already presented himself at  
11 the cross-examination table, and I think that's premature.

12 But I do note that I wish to proceed with direct  
13 examination of the two witnesses jointly.

14 Now turning to the issue of sequestration itself,  
15 there is not much case law in the NRC on sequestration, and I  
16 don't have a copy of the only existing case that I'm aware of,  
17 but I'll give you a reference to it. It's Consumers Power  
18 Company --

19 JUDGE SMITH: Yes, we know that case. I think you  
20 are correct, that's -- go ahead.

21 MR. TURK: The Midland case.

22 JUDGE SMITH: Yes, right.

23 MR. TURK: ALAB-379, and if I may briefly indicate  
24 the substance of that decision, if you will permit me.

25 JUDGE SMITH: Oh, yes, certainly. It's your right.

1 That's all you have.

2 MR. TURK: Unfortunately, I don't have the case and I  
3 haven't read it in a long time, so I will read you from --

4 JUDGE SMITH: Well, you are not at a disadvantage  
5 vis-a-vis me.

6 MR. TURK: You're familiar with it, I take it.

7 JUDGE SMITH: In the same way that you are. I read  
8 it many years ago, and at the time I recall not understanding  
9 the reason of the Appeal Board. That's part of it. I mean an  
10 uncertain memory of uncertainty, but go ahead with it.

11 MR. TURK: I'm going to indicate my understanding of  
12 that case which I received through the NRC Staff's Practice and  
13 Procedure Digest.

14 The Applicants informed me that they have a LEXIS  
15 terminal here in Concord, and I've ask that the Applicants's  
16 paralegal provide me with a copy of the case if that's  
17 possible, at my expense, and we'll see if that's possible.  
18 Otherwise, I'll have to rely on this brief digest of the case.

19 In the midland -

20 JUDGE SMITH: Well, would you prefer -- the time left  
21 this afternoon would be enough left for us to swear them in and  
22 have you offer whatever you wish to offer as if it's direct  
23 testimony, and then conduct your oral direct. And then you  
24 could have the case tomorrow --

25 MR. TURK: To argue on sequestration?

1 JUDGE SMITH: Yes, because there's nothing that will  
2 happen today that will require sequestration.

3 MR. TURK: The only effect, Your Honor, will be that  
4 in my preparation of witnesses for tomorrow I'll have to assume  
5 there is no sequestration yet, and I'd have to prepare Mr.  
6 Lazarus with the assumption that you might enter an order of  
7 sequestration.

8 JUDGE SMITH: Well, unless you can change our mind  
9 about our memory of the Midland decision, our discussion during  
10 the break is that we have a rare, very unusual situation here,  
11 not covered by Midland. But --

12 MR. TURK: I'll hold off argument until I can see the  
13 case.

14 JUDGE SMITH: I don't see how we can unsort this out.

15 MR. TURK: I'm not even sure I'll be able to see the  
16 case.

17 JUDGE SMITH: I'm only addressing now your assumption  
18 that there will be no sequestration, which is not -- is not  
19 well founded enough for you to plan on that basis.

20 MR. TURK: No, no.

21 JUDGE SMITH: Our inclination right now, unless you  
22 convince us otherwise, that there would be some sequestration.

23 MR. TURK: All right. That had been the assumption  
24 that I was going to proceed on tonight. I would have assumed  
25 that you might enter a sequestration order, and therefore I'd

1 better prepare Mr. Lazarus with that assumption in mind.

2 I don't favor sequestration. I think, first of all,  
3 in terms of informing the Board and the parties of the  
4 evolution of FEMA's position, we're best off having the  
5 testimony presented jointly.

6 If there is a witness whose memory is not consistent  
7 with that of the first witness, that can be explored through  
8 cross-examination at the time. There has been no indication  
9 of --

10 JUDGE SMITH: Are you talking now about your  
11 affirmative case?

12 MR. TURK: No, the cross-examination.

13 JUDGE SMITH: Only the cross-examination, yes.

14 MR. TURK: There has been no suggestion, there is  
15 absolutely no shred of any suggestion by Mass. AG which would  
16 indicate that the Board has any reason to sequester Mr. Lazarus  
17 from Dr. Bores. There has been no suggestion that his memory  
18 is incorrect or incomplete. There has been no suggestion of  
19 any other reason which would have you examine him separately,  
20 and I don't see a basis for taking the unusual step of  
21 sequestration.

22 I note that my impression of the Midland case is  
23 there is a recognition there that sequestration is not granted  
24 as freely in NRC proceedings --

25 JUDGE SMITH: That's true.

1 MR. TURK: -- as it is in federal court. And that  
2 particularly with respect to NRC Staff witnesses --

3 JUDGE SMITH: True.

4 MR. TURK: -- sequestration is disfavored.

5 JUDGE SMITH: True.

6 MR. TURK: And I don't know of any reason which has  
7 been presented or which could be presented by Mr. Oleskey which  
8 would overturn that precedent with respect to the general  
9 principles of sequestration of Staff witnesses.

10 Further, I think in terms of the full development of  
11 the record, we're better off having witnesses come together.  
12 And if there is any cross-examination, I know Mr. Oleskey is  
13 quite experienced and quite capable of making any points that  
14 he feels he has to make.

15 MR. OLESKEY: I appreciate the vote of confidence  
16 from my brother Turk.

17 I would only say one point that I think needs  
18 addressing, that I intend to pursue vigorous cross-examination  
19 of both witnesses as to these two key meetings as to the  
20 history of what was said by whom, what was intended seems to be  
21 very much at issue and very much in doubt. I can't help but  
22 believe that the cross-examination will go differently if they  
23 are together than if they had been sequestered.

24 I don't have any objection to Mr. Turk putting on his  
25 direct case. I think he's entitled to do that as he wishes.

1 It may be that something of what I wish to obtain will have  
2 been lost by that approach in any event, and it already has,  
3 but I think it's a reasonable request. I don't think it  
4 imposes undue burden, and I think it ought to be honored here  
5 in view of the importance that has been attached, fairly or  
6 not, to the proceedings at those two RAC meeting in 1987.

7 JUDGE SMITH: It's my view that only the Staff and  
8 Intervenors have standing to argue this point, but I'll hear  
9 your argument, Mr. Dignan. Do you want to be heard?

10 MR. DIGNAN: I have no desire to be heard, Your  
11 Honor. I'll use the old expression, I don't have a dog in the  
12 fight.

13 JUDGE SMITH: I think you have characterized the  
14 Midland Appeal Board decision correctly. The Licensing Board  
15 had ordered sequestration for what they called the usual  
16 reasons, and those usual reasons were stated by the Appeal  
17 Board should not apply to staff witnesses appearing in  
18 licensing cases.

19 That much I agree with you, and I have a very  
20 comfortable feeling that that is accurate.

21 My area of uncertainty is that the nature of the  
22 testimony to be adduced was not the same kind of testimony  
23 which we are dealing with here. Now, as I say, I'm uncertain  
24 of this.

25 But here we have within my experience at the NRC one



1 of the relatively rare situations where who actually said what,  
2 and when did they say it, and what happened is at issue. It is  
3 exactly the type of situation that would require sequestration  
4 in the United States District Court. They would encounter that  
5 regularly.

6 Therefore, we believe that that aspect of the cross-  
7 examination should be covered by sequestration.

8 Now we don't go as far as you go, Mr. Oleskey. We  
9 don't believe that we have to find that the cross-examination  
10 would go differently, nor do we have to find or do we find that  
11 there is even any threshold showing that we see any need based  
12 upon Dr. Bores and Mr. Lazarus themselves for sequestration.  
13 One of the important aspects of us calling the people here is  
14 to develop a record that has a high degree of public confidence  
15 and confidence by the parties, if that's going to be possible;  
16 I don't know. I am sure that we're not going to satisfy the  
17 Intervenor's no matter what we do on this, but we're going to  
18 give it a big shot. And I think that sequestration of parts of  
19 it are in order.

20 Now what I would like to see is if it can't be cut  
21 out, and the development of the NRC Staff's evolution of it is  
22 one thing. I think that the difference in memories and  
23 perceptions of what happened at two meetings are discrete  
24 enough that we could have a separation there. I don't know.

25 I did read your cross-examination plan, and just my

1 general impression was that we could probably have separated  
2 parts out where sequestration would at least meet our view of  
3 what is required, if not all of it.

4 Do you agree that there is parts of it -- I mean  
5 there is a policy at the NRC not to have sequestration, and we  
6 have to -- we should find a specific definite need, and our  
7 need would be limited not to the people involved, but to the  
8 circumstances involved.

9 MR. OLESKEY: It's possible that that could be done  
10 in part.

11 JUDGE SMITH: It may not be neat.

12 MR. OLESKEY: But you may not necessarily conclude  
13 this from the way I laid out the plan, but my own intent was  
14 pretty much to take Dr. Bores right on through, and then to go  
15 to Mr. Lazarus which fits into sequestration, and as you'll see  
16 if you look at, as I guess you have, Page 2 of the outline.

17 JUDGE SMITH: Yes, it's Page 2 where I've identified  
18 the areas where traditionally that were you in court -- well,  
19 traditionally you just automatically would have sequestration.

20 MR. OLESKEY: I think so.

21 So what I'm saying is I don't know that there's a lot  
22 of gain to the NRC or any of us to have Mr. Lazarus here for  
23 the Bores examination except as a matter of interest to him as  
24 to what I'm asking Mr. Bores --

25 JUDGE SMITH: No, it's --

1 MR. OLESKEY: -- until I get to the point where I  
2 start to deal with the joint meetings.

3 Part of my problem is I'm not entirely sure beyond  
4 those two meetings where their activities at the NRC region, or  
5 where the meetings that took place in connection with the New  
6 Hampshire plan review overlap for each of them.

7 So I suspect, just in reviewing some documents I got  
8 yesterday from Mr. Dignan, that there is going to be more  
9 overlap than I thought when I began the plan, this cross-  
10 examination, on Monday.

11 JUDGE SMITH: Well, can we revisit this whole thing  
12 tomorrow?

13 MR. OLESKEY: Certainly.

14 JUDGE SMITH: You can reconsider your cross-  
15 examination; see if it cannot be, if it is not already  
16 constructed, if it cannot be constructed to minimize the  
17 sequestration.

18 MR. OLESKEY: Could we also have supplied a copy of  
19 whatever case it is that Mr. Dignan's facilities are going to  
20 rattle off for the Board and Mr. Turk?

21 MR. TURK: If I can get that from Mr. Dignan, I'll be  
22 happy to make a copy for Mr. Oleskey.

23 MR. DIGNAN: Your Honor, I will make it available to  
24 anybody. I do wish to apprise everybody of our problem.

25 Our problem is this. The computer that we have

1 hooked to LEXIS, which is where we'll get this if we can,  
2 unfortunately is not hooked to the printer. So we have got to  
3 find a way to take it off of LEXIS on to a disk, and get it  
4 over.

5 Now if anyone can do it, Ms. Wardlow can, and that's  
6 what she's trying to do. I'm just not sure mechanically if we  
7 can reproduce it on paper.

8 If it gets to that point, I'm also willing, on the  
9 basis that everybody's got a fair shot, if Mr. Oleskey would  
10 like to come up to our office with Mr. Turk and read it off the  
11 screen, and Ms. Weiss or anybody else is welcome, too, we'd be  
12 glad to make that available to everybody also.

13 MR. HUNTINGTON: If the Applicants have got a  
14 problem, the Attorney General's office has a LEXIS as well, and  
15 we can certainly access, and ours is connected to a printer the  
16 last time I saw it.

17 MR. OLESKEY: Terrific. Thank you both.

18 MR. HUNTINGTON: We will try to get a copy of the  
19 case.

20 JUDGE SMITH: If it will break the log jam, you can  
21 use my account number.

22 (Laughter.)

23 MR. TURK: I'll use mine, Your Honor.

24 MR. HUNTINGTON: We'll provide everybody with a copy.

25 (Continued on next page.)

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1 MR. TURK: I hope that tonight we will be able to  
2 see if we can get a copy of the case for all parties to see and  
3 for the Board to consider as well.

4 JUDGE SMITH: Thank you.

5 One of the reasons why I think that the NRC does not  
6 favor sequestration is that difficult enforcement is also a  
7 problem. There will be media accounts and everything like  
8 that, which is -- it's very difficult to enforce in this type  
9 of hearing. And you might want to make that argument, too.

10 We do not have -- you might want to present that for  
11 our consideration, we do not have any of the authority over  
12 anybody, over the media or anybody to control what is report  
13 about the affairs in this room.

14 MR. TURK: I understand. I also note that there are  
15 quite a few reporters in the room. I recognize the Associate  
16 Press reporter as well as three or four others.

17 JUDGE SMITH: So the practicality of enforcing  
18 sequestration is a factor.

19 MR. OLESKEY: Well, I'm sure that it is the Board's  
20 order that Mr. Lazarus would hear it and Mr. Turk would advise  
21 him and that they would follow whatever proceeding was that we  
22 established.

23 MR. TURK: I didn't understand that.

24 MR. OLESKEY: If that meant not reading the papers,  
25 I'm sure he wouldn't read the paper.

1 JUDGE SMITH: I'm sure that I would expect them to  
2 comply, but it's just another dimension from the problem.

3 MR. HUNTINGTON: Your Honor, I'm going to excuse  
4 myself and see if we can get this here by 5 o'clock.

5 JUDGE SMITH: Okay.

6 MR. TURK: Your Honor, at this time --

7 JUDGE SMITH: If you -- excuse me, if we could get  
8 that -- well, go ahead. If you can't get it I have another  
9 idea.

10 Mr. Turk?

11 MR. TURK: Your Honor, at this time in compliance  
12 with the Board's request that the NRC staff produce witnesses  
13 who can testify to the evolution of the FEMA position, based on  
14 our understanding of that sequence of events, --

15 MR. DIGNAN: Ms. Wardlow did it. All we now is  
16 access to a photocopy machine and we can give everybody a copy.

17 JUDGE SMITH: Why in the world is she carrying that  
18 case around.

19 (Laughter)

20 MR. DIGNAN: She made the computer do what we wanted.

21 MR. TURK: Your Honor, it's my preference that we do  
22 our argument on sequestration before we adjourn tonight rather  
23 than commence the direct examination.

24 Do you want us to start -- I'd like to reserve some  
25 time this afternoon to make the arguments on sequestration, so

1 that we may have the benefit of a Board decision before going  
2 back to the motel tonight, if the Board feels that possible.

3 MS. WEISS: If we could get the documents in, I think  
4 it would facilitate preparation.

5 JUDGE SMITH: Right. Well, I understand, I'm  
6 sympathetic to Mr. Turk's desire to have some structure to his  
7 life coming up and he does have to plan, and so I think we  
8 should try to accommodate him. As he says, this motion is made  
9 exactly at the time the witnesses appear. And it is not a  
10 common thing. And he had -- he was not required to prepare for  
11 it.

12 Can we proceed until that point? Let's proceed, and  
13 we will try to make our ruling tonight.

14 MR. TURK: All right. Thank you, Your Honor.

15 As I commenced a few minutes ago, I would note that  
16 in compliance with the Licensing Board's request that the staff  
17 make available witnesses who can provide some insight to the  
18 evolution of the FEMA position.

19 The NRC staff at this time calls Dr. Robert Bores and  
20 Mr. William Lazarus.

21 JUDGE SMITH: Dr. Bores, you're still under oath from  
22 your last appearance here.

23 Mr. Lazarus, will you stand and be sworn, please.  
24  
25

1 Whereupon,

2 ROBERT BORES

3 having been previously duly sworn, was recalled as a witness  
4 herein, and was examined and further testified as follows:

5 Whereupon,

6 WILLIAM LAZARUS

7 having been first duly sworn, was called as a witness herein,  
8 and was examined and testified as follows:

9 DIRECT EXAMINATION

10 BY MR. TURK:

11 Q Gentlemen, may I ask that you briefly identify  
12 yourselves by name, and your current position, and place of  
13 employment, starting with Dr. Bores?

14 A (Bores) My name is Robert Bores, I am the Technical  
15 Assistant in the Division of Radiation Safety and Safeguards,  
16 Region 1, U.S. Nuclear Regulatory Commission.

17 A (Lazarus) My name is Mr. William Lazarus, I'm the  
18 Emergency Preparedness Section Chief in the Facility Radiation  
19 Safety and Safeguards Branch, Division of Radiation Safety and  
20 Safeguards, NRC Region 1.

21 MR. TURK: Your Honor, I note that the professional  
22 qualification statement of Dr. Bores has already been put into  
23 the transcript, it appears following transcript page 8775.

24 And at this time I'd like to distribute the  
25 professional qualification statement for Mr. Lazarus.



1 BY MR. TURK:

2 Q Mr. Lazarus, I note that we've placed in front of you  
3 a copy of a document entitled, "William J. Lazarus, Chief  
4 Emergency Preparedness Section," and it goes on several more  
5 lines, it's dated May 1988. Can you identify this document?

6 A (Lazarus) Yes. It's a professional qualification  
7 statement I prepared approximately three days ago.

8 Q And to the best of your ability to state so today, is  
9 it true and correct?

10 A (Lazarus) Yes, it is.

11 MR. TURK: Your Honor, at this time I'd like to ask  
12 that the professional qualification statement of Mr. Lazarus be  
13 bound into the record.

14 JUDGE SMITH: Any objections?

15 MR. OLESKEY: No, Your Honor.

16 JUDGE SMITH: The statement is received.

17 (Professional qualifications  
18 statement of William J. Lazarus  
19 follows:)

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4728  
MAY 1988

WILLIAM J. LAZARUS

CHIEF, EMERGENCY PREPAREDNESS SECTION,  
FACILITIES RADIATION SAFETY AND SAFEGUARDS BRANCH,  
DIVISION OF RADIATION SAFETY AND SAFEGUARDS,  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I

GRADE: GG-15

BIRTH DATE: DECEMBER 1, 1942

EDUCATION: B.S. - Engineering; Chemistry Major, U.S. Naval Academy, Annapolis, Maryland - 1965

U.S. Naval Officers' Submarine School, New London, Connecticut - 1965

U.S. Navy Nuclear Power School, Vallejo, California and Idaho Falls, Idaho - 1966. Curriculum included nuclear engineering, reactor physics, water chemistry, radiation protection, and health physics.

AFFILIATIONS: Institute of Electrical and Electronic Engineers

EXPERIENCE:

1966 - 1975: Served as a commissioned officer in USS WOODROW WILSON, SSBN-624, USS HAMMERHEAD, SSN-663, and USS SPADEFISH, SSN-668. Qualified as Engineering Officer of the Watch, Officer of the Deck, Chief Engineer, and Qualified in Submarines. Duty assignments included various engineering and operations division officer positions, Weapons Department Head, Operations Department Head, and Navigator. Experience in all assignments involved extensive training in nuclear reactor accident response, nuclear weapons accident response, and radiation health physics.

1975 - 1977: Joined the Nuclear Regulatory Commission in 1975 as a Specialist inspector in the Reactor Operations and Nuclear Support Branch, assigned to inspect power reactors in the areas of calibration and surveillance testing, maintenance of safety related equipment, and procedures.

1977 - 1980: Assigned as Project Inspector for several power reactors including Maine Yankee, Yankee Atomic Electric Company, and Haddam Neck Plant. Performed inspections of all aspects of plant operations; observed and evaluated licensee performance during emergency exercises. During the accident

at Three Mile Island, inspected and observed operations in the Control Room for a two week period.

- 1980 - 1981: Assigned as Senior Resident Inspector at Maine Yankee Nuclear Power Station. Evaluated licensee performance in all areas of plant operations; observed performance in two emergency exercises.
- 1981 - 1985: Assigned as Project Engineer in the Division of Reactor Projects. Trained several resident inspectors in their duties. Other duties involved participating as an observer to evaluate licensee performance during emergency exercises.
- 1985 - 1986: Assigned as Senior Emergency Preparedness Specialist. Duties included assignment as a member of the Regional Assistance Committee to FEMA Region I, evaluating off-site emergency plans; evaluated exercise objectives and scenarios and served as inspection team leader for the on-site portion of approximately 20 emergency exercises; evaluated readiness for licensing in the area of emergency preparedness for four power reactor licensees.
- 1986 - Present: Assigned, as Chief, Emergency Preparedness Section. Supervising 2 Senior Emergency Preparedness Specialists, and 3 - 5 Emergency Preparedness Specialists in the duties of evaluating emergency preparedness of power, research, and test reactors. Continue to attend important RAC meetings and observe most of the emergency exercises conducted in NRC Region I. Responsible for overseeing NRC Region I incident response capabilities.

1 BY MR. TURK:

2 Q Gentlemen, I'd like to introduce our discussion today  
3 asking you to give us a brief description of your involvement  
4 with the Seabrook Nuclear Plant, emergency planning issues,  
5 from the earliest date of your involvement up to the current  
6 date, starting with Dr. Bores?

7 A (Bores) My first introduction, I guess, to the  
8 emergency planning issues at Seabrook occurred back in the  
9 construction phase through the environmental hearing process.  
10 And I had attended the public meeting up here on behalf of the  
11 NRC at the time. And several questions were asked about the  
12 emergency preparedness. The time frame is about 1981, 1982.

13 Subsequent to that my involvement with the Seabrook  
14 emergency preparedness came through the efforts at the Region 1  
15 Regional Assistance Committee of which I was a member for the  
16 NRC.

17 In that capacity I reviewed, at the request of FEMA  
18 Region 1, for technical review both versions of the plan  
19 submitted by the State of New Hampshire for technical review.  
20 And then each of the plans as submitted, formally submitted by  
21 the State and revisions thereof, for New Hampshire for the  
22 Seabrook site.

23 Q What was the time frame of that -- review of those  
24 initial plans?

25 A (Bores) I believe the first one was submitted for

1 technical review in 1982, same, 1982, 1983 time frame.

2 And the latest revision I guess is just received in my office,  
3 that one I do not say I have at this point yet reviewed, I have  
4 started it.

5 Q Now, Dr. Bores, I understood you to say you were a  
6 member of the RAC for the NRC, during what period were you the  
7 NRC RAC member?

8 A (Bores) As my recollection serves me, I started as a  
9 member of the RAC, Regions 1, 2 and 3 approximately September  
10 1980; and I had all three of the federal regions that NRC  
11 Region 1 encompasses, that are Regions 1, 2 and 3.

12 I was a member of the RAC until approximately 1985, I  
13 believe it was, with respect to Seabrook. And then coming back  
14 Seabrook in January of 1987.

15 Q You say, coming back, could you --

16 A (Bores) Well, in the interim there were several  
17 other individuals assigned as the NRC representative for Region  
18 1 of FEMA. So in January of 1987 I was reassigned as the RAC  
19 member for the Seabrook site.

20 Q So that there's a period between sometime in 1985 to  
21 approximately January 1987 in which you were not the NRC RAC  
22 member --

23 A (Bores) That is correct.

24 Q -- for Seabrook?

25 A (Bores) That is correct.

1 Q And since January 1987 have you been the NRC RAC  
2 member for Seabrook?

3 A (Bores) I have.

4 Q Could you explain how that assignment, the current  
5 assignment starting January 1987 -- pardon me, is that correct,  
6 1987?

7 A (Bores) That is correct, January 16th, 1987.

8 Q And could you explain how that assignment corresponds  
9 to your other assignments and duties at the NRC Region 1 since  
10 January of 1987?

11 A (Bores) I guess I don't quite understand the context  
12 of the question.

13 Q Do you have other responsibilities apart from being  
14 the NRC RAC member for Seabrook?

15 A (Bores) Yes. As the Technical Assistant to the  
16 Division Director I am asked to get involved in those issues,  
17 technical issues that the Division Director feels he needs some  
18 extra resources on. So that I can provide him an independent  
19 assessment of particular problems or in fact to take charge of  
20 areas where he feels special attention is needed.

21 Q All right. Does that pretty much summarize your  
22 involvement with Seabrook emergency planning issues up to the  
23 current date?

24 A (Bores) Well, and there's a lot more involved in  
25 terms of going through numbers of meetings and correspondence.

1 of course, which is all part of the RAC process.

2 Q All right.

3 Mr. Lazarus, can you also provide for us a summary of  
4 your involvement of emergency planning issues for Seabrook?

5 A (Lazarus) Certainly.

6 Q From the earliest date of your involvement?

7 A (Lazarus) Certainly. I transferred under the  
8 Emergency Preparedness Section from the Division of Reactor  
9 Projects in April or May of 1985, and during that period of  
10 time throughout the remainder of 1985 I attended several RAC  
11 meetings in FEMA Region 1; and at some point during that time,  
12 I don't recall the exact date, I believe I was designated as  
13 the RAC representative to FEMA Region 1 for all of the FEMA  
14 Region 1 facilities.

15 Q Can you give us the approximate date of that  
16 designation?

17 A (Lazarus) I would estimate that it was probably in  
18 the early -- late summer, early fall, August, September time  
19 frame.

20 Q 1985?

21 A (Lazarus) Yes.

22 Q All right.

23 A (Lazarus) I remained in that position until, as the  
24 RAC representative until some time in late 1986. I was  
25 promoted to the position of Section Chief in June of 1986 of

1 the Emergency Preparedness Section, and at that point  
2 designated Mr. John Schumacher as a RAC representative of FEMA  
3 Region 1.

4 Q Now, is Mr. Schumacher designated the NRC RAC member  
5 for all plants in FEMA Region 1?

6 A (Lazarus) Yes. That's my recollection. It was --  
7 and that occurred some time, again, late 1986, mid to late  
8 1986. And he remained in that position until Dr. Bores was  
9 appointed as the RAC representative for Seabrook, and Mr.  
10 Schumacher retained the RAC representation for the remaining  
11 FEMA Region 1 facilities, and that was January 16th, 1987.

12 Q All right. Now, also, in your current position, I  
13 understand your professional qualifications indicate that  
14 you're currently Chief of the Emergency Preparedness Section?

15 A (Lazarus) Yes. I had some other direct contact as  
16 far as the Seabrook emergency planning goes in that time, that  
17 I should probably cover, too. During that time I was a Senior  
18 Emergency Preparedness Specialist. I was a team leader on the  
19 emergency preparedness implementation appraisal that was done  
20 as far as the onsite adequacy of emergency plans for Seabrook,  
21 which occurred December '85 and a followup inspection  
22 approximately March of 1986.

23 I was also the team leader for the emergency  
24 preparedness exercise that was conducted in February of 1986  
25 for Seabrook.



1 Q And in your capacity as Chief of the Emergency  
2 Preparedness Section, do you supervise the NRC RAC member for  
3 sites other than Seabrook?

4 A (Lazarus) Yes, I do.

5 Q Do you supervise Dr. Bores?

6 A (Lazarus) No, I do not.

7 Q In your duties as Chief of the Emergency Preparedness  
8 Section of NRC Region 1, is it within the scope of your duties  
9 to attend or participate in FEMA RAC meetings?

10 A (Lazarus) Yes. I do that frequently, if there are  
11 important issues to discuss as far as scheduling, planning, or  
12 technical issues, I have attended meetings.

13 Q And can you describe or inform us as to which plants  
14 in particular these meetings have involved?

15 A (Lazarus) In FEMA Region 1 the plants are Seabrook  
16 and Pilgrim. FEMA Region 2 Indian Point and Shoreham. FEMA  
17 Region 3 the visits have been infrequent, I have attended one  
18 or two meetings and I don't recall which plants were involved;  
19 there aren't any significant controversial plants in FEMA  
20 Region 3.

21 A (Bores) I'd like to add something here. Even though  
22 Mr. Lazarus does not necessarily attend all to the RAC meetings  
23 which I attend, I do debrief fully with Mr. Lazarus and his  
24 boss as to the -- what has occurred at the RAC meeting and what  
25 is necessary, so there is full communication on all sites back

1 to Mr. Lazarus and his outline of management.

2 MR. TURK: At this time, having gone through the  
3 background of the witnesses, I'd like to move to the  
4 identification of some documents that the parties and Board  
5 have seen previously.

6 (Pause)

7 MR. TURK: Your Honor, at this time I'd like to ask  
8 Dr. Bores if he can identify the document which has been placed  
9 before him.

10 THE WITNESS: (Bores) Yes, I can.

11 BY MR. TURK:

12 Q Would you please describe it?

13 A (Bores) It's a memorandum from me to Mr. Sherwin  
14 Turk on the subject of Seabrook Beach population issues, and it  
15 contains two -- three enclosures, I believe -- three enclosures  
16 and a number of attachments to the enclosures.

17 And it describes my involvement, basically, with the  
18 Seabrook Beach population issues, and in particular my  
19 recollections of two particular RAC meetings that I attended,  
20 April and the July 1987 meetings.

21 MR. TURK: Your Honor, at this time I'm going to  
22 offer the document into evidence. I would note that one of the  
23 enclosures attached to the document, consists of the last two  
24 pages of the document, I'm going to introduce as a separate  
25 exhibit. And I would ask that you simply detach those two

1 pages now, and I'll have identification of those two pages  
2 subsequently.

3 JUDGE SMITH: What pages are those, Lazarus?

4 MR. TURK: Dr. Lazarus, yes.

5 JUDGE SMITH: The last two pages?

6 MR. TURK: Yes.

7 Your Honor, at this time I'd like to offer into  
8 evidence the document which Dr. Bores has described which is a  
9 memorandum to Sherwin Turk from Dr. Bores, dated October 15,  
10 1987 entitled "Seabrook Beach Population Issues." And I'd like  
11 to offer the entire document into evidence along with all  
12 attachments other than those last two pages which are the  
13 separate memo from Lazarus to Turk of October 15, 1987.

14 JUDGE SMITH: Are there objections?

15 MR. OLESKEY: I take it that this is being offered as  
16 kind of a historical chronology and not literally to the truth  
17 of all the matters therein. In that spirit I don't object.

18 But secondly, and I believe that this is the way Mr.  
19 Turk got the material, but I think for all our purposes  
20 tomorrow it would be useful, there are about three documents  
21 anyway, the first and second so-called Bores memos of February  
22 and June '87, and the Christenberry-Perry memorandum of law of  
23 1986 or '87, where only the front and back were included  
24 because of a justified assumption by Dr. Bores that Mr. Turk  
25 had those materials. There will be cross-examination on those

1 things, and if we could, by the morning, have a package that  
2 includes those, I think it will go much more smoothly.

3 MR. TURK: I'm ahead of you, Mr. Oleskey, I'll be  
4 introducing those documents separately.

5 MR. OLESKEY: All right.

6 MR. DIGNAN: Well, wait a minute. What's being  
7 introduced first?

8 MR. TURK: My understanding is that Mr. Oleskey would  
9 like to have complete copies of Mr. Dignan's memo and the  
10 Christenberry letter of, I believe, June 1987 -- June 1986.

11 MR. OLESKEY: And the first and second memoranda from  
12 Dr. Bores.

13 MR. TURK: All of those documents will be introduced.

14 MR. OLESKEY: All right.

15 MR. TURK: At this time the document being introduced  
16 is the Bores memo to me of October 15, and as Mr. Oleskey  
17 notes, it does not contain a full copy of the Christenberry  
18 letter or, nor do I believe does it contain a copy of Mr.  
19 Dignan's memo.

20 MR. DIGNAN: I understand that. I just want to be  
21 sure of something, because of something Mr. Oleskey said. As I  
22 understand what's being introduced is the covering memo of  
23 October 15th, 1987; and then the first enclosure is included in  
24 this package to which a memorandum headed, "The Seabrook NH  
25 Beach Population Issue."

1 MR. TURK: No, that's not correct. We are offering  
2 into evidence at this time the one page cover letter from Dr.  
3 Bores to me, enclosure 1 to that document which consists of  
4 four pages as entitled "The Seabrook NH Beach Population  
5 Issue."

6 MR. DIGNAN: That's correct.

7 MR. TURK: And all of the subsequent attaches,  
8 numbers 1 through 17 which follow.

9 MR. DIGNAN: Right. And not enclosure 2.

10 MR. TURK: That's correct.

11 MR. DIGNAN: Okay. Now, the objection as I  
12 understand it was that he assumes this offer is not for the  
13 truth of the matter as contained.

14 MR. TURK: I'll get to that.

15 The purpose of the offer, Your Honor, is for the  
16 truth of the contents contained in the memorandum from Dr.  
17 Bores to me as well as in the first enclosure, that four page  
18 summary of events. We are offering that into evidence for all  
19 purposes including truth of the contents.

20 As to the subsequent attachments those, at this point  
21 at least, represent historical documents referred to in the  
22 first five pages of the exhibit.

23 And, Your Honor, I'd like to identify this as Staff  
24 Exhibit No. 2. I'd also ask for the sake of ease in finding  
25 the document and utilizing it that it be bound into the

1 transcript.

2 MR. OLESKEY: Do I understand that by enclosure 2,  
3 Your Honor, Mr. Turk doesn't mean the document that has the  
4 circled letter enclosure 2, but means Mr. Lazarus' memorandum?

5 MR. TURK: Yes, as I previously stated.

6 (The document referred to was  
7 marked for identification as  
8 NRC Staff Exhibit No. 2.)

9 MR. FLYNN: I have a question, this is not an  
10 objection, but I notice that several of the attachments,  
11 Attachments 14, 15 and I think 17 have handwritten notes on  
12 them, and I'd like to establish whose notes they are.

13 Attachment 14, for example, is the FEMA Prefiled  
14 Testimony of September 11, 1987.

15 MR. OLESKEY: May I only suggest on that, that I  
16 intend to inquire a number of those documents that are only in  
17 for the historical version at the moment, and that we save that  
18 kind of identification until we get to that point.

19 MR. FLYNN: Then I will withdraw the question.

20 MR. TURK: I think that's an appropriate procedure,  
21 Your Honor.

22 MS. WEISS: Your Honor, if you look at Attachment 12,  
23 which is I would say maybe two-thirds of the way toward the  
24 back of the exhibit there's a FAX message from Argonne to a Ms.  
25 Chan at the NRC. And the second page of text is unreadable. I

1 have talked to Mr. Turk about that, and he offered to see if he  
2 could find a readable page. That is a critical page that we'll  
3 be questioning on. One inquires to whether you've located a  
4 readable page.

5 MR. TURK: I've looked through the documents that I  
6 have with me here in Concord, I do not have a better copy of  
7 that. The attachment to the memo is before us exactly the way  
8 I received it when I received Dr. Bores memo of October 15th  
9 with its attachments. I will place a call to Washington to see  
10 if we can get a better copy of that.

11 MR. OLESKEY: I'd also suggest --

12 MR. TURK: I don't think one exists because I would  
13 have known it at the time.

14 MS. WEISS: Well, I had asked you to call Argonne,  
15 the source of the FAX and see if they have a copy of that page.

16 MR. TURK: Oh, I didn't understand that. I don't  
17 have a contractual relationship with Argonne. I think if you  
18 want that we should ask FEMA to request it.

19 MR. OLESKEY: I see Mr. Flynn smiling  
20 acknowledgement, perhaps he can call Argonne and Fed-Ex a clean  
21 copy, be it at the front desk for tomorrow morning so we'd have  
22 it; I'd appreciate that very much.

23 MR. FLYNN: I will attempt to do that.

24 MR. OLESKEY: Thank you, Joe.

25 MR. TURK: And, Your Honor, before making the offer

1 and seeking to have the document admitted, I better start by  
2 asking Dr. Bores if he has any changes that he feels he should  
3 make to the -- either to the cover memo, to me, or to the four  
4 page enclosure, one which immediately follows it.

et/42 5 (Continued on next page.)  
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T43

1 THE WITNESS: (Bores) In reviewing the document,  
2 this is my recollections and my statements as true as written  
3 on October 15th.

4 Subsequent to October 15th, in discussions with a  
5 couple of other RAC members, on Page 2 of my Enclosure 1, under  
6 No. 5, the April 15th RAC meeting, Mr. Warren Church of the FDA  
7 and Mr. Herb Fish of DOE separately informed me that they were  
8 not at those meetings. So we made that correction.

9 BY MR. TURK:

10 Q So you would indicate that you would change this to  
11 reflect that those individuals were not present at the April  
12 meeting?

13 A (Bores) That's correct.

14 And that then stands as the best of my recollection.

15 MR. OLESKEY: I'm sorry, I didn't hear that last, Dr.  
16 Bores.

17 THE WITNESS: (Bores) That then stands as my  
18 recollections.

19 JUDGE SMITH: As today.

20 THE WITNESS: (Bores) As true.

21 JUDGE SMITH: As today, your recollection today?

22 THE WITNESS: (Bores) That's correct.

23 BY MR. TURK:

24 A And to the best of your recollection, Dr. Bores, does  
25 the cover memo and the four-page Enclosure No. 1 which

1 immediately follows the cover memo present an accurate and true  
2 accounting of the matters stated therein?

3 A (Bores) It does.

4 MR. TURK: Your Honor, at this time I do offer into  
5 evidence Staff Exhibit 2 for identification as described  
6 previously.

7 JUDGE SMITH: I take it there are no objections after  
8 the discussion I've heard.

9 MR. OLESKEY: No, not from me.

10 JUDGE SMITH: Okay. Now, I think that's a good idea  
11 to bind it in the transcript. Would it not be a better idea to  
12 bind it in tomorrow when it's going to be cross-examined on?

13 MR. TURK: It might be more convenient if it's bound  
14 in today so that everyone will have it in front of them in the  
15 transcript tomorrow.

16 JUDGE SMITH: It's your call.

17 MR. TURK: I'm indifferent. Whatever Your Honor  
18 feels is the best way to proceed.

19 JUDGE SMITH: It's your call.

20 I don't think it was a good idea anyway.

21 MR. TURK: Well, we'll withdraw that. I'm quite  
22 amenable to --

23 MR. DIGNAN: No, he's saying his idea wasn't a good  
24 idea.

25 MR. TURK: Well, I'll take any good idea.

1 MR. OLESKEY: Whose bad idea should we follow.

2 MR. TURK: The horns are not so sharp in this case.

3 MS. WEISS: It's sort of like sheltering versus  
4 evacuation.

5 MR. DIGNAN: I agree with Mr. Turk's original idea  
6 for one simple reason.

7 I had to give up my copy of the memorandum so that  
8 everybody else could have one, so I'd love it bound in today so  
9 then I'll have it tomorrow.

10 JUDGE SMITH: Okay. Staff Exhibit 2 is received into  
11 evidence, and it will be bound into the transcript at this  
12 point.

13 (The document referred to,  
14 having been previously marked  
15 for identification as NRC Staff  
16 Exhibit No. 2 was received in  
17 evidence.)

18 (NRC Staff Exhibit No. 2  
19 follows:)

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23  
24  
25



UNITED STATES  
 NUCLEAR REGULATORY COMMISSION  
 REGION I  
 631 PARK AVENUE  
 KING OF PRUSSIA, PENNSYLVANIA 19406

OCT 15 1987

MEMORANDUM FOR: Sherwin E. Turk, Senior Supervisory Trial Attorney, OGC  
 FROM: Robert J. Bores, Technical Assistant, DRSS, Region I  
 SUBJECT: SEABROOK BEACH POPULATION ISSUES

As you have requested I have prepared a summary of my involvement in the above issues and in particular the RAC meetings dealing with those issues. My summary entitled "The Seabrook NH Beach Population Issues" with its attachments is Enclosure 1 to this memo. Mr. William Lazarus has provided his summary with respect to the RAC meetings as Enclosure 2. Mr. John Schumacher also attended those meetings and may be able to provide his recollections on them sometime later. Enclosure 3 provides some excerpts from NRC testimony for the October 6, 1986 Subcommittee on Energy Conservation and Power Hearing on Seabrook Licensing Issues (Questions 2, 14 and 15). This may also be of some use to you.

It should be noted that I have not provided you copies of my detailed comments as provided to the RAC on the New Hampshire state and local plans. Those comments probably constituted about 60 to 75% of the comments received from all the RAC members and the contractor and were adopted by RAC about 90 to 95% of the time.

Robert J. Bores  
 Technical Assistant  
 Division of Radiation Safety  
 and Safeguards

Enclosures: As stated

NUCLEAR REGULATORY COMMISSION

Docket No. 50-443/444-02 Official Ex. No. 2

In the matter of Seabrook

Staff  IDENTIFIED

Applicant \_\_\_\_\_ RECEIVED

Intervenor \_\_\_\_\_ REJECTED \_\_\_\_\_

Exhib. Off'r \_\_\_\_\_

Contractor \_\_\_\_\_ DATE 5/18/88

Witness Bores

Secretary KR

R. BORES  
TECH ASSISTANT  
DRSS, REGION I

THE SEABROOK NH BEACH POPULATION ISSUE

1. The Seabrook beach population issue was raised years ago during the construction phase of the Seabrook Station project. When the offsite plans for the site were first submitted to FEMA by New Hampshire and the Commonwealth of Massachusetts for technical review in 1982, FEMA:I and the technical reviewers (several RAC members including me and the FEMA contractor) were sensitive to beach population concerns. In revisions to the New Hampshire state and local plans for the Seabrook site, New Hampshire addressed each identified concern and with very few, if any exceptions, those concerns were resolved.
2. On 12/31/85 in a memorandum to the RAC (Attachment 1), Edward Thomas of FEMA:I asked the RAC members to individually address the adequacy of the plans to protect the transient beach population and those persons who occupied unwinterized accommodations in the Seabrook beach areas. Several RAC members responded to this memo. The NRC attempted to respond generically to the requirements of emergency planning and interpretations thereof in the letter of June 18, 1986 from Ed Christenbury, NRC, to Spence Perry, FEMA, confirming the NRC and FEMA positions relative to the "Dignan Memorandum" (Attachment 2). (See also letter from Edward Thomas to Robert Boulay (Massachusetts) dated July 9, 1986 (Attachment 3) and memo from Spence Perry to Edward Thomas dated June 25, 1986 (Attachment 4) confirming the FEMA position.)
3. Since the Christenbury letter was generic and did not address the specific beach issues in the Thomas memo of 12/31/85, FEMA:I felt it needed more specific information from the NRC RAC member. To satisfy this apparent need, I volunteered to address these issues. In addition I was again assigned as the NRC RAC representative for the Seabrook site. (See memorandum from W. Lazarus, NRC:I to Edward Thomas, FEMA:I, dated 1/16/87, Attachment 5 and Attachment 6, RAC Membership for Region I). I generated a position paper addressing the issues raised in the 12/31/85 Thomas memo, discussing the basic requirements, the guidance, the submitted plans, RAC's comments on those plans, site features and general conclusions on those issues. This position paper received limited NRC:I review and underwent minor revisions as a result. FEMA:I asked for and received an opportunity to review the document before submission. Minor word changes were made in two paragraphs to accommodate the FEMA suggestions. The position paper was transmitted to FEMA in a letter dated 2/18/87 from me (R. Bores) to Edward Thomas (Attachment 7).

ENCLOSURE 1

4. In a memorandum to the RAC dated March 2, 1987, Mr. Thomas requested comments on my paper as well as on other submitted RAC positions on the beach issues. My response (Attachment 8) and that of ANL (Attachment 9) were reviewed at the subsequent meeting on April 15, 1987.
5. On April 15, 1987, FEMA I convened a RAC meeting to discuss this paper and to address any questions of the RAC members, FEMA I or the FEMA contractor on this paper. The meeting was attended by me, W. Lazarus and J. Schumacher of the NRC; several FEMA staff including Mr. Thomas, J. Dolan, L. Robertson, B. Swiren and K. Horak; R. Rospenda, ANL-contractor; P. Lutz, DOT; B. Keene, EPA:I; W. Church, FDA; D. Nevitt, USDA; H. Fish, DOE; and two representatives of NOAA.

Mr. Thomas stated that it was his understanding that the position of my paper was that the NH Radiological Emergency Response Plan (NH RERP) was generally adequate, except for the beach population, but with the added features, such as the strong containment, other safety systems, low probability of early radiological releases, etc., the NH RERP was also adequate for the beach population. I addressed this point by saying that Mr. Thomas's understanding was incorrect. My paper states that the NH RERP was adequate in general, including for the beach population. The specific containment and plant features cited in my paper were in addition to and not necessary for, the NH RERP provisions making the plan adequate. The RAC accepted the above position, as representing their views on the beach issues. Minor changes were suggested by NOAA to reflect the possibility of recirculating a portion of a radiological plume over the beach area as a result of some sea breeze situations. They further indicated that such recirculation would result in huge dilutions of plume concentrations prior to the recirculation to the beach areas.

Because several representatives had some difficulty in understanding the intended meaning of one paragraph dealing with risk consequences, I suggested that I would revise the wording to clarify the intended meaning. With above suggested changes and a slight modification to the ANL proposed RAC Review Spreadsheets (see memo 4/22/87, Rospenda to Ed Thomas (Attachment 10) and my letter to Ed Thomas dated 4/24/87 (Attachment 11), the RAC unanimously (including FEMA) adopted my position paper as their position paper relative to the beach issues. (See Draft FEMA testimony dated 5/6/87, citing the RAC position paper (undated) and wording from my paper (Attachment 12).) Mr. Thomas stated that he felt very comfortable in supporting this position for the hearings.



6. Following the 4/15/87 RAC meeting, the ASLB issued its MEMORANDUM AND ORDER on April 22, 1987 relative to the denial of granting Public Service of New Hampshire a one-mile plume EPZ for Seabrook site. In addition, since the BNL "containment studies" were still being reviewed by the NRC, the NRC staff recommended that I delete reference to the site specific plant and containment features in the paper which I had previously submitted to FEMA on 2/18/87. This recommendation was made because the referenced information was not the basis of the adequate finding for the beach population (See discussion on 4/15/87 RAC meeting.) and could result in unnecessary litigation on probability issues. As a result, the suggested revisions were made, received NRC staff concurrence, and were submitted to FEMA I on June 4, 1987 (Attachment 13).
7. On June 5, 1987, FEMA pre-filed testimony in response to NECNP Contention RERP-8, in which, on pages 38 and 39 of that document, FEMA took the position that FEMA was unable to conclude that the NH RERP and local plans were adequate "to protect the public in the event of an accident at Seabrook Nuclear Power" and to provide "reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency." (Attachment 14 is a revision of the June 5, 1987 filing with minor revisions.)
8. In a letter to Richard Strome (New Hampshire), Mr. Thomas discusses the FEMA filing, stating that the "Current FEMA Position is largely based upon the FEMA and the Regional Assistance Committee (RAC) reviews which were previously provided to you. The position of the Current FEMA Position dealing with the beach population is based on a thorough analysis by FEMA and the RAC. (Attachment 15)
9. On July 30, FEMA:I convened the RAC to discuss a number of items (7/2/87 memo from E. Thomas to RAC (Attachment 16) and agenda for 7/30/87 RAC meeting (Attachment 17)). NRC attendees were R. Bores, W. Lazarus and J. Schumacher; FEMA attendees included E. Thomas, J. Dolan, B. Swiren; FEMA contractor, R. Rospenda (ANL); DOE, H. Fish; DOT, P. Lutz; EPA, B. Keene; FDA, W. Church; and Dept. of Agriculture, D. Nevitt. Dept. of Commerce (NOAA) was not represented.

After discussing the other items on the agenda, E. Thomas apologized for not consulting the RAC prior to pre-filing the testimony on June 5, 1987, but said there wasn't time to do so and still meet the filing deadline. He further explained that FEMA, not FEMA:I had taken the position that the NH plans were not adequate to protect the beach population because the "NRC had changed their position" in revising their response to his 12/31/85 memorandum. He said the plant specific items removed from the position paper by the NRC in its 6/4/87 revision were crucial to a FEMA finding of adequacy. In the discussion that ensued, the DOT representative stated to Mr. Thomas, "You have a problem!" Then, "We have a problem that we need to come together on." He said that whether or not the paper discussed the specific plant features did not change the facts of the construction. He felt that the plans were adequate and the best he had reviewed. Similar responses were provided by DOE, EPA and

R. BORES  
TECH ASSISTANT  
DRSS, REGION I

HHS. DOT also questioned the "high" numbers of beach goers that were supposed to use the beaches in the summer. He stated that on three separate weekends he traveled the full length of the beaches and observed only a few hundred people on the beaches on each occasion. NRC representatives reiterated that the basis of the position paper rested on the features of the NH plans and not on the plant features. The NH plans were adequate to provide reasonable assurance that the beach population could be protected given a serious accident at Seabrook Station. In effect, removing any probability discussions (or assuming the probability of a serious accident was 1), the plans still met the regulations, NUREG 0654 criteria, and provided reasonable assurance. Mr. Thomas then stated that FEMA's measure of "reasonable assurance" differed from that of the NRC and from that stated in the FEMA/NRC response to the Dignan memo.

Mr. Lazarus asked Mr. Thomas to take a RAC vote on the support of RAC for the previously adopted position paper. Mr. Thomas declined to do so. Mr. Lazarus then polled the RAC membership. Each of the agencies represented, with the exception of FEMA and their contractor, indicated that they supported the previously adopted position as modified by my June 4, 1987 letter.

Mr. Thomas stated that the contractor (ANL) would provide some alternative wording proposals to the RAC membership for both the position paper and the FEMA pre-filed position. He said the RAC would then have another opportunity to comment on them and reconvene for resolution of the beach issue. The meeting was then ended.

10. On August 12, 1987, at a meeting in Concord, NH, I asked the ANL contractor about the proposed wording changes which Mr. Thomas had directed the contractor to prepare. The contractor stated that those changes were prepared and sent to FEMA:I on 8/7/87. As of this date (10/14/87) those changes have not been forwarded to the RAC.



Robert J. Bores  
10/13/87

Attachments: As stated





FEDERAL EMERGENCY MANAGEMENT AGENCY  
John W. McCormack Post Office and Courthouse  
Boston, Massachusetts 02109

Attachment 1

INFORMATION AND GUIDANCE MEMORANDUM

DATE: December 31, 1985

NUMBER: R1-TH-85-28

MEMORANDUM FOR: Regional Assistance Committee (RAC)  
Radiological Emergency Preparedness  
Task Force (REP)

FROM: *Jr* Edward A. Thomas, Division Chief  
Natural & Technological Hazards *Jack Thomas*

SUBJECT: Seabrook Emergency Plans

We have all known for years that the state and local plans to protect the public in the event of an accident at the Seabrook Nuclear Power Plant must include special attention to several factors which are unique (at least in magnitude) to the Seabrook area. By now, all of you should have received the formal submittal from the State of New Hampshire of the off-site emergency plans for Seabrook. As we indicated in the transmittal memo, portions of the plan have not yet been developed and, therefore, were not included in the package sent to you. Therefore, some of the special, quasi-unique factors which affect Seabrook, such as the impact of the road network on evacuation times, cannot be addressed by the RAC at this time. However, the state and local plans do indicate what steps the state proposes to take with respect to the vital area of sheltering and evacuating the beach population.

At the earliest possible time in the RAC review process, I propose that we focus in on the beach population to determine if special technical assistance from the RAC may be needed to assist state and local governments refine their plans to protect this group. It appears to us that when we discuss beach population, we are talking about two different groups: (a) the transient beach population, and (b) summer residents who inhabit unwinterized accommodations on or near the beach

A. The Transient Beach Population

The transient beach population is that group who make day trips to the beaches near Seabrook by auto, bus, or other means of locomotion. This population has no identified place of shelter other than any vehicle in which they may have arrived at the beach. The emergency plans submitted by the State of New Hampshire essentially indicate that this population will be protected in the event of an accident at Seabrook by closing the beaches at the earliest sign that a serious emergency is developing, and encouraging the transient beach population to leave the area. Those beachgoers who have nearby shelter would be encouraged to seek the shelter or evacuate as conditions at the plant dictated. The consulting firm of KLD Associates is in

the process of developing revised evacuation time estimates for all population groups in the Seabrook EPZ. We do not now have an estimate for how long it would take to evacuate the beach population in an accident either when everyone else in the area was told to take shelter, or when the entire EPZ was ordered to evacuate, or any combination of evacuations in between these extremes. However, for the sake of discussion, we believe that it is reasonable to assume for the present that the beach population would be out in the open, or in vehicles close to the center of the EPZ for several hours after the earliest indication that an accident was in progress.

#### Issue

Based on the RAC's knowledge of the accepted literature in the fields of accident sequences, source terms, and the health effects of radiation, is the current planning acceptable or nearly acceptable? Before you can answer, do you require more precise information on the times that the transient beach population would be in the open, or in a vehicle? If we have advice for the state and local governments on this matter, I believe that we should make it known as soon as possible. If we need additional information to deal with the issue, we should let them know now.

#### B. Occupants of Unwinterized Accommodations

A number of people associated with the Seabrook emergency plans process have suggested that special attention needed to be paid to occupants of the many unwinterized cottages, motel rooms, and camp grounds in the Seabrook EPZ. These people believe that the normal assumptions we make about the protective effects of sheltering are not valid for structures which are: (a) not designed to resist air intrusion, and/or (b) which have a very small protective factor because of the slight mass of the structure.

#### Issue

If the RAC believes that this is an issue which could be covered in the emergency plans, we should raise it now to afford the state/local governments time to quantify the problem and to plan to deal with it. Finally, if we have any other preliminary comments on the emergency plans, we probably should make them known to the state/local governments as soon as possible. We would be particularly interested in passing on any indication that you have as to whether the plans are in adequate shape for a full-scale exercise at the end of February as is currently planned.

We request that you respond to this memorandum within fourteen days. After the responses are in, we will call a meeting of the RAC to formulate a position on these matters.

HAPPY NEW YEAR!



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

EXCELLENCE IN  
OF EP PHILOSOPHY &  
LAW,  
Emergency  
PLANNING

Attachment 2

June 18, 1986

Spence W. Perry, Acting General  
Counsel  
Federal Emergency Management Agency  
Room 840  
500 C Street, S.W.  
Washington, D.C. 20472

cc: J. Allan  
J. Gutierrez  
R. Starostecki  
B. Kane  
S. Ebnetter  
B. Johnston  
T. Martin  
R. Bellamy  
B. Lazarus  
6/24/86-TEM

In the Matter of  
Public Service Company of New Hampshire, et al.  
(Seabrook Station, Units 1 and 2)  
Docket Nos. 50-443 OL and 50-444 OL

Dear Mr. Perry:

In response to a request made by Edward Thomas of FEMA Region I, we have evaluated, in conjunction with Joseph Flynn of your office, an undated memorandum prepared by Thomas Dignan of Ropes and Gray on behalf of the applicants for the Seabrook nuclear plant ("Dignan Memorandum", a copy of which is attached as Attachment A). Our evaluation is set forth in the following discussion.

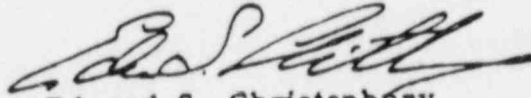
The Dignan Memorandum addresses what are described as "three misconceptions" pertaining to offsite emergency planning for the Seabrook nuclear plant, and concludes that they are "false as matter of law" (Dignan Memorandum at 1). These purported "misconceptions" are as follows:

- A. That the plans must be shown to guarantee that no adverse effects on the public health and safety will occur no matter what kind of accident occurs at Seabrook.
  - B. That it must be demonstrated that the plans will assure that all persons located in the Emergency Planning Zone or some certain portion of it can be evacuated in some certain time.
- In particular, there have been assertions that the plans must assure the sheltering or evacuation of persons from the beaches in approximately 1/2 hour.

<sup>1</sup>It should be noted, however, that under the Commission's regulations, 10 CFR § 50.3, only written regulatory interpretations provided by the General Counsel will be recognized as binding upon the Commission.

4. Accidents involving early releases are within the Commission's emergency planning basis, however, the regulations do not specify a time within which the recommended protective actions are to be completed.

Sincerely,



Edward S. Christenbury  
Director and Chief Hearing  
Counsel

Enclosure

cc: J. Taylor  
E. Jordan  
T. Murley

*Full document not provided here, since it  
is readily available. EFB*



# Federal Emergency Management Agency

Region I J.W. McCormack Post Office and Court House  
Boston, Massachusetts 02109

Attachment 3

APP-9

July 9, 1986

JUL 10 8 33 AM '86

Mr. Robert J. Boulay  
State Emergency Management Director  
Massachusetts Civil Defense Agency  
and Office of Emergency Preparedness  
P.O. Box 1496  
400 Worcester Road  
Framingham, Massachusetts 01701

Dear Mr. Boulay:

Last January, you requested that FEMA comment on a memorandum prepared by Thomas Dignan, Counsel for the New Hampshire Yankee Division of the Public Service Company of New Hampshire. A copy of that memorandum is enclosed.

The enclosed letter from the Nuclear Regulatory Commission analyzing the Dignan memo was developed in close coordination with FEMA and represents the combined views of both NRC and FEMA.

We apologize for the delay in responding to your request. Please call if you have questions.

Sincerely,

Edward A. Thomas  
Chief  
Natural and Technological Hazards Division

Enclosures

cc: Richard Strone  
Terry Harpster

636

DIA  
2/10  
210-TO-60  
HARVARD  
1.5.89 I



# Federal Emergency Management Agency

Washington, D.C. 20472

Attachment 4

JAN 25 1986

MEMORANDUM FOR: Edward A. Thomas, Chief  
Natural and Technological Hazards Division  
Region I

FROM:

*Spencer H. Perry*  
Acting General Counsel

SUBJECT: Offsite Emergency Planning at Seabrook Station

In your memorandum of January 23, 1986 to Joseph Flynn, you communicated the request of Robert Boulay, Civil Defense Director for the Commonwealth of Massachusetts, that the Federal Emergency Management Agency (FEMA) and the Nuclear Regulatory Commission (NRC) review and comment upon a memorandum of law prepare by Thomas Dignan, Counsel for Public Service Company of New Hampshire. In his memorandum, Mr. Dignan addressed what he considered to be three misconceptions about offsite emergency response planning as it relates to the Seabrook Station.

I recently received a letter from Edward Christenbury, Director and Chief Hearing Counsel, Office of the Executive Legal Director (OELD) of NRC, which responds to your request. A copy of that letter is attached. The legal discussion in that letter reflects the combined views of our respective offices. I concur in Mr. Christenbury's analysis of the Dignan memorandum.

Attachment

NTH DIV.  
JAN 30 2 30 PM '86  
FEMA-REGION I



*Attachment 5*

January 16, 1987

MEMORANDUM FOR: Edward A. Thomas, Chairman, Regional  
Assistance Committee (RAC), FEMA Region I

FROM: William J. Lazarus, Chief, Emergency Preparedness Section,  
NRC Region I

SUBJECT: ASSIGNMENT OF NRC RAC MEMBERS FOR SITES IN FEMA REGION I

Effective immediately, the following persons are assigned NRC RAC review responsibilities for nuclear power plants located within FEMA Region I:

Seabrook	Mr. Robert Bores	FTS 488-1213 or (215) 337-5213
All other sites	Mr. John Schumacher	FTS 488-1342 or (215) 337-5342

If you have any questions, or are at any time unable to contact either Mr. Bores or Mr. Schumacher, please feel free to contact me at FTS 488-1208 or (215) 337-5208.

*William J. Lazarus*  
William J. Lazarus, Chief,  
Emergency Preparedness Section  
NRC Region I

bcc:  
T. Martin  
R. Bellamy  
R. Bores  
J. Schumacher  
E. Fox  
P. Lohaus  
E. Jordan  
S. Schwartz  
E. Podolak





January 27, 1987

FEMA REGION 1

Regional Assistance Committee Members

Committee Member

Mr. Paul Lutz  
Regional Emergency Transportation Rep  
Capt. John Foster Williams Coast Guard Bldg.  
408 Atlantic Ave.  
Boston, MA. 02210-2209  
FTS: 8-223-8451  
COMM: 617/223-8451  
24 HR: 617/223-8555 Coast Guard Duty Officer

Mr. Byron Keene  
U.S. Environmental Protection Agency  
2312 JFK Federal Building  
Boston, MA 02203 (23rd Floor)  
FTS: 8-835-3234  
COMM: 617/565-3234

Mr. Warren Church  
Regional Radiological Health Representative  
U.S. Food & Drug Administration  
585 Commercial St.  
Boston, MA 02109  
FTS: 8-835-4718  
COMM: 617/565-4718

John Stepp  
U.S. Dept. of Health & Human Services  
Public Health Service Representative  
1401 JFK Federal Bldg. (14th Floor)  
Boston, MA 02203  
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COMM: 617/565-1469

Jophn Schumacher  
Nuclear Regulatory Commission  
Region I  
631 Park Ave.  
King of Prussia, PA 19406  
FTS: 488-1342  
COMM: (215) 337-5342

Robert Bores (Seabrook)  
Nuclear Regulatory Commission  
631 Park Ave.  
King of Prussia, PA 19406  
FTS: 8-488-1213 FAX: 488-1135 (50 seconds)  
488-1323 (Verification)

FTS: 8/488-1000  
COMM: 215/337-5213

Supervisor/Director

Rear Admiral Robert Johanson  
Commander  
1st Coast Guard District  
Capt. J.F. Williams Coast Guard Bldg.  
408 Atlantic Ave.  
Boston, MA 02210

Mr. Louis Gitto, Director  
Air Management Division  
U.S. Environmental Protection Agency  
2203 JFK Federal Building  
Boston, MA 02203

Mr. David Field  
Director  
State Programs Branch  
585 Commercial St.  
Boston, MA 02109

Mr. Edward J. Montminy  
Regional Health Administrator  
Public Health Division  
1401 JFK Federal Building  
Boston, MA 02203

Thomas Murley  
Regional Administrator  
Nuclear Regulatory Commission  
631 Park Ave.  
King of Prussia, PA 19406  
24 HR: 215/337-5000

Thomas Murley  
Regional Administrator  
Nuclear Regulatory Commission  
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King of Prussia, PA 19406

Committee Member

(Dorothy Nevitt/Bob Conley/Cheryl Malina/  
Anna Hart)  
Office of Emergency Planning  
USDA - FSIS-PP  
14th & Independence Ave., S.W.  
Room 2940 - South Bldg.  
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(USDA Plum Island, NY  
Contact: R.T. Tornblom, Supvr.  
Safety Specialist  
Plum Island Animal Disease Center (Box 848)  
Greenport, NY 11944  
FTS: 8-649-9204  
24 Hr: 8-649-9248/9253)

Mr. Herbert G. Fish  
U.S. Department of Energy  
Princeton Area Office  
P.O. Box 102  
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(Brookhaven: 8-666-3427)  
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(FAX: 8-340-2032)

(PREFERRED MAILING ADDRESS:  
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Millburn, NJ 07041)

William P. Patterson  
U.S. Department of the Interior  
Regional Environmental Office  
1500 Custom House  
165 State St.  
Boston, MA 02109  
  
FTS: 223-5517 or 223-5104  
HOME: 617/527-4180

Supervisor/Director

Mr. George E. Bickerton  
Director  
Office of Emergency Planning  
USDA - FSIS-PP  
14th & Independence Ave., S.W.  
Room 2940 - South Bldg.  
Washington, D.C. 20250  
FTS: 8/447-2791

USDA Washington Contact for REP

George E. Bickerton, Supvr/Dir.  
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Ted Dobry  
Chief, Public Safety Section  
U.S. Dept. of Energy  
Office of Environment  
Routing Symbol EV 131  
Washington, DC 20545  
FTS : 8-233-5434  
COMM: 301-353-5434

Bruce Blanchard  
Director  
Office of Environmental Project  
Review  
Office of the Secretary  
Department of the Interior  
Washington, D.C. 20240  
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FTS: 343-3891

(See Other Side)

Dept. of Commerce - NOAA/NWS  
Mr. Stanley Wasserman  
Division Chief  
Meterological Services Division  
NWS Eastern Region  
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FTS: 8-649-5454  
COMM: 8-516/228-5454

Mr. Richard P. Augulis  
Director  
National Weather Service  
Eastern Region Headquarters  
585 Stewart Avenue  
Garden City, NY 11530  
COMM: 8-516/228-5401  
FTS: 8-649-5401

REP TASK FORCE

Ken Horak - Public Relations - FEMA  
Don Connors - American Red Cross - FEMA  
Tom Baldwin - ANL

Mr. Thomas E. Baldwin  
Argonne National Laboratory  
277 Main St.  
2nd Floor  
Port Washington, NY 11050  
Comm: (516) 883-0030

114  
114  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
631 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406

FEB 18 1987

*Attachment 7*

Edward A. Thomas, Chairman  
Regional Assistance Committee  
Federal Emergency Management Agency  
John W. McCormack Post Office and Court House  
Boston, Massachusetts 02102

Dear Mr. <sup>Ed</sup> Thomas:

Reference: Your memo of December 31, 1985 relative to the beach populations  
in the Seabrook area

As requested, I am responding to your memo regarding the adequacy of the New Hampshire RERP relative to the protection of the beach population. My response is based on Revision 2 of the NH RERP; the RAC/contractor comments on it, including the Seabrook Evacuation Time Study; the analyses of specific Seabrook Station features; and my professional knowledge and judgement related to emergency preparedness. The bases of my opinion that the plans are or will be adequate (contingent on completion of actions by New Hampshire to resolve RAC concerns) to protect the beach population (both the beach transient group and those who inhabit unwinterized accommodations) are provided in the Enclosure to this correspondence.

Should you have any questions concerning the above, please contact me at FTS 488-1213. I would be happy to meet with you and/or the RAC to discuss my response.

A handwritten signature in cursive script, appearing to read "Robert Bores".

Robert Bores, Technical Assistant  
Division of Radiation Safety  
and Safeguards

Enclosure: As Stated

cc w/enc1:  
W. Lazarus, RI

## PROTECTION OF NEW HAMPSHIRE BEACH POPULATIONS

### BACKGROUND

The requirements for emergency preparedness stem from 10 CFR 50.47(a)(1) and (2), which state that except as provided in 10 CFR 50.47(d) (relative to licensing of a facility for operation up to 5% of rated power), no operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. The NRC will base its finding on a review of the FEMA findings and determinations as to whether state and local emergency plans are adequate and whether there is reasonable assurance that they can be implemented, and on the NRC assessment of the adequacy and implementability of the licensee's onsite emergency plans. The FEMA finding is primarily based on the review of the state and local emergency plans. Any other information already available to FEMA may be used in considering whether there is reasonable assurance that the plans can be implemented. Paragraph (b) of 10 CFR 50.47 requires that the onsite and offsite emergency response plans for nuclear power reactors meet 16 specified planning standards.

NUREG 0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", was issued to provide a common reference and guidance source for state and local governments and licensees in the development of emergency response plans and preparedness for response to a radiological emergency and for FEMA, NRC and other federal agencies for use in the review of those plans and preparedness.

The planning basis adopted by NRC and FEMA for emergency preparedness around nuclear power plants was taken from NUREG 0396/EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants". "The overall objective of the emergency response plans is to provide dose savings (and in some cases, immediate life savings) for a spectrum of accidents that could produce offsite doses in excess of the PAGs" (NUREG 0654). NUREG 0396 intended that the planning basis range from trivial events to worst case accidents and it attempted to identify the boundary parameters based on available knowledge of potential accident consequences, timing of releases, and release characteristics (source term). It should be noted that doses in excess of the EPA PAGs do not equate with loss of life or even a health hazard. The PAGs were intended for use by protective action decision makers in arriving at a balance between radiation risk and that of taking a protective action in the absence of constraints to that action.

Enclosure



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
631 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406

MAR 18 1987

Attachment 8

Mr. Edward A. Thomas, Chairman  
Regional Assistance Committee  
Federal Emergency Management Agency  
442 John W. McCormack Post Office and Court House  
Boston, Massachusetts 02109

Dear <sup>Ed</sup> Mr. Thomas:

Reference: RAC Comments on Transient Beach Population for Seabrook Station

I have reviewed the individual RAC comments distributed with your March 2, 1987 memorandum and provide the following general comments.

- . There appear to be no issues that have not been addressed in some detail. All issues raised appear to have been adequately addressed in subsequent revisions of the New Hampshire State and local plans.
- . There appear to be adequate bases and information now available for RAC/FEMA to make a finding or resolve the issues kept open in this area.

The scheduled meeting should provide the forum for any additional discussions that may be desirable by RAC/FEMA to resolve/address any outstanding concerns.

Sincerely,

Robert J. Bores  
Technical Assistant  
Division of Radiation Safety  
and Safeguards

cc:  
W. Lazarus, RI



ARGONNE NATIONAL LABORATORY

9700 15TH CASS AVENUE, ARGONNE, ILLINOIS 60439

TELEPHONE 312/972-7643

Attachment 9

April 14, 1987

AH9

Mr. Jack Dolan  
Federal Emergency Management Agency  
Room 482  
J.W. McCormack Post Office and Courthouse  
Boston, MA 02109

Dear Jack:

In response to Edward Thomas, 3/2/87 memorandum, we have reviewed the RAC responses to Thomas 12/31/85 memorandum concerning the transient beach population and have the following comments:

- It appears that final resolution on the adequacy of planning for the beach population is dependent on the receipt and review of information from the State of New Hampshire on the number of transients who would need transportation during an evacuation.
- Page 3 of enclosure to R. Bores' (NRC) letter dated 2/18/87. The comment that element J.10.d has been left "open" by the RAC is not consistent with the RAC review spreadsheets.
- Page 4 of enclosure to R. Bores' letter dated 2/18/87. The comment for element J.10.k that the RAC had "one additional recommendation" is not consistent with the RAC review spreadsheets.
- Page 6 of enclosure to R. Bores' letter dated 2/18/87. Item #4 indicates that ...." resources have been provided .... for providing transportation for those without vehicles ...." However, as indicated in comment #17 of the RAC review of the ETE, the estimates of persons requiring transit provided in the ETE represent only estimates of permanent residents who require transit and do not include the transient beach population.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Robert E. Rospenda  
Energy and Environmental Systems Division

RER:mav

- cc: E. Thomas (FEMA-Region I)
- M. Lawless (FEMA-HQ)
- T. Baldwin (ANL)
- K. Bertram (ANL)
- M. Singh (ANL)

*ANL did not include all of the RAC reviews of each state submitted, e.g., Suppl. 2A, and of local plan reviews. My review was inclusive of all to arrive at current status of each RAC*

April 17, 1987

Mr. Edward A. Thomas  
Federal Emergency Management Agency  
Room 462  
J.W. McCormack Post Office and Courthouse  
Boston, MA 02109

Dear Ed:

In accordance with your request after the RAC meeting in Boston 4-15-87, I have prepared draft revisions to the RAC review of the New Hampshire State and local plans for Seabrook. These draft revisions are enclosed and reflect the RAC's conclusion that the plans (Rev. 2) adequately treat the beach population issue.


In order to expedite final review, and to clearly show where changes are being proposed, I have purposely left the changes in hand-written form on marked-up copies of the original pages. The proposed changes are shown on the following two enclosures:

Enclosure 1. Revisions to RAC review of State plan elements J.9 and J.10.m (Section I, pages 64, 86 and 87); and local EPZ plan element J.9 (Section II page 17).

Enclosure 2. Addition to page 8 of enclosure to R. Bores letter dated 2-18-87. (Note: Although the RAC had discussed several possible additional changes to the wording of individual conclusions on page 10, it is my understanding that these would not be made pending additional review by R. Bores.)

If you have any questions, please do not hesitate to contact me.

Sincerely,



Robert E. Rospenda  
Energy and Environmental Systems Division

RER:mav

Enclosures (1 and 2)

cc: R. Bores (NRC)  
M. Lawless (FEMA-HQ)  
K. Bertram (ANL)  
T. Baldwin (ANL)



ENCLOSURE 1

INSERT for RAC review spreadsheets for  
State plan (Section I, pages 64 and 87) and  
Local plans (Section II, page 17):

[1]

The RAC has concluded that the beach population (transient beach population, and summer residents who inhabit unwinterized accommodations on or near the beach) can be appropriately protected by implementing provisions of the current New Hampshire emergency plans. There appears to be no unique problems in this area that has not been adequately addressed. Therefore, the statement is now considered adequate, pending receipt and review of information from the State of New Hampshire on the number of transients who would need transportation during an evacuation. The number of these transients without transportation is expected to be very small.

relative to the beach population

and well within the available transportation resources identified in the plan.

The RAC still awaits

**SECTION I**

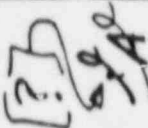
- **Review of Revisions to the State of New Hampshire  
Radiological Emergency Response Plan for Seabrook  
(Rev. 2 - 8/86)**

RAC REVIEW OF THE STATE OF NEW HAMPSHIRE  
 RADIOLOGICAL EMERGENCY RESPONSE PLAN FOR SEABROOK  
 (Revision Dated 11/83)

Overall rating is Inadequate  
 (see Item (2)).

W/RC-062 1081	BAC Comments/Recommendation	Key Element (A) (1)	State Response Action	BAC Evaluation of State Response (Rev. 2 - 8/86)	Response Adequate (A) Inade- quate (1)	Remedial Action Complete (C) Incomplete (1)
J.9	<p>Plan descriptions in Section 2.6 are adequate. See comments for J.10.a and J.11. Protective action decision making will have to be expedited specifically for the beach populations.</p>	A	<p>No response required.</p> <p style="text-align: center;">INSERT</p>	<p>Although no response was required, this element will remain open pending the resolution of FEMA's December 1985 memorandum concerning protection of the beach population (transients) by the beach summer residents who inhabit unincorporated accommodations or near the beach and (2) informants from the State of New Hampshire on the number of transients who would need transportation during an evacuation.</p>	<p>SA [I]</p>	
J.10.a	<p>The evacuation route map on p. 2.6-11 does not provide sufficient detail to be useful.</p> <p>In addition, any shelters which may be used should also be identified on maps. On p. 2.6-8 the availability of public shelters for transients in outdoor recreation areas is referenced.</p> <p>Have nearby public buildings been identified and are they well known to local emergency workers? If such buildings are seriously considered for public sheltering, the above must be done.</p>	I	<p>No large map is now in State Plan (Rev. 2, p. 2.6-17) and in the local plan (reference map section). Public shelters are not proposed by New Hampshire for the Seabrook station. This provision of the New Hampshire plan is applicable only to the Vermont Yankee PVI. Reference to them will be deleted from the Seabrook Plan. Local personnel may shelter a handful of non-state owning transients in an ad-hoc basis. This provision will be retained in the local plans.</p> <p>NOE REFERENCES:  p. 2.6-17, Map Section</p>	<p>Overall rating is inadequate (see item (2)).</p> <p>(1) According to the State response and the plan revisions, the use of public shelters is not proposed during a Seabrook Station emergency. The only exception is the possible use of public buildings for shelters for transients without transportation. Transients with transportation and "without access to an indoor location" will be advised to evacuate in their own vehicles. The use of public buildings for sheltering of transients without transportation is acceptable since the transients without transportation are expected to be a very small number. The plan (p. 2.6-8) states that "Public buildings may be set up and opened as shelters for transients, on an ad hoc basis".</p>		

RAC REVIEW OF THE STATE OF NEW HAMPSHIRE  
 RADIOLOGICAL EMERGENCY RESPONSE PLAN FOR SEABROOK  
 (Revision Dated 11/83)

Element	RAC Comments/Recommendation	Measures (A) Implemented (1)	State Response Action	RAC Evaluation of State Response (Rev. 2 - 8/86)	Response Adequate (A) Trade-offs (1)	Remedial Action Complete (C) Incomplete (1)
0.1	<p>This element will not be formally evaluated until the submittal and review of an evacuation time estimate study.</p>	—	<p>ACTION TAKEN:            No action required.</p> <p>The ETE is included as Vol. 9 of Rev. 1.</p>	<p>See separate review of ETE (Section VI).</p>	?	
0.2	<p>The treatment of this element in the plan needs to be expanded in some areas, particularly in regard to protective actions for the transient beach populations, and the availability and suitability of shelter for residents and transients. The following comments need to be considered:</p>	1		<p>See separate review of ETE (Section VI).</p> <p><i>Adopted</i></p> <p>Overall rating <i>Information Item-4000</i></p> <p><i>[Open (see part 2 of Item 0)].</i></p>		

BAC REVIEW OF THE STATE OF NEW HAMPSHIRE  
 RADIOLOGICAL EMERGENCY RESPONSE PLAN FOR SEABROOK  
 (Revision Dated 11/85)

BAC Comments/Recommendation	BAC Comments/Recommendation	State Response Action	Type of Response Action	BAC Evaluation of State Response (Rev. 2 - 8/88)	Response Adequate (A) Trade-Create (B)	Remedial Action Complete (C) Incomplete (D)
<p>(1) There is a lack in the plan of a detailed analysis of the capacity for sheltering of the summer transients as an option under certain circumstances. Similarly, there is a lack of discussion of the tradeoffs of sheltering versus evacuation for the institutionalized and others in similar circumstances.</p>	<p>(1) Section 2.8.5, Volume 1 has been significantly revised to discuss sheltering and its potential application as a protective action for various segments of the population. First of particular note is the fact that sheltering will not be considered a viable protective action for the transient beach population for the period May 15 through September 15. During these periods, the plan notes that beach closing and early evacuation procedures of the area will be the preferred protective action. As indicated in Volume 4, Appendix A/NEOSH and Volume 4, Appendix B/PHS, these precautionary actions may be implemented as early as the ALERT level, depending upon conditions.</p> <p>Of equal importance in the revised Section 2.8.5 is the addition of a comprehensive discussion of sheltering and evacuation for institutionalized populations in the EPI. Due to their nature and need for special consideration, the plan notes that sheltering in place will normally be the preferred protective action for these groups (i.e., health care and jail populations). However, the basis for recommending protective actions, including evacuation will still be through use of the Protection Action Guides, as it is for the general population. The main difference in the decision-making process is in the methodology for calculating projected doses for institutionalized individuals. For these groups, additional credit is taken for dose reduction effectiveness for both whole body and thyroid. As noted in the plan, the general population dose projections inherently use conservative values for whole body and thyroid sheltering protection factors, as the sheltering in place concept is utilized. For institutional facilities, more realistic, yet still conservative values have been developed. These factors are incorporated in Volume 1, Section 2.8.5, Table 2-3, and in Volume 4, Appendix F, and Volume 4, Appendix B, as Figures 5. With this information, the State will conduct independent assessments, and issue separate/specific protective action recommendations for each institutional facility in the EPI.</p>	<p>(1) Revisions to the plan as indicated in the State response are adequate since the number of transients without transportation is expected to be very small (see 2.10.a). However, this element will remain open pending resolution of the items identified in the comments for element 2.8.</p>	<p>[?]</p>	<p>(1) Revisions to the plan as indicated in the State response are adequate since the number of transients without transportation is expected to be very small (see 2.10.a). However, this element will remain open pending resolution of the items identified in the comments for element 2.8.</p> <p style="text-align: center;">INSERT</p>	<p>for some of the previously raised questions</p>	<p>Remedial Action Complete (C)          Incomplete (D)</p>

**SECTION II**

- **Review of Revisions to the Municipal (EPZ Communities)  
Radiological Emergency Response Plans for Seabrook  
(Rev. 2 - 8/86)**

RAC REVIEW OF THE MUNICIPAL (EPZ COMMUNITIES)  
 RADIOLOGICAL EMERGENCY RESPONSE PLANS FOR SEABROOK  
 (Revision dated 11/83)

Municipal (A) Response (11)	State Response Action (11)	RAC Evaluation of State Response (Rev. 2-8/86)	Response Adequate (A) Inade- quate (11)	Remedial Action Complete (C) Incomplete (11)
<p>Transportation and sheltering arrangements for transients needs to be addressed more completely. For example, the CD Director is responsible for providing transportation and shelter for transients. However, how does he find these people? Also, the relocation of municipal EOCs should be discussed.</p>	<p><b>ACTION TAKEN:</b></p> <p>1. Section 11-C of such as Plan has been reviewed in detail in such manner as to detail the method by which transients will be handled. Much of this material was taken directly from the Volume 1 description.</p> <p>2. The relocation of municipal EOCs are discussed in Section 11-C (Emergency and Evacuation Procedures) and Formulation of Emergency Facilities Vol. 10-32.</p> <p><b>PAGE REFERENCES:</b></p> <p>Vol. 10, page numbers references:          Vol. 11 (p. 11-31, 37), Vol. 17 (p. 11-26, -27), Vol. 18 (p. 11-27, -28),          Vol. 19 (p. 11-23, -24), Vol. 20 (p. 11-26, -27), Vol. 21 (p. 11-25, -26),          Vol. 22 (p. 11-25, -26), Vol. 23 (p. 11-25, 26), Vol. 24 (p. 11-26, 26a),          Vol. 25 (p. 11-26, 27), Vol. 26 (p. 11-26, 26a), Vol. 27 (p. 11-26, -27),          Vol. 28 (p. 11-26, -27), Vol. 29 (p. 11-26, -27), Vol. 30 (p. 11-25, -26),          Vol. 31 (p. 11-26, -27), Vol. 32 (p. 11-27, -28)</p>	<p>(Rev. 2-8/86)</p> <p><i>Overall rating is open (See Item (2)).</i></p> <p>The local plans discuss evacuation of the staff of the EOC's to the designated host community who will notify transients in State Parks, outdoor recreation areas, and in boats; and how other transients will be sheltered. However, as noted in review comments for elements 2.8 and 2.18a in the State Plan review (Section 1), the rating on this element will remain open pending (1) addition of the items discussed in FEAR, December scenario, and (2) information from the State of Michigan regarding the member of transients needing transportation.</p>	<p>[?] [?] [?]</p> <p>A</p>	
<p>Most of this material is in the State plan. However, the full-sized map showing evacuation routes, traffic control points, and other key facilities was not present in the local plan.</p>	<p><b>ACTION TAKEN:</b></p> <p>Plans showing evacuation routes, traffic control points and social facilities are located in the map section of all local plans.</p>	<p>A map section with full-sized maps of evacuation routes, special facilities, traffic control points, and siren locations to found in local plans.</p>	<p>A</p>	

**INSERT**





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
831 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406

ENCLOSURE 2

FEB 18 1987

Edward A. Thomas, Chairman  
Regional Assistance Committee  
Federal Emergency Management Agency  
John W. McCormack Post Office and Court House  
Boston, Massachusetts 02102

Dear Mr. <sup>Ed</sup> Thomas:

Reference: Your memo of December 31, 1985 relative to the beach populations  
in the Seabrook area

As requested, I am responding to your memo regarding the adequacy of the New Hampshire RERP relative to the protection of the beach population. My response is based on Revision 2 of the NH RERP; the RAC/contractor comments on it, including the Seabrook Evacuation Time Study; the analyses of specific Seabrook Station features; and my professional knowledge and judgement related to emergency preparedness. The bases of my opinion that the plans are or will be adequate (contingent on completion of actions by New Hampshire to resolve RAC concerns) to protect the beach population (both the beach transient group and those who inhabit unwinterized accommodations) are provided in the Enclosure to this correspondence.

Should you have any questions concerning the above, please contact me at FTS 488-1213. I would be happy to meet with you and/or the RAC to discuss my response.

Robert Bofes, Technical Assistant  
Division of Radiation Safety  
and Safeguards

Enclosure: As Stated

cc w/enc1:  
W. Lazarus, RI

*The sea breeze would also dilute a short term plume even if it was recirculated to beach areas.*

*[a portion of]*

It is also noted that when large, seasonal beach crowds are likely to be present (on hot and sunny days), the typical wind pattern is from the offshore, cooler surface to the onshore, warmer surfaces of the land masses. This means that any "sea breezes" would likely prevent the plume from traveling to the nearby beach areas when the beaches are most heavily populated.

*[directly]*

DISCUSSION

The foregoing discussions have indicated that the current NH plans meet or will meet the criteria of NUREG 0654 in a generic sense. Specific and detailed procedures have been provided to assure early notification and evacuation of the beach population can be effected should the plant status appear to be threatening. The review of these plans and procedures do not indicate the presence of concerns or situations involving the beach populations which warrant unique solution or provisions beyond those already incorporated.

The beaches themselves are nearly two miles from the station at their closest approach. This distance provides for dispersion and dilution of the plume as well as additional plume travel time for a plume to reach the beach area from the site. Additionally, because of the sea breeze situations normally associated with sea coast areas, the wind direction will be normally on shore, i.e., toward the plant, rather than off shore from the plant to the shore) during hot, sunny days when the beaches are likely to be most populated.

The analyzed severe accident scenarios (core melt with early containment failure) indicate that the major portion of the dose to the affected population from such an event is due to exposure to deposited radioactive materials on the ground surfaces rather than from the passing plume. The risk/consequence codes generally used (CRAC models or MACCS) all assume that the population is exposed to this ground deposition for 24-hours after the arrival of the first portion of the plume and to any additional plumes over that area. In other words, the codes assume that no protective actions are implemented for 24-hours after the release reaches the beach (or other areas of interest). In view of the NH plans for beach closure and access control as early as the Alert classification; the cited "negligible probability of prompt containment failure" at Seabrook and low consequence/low probability of serious containment bypass sequences; the plume travel time to the beach areas and the relatively short (2 to 4 hours) time estimated to clear the beaches, it appears that risks to the beach population are a small fraction of the cited risks in NUREG 0396 for this distance. Thus, even if there were a prompt, severe, contaminating release and a portion of the beach population were caught in or under the plume for two hours during the evacuation process, their exposure to deposited radioactivity would only be approximately 2/24 or less than one-tenth of the code assumed dose. In addition, they would be avoiding any additional exposure to the plume(s) after leaving this area.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
631 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406

APR 24 1987

*Attachment 11*

Mr. Edward A. Thomas, Chairman  
Regional Assistance Committee  
Federal Emergency Management Agency  
442 John W. McCormack Post Office & Court House  
Boston, Massachusetts 02109

Dear <sup>Ed</sup> Mr. Thomas:

Reference: Comments Related to RAC Meeting on Beach Issues

On April 22 and 23, 1987, I had telephone discussions with Jack Dolan of your staff regarding some clarifications. Bob Rospenda of ANL is providing some changes as discussed on April 22, 1987. Below is a suggested addition as discussed with Jack Dolan on April 23, 1987, which may help in understanding the terminology related to risks.

The following sentence should be inserted on p. 7 of the enclosure to my February 18, 1987 memo on this subject, at the end of the second paragraph, following "Using the RSS assumptions, the New Hampshire Yankee and BNL studies indicated that a severe accident at Seabrook Station posed a public health risk at about two miles from the station that was essentially the same magnitude as considered in NUREG 0396 at 10 miles from a nuclear plant."

Add:

"That is, since public health risk is inversely related to public safety, the level of safety for a person living two miles from Seabrook Station is essentially the same as the level of safety considered in NUREG 0396 for a person living 10 miles from a nuclear plant."

Should you have any questions, please contact me at FTS 488-1213.

Robert J. Bores  
Technical Assistant  
Division of Radiation Safety  
and Safeguards

cc:  
W. Lazarus, RI  
R. Rospenda, ANL

Attachment 12

3 copies

ENERGY AND ENVIRONMENTAL SYSTEMS DIVISION  
TELECOMMUNICATION MESSAGE

Thursday  
Date: 5-78

Total Pages: 16

FROM: Robert Rosperda  
Argonne National Laboratory  
(312) 972-7673

Telex: (312) 972-7819

TO: E. L. ...  
NRC - Bethesda, MD

Telephone: 8-497-7921

COMMENTS:

**REVISED TOWN OF HAMPTON  
CONTENTION VIII TO REVISION 2**

FEMA Response

FEMA has addressed the Town of Hampton Revised Contention VIII and its basis of inadequate protective actions for the beach population by applying Planning Standard J (Evaluation Criteria J.9, J.10.a, J.10.g and J.10.m) in FEMA-REP-1.

The December 15, 1986 RAC review of the State and municipal plans, the amended portions of the RAC review dated \_\_\_\_\_, and the RAC position paper on the beach population issue transmitted to the State of New Hampshire dated \_\_\_\_\_ reflect FEMA's views on this issue. Specifically, FEMA's review comments on the New Hampshire State plan on this issue are provided on pages 64, 74, 86, 87, 88, and 91 of Section I. FEMA's review comments on the municipal plans on this issue are provided on page 17 of Section II. FEMA's review comments on the Evacuation Time Estimate (ETE) on this issue are provided on page 4 of Section VI.

FEMA relied upon the following documents in forming its conclusions on this issue: Revision 2 to the Hampton plan; Revision 2 to the New Hampshire State plan; and the Applicant's Motion for Summary Disposition of the Town of Hampton Revised Contention VIII dated March 25, 1987.

As indicated in the December 15, 1986 RAC review (page 64, Section I), determination of the adequacy of protective responses for the beach population remained open pending final review by the RAC of planned protective measures, and pending receipt of information from the state on the number of transients who would need transportation during an evacuation. The RAC has recently concluded (see RAC position paper dated \_\_\_\_\_) that the beach population can be appropriately protected by implementing provisions of the current (Rev. 2) New Hampshire emergency plans and that there appears to be no unique problem relative to the beach population that has not been adequately addressed.

(Hampton VIII)

Draft 5/6/87

The bases for the RAC's conclusion on the beach population issue are provided in the position paper transmitted from FEMA to the State of New Hampshire on May \_\_, 1987. Work on this position paper was initiated by a 12-31-85 memorandum from the RAC Chairman to the RAC members requesting their review and comments on the adequacy of plans for protecting the beach population (i.e., the transient beach population, and summer residents who inhabit unwinterized accommodations on or near the beach), and the possible need for special protective actions to protect the beach population. Written comments in response to the memorandum were received by the RAC Chairman during 1986 and 1987. A special meeting of the RAC was convened in April 1987 to review all comments and, if possible, to arrive at a unified position on whether the plans were adequate or inadequate to protect the beach population. On the basis of this review, the RAC resolved that, contingent on the completion of action by the state to resolve the other RAC concerns with the New Hampshire and local plans,

that the beach and unwinterized accommodations will be maintained and that these plans will essentially meet the needs of HUNDRED 0000 and the intent of the RAC regulations in this area.

The following considerations were stated by the RAC in its conclusion relative to the beach population:

- Special provisions for beach populations in place
- No identified problems requiring unique or unaddressed solutions
- Provisions for early warning of beach populations
- Adequate transportation resources available for those needing public transit



(Hampton VIII)

Draft 5/8/87

- Beaches are nearly two miles from station affording delay in plume arrival and dilution and dispersion of plume
- Sea breezes would tend to keep plume from traveling directly toward beach when beaches are most populated
- ETEs for beaches are relatively small
- Containment at Seabrook is very strong; probability of prompt containment failure is negligible
- Containment bypass is unlikely to cause severe offsite problems
- Site specific studies for Seabrook indicate risks at two miles are comparable to NUREG 0396 analyzed risks at 10 miles
- "Reasonable assurance" does not equate with "absolute safety," i.e., guarantee of no exposures or exposures above the PAGs.

The above are described in further detail in the RAC position paper transmitted to the State of New Hampshire on May \_\_, 1987.

Although the RAC has reached a conclusion on the beach population issue, the RAC still awaits receipt of information from the State of New Hampshire on the number of transients who would need transportation during an evacuation. The State Plan (ETE, Volume 8, Table 11-8) presently provides estimates of permanent residents who would require transportation, but does not include estimates for transients requiring transportation (RAC review, Section VI, comment 17, page 4). Although the number of transients without transportation is expected to be small and well within the available transportation resources (RAC review, Section I, page 74) identified in the plan, this information has not yet been provided to FEMA.

Because of the potentially large seasonal beach population, special precautionary protective actions for the beach population have been established by the State of New Hampshire (New Hampshire Plan, NHCDA Procedures, Appendix I), including early precautionary evacuation. The use of public buildings for sheltering of transients without

(Hampton VIII)

Draft 5/6/87

transportation may be implemented on an "ad hoc" basis (RAC review, Section I, page 64).

As indicated in the RAC position paper on the beach population issue, provisions have been made in the plans to consider closing the beaches or restricting public access to the beach at the Alert emergency classification. At this classification level, no offsite action would be ordinarily warranted to protect the public, but its consideration *beaches or prevent additional public access to the* here would provide additional time to clear the beach, just in case the situation worsens. Even at the Site Area Emergency classification, one would ordinarily expect that offsite protective actions would not be necessary to protect the public. As noted in the State plan (page 2.1-13) precautionary protective actions for the beach population will be considered during the period of heaviest beach use, from May 15 through September 15. Details on the early precautionary protective actions for the beach population, including precautionary evacuation, are provided in the State plan procedures (NHODA Procedures, Appendix F).

The use of early precautionary protective actions such as beach closing and evacuation are not the sole means for protection of the beach population. The beach population is, in effect, also protected by the unusually strong containment system at the Seabrook Station. As indicated in the RAC position paper on the beach population issue, Brookhaven National Laboratory (BNL) reviewed analyses performed by the Applicant and performed additional analyses of the systems and features of Seabrook Station. BNL concluded that (t)here is negligible probability of prompt containment failure (at Seabrook). Failure during the first few hours after core melt is also unlikely and the timing of overpressure failure (of containment) is very long compared to the RSS. Most core melt accidents would be effectively mitigated by containment spray operation. BNL reviews of containment bypass accident scenarios also indicated that significant releases from such accidents were also not likely in the first hours after a severe accident.



(Hampton VIII)

Draft 5/6/87

The RAC position paper further indicates that, in view of the New Hampshire plans for beach closure and access control as early as the Alert classification, the cited "negligible probability of prompt containment failure" at Seabrook and low consequence/low probability of serious containment bypass sequences, the plume travel time to the beach areas and the relatively short (2 to 4 hours) time estimated to clear the beaches, it appears that risks to the beach population are a small fraction of the stated risks in NHTDVC N108 for this distance. Thus even if there were a prompt release of the contaminating plume and a portion of the beach population were caught in or under the plume for two hours during the evacuation process, their exposure to deposited radioactivity would only be approximately 2/24 or less than one-tenth of the dose assumed dose. In addition, they would be avoiding any additional exposure to the plume(s) after leaving this area.

#### FEMA Response (Further Basis)

FEMA has addressed the Town of Hampton Revised Contention VIII and its further basis of inadequate protective actions for residents of the Seacoast Health Center by applying Planning Standards H and J (Evaluation Criteria H.4, H.11, J.10.d, J.10.g, J.10.m) in FEMA-REP-1.

The December 15, 1986 RAC review of the State and municipal plans reflects FEMA's views on this issue. Specifically, FEMA's review comments on the New Hampshire State plan on this issue are provided on pages 67, 74, and 88 of Section I. FEMA's review comments on the municipal plans on this issue are provided on page 19 of Section II. FEMA's review comments on the State Compensatory Plan on this issue are provided on pages 6 and 8 of Section IV (Compensatory Plan subsection).

FEMA relied on the following documents in forming its conclusions on this issue: Revision 2 to the Hampton plan; Revision 2 to the New Hampshire State plan; and the Applicant's Motion for Summary Disposition of the Town of Hampton Revised Contention VIII dated March 25, 1987.

(Hampton VIII)

Draft 5/6/87

On the basis of the RAC review of Revision 2 of the State and municipal plans, FEMA has not yet received sufficient information to have assurance that the residents of the Seacoast Health Center will be properly evacuated in a timely manner in the event of a radiological emergency if Hampton does not implement the emergency response plan. Since Hampton has indicated that it will not participate in the planning and response to an accident at the Seabrook Station, it is necessary to determine the State's ability to implement compensatory measures for the Town of Hampton and to, therefore, provide for evacuation for the residents of the Seacoast Health Center.

The Hampton plan (page II-30) indicates that in the event of the evacuation of special facilities (such as the Seacoast Health Center), the Hampton Public Works Director will coordinate transportation services. However, if the Town of Hampton does not participate in the implementation of its response plan, the State will assume responsibility for coordinating the provision of transportation resources for the evacuation of the residents of the Seacoast Health Center. The concept of operations for the State's compensatory measures is provided in Appendix G of the State Plan. As indicated in this appendix and in the NHCDA Procedures (Volume 4 of State Plan), if a municipality is unable to respond to the emergency, an IFO Local Liaison will be assigned to coordinate the provision of transportation resources for evacuation. Although the RAC had no comments on the adequacy of this plan concept *per se*, the RAC has questioned the adequacy of the numbers of Local Liaison persons to be assigned and the adequacy of available communications resources available to implement this aspect of the compensatory plan. These items (NUREG elements H.4 and H.11, pages 6 and 8 of Section IV RAC comments on Compensatory Plan) were left open by the RAC pending provision of additional supporting information by the State. This information has not yet been provided to FEMA.

Relative to the special facilities plans themselves (i.e., those included as Appendix F of the municipal plans), ~~municipal plans~~ FEMA concludes that the health

(Hampton VIII)

Draft 5/8/87

care facility special plans, including that for the Seacoast Health Center, have been adequately revised and now contain adequately detailed procedures for evacuation and relocation of patients (RAC review, Section I, page 67). Although there are still numerous inconsistencies in the plan in bus needs estimates, all estimates indicate that overall the number of buses provided for in the letters of agreement are adequate and that additional transportation resources available from other organizations provide a large redundancy of resources (RAC review, Section I, page 74).

The bus boarding time of 10 minutes for residents of special facilities is provided in the State Plan Evacuation Time Estimate study, page 11-21. The RAC had no comment on this revised estimated bus boarding time.

In regard to sheltering residents of the Seacoast Health Center, the State indicates that sheltering is the preferred protective action. FEMA concludes that the plans have been adequately revised to take into account the sheltering protection factors for special facilities, including the Seacoast Health Center. A special tabulation of specific protection factors for each of the facilities, including the Seacoast Health Center, is present in Table 2.6-3 of the State plan (RAC review, Section I, page 67). The RAC review (Section I, page 88) indicates that the flow diagram in the State plan (Fig. 2.6-7) now properly reflects the decision-making process for the election between sheltering and evacuation, and that the treatment of institutionalized persons is now adequately detailed.

## SAPL CONTENTION 16

**FEMA Response**

FEMA has addressed SAPL Contention 16 and its basis that plans do not make adequate provisions for the sheltering of various segments of the populace in the EPZ by applying Planning Standard J (Evaluation Criteria J.9, J.10.a, J.10.d, J.10.m) in FEMA-REP-1.

The December 15, 1986 RAC review of the State and local plans, the amended portions of the RAC review dated \_\_\_\_\_, and the RAC position paper on the beach population issue transmitted to the State of New Hampshire dated \_\_\_\_\_ reflect FEMA's views on this issue. Specifically, FEMA's review comments on the New Hampshire State plan on this issue are provided on pages 64, 67, 87, 88, 89 and 91 of Section I. FEMA's review comments on the municipal plans on this issue are provided on page 17 of Section II.

FEMA relied on the following documents in forming its conclusions on this issue: Revision 2 to the New Hampshire State and local plans; and the Applicant's Motion for Summary Disposition of SAPL Contention 16 dated March 25, 1987.

FEMA does not yet have all information to be provided by the state. As indicated in the December 15, 1986 RAC review (page 64, Section D), determination of the adequacy of protective responses for the beach population remained open pending final review by the RAC of planned protective measures, and pending receipt of information from the state on the number of transients who would need transportation during an evacuation. The RAC has recently concluded (see RAC position paper dated \_\_\_\_\_) that the beach population can be appropriately protected by implementing provisions of the current (Rev. 2) New Hampshire emergency plans and that there appears to be no unique problem relative to the beach population that has not been adequately addressed. The basis for the RAC's conclusion on the beach population issue

(SAPL-16)

Draft 5-6-87

are provided in the position paper transmitted from FEMA to the State of New Hampshire on May \_\_\_\_\_, 1987. Details on how this position paper was developed, and a discussion on the key considerations used by the RAC in arriving at its conclusion are provided in the FEMA response to Revised Town of Hampton Contention VIII. Although the RAC has reached a conclusion on the beach population issue, the RAC still awaits receipt of information from the State of New Hampshire on the number of transients who would need transportation during an evacuation. Although the number of transients without transportation is expected to be small, this information has not yet been provided to FEMA. This also applies to NUREG element J.10.m as indicated by the RAC review comments on page 87 of RAC review Section I. X

State Plan Section 2.6.5 indicates that New Hampshire relies on two protective actions for limiting the direct exposure of the general public within the Plume Exposure EPZ. These two protective actions are sheltering and evacuation (State plan, page 2.6-4). The decision whether to shelter or evacuate is based on several variables, including dose reduction factors due to sheltering (State Plan, page 2.6-3). Sheltering can apply to the permanent resident population, institutionalized persons, and transients.

State Plan Section 2.6.5 (page 2.6-6) indicates that New Hampshire employs the "Shelter-in-Place" concept if sheltering is the chosen protective action. The plan indicates that "those at home are to shelter at home; those at work or school are to be sheltered in the workplace or school building" (State Plan page 2.6-6). As indicated in the RAC review comments (Section I, page 64) on the State plan, the use of public shelters is not proposed during a Seabrook Station emergency. The only exception is the possible use of public buildings for shelters for transients without transportation. Transients with transportation and "without access to an indoor location," including those at beaches and at campgrounds, will be advised to evacuate in their own vehicles. The use of public buildings for sheltering of transients without transportation is acceptable since the transients without transportation are expected to be a very small number. The



(SAPL-16)

Drift 5687

plan (p. 2.5-6) states that "Public buildings may be set up and opened as shelters for transients, on an ad hoc basis".

Because of the potentially large seasonal beach population, special precautionary protective actions for the beach population have been established by the State of New Hampshire (New Hampshire Plan, NHCDA Procedures, Appendix F), including early precautionary evacuation. The use of public buildings for sheltering of transients without transportation may be implemented on an "ad hoc" basis (RAC review, Section I, page 64).

As noted above, the use of public shelters is not proposed during a Seabrook Station emergency. As noted in the State plan (Page 2.1-13), precautionary protective action such as early closing and evacuation of the beaches will be considered during the period of heaviest beach use, from May 15 through September 15. The use of precautionary protective actions are not the sole means for protection of transients such as visitors to beaches and campgrounds. They are, in effect, also protected by the unusually strong containment system at the Seabrook Station. This is described in detail in the RAC position paper on the beach population issue transmitted to the State on May \_\_\_\_\_, 1987, and is also summarized in the FEMA response to Revised Town of Hampton Contention VIII. included is a discussion of the negligible probability of prompt containment failure at Seabrook.

In regard to sheltering residents of special facilities such as hospitals, nursing homes, and jails, the State indicates that sheltering is the preferred protection option (SAPL-16, page 64). A special tabulation of specific protection factors for each of the facilities is provided in SAPL-16 (see SAPL-16, page 64).

(Fig. 2.6-7) now properly reflects the decision-making process for the election between

sheltering and evacuation, and that the treatment of institutionalized is now adequately detailed.

The State indicates that the tabulation of specific sheltering protection factors referenced above (Table 2.6-3 of State Plan) is only for special facilities such as health care facilities and jails for which independent determinations of appropriate protective actions are made during an emergency (see State response on page 91 of RAC review Section D). The State indicates that "other types of special facilities such as schools and day care centers will follow the protective action recommendations prescribed for the general population." The State continues that the "protective action recommendation process utilizes conservative sheltering protection factors for general population decision-making." Section 2.6.5 of the State Plan now includes a generic external sheltering factors table which shows the levels of protection that can be expected from various building types in the EPZ (Table 2.6-4, page 2.6-10 of the State Plan).

### AMENDED NECNP CONTENTION RERP-8

#### FEMA Response

FEMA has addressed NECNP Contention RERP-8, and its basis that there is no reasonable assurance that sheltering is an adequate protective measure for all members of the public who may need it, by applying Planning Standard J (Evaluation Criteria J.9, J.10.a, J.10.d, J.10.m) in FEMA-REP-1.

The December 15, 1986 RAC review of the State plan, the amended portions of the RAC review dated \_\_\_\_\_, and the RAC position paper on the beach population issue transmitted to the State of New Hampshire with FEMA letter dated \_\_\_\_\_ re-  
spond to the issue. Specifically, FEMA's review comments on the March 25, 1987 RAC review of this issue are included in sections 27, 28, 29 and 31 of Section I.

FEMA relied on the following documents in forming its conclusions on this issue: Revision 2 to the New Hampshire State plan; and the Applicant's Motion for Summary Disposition of NECNP Contention RERP-8 dated March 25, 1987.

FEMA does not yet have all information to be provided by the state. As will be noted later in this response, this missing information consists of the number of transients who would need transportation during an evacuation.

State Plan section 2.6.5 indicates that New Hampshire relies on two protective actions for limiting the direct exposure of the general public within the Plume Exposure EPZ. These two protective actions are sheltering and evacuation (State Plan, page 2.6-4). The decision whether to shelter or evacuate is based on several variables, including dose reduction factors due to sheltering (State Plan, page 2.6-29). Sheltering can apply to the permanent resident population, institutionalized persons, and transients.

State Plan section 2.6.5 (page 2.6-5) indicates that New Hampshire employs the "Shelter-in-Place" concept if sheltering is the chosen protective action. The plan



indicates that "those at home are to shelter at home; those at work or school are to be sheltered in the workplace or school building" (State Plan page 2.6-8). As indicated in the RAC review comments (Section I, page 84) on the State plan, the use of public shelters is not proposed during a Seabrook Station emergency. The only exception is the possible use of public buildings for shelters for transients without transportation. Transients with transportation and "without access to an indoor location" will be advised to evacuate in their own vehicles. The use of public buildings for sheltering of transients without transportation is acceptable since the transients without transportation are expected to be a very small number. The plan (p. 2.6-8) states that "Public buildings may be set up and opened as shelters for transients, on an ad hoc basis".

As indicated in the December 15, 1986 RAC review (page 84, Section I), determination of the adequacy of protective responses for the beach population remained open pending final review by the RAC of planned protective measures, and pending receipt of information from the state on the number of transients who would need transportation during an evacuation. The RAC has recently concluded that the beach population can be appropriately protected by implementing provisions of the current (Rev. 2) New Hampshire emergency plans and that there appears to be no unique problem relative to the beach population that has not been adequately addressed. The bases for the RAC's conclusion on the beach population issue are provided in the position paper transmitted from FEMA to the State of New Hampshire on May \_\_\_\_, 1987. Details on how this position paper was developed, and a discussion on the key considerations used by the RAC in arriving at its conclusion are provided in the FEMA response to Revised Town of Hampton Contention VIII. Although the RAC has reached a conclusion on the beach population issue, ←

The RAC still awaits receipt of information from the State of New Hampshire on the number of transients who would need transportation during an evacuation. Although the number of transients without transportation is expected to be small, this information

(NECN. REEF-9)

has not yet been provided to FEMA. This also applies to NUREG element J.10.m as indicated by the RAC review comments on page 87 of RAC review Section 7.

Because of the potentially large seasonal beach population, special precautionary protective sections for the beach population have been established by the State of New Hampshire (New Hampshire Plan, NHCDA Procedures, Appendix F), including early precautionary evacuation. The use of public buildings for sheltering of transients without transportation may be implemented on an "ad hoc" basis (RAC review, Section I, page 64).

As noted above, the use of public shelters is not proposed during a Seabrook Station emergency. As noted in the State plan (page 2.1-13), precautionary protective actions such as early closing and evacuation of the beaches will be considered during the period of heaviest beach use, from May 15 through September 15. The use of precautionary protective actions are not the sole means for protection of transients such as visitors to beaches and campgrounds. They are, in effect, also protected by the unusually strong containment system at the Seabrook Station. This is described in detail in the RAC position paper on the beach population issue transmitted to the State on May \_\_\_\_, 1987, and is also summarized in the FEMA response to Revised Town of Hampton Contention VIII. Included is a discussion of the negligible probability of prompt containment failure at Seabrook.

In regard to sheltering residents of special facilities, the State indicates that sheltering is the preferred protective action (State Plan page 2.6-7). FEMA concludes that the plans have been adequately revised to take into account the sheltering protection factors for special facilities (RAC review, Section I, page 87). A special tabulation of specific protection factors for each of the facilities is present in Table 2.6-3 of the State plan (RAC review, Section I, page 87). The RAC review (Section I, page 88) indicates that the flow diagram in the State plan (Fig. 2.6-7) now properly reflects the decision-making process for the elevation between sheltering and

evacuation, and that the treatment of institutionalized persons is now adequately detailed.

The State indicates that the tabulation of specific sheltering protection factors referenced above (Table 2.6-3 of State Plan) is only for special facilities such as health care facilities and jails for which independent determinations of appropriate protective actions are made during an emergency (see State response on page 91 of RAC review Section D). The State indicates that "other types of special facilities such as schools and day care centers will follow the protective action recommendations prescribed for the general population." The State continues that the "protective action recommendation process utilizes conservative sheltering protection factors for general population decision-making." Section 2.6.5 of the State Plan now includes a generic external sheltering factors table which shows the levels of protection that can be expected from various building types in the EPZ (Table 2.6-4, page 2.6-10 of the State Plan).



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
631 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406

Attachment 13

JUN 04 1987

Edward A. Thomas, Chairman  
Regional Assistance Committee  
Federal Emergency Management Agency  
John W. McCormack Post Office and Court House  
Boston, Massachusetts 02102

Dear Mr. Thomas:

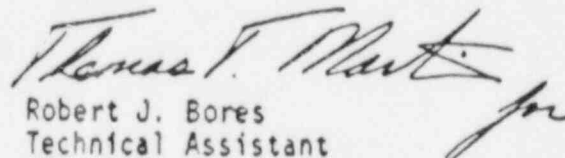
Reference: RAC Comments on Transient Beach Population for Seabrook Station

Subsequent to our April 15, 1987 meeting of the Regional Assistance Committee on the above subject, the Atomic Safety and Licensing Board issued its MEMORANDUM AND ORDER on April 22, 1987 relative to the Public Service Company of New Hampshire petition for a one-mile plume emergency planning zone. In that document, the Board concluded that the current studies provided by the applicant did not provide a prima facie showing to warrant the granting of the one-mile plume EPZ petition. The Board deliberately left open the possibility of granting the petition if convincing information is subsequently provided.

Even though the beach population issues differ substantially from the above litigation, because of it and because the NRC staff has not yet completed its review of all issues in the Seabrook and "BNL" studies, I recommend that the RAC not reference these studies or specific contents in our present consideration of the beach population issues. With that in mind, I am proposing revised sections for the RAC report. These proposed revisions involve pages seven through ten.

For your convenience, a clean, rewritten copy of the RAC position paper incorporating these revisions is enclosed.

Should you have any questions concerning the above, please contact me at FTS 488-1213. I would be very happy to meet with you and/or the RAC to discuss my response.

  
Robert J. Bores  
Technical Assistant  
Division of Radiation Safety  
and Safeguards

Enclosures: As stated

bcc w/encl:  
W. Russell  
J. Allan  
J. Gutierrez  
W. Kane  
W. Johnston  
T. Martin  
R. Bellamy  
R. Bores

1

## PROTECTION OF NEW HAMPSHIRE BEACH POPULATIONS

### BACKGROUND

The requirements for emergency preparedness stem from 10 CFR 50.47(a)(1) and (2), which state that except as provided in 10 CFR 50.47(d) (relative to licensing of a facility for operation up to 5% of rated power), no operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. The NRC will base its finding on a review of the FEMA findings and determinations as to whether state and local emergency plans are adequate and whether there is reasonable assurance that they can be implemented, and on the NRC assessment of the adequacy and implementability of the licensee's onsite emergency plans. The FEMA finding is primarily based on the review of the state and local emergency plans. Any other information already available to FEMA may be used in considering whether there is reasonable assurance that the plans can be implemented. Paragraph (b) of 10 CFR 50.47 requires that the onsite and offsite emergency response plans for nuclear power reactors meet 16 specified planning standards.

NUREG 0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", was issued to provide a common reference and guidance source for state and local governments and licensees in the development of emergency response plans and preparedness for response to a radiological emergency and for FEMA, NRC and other federal agencies for use in the review of those plans and preparedness.

The planning basis adopted by NRC and FEMA for emergency preparedness around nuclear power plants was taken from NUREG 0396/EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants". "The overall objective of the emergency response plans is to provide dose savings (and in some cases, immediate life savings) for a spectrum of accidents that could produce offsite doses in excess of the PAGs" (NUREG 0654). NUREG 0396 intended that the planning basis range from trivial events to worst case accidents and it attempted to identify the boundary parameters based on available knowledge of potential accident consequences, timing of releases, and release characteristics (source term). It should be noted that doses in excess of the EPA PAGs do not equate with loss of life or even a health hazard. The PAGs were intended for use by protective action decision makers in arriving at a balance between radiation risk and that of taking a protective action in the absence of constraints to that action.

*Complete copy not provided  
since document is readily available*

*[Signature]*

Enclosure



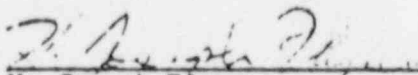
UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
Public Service Co. of New Hampshire,	)	Docket No. 50-443-OL
et al.	)	50-444-OL
	)	Offsite Emergency
(Seabrook Station, Units 1 & 2)	)	Planning Issues

FEMA PRE-FILED TESTIMONY

The Federal Emergency Management Agency (FEMA) hereby serves on the parties to this proceeding its prefiled testimony on contentions on the New Hampshire Radiological Emergency Response Plan. FEMA notes, for the record, that its review of issues addressed therein is ongoing.

  
\_\_\_\_\_  
H. Joseph Flynn  
Assistant General Counsel  
Federal Emergency Management Agency

Washington, D.C.  
September 11, 1987

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )

Public Service Co. of New Hampshire, )  
et al. )

(Seabrook Station, Units 1 & 2) )

Docket No. 50-443-OL  
50-444-OL

Offsite Emergency  
Planning Issues

DIRECT TESTIMONY OF EDWARD A. THOMAS,  
EDWARD A. TANZMAN, AND BRUCE J. SWIREN  
ON THE NEW HAMPSHIRE RADIOLOGICAL EMERGENCY  
RESPONSE PLAN PRESENTED ON BEHALF OF THE  
FEDERAL EMERGENCY MANAGEMENT AGENCY

The witnesses whom the Federal Emergency Management Agency (FEMA) is sponsoring on the admitted contentions having to do with the New Hampshire Radiological Emergency Response Plan (NHRERP) in the Event of an Accident at Seabrook Station are:

Edward A. Thomas, Chief  
Natural and Technological Hazards Division  
Federal Emergency Management Agency Region I  
Boston, Massachusetts

Edward A. Tanzman  
Energy and Environmental Programs Attorney  
Energy and Environmental Systems Division  
Argonne National Laboratory  
Argonne, Illinois

and

Bruce J. Swiren  
Emergency Management Specialist  
Natural and Technological Hazards Division  
Federal Emergency Management Agency Region I  
Boston, Massachusetts

Our Statements of Professional Qualifications are attached to this Direct Testimony and are incorporated herein by reference.

In general, the purpose of our testimony is to address the admitted contentions and supporting bases. As explained below, our testimony is limited to certain contentions and bases. As noted in the Statement of Position, the Nuclear Regulatory Commission (NRC) is sponsoring the testimony of Dr. Thomas Urbanik on certain contentions having to do with the validity of Evacuation Time Estimates, and so FEMA is not sponsoring testimony on those contentions, namely:

- Revised Hampton Contention III to Revision 2
- Revised Hampton Contention VI to Revision 2, Basis A (Rev. 1)
- SAPL Contention 18
- SAPL Revised Contention 31
- SAPL Contention 34
- SAPL Contention 37

FEMA considers its statement about the transient beach population largely to involve matters of policy. Edward A. Thomas is the FEMA official in Region I who is responsible for explaining, applying, and carrying out FEMA's policies as they apply to the Radiological Emergency Preparedness Program. For this reason, Mr. Thomas is the single witness as to those contentions having to do with the lack of shelter for the transient beach population, namely:

- Revised Hampton Contention VIII to Revision 2
- SAPL Contention 16
- NECNP Contention RERP-8

During the period of time when Bruce Swiren was employed by HMM Associates, he worked on obtaining revised or renewed Letters of Agreement



from hospitals, ambulance companies, towing companies, and bus companies. In order to avoid even the possibility of the appearance of a conflict of interests, Mr. Swiren has removed himself as a witness on contentions and bases having to do with these letters of agreement and the determination of the number of Teamsters to be made available by their employers in the event of an emergency. For this reason, Edward A. Thomas and Edward A. Tanzman will testify on those contentions and bases, namely:

- Revised Hampton Contention IV
- South Hampton Contention 3; Bases 1, A, B, C, E, and  
Further Bases A.1., A.2., and B
- Town of Kensington Contention 6
- NEQNP Contention NHLP-2, Basis D
- NEQNP Contention NHLP-6, Bases d and e and HP-1-e
- SAPL Contention 15
- SAPL Contention 25

All three of us will address the remaining admitted contentions and bases.

The attached document entitled "Current FEMA Position on Admitted Contentions on New Hampshire Plans for Seabrook" (hereinafter referred to as the "Statement of Position"), dated June 4, 1987, has previously been made a part of the record of this case. That Statement of Position was attached as Appendix A to the Response of the Federal Emergency Management Agency to Massachusetts Attorney General James M. Shannon's Off-Site Emergency Preparedness Interrogatories and Request for Production of Documents to FEMA (Set No. 2) and is herein identified as Exhibit A. The language of the contentions and their bases is set forth in that Statement of Position and so is not repeated herein.

Exhibit B to this testimony, entitled "Current FEMA Position on South Hampton Contention 8 and NEQNP Contention NHLP-4", and dated June 26, 1987, is a supplement to FEMA's Statement of Position and is also a part of the record of this case.

Exhibit C is a copy of a letter dated August 7, 1987 from H. Joseph Flynn to Thomas G. Dignan, Jr. It reflects FEMA's position on the issues discussed therein. We individually incorporate by reference those portions of Exhibit A, B, and C which are pertinent to our respective testimony.

The positions which FEMA has taken on the NHRERP, the exercise of the NHRERP, and the contentions which this Atomic Safety and Licensing Board has admitted were arrived at through a collegial process of review by FEMA's Regional Office in Boston, consultation with FEMA's Regional Assistance Committee (RAC) and Argonne National Laboratory, and review by FEMA's State and Local Programs and Support Directorate in Washington, D.C. The RAC is an interagency committee constituted in each of the 10 standard Federal regions pursuant to 44 C.F.R. §351. The committee is composed of representatives of FEMA, the NRC, the Environmental Protection Agency, the Department of Energy, the Department of Health and Human Services, the Department of Transportation, the Department of Agriculture, the Department of Commerce and the Department of Interior.

FEMA and the RAC have provided comments on New Hampshire draft planning for Seabrook dating back to submissions in 1982. However, the current plan, which is under litigation, dates back to 1985. In December, 1985, the State of New Hampshire submitted the NHRERP (Revision 0) to FEMA. New Hampshire submitted extensive changes to the NHRERP (Revision 0, Supplement 1) in February, 1986, which included:

1. Volume 5 NHRERP, "Letters of Agreement in Support of the NHRERP";
2. Volume 7 NHRERP, "Seabrook Station Alert and Notification System Design Report";
3. Evacuation Time Estimate (ETE) Study materials (Progress Reports Nos. 1-6) from KLD Associates;

*Not for back issue!*

4. Revised procedures for the New Hampshire Department of Resources and Economic Development;
5. Compensatory Plan outlining the means used by the State to protect citizens in towns within the Seabrook EPZ when municipal governments cannot or will not carry out tasks assigned by the local plan, and;
6. Draft public information material.

The February, 1986, revisions were served on the parties on March 11, 1986. The State of New Hampshire filed additional plan changes in April, 1986, (Revision 0, Supplement 2 of the NHRERP) consisting of the following:

1. KLD Progress Report No. 7;
2. A revision to the Department of Public Health and Safety (DPHS) Procedures, including replacement and new appendices to the DPHS Procedures;
3. Rockingham County Complex procedures, including those for the Rockingham County Nursing Home, Rockingham County Jail Facility and Rockingham County Dispatch Center; and
4. Procedures for the decontamination of personnel at the Manchester Decontamination Center, along with Appendix F to those procedures.

A full-scale exercise of the NHRERP was conducted on February 26, 1986.

During the first several months of 1986, FEMA and the RAC were involved in extensive reviews of the December NHRERP (Revision 0), the February revisions (Supplements 1 and 2 to Revision 0), and the February exercise. In April, 1986, FEMA sent the following documents to the State of New Hampshire:

1. FEMA's report of the deficiencies observed during the February 26, 1986, exercise of the state and local plans to protect the public in the event of a radiological emergency at Seabrook;
2. Final Draft Report of the Exercise of the emergency plans for Seabrook held February 26, 1986;
3. Final review by the RAC of the state and local plans submitted by New Hampshire in December, 1985; and
4. Draft RAC Review of the state and local plans submitted by New Hampshire in February, 1986.

These documents have been served on the parties to this proceeding.

On June 3, 1986, the State filed another revision of the NHRERP (Revision 1) responding to the comments of the RAC concerning the plan and the exercise of the plan. The ETE Study prepared by KLD Associates, which had recently been released in a final draft, was incorporated into the NHRERP at that time.

On June 23 and 24, 1986, the RAC met with representatives of the State of New Hampshire and the Applicant and explained in further detail the concerns identified in the documents described above. On September 8, 1986, the State of New Hampshire submitted another revision of the NHRERP (Revision 2, dated August, 1986) addressing the concerns identified by the RAC. FEMA submitted the FEMA/RAC Review of Revision 2 of the state and local plans to the State of New Hampshire on December 12, 1986. This document is the basis for most of the positions taken by FEMA in this licensing proceeding and has also been served on all the parties.

On April 15 and July 2, 1987, the NRC filed FEMA's positions on the parties' various Motions for Summary Disposition of Contentions. On June 4, 1987, FEMA filed its Statement of Position as part of a response to Interrogatories from the parties. This reflects FEMA's current position, even though the State of New Hampshire submitted a Summary of Personnel Resource Assessment for the New Hampshire Radiological Emergency Response Plan in late August, 1987, and additional information in early September. The review period for material which a state submits to FEMA as part of a radiological emergency response plan is normally at least 60 days. These materials are not reflected in this testimony principally because they were not received early enough to have been reviewed by FEMA and the RAC and because the State of New Hampshire has advised FEMA that the material submitted in September is not part of the NHRERP.

NECNP CONTENTION RERP-8

The New Hampshire RERP does not provide a "reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency," as required by 10 C.F.R. 50.47(a)(1), in that the plan does not provide reasonable assurance that sheltering is an "adequate protective measure" for Seabrook. Nor does the plan provide adequate criteria for the choice between protective measures, as required by § 50.47(b)(10) and NUREG-0654, § II.J.10.m.

FEMA RESPONSE to Revised Town of Hampton Contention VIII to Revision 2 (of the New Hampshire RERP for Seabrook), SAPL Contention 16, and NECNP Contention RERP-8

These three contentions all deal with what is fundamentally the same issue: protection from a radiological release for beach-going population at Seabrook who do not have ready access to any effective form of sheltering. This group includes both "day-trippers to the beach and those persons who only have access to unwinterized or other types of construction which will offer a lesser degree of protection than that offered by standard residential or commercial buildings.

Background - This issue has been of great concern to FEMA from our earliest detailed involvement with the preparation of plans and the achievement of a level of emergency preparedness which would achieve our regulatory standard set for that 44 CFR 350.5 of adequately protecting the public health and safety by providing reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency at the Seabrook Nuclear Power Plant.

In December 1985 the State of New Hampshire submitted plans for protecting the public in the event of an accident at Seabrook to FEMA for review pursuant to 44 CFR 350. Those plans were forwarded for review by the Regional Assistance Committee (RAC), an interagency group established pursuant to 44 CFR 350 to both assist state and local government in the development of radiological emergency response plans and to evaluate the adequacy of such plans. On December 31, 1985, FEMA, as chair of the RAC, requested that the members of the RAC (as well as the other FEMA staff who were reviewing the New Hampshire Plans) immediately focus on the issue of the protection of beach population and the occupants of unwinterized accommodations. This memorandum is attached as Appendix C to this response to interrogatories.

FEMA Position - Since the time of our December 31, 1985, memorandum on the subject of the protection of the public on and near the beaches around Seabrook, the State of New Hampshire has refined and improved its emergency plans and submitted a detailed Evacuation Time Estimate which sheds a considerable amount of light on this issue. The facts relevant to understanding this issue are that:



NECRP CONVENTION RERP-8 (Cont.)

*Statement is not in  
but a statement on release*

*These statements  
to be reviewed  
These statements  
to be reviewed  
These statements  
to be reviewed  
These statements  
to be reviewed*

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AES  
20:30 hr.*

(1) The primary guidance document used by FEMA and the RAC in reviewing off-site emergency plans is NUREG-0654, FEMA REP-1, Rev. 1, a document jointly developed by FEMA and the NRC. That guidance document indicates on p. 13 that "(t)he range of times between the onset of accident conditions and the start of a major release is of the order of one-half hour to several hours". This statement is further clarified on p. 17, Table 2 to indicate that (a) the major portion of a release may occur in a time period ranging from as little as one-half hour to one day after the release begins and (b) that the travel time of the release to exposure point can range from one-half hour to two hours at five miles, and one hour to four hours at ten miles.

*Value of guidance (p. 13 REP-1)*

(2) On peak summer days there are thousands of beachgoers in the Seabrook EPZ in areas beginning approximately 1.7 miles from the plant. The current New Hampshire plans contemplate evacuating the many thousands of beachgoers who have access to no adequate shelter as a protective action in the event of an accident at Seabrook. We understand that the plans contain no consideration of sheltering the "day trippers" because on summer days when there are a large number of these people, it is not possible to find reasonably accessible shelter for them. There are an additional number of persons who would be in or have access only to shelter in unwinterized cottages and motel rooms. The protection afforded by sheltering in these structures will definitely be less than that afforded by a normal wood frame house.

*apparently not true!*

*not sufficient  
true, depends  
on location  
relative to  
cloud - back  
of hill, low  
for, etc*

(3) The Evacuation Time Estimate for the Seabrook EPZ submitted by the State of New Hampshire indicates at pp. 10-1 et seq. that in good weather when the beaches are at 60 to 100 percent of capacity it will take three and one-half hours to clear the beaches, and a total of from four hours and fifty minutes to five hours and fifty minutes to evacuate all the population on the beaches from the EPZ. In some situations such as sudden bad weather following a peak summer day, the total evacuation time for portions of the EPZ range up to seven hours and fifty minutes.

*all of*

Therefore, using the standard guidance for the initiation and duration of radiological releases, and the current New Hampshire RERP including ETE, it appears that thousands of people could be unable to leave during an accident at Seabrook involving a major release of radioactivity without adequate shelter for as much as the entire duration of that release. Therefore, until these issues are resolved even if all the other inadequacies and deficiencies cited in the RAC Reviews of the New Hampshire Plans, and the Review of the Exercise of these plans were to be corrected, FEMA would not be able to conclude that the New Hampshire State and local plans to protect the public in the event of an accident at the Seabrook Nuclear Power Plant are adequate to meet our regulatory standard that such plans "adequately protect the public health and safety by providing reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency." (See, 44 CFR 350.5(b)).

*guidance  
for planning  
basis*



# Federal Emergency Management Agency

Region I J.W. McCormack Post Office and Court House  
Boston, Massachusetts 02109

*CJB*

*to Kantor  
Copies for  
- all EPB staff  
- Connel  
- Barrett  
ntu to  
Doll*

*Attachment 15*

Mr. Richard H. Strom  
Director, New Hampshire Civil  
Defense Agency  
State Office Park South  
Concord, New Hampshire 03301

Dear Mr. Strom:

This is written as a follow-up to our conversation on June 5, 1987, concerning the document "CURRENT FEMA POSITION ON ADMITTED CONTENTIONS ON NEW HAMPSHIRE PLANS FOR SEABROOK." (Hereinafter called Current FEMA Position.) This document was developed as a part of FEMA's responses to interrogatories in the Seabrook Atomic Safety and Licensing Board (ASLB) proceedings. Our discussion primarily related to that portion of the Current FEMA Position dealing with the beach population which is found at pp. 38-39 and enclosed with this letter.

Before further discussing that particular section, it might be worthwhile to quickly review the history of this filing. The Current FEMA Position was developed as the result of several actions including the decision of the Atomic Safety and Licensing Appeal Board (ASLB) made May 1, 1987, and the subsequent Memorandum and Order issued by the ASLB on May 4, 1987. These actions included a specific request that FEMA develop and file a position on the contentions admitted for litigation in the Seabrook proceedings by June 5, 1987. The Current FEMA position is, therefore, provided pursuant to the FEMA/Nuclear Regulatory Commission Memorandum of Understanding cited in 44 CFR 350, Section 350.3(a). However, the Current FEMA Position should not be viewed as a formal "finding" by FEMA under 44 CFR 350.

The Current FEMA Position is largely based upon the FEMA and Regional Assistance Committee (RAC) reviews which were previously provided to you. The portion of the Current FEMA Position dealing with the beach population is based on a thorough analysis by FEMA and the RAC. The issue of protecting the beach population has been an item of discussion between FEMA, the State of New Hampshire, and the applicant for several years. Our position is based on the guidance provided by NUREG-0654, FEMA-REP-1 applied to the Seabrook site.

We believe that our concern about the protection of the beach population revolves around some rather unusual circumstances which may be unique to Seabrook. Demographically, a substantial portion of the peak summer population in the area travel to the beach each day. Unlike other sites we have reviewed, these daily visitors are not identified with a temporary residence or public facility.

In addition, many of the summer residences in the area are unwinterized and therefore afford less shelter in the event of an accident than that found in insulated buildings. These circumstances dramatically impact the acceptability of the two primary protective measures, evacuation and shelter. More specifically, the information provided to FEMA indicates that evacuation from the beaches would require approximately 3.5 hours. Evacuation time estimates are not required to meet some specific standard. The availability of shelter as an option in the more fast-breaking scenarios is considered to mitigate the need for some hard time objective for evacuation. However, in this case the sheltering option is also clouded by the absence of sheltering for what is even in the more favorable estimates amounts to several thousand individuals and the absence of apparently effective shelter for many others. Thus, the information provided on evacuation and sheltering compounded one another in a manner of individuals that might be involved. I might add that these numbers apparently hold not simply for the worst-case accident, but for a number of lesser scenarios.

A number of options have been mentioned over the past years which may alter the case as we understand it. In addition to our own discussions on the subject, a wide variety of sources have proposed alternatives which include sheltering, seasonal operation of the plant, and alternative evacuation routes. Although sheltering is an alternative, we doubt if the use of existing public or private facilities would be acceptable.

The solution to the problem may be a variety of alternatives due to the complexity of the issue. However, if the facts set forth in the paragraphs numbered 1-3 of page 39 of the current FEMA position are shown to be incorrect or are modified, then our position will be subject to review and modification as necessary. FEMA will, therefore, be willing to arrange for the review of any modifications to the New Hampshire emergency plans for Seabrook which might impact evacuation time estimates or the sheltering of the beach population. Any modifications of the standard assumptions made about accident release times, duration and probability, as well as the impact due to any altered operational schedule for the plant come under the purview of the NRC.

FEMA will soon be developing its testimony for the September ASLB hearing for Seabrook. Given the expected sequence of events, it is this hearing board that will make the first licensing related evaluation of the New Hampshire plan. It would be very useful to all parties to the Seabrook proceeding if you could tell us prior to our filing testimony: (a) if the facts we have discussed and set forth in the Current FEMA Position are incorrect; (b) if the State of New Hampshire is considering steps which might change these facts, and (c) if you are aware of intentions of anyone else to exercise options that would change the facts.

No. 11



We would, of course, be happy to meet with you as New Hampshire continues to explore its options. I hope that all of us can continue work together to resolve this issue and achieve our mutual commitment to public safety.

Sincerely,

signed

Edward A. Thomas  
Chief  
Natural and Technological Hazards  
Division

**NECNP CONTENTION RERP-3**

The New Hampshire RERP does not provide a "reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency," as required by 10 C.F.R. 80.47(a)(1), in that the plan does not provide reasonable assurance that sheltering is an "adequate protective measure" for Seabrook. Nor does the plan provide adequate criteria for the choice between protective measures, as required by § 80.47(b)(10) and NUREG-0684, § II.J.10.m.

**FEMA RESPONSE to Revised Town of Hampton Contention VIII to Revision 2 (of the New Hampshire RERP for Seabrook), SAPL Contention 16, and NECNP Contention RERP-8**

These three contentions all deal with what is fundamentally the same issue: protection from a radiological release for beach-going population at Seabrook who do not have ready access to any effective form of sheltering. This group includes both "day-trippers" to the beach and those persons who only have access to unwinterized or other types of construction which will offer a lesser degree of protection than that offered by standard residential or commercial buildings.

**Background** - This issue has been of great concern to FEMA from our earliest detailed involvement with the preparation of plans and the achievement of a level of emergency preparedness which would achieve our regulatory standard set for that 44 CFR 350.5 of adequately protecting the public health and safety by providing reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency at the Seabrook Nuclear Power Plant.

In December 1985 the State of New Hampshire submitted plans for protecting the public in the event of an accident at Seabrook to FEMA for review pursuant to 44 CFR 350. Those plans were forwarded for review by the Regional Assistance Committee (RAC), an interagency group established pursuant to 44 CFR 350 to both assist state and local government in the development of radiological emergency response plans and to evaluate the adequacy of such plans. On December 31, 1985, FEMA, as chair of the RAC, requested that the members of the RAC (as well as the other FEMA staff who were reviewing the New Hampshire Plans) immediately focus on the issue of the protection of beach population and the occupants of unwinterized accommodations. This memorandum is attached as Appendix C to this response to interrogatories.

**FEMA Position** - Since the time of our December 31, 1985, memorandum on the subject of the protection of the public on and near the beaches around Seabrook, the State of New Hampshire has refined and improved its emergency plans and submitted a detailed Evacuation Time Estimate which shed considerable amount of light on this issue. The facts relevant to understanding this issue are that:

NECP CONVENTION RPT-8 (Cont.)

(1) The primary guidance document used by FEMA and the RAC in reviewing off-site emergency plans is NUREG-0654, FEMA REP-1, Rev. 1, a document jointly developed by FEMA and the NRC. That guidance document indicates on p. 13 that "(t)he range of times between the onset of accident conditions and the start of a major release is of the order of one-half hour to several hours". This statement is further clarified on p. 17, Table 2 to indicate that (a) the major portion of a release may occur in a time period ranging from as little as one-half hour to one day after the release begins and (b) that the travel time of the release to exposure point can range from one-half hour to two hours at five miles, and one hour to four hours at ten miles.

(2) On peak summer days there are thousands of beachgoers in the Seabrook EPZ in areas beginning approximately 1.7 miles from the plant. The current New Hampshire plans contemplate evacuating the many thousands of beachgoers who have access to no adequate shelter as a protective action in the event of an accident at Seabrook. We understand that the plans contain no consideration of sheltering the "day trippers" because on summer days when there are a large number of these people, it is not possible to find reasonably accessible shelter for them. There are an additional number of persons who would be in or have access only to shelter in unwinterized cottages and motel rooms. The protection afforded by sheltering in these structures will definitely be less than that afforded by a normal wood frame house.

*What basis?  
Not considered  
by RAC or  
NH REP.*

(3) The Evacuation Time Estimate for the Seabrook EPZ submitted by the State of New Hampshire indicates at pp. 10-1 et seq. that in good weather when the beaches are at 60 to 100 percent of capacity it will take three and one-half hours to clear the beaches, and a total of from four hours and fifty minutes to five hours and fifty minutes to evacuate all the population on the beaches from the EPZ. In some situations such as sudden bad weather following a peak summer day, the total evacuation time for portions of the EPZ range up to seven hours and fifty minutes.

*to 2 miles  
7  
7*

Therefore, using the standard guidance for the initiation and duration of radiological releases, and the current New Hampshire REP including ETE, it appears that thousands of people could be unable to leave during an accident at Seabrook involving a major release of radioactivity without adequate shelter for as much as the entire duration of that release. Therefore, until these issues are resolved even if all the other inadequacies and deficiencies cited in the RAC Reviews of the New Hampshire Plans, and the Review of the Exercise of these plans were to be corrected, FEMA would not be able to conclude that the New Hampshire State and local plans to protect the public in the event of an accident at the Seabrook Nuclear Power Plant are adequate to meet our regulatory standard that such plans "adequately protect the public health and safety by providing reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency." (See, 44 CFR 350.5(b)).



# Federal Emergency Management Agency

Region I J.W. McCormack Post Office and Court House  
Boston, Massachusetts 02109

*Attachment 16* July 2, 1987

MEMORANDUM FOR: Regional Assistance Committee (RAC)  
Radiological Emergency Preparedness Task Force

FROM: Edward A. Thomas *[Signature]*  
RAC Chairman

SUBJECT: RAC Review of FEMA Self-Initiated Review of Pilgrim NPS EPZ

Please review the attached FEMA self-initiated review and submit your comments no later than July 10, 1987.

There are four documents attached:

- a. Memo to Dave McLoughlin, FEMA Headquarters
- b. FEMA's Draft Interim Finding on Emergency Preparedness in the Pilgrim NPS EPZ
- c. FEMA's Draft Analysis on the July 15, 1986, Pilgrim Petition
- d. FEMA's Draft Comments on the Report to the Governor

Please plan on attending a RAC meeting here at 10:00 A.M. on July 30, 1987, to discuss the following:

- a. Massachusetts Proposal to Expand the Pilgrim NPS EPZ
- b. A Revised RAC Position on the Seabrook Beach Memorandum As a Result of the Change in NRC's Position
- c. The Final Version of FEMA's Self-Initiated Review of the Pilgrim NPS EPZ.

Your cooperation is very much appreciated.

Please call Jack Dolan at FTS 223-9562 if you need any assistance.

AGENDA

Attachment 17

For

RAC MEETING

JULY 30, 1987 - 10:00 A.M.

ITEMS FOR DISCUSSION:

→ I. Status Reports

*lots of info required*

1. Up-date the RAC on status of "350" process for Vermont, New Hampshire and Maine.

GM PR-1

2. Status of "Annual Letters of Certification" from all New England States. *AR. ~~the~~ except for Mass.*

3. Review of Maine ~~Yankee~~ Ingestion Pathway Plan for Seabrook Station

a. Argonne Comments { NRC, HHS, D&A

4. Up-date on Pilgrim Nuclear Power Station. *- Self initiated review to NRC HQ by 8/15*

→ II. Coming Workload

*Heavy for fall and winter*

5. Seabrook Station Hearings Dates (see attached schedule). *revisited yet identify - may involve RAC members*

6. Possibility of necessity for RAC support during Seabrook Hearings.

7. If New Hampshire submits or up-dates their plans it will require RAC assistance.

8. If Utility submits Massachusetts plans for Seabrook Station it will require RAC assistance. *(LERO type in transmission)*

9. Possibility of revised Massachusetts Plans for Pilgrim, Vermont Yankee and Rowe. *needed budget*

10. Possibility of RAC Review of Utility submission for Pilgrim.

10a. *R+2, Bus driver proximity training*

→ III. Issues for Meetings

11. Pilgrim EPZ Expansion.

12. Maine Yankee EPZ Expansion.

13. Maine ~~Yankee~~ Ingestion Plan Review.

14. Seabrook Beach Population.

*positions held by state*  
*administering*  
FEMA  
RAC Paul Lutz +  
DOE Herb Fish +  
EPA Byron Keene +  
HHS Warner Ch...  
D&A Dorothy Hight ?



1 BY MR. TURK:

2 Q Mr. Lazarus, in our previous discussion about this  
3 exhibit you may recall that I asked that we all detach the last  
4 two pages of the exhibit, and I'd like to ask you to -- first  
5 of all, if you have those two pages in front of you.

6 A (Lazarus) Yes, I do.

7 Q Would you identify them for me, please?

8 A (Lazarus) Yes, it's a memorandum that I drafted to  
9 yourself at your request that we document what our recollection  
10 was at the RAC meetings that occurred in April and July of  
11 1987, to the best of our ability. And that was in October  
12 1987. The memorandum was dated October 15, 1987.

13 Q Are there any changes you wish to be made to this  
14 document at this time?

15 A (Lazarus) No, there is one minor typographical error  
16 about 10 lines up from the bottom. The last three words of the  
17 sentence says, "that we must assume that an accident" should be  
18 "then we must assume that an accident", on the first page.

19 Q That's the sentence that reads, "Since emergency  
20 plans must provide for protection from a spectrum of accidents  
21 without regard to their probability," and then you would  
22 continue it to say, "then we must"?

23 A (Lazarus) Correct.

24 JUDGE SMITH: Would you actually mark that correction  
25 on the copy that goes into --

1 MR. TURK: Yes, I'll do that.

2 BY MR. TURK:

3 Q And, Mr. Lazarus, to the best of your recollection,  
4 does this memorandum present an accurate and true accounting of  
5 the matters stated therein?

6 A (Lazarus) Yes, it does.

7 MR. TURK: Your Honor, at this time I'd like to bind  
8 into the transcript, and because it's only a two-page document,  
9 I would offer it as a separate exhibit unless someone tells me  
10 that would be preferable.

11 MR. OLESKEY: I think it would be preferable since  
12 he'll be examined separately on it.

13 MR. TURK: All right. I will mark it as Staff  
14 Exhibit 3 for identification and offer it into evidence.

15 (The document referred to was  
16 marked for identification as  
17 Staff Exhibit No. 3.)

18 JUDGE SMITH: And bind it into the transcript.

19 MR. TURK: And bind it in.

20 JUDGE SMITH: All right.

21 Any objections?

22 (No response.)

23 JUDGE SMITH: Staff Exhibit 3 is received and will be  
24 bound.

25

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(The document referred to,  
having been previously marked  
for identification as Staff  
Exhibit No. 3 was received  
in evidence.)  
(Staff Exhibit No. 3  
follows:)



1747  
OCT 15 1987

Staff EXH 3

MEMORANDUM FOR: S. TURK, OGC  
FROM: W. LAZARUS, EP SECTION CHIEF, NRC REGION I  
SUBJECT: BACKGROUND CONCERNING RECENT FEMA I RAC MEETINGS CONCERNING  
SEABROOK BEACH POPULATION ISSUES

I attended two RAC meetings in the past few months in FEMA Region I that were called by Mr. Ed Thomas, the RAC Chairman to address the issue of the adequacy of the New Hampshire RERP for the protection of the so-called "Seabrook beach population". The first meeting was held on April 15, 1987. To the best of my recollection all of the principal RAC members (DOE, EPA, DOT, DOA, and HHS) were present, plus two representatives from NOAA, as the discussions were to include meteorological aspects of plume dispersion and expected wind and weather patterns typical of the Seabrook beach areas during the summer months. (I am technically not the RAC member for the NRC, however I have been working closely with Bob Bores, (who is the official NRC Region I RAC member for Seabrook) on this issue and felt it appropriate to attend the RAC meetings).

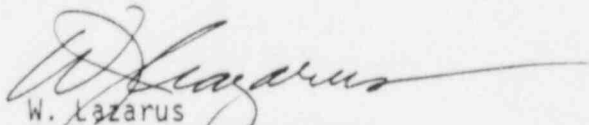
During the April 15th meeting, Bob Bores' submittal regarding the adequacy of the New Hampshire Plan for the beach population was the main subject for discussion. After a discussion of the various aspects of the NH Plan (early closure of the beaches, and the capability to make PA announcements from the plant control room on the beach sirens to provide protective action recommendations for fast breaking accidents), the beach meteorology, and Bob Bores' submittal, it appeared that the RAC agreed that the Plan was adequate.

Subsequent to that meeting Bob Bores' redrafted his submittal in consultation with NRR and OGC to remove any reference to Seabrook site specific design features (double containment, etc.). The second meeting was held on July 30, 1987 to discuss the issue in light of the changes to the NRC RAC comments. The same RAC members were in attendance less the NOAA representatives. At this meeting Mr. Thomas clearly pointed out that he was ignorant of any of the technical aspects of nuclear power, indicating that he depended upon the technical expertise of the RAC members. The elimination of reference to site specific design features appeared to be particularly troublesome to Ed Thomas. During the meeting I pointed out that elimination of the site specific information regarding plant design features should have no bearing on a finding of adequacy for the Plan because those features only impacted the probability of an accident. Since emergency plans must provide for protection from a spectrum of accidents without regard to their probability, that we must <sup>then</sup> assume that an accident happens and then determine whether the plans provide reasonable assurance of protection. On the issue of sheltering, which was discussed at length, I pointed out that sheltering only provides about a 10% reduction in dose for a fast breaking accident, and would not be depended upon for protection in a severe fast breaking accident, which was the scenario which appeared to be Ed Thomas' principle concern. I then asked Mr. Thomas to poll the RAC members to determine whether they felt that the New Hampshire RERP provide reasonable assurance that beach population would be protected. He declined, so I asked for a show of hands for my own information. All those

ENCLOSURE 2

OCT 15 1987

present except FEMA indicated that they found the plans to be adequate with respect to the beach population (apparently agreeing that reliance on sheltering for the beach population in the case of a serious release was not appropriate). At that point Mr. Thomas indicated that he was tired and wanted to adjourn the meeting. He would take into account our discussions and have the FEMA contractor rework the RAC position on the issue and send it out for comment. With that in mind the meeting was adjourned. He did not follow up on his commitment to provide a revised position to the RAC for review and comment and instead drafted his own input, largely ignoring the RAC comments from the meeting.

  
W. Lazarus  
Emergency Preparedness  
Section Chief

ENCLOSURE 2

1 MR. TURK: And just so the record is clear on the  
2 procedure that we've just followed with respect to marking  
3 these as separate exhibits.

4 BY MR. TURK:

5 Q Dr. Bores, if I'm not mistaken, in your cover memo to  
6 me you indicate that "Mr. William Lazarus has provided his  
7 summary with respect to the RAC meetings as Enclosure 2."

8 And can you state at this time whether the document  
9 we have just marked as Staff Exhibit No. 3 is Enclosure 2 which  
10 is referred to in your cover memo?

11 A (Bores) It is.

12 Q And that document was transmitted by you to me with  
13 this memo of October 15, 1987?

14 A (Bores) That is correct.

15 JUDGE SMITH: If you have a breaking point and you  
16 want to be heard on the sequestration matter, we probably  
17 should stop now.

18 Were you able to get that? Oh, that's right, we do  
19 have the case.

20 MR. TURK: Your Honor, that's fine. I'm looking for  
21 another document, but since I can't find it I'll hold off on  
22 that until tomorrow.

23 And the Applicants have provided us with a set of  
24 copies of the Midland case, I believe. I guess we should all  
25 take a look at that for a moment.

1 JUDGE SMITH: Yes. let's get those out here.

2 (Pause.)

3 MR. OLESKEY: Let me just briefly state that the case  
4 is virtually dispositive of the issue in favor of our  
5 application, particularly Footnote 1 and 16 which say, in  
6 substance, as I read them, that the type of sequestration that  
7 is requested here is the traditional type which had it been at  
8 issue in Consumer Power would have resulted in a different  
9 judgment by the Appeal Board, rather than the case presented  
10 here where the credibility of a couple of staff witnesses about  
11 historical events in the development of a process was at take.

12 There we have a very different situation where the  
13 Staff was protesting apparently a series of order which had  
14 permeated the proceedings where witnesses for all sides had  
15 been excluded willy-nilly, including eventually Staff  
16 witnesses, with no justification ultimately being offered by  
17 the Intervenors or anyone else, and the Staff heavily attacking  
18 the ruling for the reason that they needed the advice of the  
19 excluded witnesses who apparently hadn't yet reached the point  
20 of testimony in Staff counsel's cross-examination of adverse  
21 witnesses.

22 Now the analogous situation here would be if during  
23 the cross-examination of Goble, Evdokimoff and Eckert we had  
24 asked to have excluded Dr. Bores from the room on the grounds  
25 that we later wanted to examine him on technical matters which

1 are the subject of the cross-examination by Mr. Turk of our  
2 witnesses.

3 But that's not what we're asking, nor did we. We're  
4 asking that one of these witnesses on process and fact be  
5 excluded so that we can develop a sound record, a value  
6 repeated recognized in this opinion by that Appeal Board,  
7 without the presence of the other.

8 So I think it does rest as it did in that case in the  
9 sound discretion of this Board, assuming good reasons are  
10 given, and I think they have. That Board would have been  
11 tipped over except for its continuing course of conduct that  
12 appears and for the overwhelming value that was seen in having  
13 the Staff have the technical assistance, a value not served  
14 here.

15 In fact, it's quite obvious that Mr. Lazarus couldn't  
16 serve Mr. Turk as his expert advisor during my cross-  
17 examination of Dr. Bores. And on Mr. Turk's view since they  
18 would be presented as a panel in any event, one of them could  
19 hardly serve him and do anything during their joint cross-  
20 examination.

21 So I don't think anything more has to be said  
22 assuming you agree with us, as I trust you do, that we've made  
23 out an important facial case to have the process observed.

24 If that's the case, and I think it is clearly, then  
25 this case cuts as cleanly against the Staff's position here.

1 because it's so disparate as anything could.

2 JUDGE SMITH: I was hoping you might address Note 17  
3 which references Note 8; at least somebody do it. We could  
4 read it for ourselves, of course.

5 MR. OLESKEY: To me, what the Board was saying was  
6 that the order would have, or the process which had been  
7 followed by the Licensing Board would accomplish, in any event,  
8 the objective which it, the Appeal Board recognized as a  
9 legitimate objective in such hearings, and nothing more,  
10 because they say in Footnote 8 to which 17 refers us, nothing  
11 in this decision should be taken as being in any way critical  
12 of that practice in those circumstances. That is, in barring  
13 discussions among the witnesses and reading of the transcript  
14 which is one of the procedures we had discussed here to  
15 effectuate the goal that we ask you to implement.

16 JUDGE SMITH: Okay, I read Note 17 and 8 in the  
17 context of all this discussion is to specifically exclude from  
18 their order, their opinion, a situation where there is a  
19 concern that witnesses educate each other.

20 And I would want you to address that, Mr. Turk. I do  
21 think that I read it as pretty much excluding the situation we  
22 are faced with here.

23 MR. TURK: Pretty much?

24 JUDGE SMITH: Excluding the situation we're faced  
25 with here.

1 MR. TURK: From the ruling of the Appeal Board?

2 JUDGE SMITH: Yes.

3 MR. TURK: At the outset, Your Honor, let me note  
4 that it's particularly refreshing to be able to engage in pure  
5 legal argument for the first time in the many exchanges the  
6 Massachusetts AG's office and I have had in contrast to other  
7 more acerbic exchanges.

8 However, I don't agree with Mr. Oleskey has stated.  
9 He led off by saying that the Midland case is dispositive of  
10 the case here, and he would lead you to find that it should  
11 induce you to sequester the witness.

12 I agree in one respect with Mr. Oleskey. I think  
13 Midland is dispositive, but my conclusion is that it should  
14 lead you to the opposite approach, and let me give you my  
15 reasons.

16 Obviously, the Appeal Board in Midland indicated that  
17 there may be situations such as where credibility is in issue  
18 where sequestration or other approaches to preventing witnesses  
19 from collaborating on their testimony may be appropriate.

20 But there is a significant statement in the Appeal  
21 Board's decision which Mr. Oleskey totally ignores, and it's  
22 one that I referred to when I made my opening remarks before we  
23 had a copy of the case.

24 In Note 19, the Appeal Board indicates that while the  
25 intervenors assert that, "The record below discloses multiple

1 events of a lack of candor on behalf of" the Staff, "they made  
2 no effort to point us to even one of those events. We are  
3 disinclined to credit an unsupported assertion of this nature.  
4 In any event, even if true, it would not support the Board's  
5 rationale."

6 I think that the concern for credibility of witnesses  
7 may arise where the Board already has seen indications which  
8 would lead it to suspect that absent the order of sequestration  
9 or other orders designed to prevent collaboration, the  
10 credibility of the witness may become an issue.

11 These witnesses have never provided any indication to  
12 the Board, and Mr. Oleskey cites none, which would lead you to  
13 think that you have to sequester them in order to maintain  
14 those witnesses' credibility.

15 The sole issue of credibility that's arisen in this  
16 case relates to an individual other than these two, not to  
17 these witnesses. And any suggestion that there is a need to  
18 preserve the credibility of these witnesses lest they  
19 collaborate has no foundation in fact.

20 JUDGE SMITH: Well, let me put you at ease on that  
21 point. There is no basis vis-a-vis these people, I mean as  
22 they sit here upon which we believe that their particular  
23 identities as people requires anything special. It is a  
24 situational consideration.

25 MR. TURK: I understand that, Your Honor.



1 I would also make a further point that on Page 6 of  
2 the Appeal Board's decision as it's printed out before us,  
3 there is a paragraph in which the Appeal Board indicated the  
4 following.

5 "In short, the Board's rulings could hamper the  
6 Staff's ability to contribute to the development of a sound  
7 record. Those rulings can remain standing then only if there  
8 is some countervailing purpose which they serve; i.e., if in  
9 some other way they might enhance full disclosure of all  
10 relevant evidence."

11 Now, granted we're not talking here about a situation  
12 where I'm asking that my expert be allowed to assist me in  
13 cross-examination of another party's witness. Granted I don't  
14 need Mr. Lazarus to sit next to me while Mr. Bores is being  
15 cross-examined, and I don't need Dr. Bores to assist me while  
16 Mr. Lazarus is being cross-examined.

17 What I do need and what I think the Board needs is a  
18 complete understanding of events as they have unfolded with  
19 respect to FEMA's position.

20 Now, there are two problems that I see.

21 First, the Board may recall that this past January  
22 two witnesses appeared together. They were Mr. Thomas of FEMA  
23 and Dr. Bores of the NRC. And I think the Board will recall,  
24 as I do, and I think as Mr. Oleskey does, that the presentation  
25 of those two witnesses together serve to immediately resolve

1 any question as to discrepancies between their testimony.

2 The Board had no need after that testimony to have to  
3 search the transcript to see where the differences lay. They  
4 were laid out completely with a full understanding, and all  
5 parties had a chance at that time to examine for any  
6 discrepancies in testimony.

7 And I think the same thing will apply here. These  
8 two individuals were present at the same RAC meetings. They  
9 have their own recollection of it, and they are free to be  
10 cross-examined on their recollections. I trust in the  
11 credibility of these individuals, and there is no suggestion  
12 why I shouldn't, that if asked a question on cross-examination,  
13 even if they disagree with their colleague, they will give it a  
14 complete honest sho'. And absent any indication that that's  
15 not true, I don't see how the Board's interest in developing a  
16 full record is impeded by their appearing together.

17 There's a second point I want to address. The Staff  
18 has agreed to comply with the Board's request that we present  
19 other witnesses later in this proceeding, and I indicated that  
20 Dr. Frank Congel and Mr. David Matthews will be appearing. For  
21 the same reasons as are present here, I'd like those people to  
22 go on as a panel, and I think that's the way that we will get a  
23 complete exposition of fact. And I think the idea of  
24 sequestration hinders that.

25 It may serve Mr. Oleskey's purpose, because he seeks

1 to resuscitate what he may perceive to be the impaired  
2 credibility, or which he may believe other people have  
3 perceived as the impaired credibility of a witness whom he  
4 would like to rely on. But as to these witnesses, there is no  
5 reason to suggest that their credibility is in question.

6 JUDGE SMITH: Anything further?

7 MR. OLESKEY: Just a couple of responses.

8 As to Congel and Matthews, maybe I should be taken to  
9 task, but I really haven't approached their cross-examination  
10 yet, and I'm not prepared to say whether or not we will request  
11 sequestration. I hardly think that what we may or may not  
12 request with respect to them sometime next week is an issue for  
13 today.

14 With respect to the argument that Bores and Thomas  
15 struck it off as an ideal couple, I think that proves too much.  
16 They were in some respects in their recollections, and possibly  
17 in their positions adverse and hardly had any interest,  
18 consciously or unconsciously, which is what you're concerned  
19 about frequently in sequestration, to tailor testimony to fit  
20 each other's recollections.

21 With respect to the argument that the Appeal Board on  
22 Page 6, in discussing hampering of the Board, then forced the  
23 complaining parties there to overcome that burden, that's a  
24 good argument only if a convincing case has been made out for  
25 hampering with respect to the Staff here.

1           Although I hear Mr. Turk laboring mightily, he  
2 hasn't to my way of thinking made out such a case.

3           Finally, although it's not before you on the record,  
4 it will be, there's a memorandum from a third NRC staffer  
5 prepared at Mr. Turk's request, Mr. Schumacher, who doesn't  
6 remember anything about the signal events of the July 30  
7 meeting upon which Mr. Turk relies with respect to these  
8 witnesses.

9           So, although that may be a failure of recollection,  
10 it's a signal one under the circumstances. And there is then  
11 between three witnesses for the NRC -- two of them have been  
12 proffered, one of whom was not, already with respect to the  
13 matters that the Board and we wish to inquire into -- a very  
14 great difference in recollection.

15           If any further suggestion were needed of the  
16 significance of sequestration with respect to those events, I  
17 suggest it lies in that memo from Mr. Schumacher which I would  
18 be happy to supply to the Board now if there is any dispute  
19 about what it says. But I think it was supplied earlier by Mr.  
20 Turk to all of you as well as to us.

21           MR. BACKUS: Judge Smith, can I just add one thing  
22 here?

23           It seems to me that the entire reason we have these  
24 witnesses here is because there was an issue in the Board's  
25 mind, and I understand in some other parties' mind, but

1 certainly clearly in the Board mind about the credibility of a  
2 prior witness whose version of certain events differed from  
3 these witnesses.

4 Now, I suggest two things.

5 First of all, I think if you would look at what's now  
6 been marked Staff Exhibit 3, which is the Lazarus memo, I think  
7 it is not entirely congruent with Staff Exhibit 2, which is the  
8 Bores memo. That's something I don't want to say more about,  
9 because I know counsel is intending to explore it on cross-  
10 examination.

11 MR. OLESKEY: Right.

12 MR. BACKUS: But in our view, they have not in their  
13 own memoranda been entirely consistent with what they said.

14 The other point I'd like to make is that Mr. Turk  
15 told me in a conference in the hallway that he had himself  
16 asked to have these two memoranda separately prepared, because  
17 I should think he was concerned about the possibility of  
18 tailoring the memoranda to be entirely consistent. And I take  
19 him at his word at that.

20 Now that seems to me entirely inconsistent with his  
21 position here. He himself, if I understood him correctly, was  
22 saying that he recognized a need, because of the importance  
23 that's been attached to these witnesses' testimony, that they  
24 be treated separately.

25 I think all we're saying is that that should

1 certainly continue into the hearing.

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2 (Continued on next page.)

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1 MR. TURK: Your Honor, may I have a brief reply to  
2 comments by Mr. Oleskey and Mr. Backus?

3 First, addressing Mr. Backus's remarks. It's  
4 certainly true that I asked each of the individuals with the  
5 NRC staff prepare a separate accounting, and I have that  
6 separate accounting, and two of those are before you already.  
7 As the witnesses will indicate -- I don't want to testify for  
8 them, but I'm sure they will indicate to you that they were  
9 prepared separately, so that there was no collaboration in the  
10 development of those memos.

11 Now that we have those before us, to the extent  
12 there's any difference, we can explore that through cross-  
13 examination.

14 With respect to Mr. Schumacher, I should inform the  
15 Board that he is no longer employed by the NRC. In fact, at  
16 the time that his memorandum was written he had already left  
17 the employ of the NRC, and that explains why Mr. Schumacher  
18 does not appear here before us.

19 But I certainly take issue with Mr. Oleskey's comment  
20 that there were signal differences, or that he failed to  
21 remember the signal events as Mr. Lazarus and Mr. Bores has.  
22 We will introduce the Schumacher memo, and the Board will see  
23 that it was Mr. Schumacher's clear recollection in the  
24 memorandum that he prepared separately that the majority of the  
25 RAC supported the position of Dr. Bores at the July RAC

1 meeting. And that, to my mind, is a central issue in this  
2 entire presentation of Staff witnesses.

3 (Board confer.)

4 JUDGE SMITH: Mr. Dignan.

5 MR. DIGNAN: Yes, Your Honor. As I indicated to the  
6 Board earlier, I have no dog in the fight, and I have no  
7 intention of addressing the motion that is before you, but I  
8 think --

9 JUDGE SMITH: Well, of course, in part this is ruling  
10 upon your motion to subpoena these people.

11 MR. DIGNAN: Well, that's true, too.

12 But what I want to just advise the Court as an  
13 officer of the Court is this, before you ruled. If the Board  
14 votes to sequester, it will be my view, and a motion will be  
15 made that you then enter an order precluding any counsel, or  
16 the reporter from giving to Mr. Thomas a copy of the transcript  
17 of these witnesses before he appears to testify, or in any way  
18 conversing with Mr. Thomas concerning the testimony these  
19 witnesses might give, because I think only fairness dictates  
20 that.

21 And I wish the Board to be advised of my intention to  
22 make that motion, and not be accused later of mouse trapping  
23 the Board into coming down with a legal reasoning for a  
24 sequestration order and then using it to get my attitude.

25 I have no intention of pressing such a motion if



1 there is no sequestration order, but if there is one, I will  
2 ask that the same order, in essence, apply to Mr. Thomas.

3 MR. OLESKEY: I'm sure Mr. Dignan will do whatever is  
4 appropriate to his client's interest.

5 I would point out that, one, Mr. Thomas has already  
6 testified at considerable length on the matters for which the  
7 Board has felt, as do the Intervenors, it's important to have  
8 these witnesses.

9 And secondly, Mr. Thomas has been the subject of  
10 comments by the Board, which I need not review, which  
11 suggested, among other things, he could be subject to civil  
12 penalties for testimony already given or presumably testimony  
13 to be given. So he's in a very different position vis-a-vis  
14 needing to understand what's being said about his role in the  
15 case than these two gentlemen.

16 Thirdly, that's an issue which when it's raised ought  
17 to be addressed by his counsel as well as by the rest of us.

18 MR. TURK: Your Honor, there is one final comment I  
19 would like to make; again looking at the Midland decision.

20 The Appeal Board noted that there are various  
21 measures that the Licensing Board can utilize in order to  
22 ensure proper presentation of credible evidence. And I would  
23 suggest that a less stringent measure than sequestration could  
24 be utilized by the Board.

25 And I would suggest that if the Board request that

1 the witnesses not discuss the cross-examination apart from  
2 their being in the room when the cross-examination goes on.  
3 That might be an appropriate way to ensure no joint effort to  
4 deal with the cross-examination.

5 (Board confer.)

6 JUDGE SMITH: The Board is going to require  
7 sequestration of the witnesses as to that part of the testimony  
8 which tests their memory of the events which are relevant to  
9 this consideration. I don't want to restate them because of  
10 the sensitivity of them, and I don't have the time to be all  
11 that careful. But whatever you recognize is relevant to this  
12 thing as to their memory of them, and the two particular  
13 meetings, we will require sequestration together with the other  
14 relief that we have indicated, and that is, they don't make any  
15 effort to learn what has happened in the room, and in fact  
16 affirmatively reject any information that might come to your  
17 attention as to what the other of you had to say. But let me  
18 explain our reasoning again.

19 We think that you are putting too strong a test on  
20 whether sequestration is appropriate when you ask us first to  
21 find that there is some reason to question the integrity or the  
22 credibility of these people. That is not necessary. It is  
23 only where the situation exists where the -- let me use the  
24 words of the Appeal Board here which is always safe; not  
25 always, but --

1           From preventing one prospective witness from being  
2    taught by hearing another's testimony. This does not suggest  
3    that we believe that either of the witnesses here would tailor  
4    their testimony based upon what they heard their colleagues  
5    say. That isn't the issue. There are two other issues.

6           One is, there is a natural tendency for people to do  
7    exactly that. It's just natural. It's not corrupt. It's not  
8    a question of integrity. People just naturally tend to agree,  
9    particularly with coworkers.

10           It would deny the opportunity to independently test  
11   memory, and I imagine that is one of your purposes, to test  
12   memory.

13           MR. OLESKEY: Yes, Your Honor.

14           JUDGE SMITH: And, of course, that would perhaps  
15   unfairly refresh accurate memory, but you may wish to test  
16   memory as it exists, whether it's refreshed or inaccurate. So  
17   that's involved.

18           And we see no prejudice to anyone. We do recognize  
19   the value of having the witnesses fill in the gaps in the  
20   record when one is unable to remember. We think that can be  
21   accommodated after their basic testimony is received. But we  
22   don't see any damage to be brought about by this, particularly  
23   since you have forthrightly acknowledged that you're not  
24   claiming that you need them to advise you during the  
25   examination. So we don't see any great benefit for them to be

1 together. They cannot be substituted by another method.

2 And, further, this is an unusual situation. They are  
3 here at the Board's invitation in part, and Mr. Dignan's motion  
4 in part, because there is what we see at the threshold a  
5 significant difference in the accounting of events between Mr.  
6 Thomas and these witnesses.

7 As to Mr. Dignan's motion, piggyback motion --

8 MR. DIGNAN: Can I be heard if it's in order to make  
9 it, because I have not argued it fully to you?

10 JUDGE SMITH: Well, then it's timely to make it.

11 MR. DIGNAN: Thank you.

12 JUDGE SMITH: I wonder if it could not be made  
13 tomorrow though.

14 MR. DIGNAN: Yes, I would be glad to make it and  
15 argue it tomorrow, Your Honor, just as long as it's made and  
16 argued before there is any further testimony by these  
17 witnesses, that's all.

18 MR. TURK: Your Honor, coming back to your order, I  
19 want to be sure I'm clear on what it is that the witnesses and  
20 I myself are prohibited from doing.

21 For instance, it's my intention to review past events  
22 with the witnesses this evening.

23 JUDGE SMITH: Right.

24 MR. TURK: It's also my intention to present their  
25 testimony on direct --

1 JUDGE SMITH: Right.

2 MR. TURK: -- as a panel. And I assume those things  
3 may proceed without any effect.

4 JUDGE SMITH: Yes.

5 MR. TURK: Presumably we'll continue after tomorrow  
6 evening into Friday with cross-examination, and I then will be  
7 working with one or the other or both witnesses in preparing  
8 for further cross-examination. That's where I have a dilemma.

9 I presume that the Board's order prevents me from  
10 disclosing to Mr. Lazarus any events which transpired during  
11 Dr. Bores's cross-examination.

12 JUDGE SMITH: Yes, on the specified aspects of it.

13 MR. TURK: All right, and those aspects will be  
14 specified by Mr. Oleskey tomorrow, or --

15 JUDGE SMITH: Yes.

16 MR. TURK: -- are those the aspects you referred to  
17 already?

18 JUDGE SMITH: Well, we're going to try to cut out,  
19 keep to a bare minimum those aspects of the testimony that  
20 require sequestration.

21 MR. TURK: So that the --

22 JUDGE SMITH: For the reasons you said. We recognize  
23 there is a benefit of having both witnesses on the panel so  
24 that we have the benefit of both of their memories and  
25 judgment. It's only when -- it's only when their memory itself

1 is being tested vis-a-vis Mr. Thomas's account of events that  
2 we believe there should be no witting or unwitting  
3 reinforcement of their memories, no learning from one or  
4 another, and also very important is the aspect of public  
5 confidence in this proceeding.

6 I want to emphasize that we're trying to have as  
7 highest quality evidence that we can get. I think that's an  
8 important aspect of it.

9 MR. TURK: All right. I would ask that Mr. Oleskey  
10 make it a little easier for me in my working with my witnesses  
11 that when he does wish a sequestration as part of his cross-  
12 examination, that he make known to me exactly what areas those  
13 are that he wishes to have sequestration apply, so that in my  
14 working with witnesses I don't stray over a line.

15 MR. OLESKEY: I'll be happy to do that.

16 Might I understand whether the direct is in substance  
17 concluded now, or whether there's going to be -

18 JUDGE SMITH: The only sequestration that we were  
19 going to direct would be cross-examination, and I guess  
20 redirect on that relevant cross-examination.

21 MR. OLESKEY: I was only think this, Your Honor. If  
22 there is more direct to come, or if Mr. Turk is going to be  
23 working with the witnesses jointly tonight and reviewing their  
24 projected cross-examination on the memoranda, a lot of the  
25 benefit, in my view, of the sequestration will be gone because

1 they will have reviewed their recollections today jointly.

2 JUDGE SMITH: They probably have. I mean, you know,  
3 I would imagine that's --

4 MR. OLESKEY: What they have done is history, but  
5 they still face tonight and the next couple of days.

6 JUDGE SMITH: Right, that's always the case you have  
7 with witnesses. You know, he has competent counsel, and he's  
8 certainly going to prepare him to testify.

9 No, we don't reach that.

10 MR. OLESKEY: May I inquire through you if the direct  
11 is concluded or is there other substantial --

12 JUDGE SMITH: He can talk to him about anything he  
13 wishes tonight.

14 MR. OLESKEY: I'm only trying to find out whether he  
15 plans to ask a number of questions on direct tomorrow.

16 JUDGE SMITH: Direct is not included. Redirect, or  
17 let me say redirect on cross on the relevant parts would be  
18 included.

19 MR. OLESKEY: I understand, Your Honor. I'm just  
20 trying to find out whether Mr. Turk is about to turn the  
21 witnesses over in the morning for cross.

22 JUDGE SMITH: No, he has more direct.

23 MR. TURK: That's correct.

24 MR. OLESKEY: A substantial amount, Sherwin?

25 MR. TURK: As I indicated before, I think for the

1 purposes of getting a full accounting and chronological orderly  
2 sequence it's important that I conduct direct, and I would like  
3 to do it once, and I would like to do it with two witnesses on  
4 the panel.

5 MR. BACKUS: How long?

6 MR. TURK: I can't give you a good estimate, but you  
7 know the sequence of events that I'm going to be exploring with  
8 them, and it does cover a time period of some length. So I  
9 would expect that the direct will go on over the course of  
10 tomorrow morning, or at least a good portion of tomorrow  
11 morning.

12 MR. BACKUS: Tomorrow morning.

13 JUDGE SMITH: Well, I don't know if this point came  
14 across, and that is, recognizing that there would have been a  
15 benefit for them being together on the testimony, we don't  
16 forsake that benefit. If there should be a need to call one or  
17 the other back to address voids or whatever problems you have,  
18 we are not foreclosing that.

19 We're just saying the first shot out of their  
20 testimony it should be insulated from influence or the  
21 perception of influence by the other witness, and both are  
22 objectives.

23 MR. BACKUS: Your Honor, I just have to observe that  
24 if there's a morning's worth of direct, I'm a little aggrieved  
25 that there was nothing prefiled for this panel.



1 JUDGE SMITH: Well, I note your aggrievement.

2 MR. BACKUS: Staff counsel has known for some time,  
3 and when we don't have discovery, we did not have these  
4 witnesses offered on deposition, now for the first time we're  
5 going to get material that's not been provided, I gather. We  
6 know what the records are. What was marked today is fine. We  
7 all had that. We're prepared to work with that. But a whole  
8 morning of direct, I think that's, frankly, abusing the process  
9 that we're suppose to have here of knowing in advance what the  
10 direct testimony of the parties are going to be.

11 JUDGE SMITH: We note it.

12 Anything further?

13 MR. DIGNAN: Yes, Your Honor.

14 JUDGE SMITH: Now, Mr. Dignan, I hope we don't take  
15 up a lot of time tomorrow on Thomas.

16 MR. DIGNAN: No, you've heard the essence of the  
17 motion but there are a few --

18 JUDGE SMITH: Just bear in mind that one of the  
19 reasons why we're having Mr. Thomas come here is to further  
20 what the Intervenors wish. They have a pending deposition.

21 MR. DIGNAN: I understand.

22 JUDGE SMITH: And, in addition, we recognize that Mr.  
23 Thomas may have an interest in the testimony of these people,  
24 and that's important.

25 MR. DIGNAN: I understand that, Your Honor, and I'm

1 fully cognizant --

2 JUDGE SMITH: And we wanted to make it possible for  
3 him to actually be present here.

4 MR. DIGNAN: I am fully cognizant of the concept of  
5 confrontation. And why I said I wanted to be heard is to argue  
6 respectfully to you that the right of confrontation is not  
7 congruent with the right to be present in the courtroom. And I  
8 would just like the opportunity to make the argument.

9 And I understand fully --

10 JUDGE SMITH: That's the direction we want to be  
11 informed on.

12 MR. DIGNAN: Yes. The drift of the way the ruling's  
13 going, but I would like to take my best shot in an argument.

14 The other thing I would like to bring up at this time  
15 is this. I understand there is pending out there this motion  
16 for recusal, and there is some confusion in my mind as to  
17 precisely what is before the Board.

18 There was a colloquy between you and Mr. Backus as to  
19 whether or not the motion, and in particular, you have called  
20 for representations that there is legal merit to the motion --  
21 as to whether the motion is addressed to your discretion, as a  
22 discretionary matter, or was being made as a motion for recusal  
23 as a matter of law.

24 It is my understanding that what is before you is a  
25 motion for recusal as a matter of law, and that th:

1 representations that have been made to you in response to what  
2 I'll call your Rule 11 question are on that basis.

3 And if my understanding is in error, I suggest the  
4 record should be cleared up now. If all that's before you is  
5 the discretion motion, that's a much different thing.

6 JUDGE SMITH: Well, I thought it was cleared up. I  
7 thought that Mr. Backus made it clear that -- see, there is a  
8 basis for the confusion, because you recall that a renewal of  
9 the motion, which motion which you made by telephone, was an  
10 appeal to our discretion to recuse ourselves on that subject.  
11 And so you called it a renewal, and I did ask you is this an  
12 appeal to our discretion, or is it something that you assert as  
13 a matter of right. Clearly, I thought you answered that you  
14 are asserting this -- the Intervenors are asserting this as a  
15 matter of legal right on the facts of the case to require us to  
16 -- after we consider it, to require us to recuse ourself.

17 MR. BACKUS: That's correct.

18 JUDGE SMITH: That's right.

19 MR. BACKUS: Of course, subsumed in that is an appeal  
20 to your discretion. But beyond that, you're correct.

21 JUDGE SMITH: Okay. Yes, that would be a --

22 MR. DIGNAN: And it's my understanding that the  
23 representations in response to the question, when I  
24 gather you have left open the possibility of  
25 reconsideration of those responses, has been

1 made on the basis that the motion addressed to the Board is  
2 recusal as a matter of law.

3 JUDGE SMITH: Well, we've been thinking about that a  
4 little bit further. I think you alluded to Rule 11 of the  
5 Federal Rules of Civil Procedure which I think is the one that  
6 you sometimes have to assert that the pleading is submitted in  
7 good faith.

8 MR. DIGNAN: It says in substance that any time you  
9 sign a pleading in the federal court it's submitted in good  
10 faith.

11 JUDGE SMITH: Right.

12 MR. DIGNAN: And you believe there's a legal and  
13 factual basis for it.

14 JUDGE SMITH: Right. That's exactly what I have in  
15 mind. And before we will regard this as a joint motion, we  
16 will expect the other counsel to sign it, and with that  
17 representation in it.

18 MR. TURK: As I understand it then, Your Honor, we  
19 are to proceed with the examination of Dr. Bores and Mr.  
20 Lazarus tomorrow.

21 JUDGE SMITH: Yes.

22 However, people are sort of missing another problem  
23 here. And that is, if events unfold the way the rules require,  
24 this whole thing will be moot, you know, the recusal motion,  
25 and there is no motion for expedition, no nothing; just here's

1 the motion. And by the time the 20 days have gone by before  
2 the NRC Staff gets its answer in, and another 10 days for us to  
3 study the law, it's going to be 30 days before we rule on it.

4 MR. BACKUS: Well, I do feel a need for expedition,  
5 and I have to apologize for the motion perhaps not being --  
6 laying out all those things in those words.

7 You see I recited in the motion that I -- first of  
8 all, on May 10th we were invited to renew the motion in writing  
9 as soon as we got the transcript.

10 The transcript of the May 10th telephone conversation  
11 became available to me for the first time on Monday. The  
12 motion was prepared that day and the next day just as fast as  
13 we could.

14 JUDGE SMITH: Since it's clear that this is a motion  
15 which we must grant if we find that the law and the facts would  
16 require it, then the next step is -- and if we deny it -- then  
17 we must refer it to the Appeal Board.

18 Now, see, you have put it into a rather formal  
19 context. We have no discretion but to address the motion, and  
20 that is mandatory. If you touch the basis on it under  
21 Commission law and under court precedent, it must be addressed.  
22 It cannot be ignored.

23 MR. BACKUS: And I indicated that we were prepared to  
24 address it as soon as the Board desire it further.

25 JUDGE SMITH: Well, let me say that you have given

1 absolutely no law, and we can't wing it, and we have no legal  
2 resources here. I have a good memory of a brief signed by Ms.  
3 Weiss several years ago which would not allow us to grant this  
4 motion, and that's about the best I can go on it.

5 MR. BACKUS: Well, Attorney Turk cited a number of  
6 cases, some of which we do think are appropriate and relevant  
7 here: the Houston case, the Metropolitan Edison case. We are  
8 prepared to address those. I have some other cases that I have  
9 pulled together that I can have for you tomorrow morning.

10 JUDGE SMITH: Well, I'm going to leave it up to -- in  
11 the first place, does the NRC Staff and the Applicant have a  
12 position on the motion?

13 MR. TURK: I certainly do, Your Honor.

14 MR. DIGNAN: Yes.

15 JUDGE SMITH: Do you support it?

16 I mean, we can cut this whole thing short quickly.

17 MR. DIGNAN: No.

18 JUDGE SMITH: You don't.

19 MR. TURK: Definitely oppose the motion.

20 JUDGE SMITH: Are you prepared to argue it orally?

21 MR. TURK: On the basis of my digest, yes.

22 JUDGE SMITH: Well, I mean are you prepared to do  
23 that?

24 MR. TURK: I think I've -- a better argument would be  
25 made once we have the cases to cite and prepare a nice, full

1 exposition. I mean, the matter --

2 JUDGE SMITH: Then it'll be moot.

3 MR. TURK: The matter raised by Mr. Backus is a  
4 serious one. I mean, it's not every day that we see motions  
5 directed to administrative law judges to recuse themselves. I  
6 think if the matter is to be treated absolutely entirely  
7 correctly, then we should be able to cite cases and do research  
8 and address the matter fully.

9 I am prepared, however, to argue it. And if the  
10 Board can resolve it without having to go to briefs, we'll do  
11 it that way.

12 MR. BACKUS: It's perfectly acceptable to me.

13 JUDGE SMITH: See, we have our own responsibility.

14 Well, I don't know what to do on it. I don't want to  
15 moot your motion. I mean I really don't, and that's the way it  
16 would go if we didn't take strong actions on our own. We do  
17 want to give you an opportunity to have your grievance  
18 addressed.

19 MR. BACKUS: I appreciate that.

20 JUDGE SMITH: But that's hard to do and, of course,  
21 it is an important matter.

22 MR. BACKUS: I've got the Houston case. I've got the  
23 Metropolitan Edison case. We can -- I think probably the  
24 Board's familiar with those cases.

25 JUDGE SMITH: Well, I'm familiar with a lot of cases

1 thanks in part to Ms. Weiss.

2 (Laughter.)

3 JUDGE SMITH: And I can tell you right now. I mean  
4 you go back and read those cases and you lose.

5 MR. BACKUS: Well, I'd like an opportunity to argue  
6 that that's not the result those cases should dictate.

7 JUDGE SMITH: All right.

8 MR. BACKUS: And I'm prepared to do that as soon as  
9 possible, as soon as it's convenient to the Board.

10 JUDGE SMITH: Well, we'll take it under consideration  
11 to see if we think all of these things can be accommodated by  
12 oral argument.

13 What was your view on it, Mr. Dignan?

14 MR. DIGNAN: A recusal motion, Your Honor. I'd rather  
15 have a chance always to brief it. I've been through this  
16 routine with these very people before. This seems to be the  
17 pattern. When it gets rough, you try to recuse the Board.

18 MR. BACKUS: I would like to take exception to that  
19 comment of counsel.

20 MR. DIGNAN: And that's when you're not attacking  
21 counsel for the Applicant.

22 But, in any event, I have found that once you brief  
23 these things, it's laid out pretty clearly. I want counsel  
24 held to that representation under Rule 11 with the full  
25 understanding that I want to brief it.



1 MR. BACKUS: You've got it.

2 JUDGE SMITH: That we do on our own. I think you  
3 should add to the motion a Rule 11 representation, and I want  
4 all counsel who join in the motion to sign it.

5 We'll take your request for expedited consideration  
6 and oral argument in view of -- why don't you talk to Mr.  
7 Dignan about it, and see if he won't -- I don't know what to  
8 say. This is difficult.

9 MR. BACKUS: We did forecast this on May 10th. We  
10 raised the issue on May 10th.

11 JUDGE SMITH: Right.

12 MR. BACKUS: I agree it was ambiguous about whether  
13 it was appeal to discretion or more than that. I don't think  
14 this should come as a complete surprise that we're concerned  
15 about the statements that were made on May 10th in the  
16 telephone conference.

17 JUDGE SMITH: All right. Okay, we'll think about it  
18 and see what we can do.

19 MR. TURK: Is there any possibility that we can ask  
20 that the court motion be withdrawn until after the Bores-  
21 Lazarus testimony is presented and heard?

22 And if the Intervenors feel at that time that they  
23 still need to proceed with it, they can refile it.

24 MR. BACKUS: Let us confer about that.

25 MR. DIGNAN: One of the practical problems I want

1 understood here, I do want to brief. I can always argue  
2 orally, but I mean I've got attorneys sitting here saying we've  
3 read all these cases, and I don't know what they're going to  
4 argue. And until I see his brief, it's a little difficult for  
5 me to be prepared to argue against it, because I read the  
6 Houston case and these other cases about the way you read them,  
7 and I gather Ms. Weiss read them once, but I'm sure there is  
8 going to be an artful interpretation and I would like to see  
9 that before I have to brief it.

10 And as I understand it, I've got no law now. I've got  
11 a dissertation of what's in the record, an affidavit that says  
12 it's in the record, and nothing else.

13 JUDGE SMITH: Well, can we possibly approach it this  
14 way, that you -- we will try to see if we can dispose of it in  
15 oral arguments. And if you think it's to your disadvantage at  
E44 16 the end of that, well then we'll look at it again.

T45 17 I mean, if after they argue their law orally and you  
18 think that you cannot meet it orally, well, we'll give you  
19 time. I guess we have to.

20 MR. DIGNAN: Okay.

21 JUDGE SMITH: But I would like to see this -- and  
22 we're not going to stop the hearing. I would like to see the  
23 matter decided on some basis other than mootness if it can be,  
24 and that's the way it's going if we don't do something.

25 Okay, we're adjourned until 9:00 a.m.

1                   (Whereupon, at 5:55 p.m., the hearing was recessed,  
2 to resume at 9:00 o'clock a.m., Thursday, May 19, 1988.)  
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1 CERTIFICATE

2  
3 This is to certify that the attached proceedings before the  
4 United States Nuclear Regulatory Commission in the matter of:

5 Name: PUBLIC SERVICE COMPANY OF

6 NEW HAMPSHIRE, et al.

7 Docket Number: 50-443-OL, 50-444-OL

8 Place: CONCORD, NEW HAMPSHIRE

9 Date: May 18, 1988

10 were held as herein appears, and that this is the original  
11 transcript thereof for the file of the United States Nuclear  
12 Regulatory Commission taken electronically by me and,  
13 thereafter reduced to typewriting by me or under the direction  
14 of th court reporting company, and that the recording is a  
15 true and accurate record of the foregoing proceedings.

16 /s/ 

17 (Signature typed): KENT ANDREWS

18 Official Reporter

19 Heritage Reporting Corporation

ENCLOSURE 1

Please  
delete  
this part  
(to hot copy)

INSERT for RAC review spreadsheets for  
State plan (Section I, pages 64 and 87) and  
Local plans (Section II, page 17):

(1) The RAC has concluded that the beach population (transient beach population, and summer residents who inhabit unwinterized accommodations on or near the beach) can be appropriately protected by implementing provisions of the current New Hampshire emergency plans. There appears to be no unique problem <sup>relative to the beach population</sup> to this area that has not been adequately addressed. ~~Therefore, this~~ <sup>(2)</sup> ~~statement is now considered adequate,~~ pending RAC receipt and review of information from the State of New Hampshire on the number of EPR transients who would need transportation during an evacuation. The number of these transients without transportation is expected to be ~~very~~ small and well within ~~existing~~ resources identified in the plan, <sup>the available transportation</sup>

still awaits the

**SECTION I**

- **Review of Revisions to the State of New Hampshire  
Radiological Emergency Response Plan for Seabrook  
(Rev. 2 - 8/88)**

RAC REVIEW OF THE STATE OF NEW HAMPSHIRE  
 RADIOLOGICAL EMERGENCY RESPONSE PLAN FOR SEABROOK  
 (Revision Dated 11/85)

WJLIG-0434 Element	RAC Comments/Recommendation	Adequate (A) Inadequate (I)	State Response Action	Projected Date of Completion	RAC Evaluation of State Response (Rev. 2 - 8/86)	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
J.9	<p>Plan descriptions in Section 2.6 are adequate. See comments for J.10.a and J.11. Protective action decision making will have to be expedited specifically for the beach populations.</p>	A	<p>No response required.</p> <p style="text-align: center;">INSERT</p>		<p>Although no response was required, this element will remain open pending (1) resolution of FEMA's December 1985 memorandum concerning protection of the beach population (transient beach population, and summer residents who inhabit unwinterized accommodations on or near the beach) and (2) information from the State of New Hampshire on the number of transients who would need transportation during an evacuation.</p>	A	
J.10.a	<p>The evacuation route map on p. 2.6-11 does not provide sufficient detail to be useful.</p> <p>In addition, any shelters which may be used should also be identified on maps. On p. 2.6-8 the availability of public shelters for transients in outdoor recreation areas is referenced.</p> <p>Have nearby public buildings been identified and are they well known to local emergency workers? If such buildings are seriously considered for public sheltering, the above must be done.</p>	I	<p>New large map is now in State Plan (Rev. 2, p. 2.6-12) and in the local plans (reference map section). Public shelters are not proposed by New Hampshire for the Seabrook station. This provision of the New Hampshire plan is applicable only to the Vermont Yankee EPZ. Reference to them will be deleted from the Seabrook Plan. Local personnel may shelter a handful of non-auto owning transients on an ad-hoc basis. This provision will be retained in the local plans.</p> <p>PAGE REFERENCES:                      p. 2.6-12, Map Section</p>		<p>Overall rating is inadequate (see item (2)).</p> <p>(1) According to the State response and the plan revisions, the use of public shelters is not proposed during a Seabrook Station emergency. The only exception is the possible use of public buildings for shelters for transients without transportation. Transients with transportation and "without access to an indoor location" will be advised to evacuate in their own vehicles. The use of public buildings for sheltering of transients without transportation is acceptable since the transients without transportation are expected to be a very small number. The plan (p. 2.6-6) states that "Public buildings may be set up and opened as shelters for transients, on an ad hoc basis".</p>	I	



BAC REVIEW OF THE STATE OF NEW HAMPSHIRE  
RADIOLOGICAL EMERGENCY RESPONSE PLAN FOR SEABROOK  
(Revision Dated 11/83)

BAC Element	BAC Comments/Recommendation	Adequate (A) Inadequate (I)	State Response Action	BAC Evaluation of State Response (Rev. 2 - 8/86)	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
WELC-045A	<p>This element will not be formally evaluated until the submittal and review of an evacuation time estimate study.</p>	—	<p>ACTION TAKEN: No action required.</p> <p>The ERE is included in Vol. 6 of Rev. 1.</p>		?	
JMA	<p>The treatment of this element in the plan needs to be expanded in some areas, particularly in regard to protective actions for the transient beach populations, and the availability and suitability of shelter for residents and transients. The following comments need to be considered:</p>	I		<p>See separate review of ERE (Section VI).</p> <p><i>adequate</i> Overall rating is <i>adequate</i></p>	A	

RAC REVIEW OF THE STATE OF NEW HAMPSHIRE  
 RADIOLOGICAL EMERGENCY RESPONSE PLAN FOR SEABROOK  
 (Revision Dated 11/85)

RAC Comments/Recommendation	Adequate (A)	State Response Action	RAC Evaluation of State Response (Rev. 2 - 8/86)	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
<p>(1) There is a lack in the plan of a detailed analysis of the capacity for sheltering of the summer transients as an option under certain circumstances. Similarly, there is a lack of discussion of the tradeoffs of sheltering versus evacuation for the institutionalized and others in similar circumstance.</p>	<p>Adequate (A)</p>	<p>(1) Section 2.6.5, Volume 1 has been significantly revised to discuss sheltering and its potential application as a protective action for various segments of the population. First of particular note is the fact that sheltering will not be considered a viable protective action for the transient beach population for the period May 15 through September 15. During these periods, the plan notes that beach closing and early precautionary evacuation actions will be the preferred protective actions. As indicated in Volume 4, Appendix F/NECEM and Volume 4A, Appendix 3/9/86, these precautionary actions may be implemented as early as the Alert level, depending upon conditions.</p> <p>Of equal importance in the revised Section 2.6.5 is the addition of a comprehensive discussion of sheltering and evacuation for institutionalized populations in the EPI. Due to their nature and need for special consideration, the plan notes that sheltering in place will generally be the preferred protective action for these groups (i.e., health care and jail populations). However, the basis for recommending protective actions, including evacuation will still be through use of EPA Protective Action Guides, as it is for the general population. The main difference in the decision-making process is in the methodology for calculating projected doses for institutionalized individuals. For these groups, additional credit is taken for dose reduction based on each facility's relative sheltering effectiveness for both whole body and thyroid dose projections (currently use conservative protection factors, as the sheltering in place concept is utilized, for institutional facilities, more realistic, yet still conservative values have been developed. These factors are incorporated in Volume 1, Section 2.6.5 and Table 2.6-3, and in Volume 4, Appendix F, and Volume 4A, Appendix U, as Figure 5, with this information. The State will conduct independent assessments, and issue separate/specific protective action recommendations for each institutional facility in the EPI.</p>	<p>(1) Revisions to the plan as indicated in the response are adequate since the number of transients without transportation is expected to be very small (see 2.7.10.a). However, this element will remain open pending resolution of the items identified in the comments for element 2.6.</p> <p style="text-align: center;">INSERT</p>	<p>Adequate (A)</p>	<p>Complete (C)</p>

100-10485-20  
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RAC-C-034  
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 J.M.  
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**SECTION II**

- **Review of Revisions to the Municipal (EPZ Communities)  
Radiological Emergency Response Plans for Seabrook  
(Rev. 2 - 8/86)**

**BAC REVIEW OF THE MUNICIPAL (EPZ COMMUNITIES)  
RADIOLOGICAL EMERGENCY RESPONSE PLANS FOR SEABROOK**  
(Revision dated 11/83)

Municipal Element	BAC Comments/Recommendation	Adequacy (A)	State Response Action	BAC Evaluation of State Response (Rev. 2 - 8/86)	Response Adequacy (A) Inadequate (C) Incomplete (I)	Remedial Action Complete (C) Incomplete (I)
J.9	<p>Transportation and sheltering arrangements for transients needs to be addressed more completely. For example, the CD Director is responsible for providing transportation and shelter for transients. However, how does he find these people? Also, the relocation of municipal EOCs should be discussed.</p>	I	<p><b>ACTION TAKEN:</b></p> <p>1. Section II.C of each MTC Plan has been revised to describe in much more detail the method by which transients will be handled. Much of this material was taken directly from the Volume 3 description.</p> <p>2. The relocation of municipal EOCs are discussed in Section II-C (Emergency Facilities Evaluation Procedures) and Evaluation of Emergency Facilities Vol. 10-12.</p> <p><b>PAGE REFERENCES:</b></p> <p>Draft page numbers references: Vol. 10 (p. 11-21, 22), Vol. 17 (p. 11-26, -27), Vol. 18 (p. 11-27, -28), Vol. 19 (p. 11-23, -24), Vol. 20 (p. 11-26, -27), Vol. 21 (p. 11-25, -26), Vol. 22 (p. 11-25, -26), Vol. 23 (p. 11-25, 26), Vol. 24 (p. 11-26, 26a), Vol. 25 (p. 11-26, 27), Vol. 26 (p. 11-26, 26a), Vol. 27 (p. 11-26, -27), Vol. 28 (p. 11-26, -27), Vol. 29 (p. 11-26, -27), Vol. 30 (p. 11-26, -27), Vol. 31 (p. 11-26, -27), Vol. 32 (p. 11-27, -28)</p>	<p>The local plans discuss evacuation of the staff of the EOC's to the designated host community; who will notify transients in State Parks, outdoor recreation areas, and in boats, and how other transients will be sheltered. However, as noted in review comments for elements J.9 and J.10 in the State Plan review (Section I), the rating on this element will remain open pending (1) resolution of the items discussed in FEMA's December memorandum, and (2) information from the State of Mississippi on the number of transients needing transportation.</p>	<p style="text-align: center;">A</p> <p style="text-align: center;">INVERT</p>	
J.10.a	<p>Most of this material is in the State plan. However, the full-sized map showing evacuation routes, traffic control points, and other key facilities was not present in the local plans.</p>	I	<p><b>ACTION TAKEN:</b></p> <p>Map showing evacuation routes, traffic control points and special facilities are located in the map section of all local plans.</p>	<p>A map section with full-sized maps of evacuation routes, special facilities, traffic control points, and airen locations is found in local plans.</p>	A	

ARGONNE NATIONAL LABORATORY  
9700 SOUTH CASS AVENUE, ARGONNE, ILLINOIS 60439

TELEPHONE 312/972-7643

April 22, 1987

Mr. Edward A. Thomas  
Federal Emergency Management Agency  
Room 462  
J.W. McCormack Post Office and Courthouse  
Boston, MA 02109

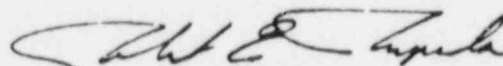
Dear Ed:

As requested by Jack Dolan on 4/22/87, we have prepared additional draft revisions to the RAC review of the New Hampshire State and local plans for Seabrook. These draft revisions are enclosed and reflect suggested changes by Bob Bores (NRC) to the revisions previously transmitted with our letter dated 4/17/87. These changes deal with the beach population issue.

In order to clearly show where changes are being proposed, we have again purposely left the changes in hand-written form. The most recent changes, suggested by Bob Bores, are indicated by brackets.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Robert E. Rospenda  
Energy and Environmental Systems Division

RER:mav

Enclosures (1 and 2)

cc: R. Bores (NRC)  
M. Lawless (FEMA-HQ)  
K. Bertram (ANL)  
T. Baldwin (ANL)



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
931 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406

ENCLOSURE 2

FEB 18 1987

Edward A. Thomas, Chairman  
Regional Assistance Committee  
Federal Emergency Management Agency  
John W. McCormack Post Office and Court House  
Boston, Massachusetts 02102

Dear Mr. <sup>Ed</sup> Thomas:

Reference: Your memo of December 31, 1985 relative to the beach populations in the Seabrook area

As requested, I am responding to your memo regarding the adequacy of the New Hampshire RERP relative to the protection of the beach population. My response is based on Revision 2 of the NH RERP; the RAC/contractor comments on it, including the Seabrook Evacuation Time Study; the analyses of specific Seabrook Station features; and my professional knowledge and judgement related to emergency preparedness. The bases of my opinion that the plans are or will be adequate (contingent on completion of actions by New Hampshire to resolve RAC concerns) to protect the beach population (both the beach transient group and those who inhabit unwinterized accommodations) are provided in the Enclosure to this correspondence.

Should you have any questions concerning the above, please contact me at FTS 488-1213. I would be happy to meet with you and/or the RAC to discuss my response.

Robert Bores, Technical Assistant  
Division of Radiation Safety  
and Safeguards

Enclosure: As Stated

cc w/encl:  
W. Lazarus, RI