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NUCLEAR REGULATORY COMMISSION

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IN THE MATTER OF:

THREE MILE ISLAND  
SPECIAL INQUIRY DEPOSITIONS

DEPOSITION OF PETER A. BRADFORD

Place - Washington, D. C.

Date - Friday, October 19, 1979

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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In the Matter of:           :  
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THREE MILE ISLAND           :  
SPECIAL INQUIRY DEPOSITIONS:  
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DEPOSITION OF PETER A. BRADFORD

Chairman's Conference Room  
1717 H Street, N.W.  
Washington, D. C.

Friday, October 19, 1979

BEFORE:

For the Nuclear Regulatory Commission:

MITCHELL ROGOVIN, Director, Special Inquiry Group  
E. KEVIN CORNELL, NRC Staff Director  
WILLIAM G. BALLAINE, ESQ., Special Inquiry Group  
JOSEPH SCINTO, Special Inquiry Group  
ROBERT BERNERO, Special Inquiry Group  
ROBERT CHIN, ESQ., Special Inquiry Group  
RICHARD C. DeYOUNG, Deputy NRC Staff Director  
JOSEPH KUCHTA, Consultant  
DEBBIE HODGES, Consultant

ALSO PRESENT:

THOMAS GIBBONS, Legal Assistant  
WILLIAM CLEMENTS, Legal Assistant

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C O N T E N T S

WITNESS:

EXAMINATION

Peter A. Bradford

3

EXHIBITS

EXHIBIT NUMBER:

IDENTIFIED

5091

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5092

5

5093

6

5094

110

5095

171

5096

179

AFTERNOON SESSION

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

(9:30 a.m.)

Whereupon,

COMMISSIONER PETER A. BRADFORD

was called as a witness and, having been first duly sworn,  
was examined and testified as follows:

## EXAMINATION

BY MR. BALLAINE:

Q Would you state your full name, please?

A Peter Amory Bradford.

Q Did you receive the letter that was sent to  
you by the Special Inquiry Group confirming your deposition  
here today under oath?

A Yes, I believe we did receive them. I have no  
general recollection of that.

Q Do you recall whether you read all of the  
documents?

A Yes, I believe I did, but I don't have a general  
recollection.

Q Do you understand the information set forth in  
the letter, including the general nature of the inquiry,  
and our right to have an attorney present here today as  
your representative?

A Yes.

Q Do you also understand the fact that the

1 information you are providing may eventually become  
2 public?

3 A Yes.

4 Q Do you have a representative with you today?

5 A Yes, Tom Gibbons and Bill Clements.

6 Q I know you are probably aware of this, but the  
7 testimony that you are giving today has the same force  
8 and effect as if you were testifying in a court of law.  
9 Our questions and your responses will be taken down and  
10 transcribed. You will later receive a copy of that  
11 transcript and, of course, have an opportunity to read it  
12 and make any changes that you deem necessary.

13 However, to the extent that your subsequent  
14 changes are viewed as significant, those changes could  
15 arguably be viewed as affecting your credibility. The  
16 point of saying this is simply that, of course, you  
17 should make every effort to be as complete and accurate  
18 as you can be.

19 A (Commissioner Bradford nods in the affirmative.)

20 Note: Continue on page 5.)  
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1 Q Sir, prior to today, we also made a request  
2 that you bring to the deposition any telephone logs that  
3 your secretary may have made covering the period during the  
4 events at TMI, and I'm showing you Exhibit 5091.

5 (Exhibit 5091 identified.)

6 Q Is that the telephone log that we requested?

7 A Yes, it is.

8 Q And all of these notations are prepared by your  
9 secretary and purport to reflect telephone calls that were  
10 made to you or by you from the 28th of March through  
11 April 4th?

12 A That is correct. I'm just checking quickly, there  
13 may have been times when she was not here late at night  
14 or on the weekend when I made entries myself, but in just  
15 going through it quickly, I don't see any of those.

16 Q Let me also show you what has been marked as  
17 Exhibit 5092.

18 (Exhibit 5092 identified.)

19 Q This document which you furnished us this  
20 morning contains a legend in the first page, "Draft  
21 Chronology of Events in the Three Mile Island Accident."

22 Do I understand that this form of chronology was  
23 prepared on or about April 24, 1979 at your request by  
24 people on your staff to try to reflect certain pertinent  
25 events between March 28th and March 31 1979, concerning TMI?

1           A     That would be a better characterization of the  
2 earlier drafts. This became, in fact, the final, although  
3 as you can see there are handwritten notations on it and  
4 it was never typed up finally, so that by the time of this  
5 draft, I had made my own entries to it as well, so that  
6 what you said about having it prepared under my direction  
7 is only partly correct. This draft contains everything  
8 that I would have added to it.

9           Q     Okay, and ---

10          A     -- The actual effort to prepare it, I think,  
11 probably began two, two and a half weeks before.

12          Q     And am I correct that at least on or about  
13 April 24 you reviewed it and -- at least this document,  
14 and to the best of your knowledge and belief it is  
15 accurate, or at least as of the time you reviewed it?

16          A     Yes. Certainly as of the time I reviewed it,  
17 and the only modification today would be if I had learned  
18 something since then that called any of the items into  
19 question.

20          Q     Let me show you what has been marked as Exhibit  
21 5093.

22   (Exhibit 5093 identified.)

23          Q     This is another document that was furnished us  
24 this morning at our request.

25   Does this document accurately reflect your best

1 recollection, anyway, of all appearances that you have  
2 made in connection with TMI before either some kind of  
3 Federal body or even a state or local body concerning TMI?

4 A Yes, it does. In fact, the Middletown meetings  
5 wouldn't be an official body at all. Those were just  
6 two different groups of concerned citizens.

7 Q You are referring to Item No. 7 on that?

8 A Yes.

9 Q Now, we had asked you in our letter to you, sir,  
10 to bring with you all documents you may have in your  
11 possession or control that you had reason to believe had  
12 not been turned over previously to the Special Inquiry  
13 Group, and I think at that time we specified things like  
14 diaries and personal notes. Other than the exhibits that  
15 we have already referred to in this deposition, can you  
16 think of anything else that you have that may be in that  
17 category?

18 A No, I can't.

19 Q I think you also indicated off the record that  
20 Hugh Thompson, one of your technical assistants may have  
21 some notes and we would appreciate if they could be  
22 furnished to us when he returns.

23 Did you ---

24 A Let me just note on that, Hugh did have a  
25 particular understanding with the Senate committee, to whom



1 he furnished those notes having to do with the fact that  
2 his notes during those five days aren't all related to  
3 Three Mile Island, and I think, if I remember rightly,  
4 he furnished -- or they examined the entire notes, but as  
5 far as any public record was concerned, he deleted the  
6 parts that were not Three Mile Island related.

7 Why don't I just let him get in touch with you  
8 when he gets back and see if he can work out a similar  
9 understanding.

10 Q I think that will be fine.

11 I may as well note for the record that Tom  
12 Gibbons of your staff has also been kind enough to furnish  
13 fairly extensive notes, and in fact, we will be referring  
14 to those notes, I think, during the course of the deposition  
15 here today.

16 By the way, had you ever reviewed Mr. Gibbons'  
17 notes relating to TMI?

18 A I reviewed his notes before the first set of --  
19 before the first and only appearance, I guess, that the  
20 full Commission made before the Kemeny Commission, I believe,  
21 in June. I reviewed his notes, together with the  
22 Commission transcripts of the first three days that the  
23 transcripts were kept, at that time. I haven't reviewed  
24 them in detail since.

25 Q By the way, have you reviewed any written

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1 documents in preparation for your testimony today?

2 A In specific preparation, relatively little. I  
3 did reread the first day of the -- the transcripts for  
4 March 30, but ---

5 Q The Commission meeting transcripts?

6 A That's right, but in another sense I have been  
7 reviewing now for depositions relating to Three Mile Island,  
8 three times in the last month, and for those depositions  
9 taken as a whole, yes, I have reviewed the depositions of  
10 other Commissioners and the staff before the Kemeny  
11 Commission. I have reviewed again, the Commission  
12 transcripts and various of the documents prepared by the  
13 Commission staff since then, such as NUREG 0600.

14 Q Have you, by chance, reviewed any of the  
15 depositions of Commissioners that was conducted by this  
16 Special Inquiry?

17 A No, I have not.

18 Q Have you, by any chance, reviewed any of the  
19 depositions of NRC staff members, conducted by this  
20 Special Inquiry?

21 A No. In fact, I guess I didn't know they were  
22 available. Not that I wouldn't have if I had had them.

23 Q Sir, I think at the outset we are going to  
24 discuss with you, if we can, some of what we call generic  
25 questions and then later on today, I am going to be posing

6

1 some more specific questions, try to get a better idea  
2 of your involvement in the days immediately following the ---  
3 the beginning of the incident at TMI.

4 Is it fair to say that in trying to determine  
5 whether or not a reactor is safe enough to operate, the  
6 test is now whether there is a so-called adequate  
7 protection of the health and safety to the public?

8 A That certainly is a statutory test.

9 Q And is it a fair reading of that statutory test,  
10 the way it is actually implemented by the NRC, namely,  
11 that the NRC does not necessarily determine whether or not  
12 a particular plant design is the safest possible design of  
13 which it is aware, but merely it meets some kind of a  
14 threshold standard?

15 A Yes, I think that is fair, that is, there are  
16 certainly different reactor designs in operation, and I'm  
17 not aware of any finding that they were all equal. So I  
18 think implicit in that fact is just the statement that you  
19 have made. They are all over some thresholds, but there  
20 is no requirement that the safest possible choice among  
21 those be the one made.

22 Q So that in some instances you may have a  
23 situation where a particular design that passes muster  
24 in the licensing process was not necessarily going to be  
25 the safest design of which the NRC staff is aware at a

1            giver p... t in time. Is that a fair statement?

2            A     It 's certainly a fair statement that it isn't  
3            necessa...ly going to be the safest possible design, since  
4            I don't know that the staff has ever engaged in a safety  
5            ranking. I don't know that it would be fair to say that  
6            they, at any given moment, are aware of safer designs  
7            than the one that they have under review on some absolute  
8            scale of safety.

9            Q     Well, certainly with respect, at least, to  
10           important pieces of equipment or systems that are part of  
11           a design, isn't it fair to say that the staff may accept a  
12           piece of equipment or a system in the design that in its  
13           own view is not necessarily as safe as another system or  
14           another piece of equipment, of which it is aware at that  
15           point in time?

16           A     If the staff felt that the public health and  
17           safety was adequately affected by design you specified,  
18           then that certainly is possible. I don't -- Well, let me  
19           leave it at that. It is possible.

20           BY MR. BERNERO:

21           Q     Commissioner Bradford, in your deposition before  
22           the President's Commission, you used a phrase that if I  
23           recall it correctly, described the staff or the NRC's  
24           description of what is acceptable as a revealed standard.  
25           I would like to explore this concept.

1                   Is it your view that the agency has somehow,  
2 in its collective mind ---

3                   A     Are we talking now about adequate protection or  
4 are we talking about backfitting, before the Kemeny  
5 Commission?

6                   Q     Well, I understood in that context that you  
7 intended it as a judgment of acceptable safety, whether  
8 it would be for backfitting or for initial design  
9 acceptance.

10                   First of all, do you believe that the agency  
11 is operating in a mode in which its criteria of acceptance  
12 of safety, whether for initial design acceptance or for  
13 backfitting, is exposed by practiced rather than stated?

14                   A     Well, you have the regulations, the reg guides,  
15 the branch technical positions, the license conditions.  
16 All of those are stated safety concerns, but beyond that  
17 one speaks to the more general question of how safe is  
18 safe enough. Is there a 1 in 10 to the minus something  
19 or other standard always applied to the reactor design as  
20 a whole, then I think the answer is, "No, that it is not a  
21 numerical standard, it is a revealed standard, and one can  
22 only assess it by looking at the plants that are out there  
23 and seeing what the AEC before it, and now the NRC have,  
24 in fact, licensed."

25                   Q     In 1973, long before you joined the Commission,

1 there was a document published, the first major report  
2 on "Anticipated Transients Without Scram", WASH 1270, and  
3 that document in its preamble section described a risk  
4 acceptance philosophy, 1 in a million recurrence interval  
5 of a serious nuclear accident for a single plant could be  
6 acceptable if it was no greater than one in a million per  
7 year.

8 Later on, a similar numerically compatible  
9 standard appeared in the Standard Review Plan for the  
10 estimation of external risks to a reactor.

11 In your view, is this a legitimate or an  
12 effective way for such a criterion to be exposed or  
13 revealed?

14 A Let's see, do you mean the Standard Review ---

15 Q Through staff reports, staff reports, staff  
16 actions, basically.

17 A Well, I think that before a criterion like that  
18 can represent the Commission safety policy it has to not  
19 only be accepted at some point by the Commission, but that  
20 the Commission -- if that is an important enough matter --  
21 that the Commission should inform the relevant congressional  
22 committees that this was, in fact, the standard that we were  
23 now working with, and let them, as they saw fit, modify it  
24 in the Atomic Energy Act.

25 Q Are you suggesting that perhaps the Congress should

1 adopt some explicit numerical standard for risks, or  
2 rather that they should be aware of the agency's  
3 practice?

4 A No, just that they should be aware of the  
5 agency practice and have a chance to modify it if they  
6 thought that were necessary.

7 That is, the number 10 to the minus 6 or whatever  
8 other number was the one chosen, isn't a technical  
9 judgment of what the risk is in the context you would be  
10 using it, it is a judgment of the acceptable risk, and  
11 Congressmen who represent the people who are going to  
12 be living around the plants are, in every bit as good a  
13 position as the Commissioners and the NRC staff are to  
14 have a voice in what the acceptable level of risk to those  
15 people is.

16 Q Do you feel that the Commission as a body and  
17 yourself as an individual Commissioner are clearly aware  
18 of the staff's use of numerical risk criteria?

19 A I was aware that that 10 to the minus 6 number  
20 did appear in the Standard Review Plan, but I have never  
21 focused on how it is applied and then what it works out  
22 to in practice. I can't speak for the other Commissioners.

23 Q Were you aware that this was an outstanding  
24 issue, even in Three Mile Island's operating licensing  
25 hearing?

1 A I was not, but tell me which issue?

2 Q I'm referring to the airplane crash probability --

3 A Oh, all right.

4 Q -- which is an application of the ---

5 A Yes, I was aware of that, yes.

6 Q -- thing.

7 Would you have the opinion that for the future,  
8 the Commission should take a more explicit role in the  
9 development and the application of ---

10 A Let's see. Bob, let me stop you for a second.

11 Was the number that the staff used for the  
12 acceptability of a -- what is it, a plane weighing more  
13 than 200,000 pounds going more than 200 miles an hour,  
14 was that also 10 to the minus -- that was not, I think,  
15 10 to the minus 6.

16 Q Well, if you go into the Standard Review Plan,  
17 just as a matter of accounting past developments, the current  
18 practice for a single event is to use an analysis of that  
19 single event at 10 to the minus 7, whereas, in the previous  
20 analysis, even for Three Mile Island, a consciously  
21 overconservative analysis at 10 to the minus 6 was the  
22 practice. They are purportedly equivalent in affect.

23 A Yes.

24 MR. SCINTO: Since I was counsel on that case, I  
25 think I do have to inject, there was a dispute over both



1 the standard and the staff's evaluation, but before the  
2 Appeal Board.

3 MR. BERNERO: Yes.

4 MR. SCINTO: That, I don't think is necessary.

5 COMMISSIONER BRADFORD: Yes, in fact, I suppose in  
6 some way that question is still pending before the  
7 Commission.

8 We should try to be careful about discussing that.

9 MR. BERNERO: Yes, I don't want to pursue that too  
10 far.

11 BY MR. BERNERO:

12 Q Going now to another thing which you mentioned in  
13 your deposition before the President's Commission, our  
14 concern is toward the staff approach of using design  
15 basis accidents. This deterministic test of acceptability  
16 for design where the staff uses Class 1 thru 8 accidents  
17 and somehow determines that there are sufficient safety  
18 features to make the plan acceptable for operation.

19 Historically it seems that Brown's Ferry, the  
20 fire, and Three Mile Island were outside the design basis  
21 envelope somehow. In your deposition before the  
22 President's Commission you spoke of the possibility of  
23 a Class 10 accident. In effect ---

24 A I gather since then, though not because I said  
25 it, the phrase has begun to appear in other places as well,

1 but go ahead.

2 Q Well, rather than -- I don't intend to get into  
3 the controversy of whether or not the NRC should identify  
4 the Three Mile Island accident of March 28th as a Class 9  
5 accident or some other thing, but my concern is: Do you  
6 believe that the agency can effectively regulate the safety  
7 of reactors using a design basis accident approach, using  
8 that envelope of accidents, or do you think something else  
9 is necessary?

10 A What do you have in mind by "something else", that  
11 is, I'm not sure that I see any other way to do it, if I  
12 understand the design basis accident approach correctly.

13 Give me an idea of what you are thinking or is  
14 this something else?

15 Q When you spoke of a Class 10 accident, it implied  
16 to mean that you had in mind that we have an insufficient  
17 set of design basis accidents ---

18 A No.

19 Q -- and we need to add a couple of more.

20 A No, I'm sorry.

21 The context in which that phrase arose had to  
22 do with whether or not Three Mile Island was a Class 9  
23 accident, and the line of thought was that if Three Mile  
24 Island were a Class 9 accident, did that then mean that  
25 all Class 9 accidents were now possible, the full spectrum of

1 accidents that would fall within that definition.

2 What I was trying to say in suggesting that  
3 considering Three Mile Island to be a Class 9 accident,  
4 might imply a need for Class 10, was that it might well still  
5 be that there was a class of accidents so unlikely that  
6 we would not consider them in the licensing process, but  
7 that Three Mile Island had raised the threshold for falling  
8 into such a class, so that there might be a class of  
9 Three Mile Island type accidents which were now Class 9, and  
10 then there was still a set of so-called unthinkable accidents  
11 which then become Class 10.

12 I wasn't thinking of changing the design basis  
13 accident approach.

14 Q I think that's the way I understood you.

15 You would change the length of the spectrum ---

16 A No. This was very much an off-the-cuff speculation  
17 at the time, and it wouldn't be more than that to pursue it  
18 now.

19 I was simply trying to follow through in  
20 response to Mr. Cane's line of questioning, what the  
21 consequences were for the review process of considering  
22 Three Mile Island to be a Class 9 accident. And in fact,  
23 I was saying, well it may mean that Class 9 accidents now  
24 have to be considered as -- in the review process, but  
25 it may also mean that they are now a class of accidents --

1 a Class 10 which does not.

2 Q Well, if I could put it in another way, does  
3 this say, then, that although there might be deficiencies  
4 in the definition of the spectrum of design basis accidents  
5 or in the analysis of them, the concept is an acceptable one,  
6 the concept of a fixed spectrum of design basis against  
7 which you could test the design of a plant, as an acceptable  
8 one to you; that you don't find a philosophical difficulty  
9 with that as a result of the Three Mile Island?

10 A Not as an approach, perhaps with the way it has  
11 been applied. But, yes, not as an approach.

12 Now, any answer like that has to -- I have to  
13 caution you in two respects. One is that I have no technical  
14 or engineering background to bring to bear on a question  
15 like that. And the other is that your review and the  
16 Kemeny Commission review and our own thinking about this  
17 accident is still ahead of us, and I don't, for a minute,  
18 mean to suggest in saying that it seems to me to be  
19 an acceptable approach that as early as next month or  
20 sometime next year I won't feel that there is a better  
21 approach and that this one should be modified.

22 Q Well, some have suggested that the use of the  
23 design basis accident envelope or envelopes should be  
24 supplemented by quantitative risk assessment. This  
25 Commission was most recently involved in a controversial

1 statement of position regarding the Lewis Committee Report  
2 and in general, the topic of quantitative risk assessment.

3 Do you, personally, as a Commissioner believe  
4 that this is a useful way to validate the design basis  
5 accident approach to licensing?

6 A Well, the risk assessment, what we said about  
7 the risk assessment effort in WASH-1400 was that the  
8 methodology was not only not well enough developed for  
9 direct use in the licensing process, but also not well  
10 enough developed to make sweeping statements on the --  
11 regarding the level of reactor safety presently attained.

12 What we also said was that it was a useful  
13 effort to continue with the data improved, and as the  
14 methodology improved to continue in the hope that as we  
15 got more data and as we got better at doing risk assessment  
16 work, it would help to confirm what we were doing in the  
17 licensing process.

18 We also said that as far as using it for  
19 specific purposes the staff would have to state the  
20 methodology very clearly and acknowledge the uncertainties  
21 very clearly. I still think that is about the right  
22 position.

23 Q Well, those who suggest the use of quantitative  
24 risk assessment with the design basis accident approach,  
25 apparently would suggest using some design basis bound,

1 setting the threshold, the outer limit of the design  
2 basis in some quantitative way. And do you think that  
3 the methodology lends itself to that?

4 A Theoretically, but I don't -- and again, with  
5 all the cautions that mine is not a background that makes  
6 me an authority on risk assessment, as I understand it  
7 we are not there yet, as to nuclear safety, people who  
8 know this field of risk assessment well, don't feel that  
9 we have either the data or the methodology yet to be making  
10 definitive statements about the overall levels of safety  
11 that we have attained using risk assessment.

12 BY MR. ROGOVIN:

13 Q Commissioner, I think what the issue is brought  
14 out to require us to pursue is that the two accidents,  
15 most recently, Brown's Ferry and Three Mile Island, were  
16 not designed basis accidents.

17 The plants were licensed without giving consider-  
18 ation to those accidents, and the issue then becomes: Do  
19 we simply tack on to the design basis accident approach  
20 for future use, the experience that we have had with these  
21 two accidents or is there any way to try to encompass such  
22 accidents in future licensing procedures?

23 A Well, taking what I've come to accept about what  
24 is true about risk assessment methodology, which is that  
25 one cannot presently find a satisfactory basis for assessing

1 overall nuclear safety there.

2 I don't think that one should get away from  
3 design basis accidents by saying we are going to go instead  
4 to risk assessment. I don't have any high degree of  
5 confidence that the design basis accident approach doesn't  
6 suffer from the same failure that much else in the NRC  
7 does, namely, (a) certain discouragement through the years  
8 of the asking of really hard questions about -- the pushing  
9 us of what would happen if? kinds of questions added in a  
10 way that would suggest -- that might lead to the expansion  
11 of accidents that should be considered design basis accidents.

12 I think that if you state the proposition as  
13 simply being an alternative between tacking each new  
14 accident on to design basis, on the one hand, or shifting  
15 the methodology altogether that that's somewhat artificial,  
16 I think that one can go back and look at the design basis  
17 accident approach in a way that really encourages people  
18 to keep raising concerns, that learns much better than  
19 we have from events in operating reactors today and get  
20 a much better degree of confidence, at least, that the  
21 design basis accidents are really the right ones.

22 Q I don't think we are proposing in these  
23 questionings that it is a red or dead, either or, situation,  
24 that we scrap design basis accidents for something else.

25 I think the question implies the possibility of a

1 -- essentially what you are saying, that design basis  
2 accidents also have tacked on the quantitative risk  
3 assessment concept.

4 One of the issues that we observed, particularly those  
5 who -- on the Special Inquiry Group who have not dealt with  
6 the NRC is -- perhaps this is too sweeping, but a set of  
7 rules that require certain basis to be touched in the  
8 licensing procedure, the assumption being that if you touch  
9 all of these basis, you score in game-like fashion, and  
10 the intensity in which the staff ---

11 A Not just score, you would win. The other team  
12 isn't allowed on base at all.

13 Q Right. And the intensity in which the staff  
14 and the licensee played the game could cause, and in some  
15 instances does cause, a blinding to major safety issues,  
16 the assumption being everything that has to be done are  
17 in the rules, and if you do all of those things, you end  
18 up with a safe plan.

19 Would you care to comment on such a generalization?

20 A Let's see, I have read a fair number of comments  
21 to that effect, that is that the industry tends to regard  
22 compliance with NRC regulations is about all that they have  
23 to do, and certainly the regs say that if -- then the  
24 licensing board practice says that if you read the  
25 regulations you get your license.



1                   There is a dangerous degree of illusion, obviously  
2 in that. For one thing, no matter how good the licensing  
3 process, you don't have a safe plan unless you run it  
4 safely, as well, and unless there is a rigorous inspection  
5 and enforcement regimen that is backing up the licensing  
6 process. But even as to the licensing process it  
7 certainly assumes that -- let's see, to stay within your  
8 metaphor -- well, maybe I can't -- it assumes something  
9 about the positioning of the bases or the yard lines or  
10 whatever else, that they are all where they should be.  
11 And to be confident about that, as I have said before, you  
12 have to have this continuing feedback going on with  
13 operating experience, and it seems to me the agency has  
14 got to be run in a way that really encourages the staff to  
15 continually raise hard questions about what is going on  
16 in the plants and what the implications of that are for  
17 the reactor design and for licensing review.

18                   Q     Commissioner, one of the concerns expressed  
19 to us by a vendor, in the context of what are the  
20 disincentives to safety, the concern was that incremental  
21 safety advances will not, in some instances, take place,  
22 simply because it would be a variant from accepted  
23 practice, and as a consequence cause time delay. What we  
24 had stressed to us was that time was money and that time  
25 and time again the vendor has to reexamine whether a standard

1 plan or an accepted design should be used in deference  
2 to an incremental change. All vendors all agreed, in  
3 our conversations with them that obviously if it was a  
4 serious safety issue they would face it, but incremental  
5 change does not take place because it requires a new start  
6 with the staff on an issue.

7 Do you see disincentives working within the  
8 agency?

9 A I guess they must be there, just because I have  
10 heard the same complaint raised frequently myself.

11 It does seem to me odd, though, if that is a  
12 deep-seeded perception on the vendor's side of the house  
13 that we don't have a more standardized set of power plants  
14 out there than we do. In fact, standardization, it seems  
15 to me is gained at best grudging acceptance in the industry.  
16 They do continue to prefer custom built plants, or at least  
17 until very recently, continue to prefer custom built plants.  
18 The reason is that it may well have nothing to do with  
19 safety, but a picture of an industry in which all plants  
20 are the same or there are only two types of plants out there,  
21 and safety is, in some way hampered because the vendors are  
22 reluctant to make changes of any sort, seems to me to over-  
23 look the fact that changes are made all the time, and  
24 that, in fact, if you talk to people who know far more  
25 about standardization than I do, Joe Hendrie for one, they

1 are forever dismayed by the insistence that they companies  
2 have on making changes.

3 BY MR. BERNERO:

4 Q I'd like to go back for a moment.

5 Twice in this deposition you have remarked, when  
6 we were talking about design basis accidents and risk  
7 assessment, that you did not have a technical background,  
8 that you did not have technical qualifications. Do you  
9 consider this a serious detriment to exercise of your role  
10 as a Commissioner?

11 A None of the Commissioners are expert in  
12 everything that the agency does. Having spent six years,  
13 before I came on the NRC, as a regulatory commissioner,  
14 and having had legal training, it is very helpful in a great  
15 many areas of the agency business.

16 Nevertheless, when it comes to dealing with a  
17 reactor accident and with assessing its implications with  
18 things like design changes, it would be nice to have a  
19 background that included degrees in nuclear physics,  
20 engineering, philosophy and various other subjects that  
21 I'm -- don't happen to be trained in.

22 Yes, it is a detriment, but I wouldn't be  
23 prepared to say that in terms of the overall function of  
24 being an NRC Commissioner it was any more of a detriment  
25 than say, the absence of a law degree would be to other

1 Commissioners on particular types of issues.

2 Q Well, if we look at the issue of trying to  
3 establish an appropriate way to license plants, selecting  
4 perhaps from design basis accidents, the subtleties,  
5 distinguishing accidents require a great deal of engineering  
6 insight to appreciate how accurately or carefully the  
7 thing has been done, and on the other hand quantitative  
8 risk assessment, which is an arcane field all unto its own.

9 Society has established five Commissioners to  
10 judge this, and this gives the Commissioners a choice of  
11 endorsing what technical experts propose or insisting on  
12 some other test or some other approach. And I'm not sure  
13 that I understand you. It seems that in these areas, and  
14 so critical to the mission of the NRC, judging acceptable  
15 safety. It seems almost that the agency is trapped in two  
16 arcane fields that require a great deal of technical  
17 knowledge.

18 A Let me give you an example then of the kinds of  
19 things that having a background in regulation are helpful,  
20 even on a question like that.

21 It seems to me to be important that the NRC  
22 bring to bear on those questions, all of the perspectives  
23 and all of the expertise that it can get. But to do that,  
24 it is important that the licensing process be structured  
25 in a way that encourages outside participants as well as

1 the staff and the license applicants, to bring their  
2 views in and assures that those views will get a fair hearing.  
3 Because in the end, I think no matter how good the technical  
4 expertise of the Commissioners might be, if there is a  
5 substantial section of the technical community that has  
6 concerns that hasn't been heard from the agency's decision,  
7 is going to come out tilted in the direction of those whose  
8 views have been fully heard.

9 So it does no harm to have a background in  
10 regulation and a legal background as a way of being sure  
11 that all of the views that ought to come into the process  
12 come in and are heard effectively through the various  
13 stages of the Licensing and Appeal Board and Commission  
14 review processes. But that is probably also true in other  
15 ways in looking at the Inspection and Enforcement system,  
16 and then comparing it to, for example, the enforcement  
17 mechanisms available to other agencies and in other walks  
18 of life.

19 Having said all of that, still, what you have  
20 said is true. I have to, on technical matters in the end,  
21 generally decide more in terms of which set of propositions  
22 seem to have the -- as courts would say, the weight of the  
23 evidence or the preponderance of the evidence behind them,  
24 rather than going out and recalculating the basis, assumptions  
25 myself, any technical perspective that I can bring to bear

1 on it.

2 Q This leads rather naturally to another related  
3 question.

4 Right now, the Commission has to exercise great  
5 care that it not compromise itself or its members with  
6 ex parte communications, because it is the potential  
7 licensing decision-maker for any licensing action. If the  
8 Commission is to do an effective job of making sure that  
9 the process is working, and is reevaluating itself or  
10 reexamining itself thoroughly and in a timely fashion, can  
11 the Commission, in your view, afford to tie itself up as a  
12 decision-making body for individual licensing actions?

13 A Let's see, by "tie itself up," you don't mean  
14 spend a lot of time on it. You are really talking about  
15 the ex parte rules and the extent to which they cut us  
16 off from the staff?

17 Q Yes, yes.

18 A We have under review now, in the General  
19 Counsel's office the whole question of the ex parte rules  
20 and how rigid a barrier they really have to be to staff  
21 conduct.

22 I have a feeling -- well, an informed feeling,  
23 perhaps, but -- that our ex parte regulations over the  
24 years have developed somewhat more rigidly than they have  
25 to. The practice, after all, is a carry-over from the

1 Atomic Energy Commission, which had many more responsibilities  
2 than the NRC does, and which seems pretty clearly to have  
3 delegated regulation very heavily to the staff, and to have  
4 erected a set of practices and procedures that made it as  
5 hard as possible for regulatory issues to take up a great  
6 deal of the AEC's time.

7 Now, when the NRC came into being it adopted a lot  
8 of those practices, procedures and outlooks lock stock and  
9 barrel, which created the odd situation of a regulatory  
10 Commission which had distanced itself about as much  
11 as possible for the regulatory processes.

12 I hope that the General Counsel's review will  
13 show us ways in which we can harmonize the adjudicatory  
14 functions with our function as the agency's top management  
15 more comfortably than perhaps had been the case before.  
16 I haven't seen specific cases yet in which our ability to  
17 manage has been explicitly compromised by ex parte  
18 considerations. On the other hand, it is the nature of the  
19 problem that I wouldn't necessarily know about.

20 So I can't say to you conclusively that there  
21 isn't a problem there.

22 Q Well, it seems to me that the great care and  
23 concern about ex parte implies that there are technical  
24 issues in individual licensing cases that might have been  
25 discussed by the Commission, and that suddenly in the

1 licensing-hearing process where that technical issue is  
2 debated that now the Commission would be compromised, and  
3 this brings the concern.

4 Do you feel it is the role of the Commission to  
5 be the adjudicatory body for whether a technical issue is  
6 on one side of a line or on the other? I would like,  
7 very much, by the way, to use the Three Mile Island airplane  
8 crash as an example, but I'm not sure we can. Do you think  
9 we can --- thereby demonstrating the point.

10 A I was going to say, if the answer is "no" it is  
11 going to be much harder for me to defend the proposition,  
12 except that there are other examples.

13 For example, was it Hope Creek where we ---

14 MR. BALLAINE: Let's try the LNG.

15 COMMISSIONER BRADFORD: The LNG. And if you want  
16 to talk more about probabilities and design basis accidents  
17 we could use Hope Creek.

18 BY MR. BERNERO:

19 Q Well, I would like to ---

20 MR. SCINTO: Prairie Island was an adjudicatory  
21 case, or was at one time, over the Appeal Board on the  
22 issue of the steam generator, and was eventually before  
23 the Commission for its review of the Appeal Board decision.  
24 An' recent Prairie Island information may be stimulating  
25 memories. I think it would be useful.



1 BY MR. BERNERO:

2 Q See, what I'm really driving at is that it appears  
3 to me that the concept of the Commission as the ultimate  
4 adjudicatory body, ties up the Commission not in judgments  
5 of policy -- of the policy upon which one makes technical  
6 judgments of acceptability or nonacceptability, but in  
7 the implementation of that policy.

8 A Right. But I don't think it has to, that is, I  
9 think the AEC was more than willing to have that result and  
10 to say, therefore, we are just going to distance ourselves  
11 from all of this.

12 But it seems to me, first of all, that the NRC  
13 can -- the Commissioners can say, if the technical issue  
14 is important enough we will -- that one extreme, simply  
15 disqualify ourselves from the individual case that it might  
16 come up, and then take it up as a management issue right  
17 now, because we think it has got to be dealt with, and the  
18 Appeal Board would be the list line of appeal before the  
19 Circuit Court in terms of the licensing process.

20 So in a really important case we can do that. I  
21 suppose it is possible, though I have never looked at the  
22 law on it, for the Commissioners to say, all right, two  
23 of us will worry about this as a management technical issue,  
24 and three of us will -- we will just hold ourselves apart  
25 from that to constitute the last line of appellate review if

1 it looks as though this is an issue that needs a  
2 Commissioner's perspective on it right away.

3 BY MR. ROGOVIN?

4 Q Commissioner, don't you see this situation as  
5 and outgrowth of that approach, on the one hand you really  
6 are not acting in an adjudicatory function in a lot of  
7 cases.

8 A That's right.

9 Q You are standing in readiness to do so.

10 A That's right.

11 Q And to put yourself in that readiness position,  
12 you must forego the ability to supervise the staff and to get  
13 into technical issues at an early stage because of the  
14 possibility of acting as an adjudicatory body later on.  
15 The sum of it being you are in the worst of both worlds.  
16 You neither have effective supervisory contact with your  
17 staff and you are not engaged in an active adjudicatory  
18 role within the flow of licensing matters.

19 A There are two answers to that, one being that  
20 we could become more active in the adjudicatory mode. I  
21 have favored taking review in a fair number of cases which  
22 have not actually been reviewed at the Commission level,  
23 and so I guess I would have to say that my first response  
24 to that is that while it may, in fact, be an accurate  
25 description of the results of the Commission's practices

1 brought about, it doesn't have to be. We could, in fact,  
2 be playing a more active adjudicatory role.

3 The second point is that I am not at all sure  
4 that the public or the Congress would be prepared to see  
5 us drop out of the adjudicatory process, entirely. The  
6 prospect that that raises is the unsavory one of licenses  
7 being issued by the Commission without the Commissioners  
8 themselves ever being directly involved in the process,  
9 in fact, being explicitly barred from it.

10 It seems to me that the people of New Hampshire,  
11 from the Governor on down, would have found it very unsatis-  
12 factory to have written letters or tried to communicate  
13 with us about Seabrook, and would have gotten back a set of  
14 answers to the effect that: "I'm sorry, but a man named  
15 Allen Rosenthal is in charge of Seabrook, and there is  
16 nothing that we can say or do that can change his mind  
17 without raising the gravest legal questions." That is  
18 not a very satisfactory posture for the Commission to be  
19 in.

20 There was one other point I wanted to make, yes.  
21 On the Maine Public Utilities Commission we drew the lines  
22 differently, that is, the staff was barred from ex parte  
23 communications with either the utilities who were seeking  
24 rate increases on the one hand, or intervenors on the  
25 other, and the commission could communicate back and forth

1 freely with the staff.

2 Now, I understand that that freedom has since  
3 been restricted by statute in Maine, so I'm not sure the  
4 legislature necessarily thought it was the answer. But  
5 there are not constitutional barriers, at least, as  
6 perceived by the courts in Maine, to just drawing the  
7 ex parte line in a different way entirely from the way the  
8 NRC does it now.

9 Q The ex parte question raises, in our thinking,  
10 two issues.

11 One is assuming the Commission form of government,  
12 should the Commissioners play a more active role in the  
13 licensing, does the public expect -- does the public  
14 anticipate that when a nuclear reactor is given a license  
15 to do a dangerous thing, that the five Commissioners have  
16 participated in the issuance of that license, not that they  
17 had an opportunity to consider it and chose not to, but  
18 that they were the final determiners of the propriety  
19 of that license. And we see that that role is not exercised  
20 that frequently by the Commissioners.

21 We also see an area where a stronger leadership  
22 role within the Commission has to be played, either by  
23 a single administrator or by an effective coordinator of  
24 the various offices. But what we see with what may be  
25 a candid camera picture of the existing operation is the

1 lack of that strong leadership, precluded by way of  
2 perhaps the ex parte rule and the lack of an active  
3 adjudicatory body on the part of the five Commissioners.  
4 Again, the worst of both worlds.

5 We are not, in this questioning, trying to  
6 indicate which is the better, but we are interested in  
7 your views as to why we are in this position?

8 A It certainly is a fair concern, and it is not  
9 one that -- to the extent that it involves specific people,  
10 personnel, it is not one that is easy to address in a  
11 transcript that stands a pretty good chance of eventually  
12 becoming public. We have obviously got some management  
13 problems in the agency, from the top on down. And I  
14 think that the explanation for some of the difficulties  
15 you have cited lies in that area.

16 The Commission itself is closely divided on many  
17 issues, and may not communicate a very clear view of itself  
18 and its desires down through to the staff. Some of the  
19 mechanisms for communication and some of the people who are  
20 involved in that management change don't work as effectively  
21 as I would like. On the other hand, other Commissioners  
22 may feel that the problem lies with other mechanisms and  
23 other people than I would, so it would be quite difficult  
24 to agree on the changes that are needed.

25 Q Well, I think this ---

1           A     I wanted to just to tie that back to the questions  
2 that you were -- one of the questions you were on before.

3                     I don't think that the particular difficulties  
4 that this NRC and this particular management have experienced,  
5 in the year or two that I have been here, will lead me, at  
6 least, to draw adverse conclusions, either about the NRC's  
7 role in adjudicatory process, or about whether a collegial  
8 body can effectively run a safety regulatory agency. I  
9 think enough of them are unique and there are enough other  
10 serious problems with most of the alternatives that I can  
11 think of or have seen proposed, that I would tend to still  
12 favor a collegial framework within -- a collegial body with  
13 an adjudicatory role, and would emphasize changes that  
14 need to be made elsewhere.

15           Q     Well, assuming that the NRC Commissioners would,  
16 in fact, play an adjudicatory role in daily practice, do  
17 you see the necessity or desirability of having leadership  
18 focused in a single administrator as more advantageous than  
19 attempting to have the same five Commissioners also attempt  
20 to ---

21           A     Are you saying a single administrator without  
22 other Commissioners, or a single administrator in the EDO  
23 position?

24           Q     Well, it is conceivable that the adjudicatory  
25 function of the Commission could be set aside as a singular

1 activity, and that would be the sole role, and administrator,  
2 whether he is called an EDO or however it is structured,  
3 would, in effect, run the agency and the licensing decisions  
4 would ultimately be determined by a Commission.

5 A Well, it is not clear to me that it should get  
6 more safety that way.

7 Look at the history of nuclear regulation, at  
8 least as I see it. The problem hasn't been, I don't think,  
9 that the AEC and the NRC, in its early years, were somehow  
10 sharply divided because of collegiality or too involved  
11 in adjudicatory, and therefore screened off by the ex parte  
12 rule.

13 The -- if you think of the Chairman of the agency  
14 from Lewis Strauss through Joe Hendrie, take away their  
15 fellow commissioners, and ask what was really hampering  
16 nuclear safety, was that these men were being held back  
17 by a collegial function, and Dixie Lee Ray, were being  
18 held back by the collegial function, from otherwise  
19 imposing their tremendous desire for regulatory reform  
20 and increased safety. I just don't think that is  
21 consistent with history.

22 Q Commissioner Bradford, I would maintain that the  
23 problem in the NRC is not safety management, and that the  
24 management of the institution is failing. The talent and  
25 the technical expertise exists, it is a question of getting

1 it to the surface.

2 Let me give you this example: LERs can be  
3 analyzed and can bring safety issues to bear, and indeed  
4 they are. And yet the information found within is not  
5 getting out to the people involved. This agency has a  
6 history of not appointing heads of offices and having  
7 acting heads sitting in their stead for long periods of  
8 time. That's not a safety issue, but it can be in the  
9 context of bad management. Many of these things appear  
10 to go to the doorstep of the collegial manner of adminis-  
11 tration.

12 A I think that to some extent, you are emphasizing  
13 very heavily the situation that you called the candid  
14 camera shot, in terms of the time frame that your study  
15 is involved in.

16 My own view of the history, if you go back through  
17 the 60's and 70's and then what kinds of management  
18 apparatuses and attitudes and outlooks that it created, were  
19 that the -- obviously, it was an agency that was concerned  
20 about safety. Nobody wanted an accident, but that there were  
21 also very heavy pressures, first in the direction of  
22 commercialization, and then later in the direction of dealing  
23 with the 30 and 40 and 50 applications that were expected,  
24 and ultimately the 1200 reactors by the year 2000 that the  
25 AEC was predicting as recently as 6 or 7 years ago. And that



1 the management structure that was -- structure and  
2 attitudes that resulted from those strong pressures did  
3 not encourage the raising of new safety questions, in some  
4 cases actively discouraged it, even punished it.

5 And that the management -- the process of learning  
6 from the LERs of asking questions that would have led people  
7 really to focus on evacuation planning, operator training,  
8 control room design, reactor instrumentation, instrumentation  
9 to monitor radiation going up the stacks, small break loss  
10 of coolant accidents, that that questioning process was not  
11 being implemented, was not in place. That wasn't a  
12 management problem. That was the fundamental, it seems to  
13 me, objectives and goals of the agency as communicated down  
14 relatively clearly from the top management, were goals and  
15 objectives that didn't encourage the raising of those kinds  
16 of questions.

17 Now, the point that you made about acting --  
18 people being left acting for a long time is a fair one in  
19 that it is a management problem, but it has behind it some  
20 fundamental disagreements over the outlook that the  
21 Commissioners have wanted in those positions. And it isn't  
22 just that there is something about the NRC management  
23 structure that somehow requires the position stay open for  
24 9 or 10 or 12 months with people acting in ---

25 Q I appreciate that. What I'm saying is that it

1 may well be in the nature of a collegial body attempting to  
2 do its best, not that it is not mindful of its responsibilities  
3 but the meer nature of the five people ---

4 A Well, remember, for part of the period you are  
5 talking about there was four people.

6 Q Well ---

7 A There was a period of -- well, I think for most of  
8 the NRC's history, it has had less than five commissioners.

9 Q That only underscores the point that a Commission  
10 form of management lends itself to a diversity of views,  
11 the fact that you may be at a deadlock position with an  
12 even number of members. It does not bring strong leadership  
13 to bear unless you have unanimity among the Commissioners or  
14 a willingness to delegate on certain managerial areas to  
15 a Chairman or a single view point.

16 A Those -- you have stated the drawbacks of  
17 collegial management perfectly well, but again, there are  
18 other drawbacks to the single administrator structure.  
19 And while it is certainly true that a person whom you or  
20 I might define as a good single administrator, can probably  
21 get more good things done quickly than five people whom,  
22 even if we agreed all five of them were excellent  
23 commissioners, that is a proposition that carries within  
24 itself the other side of the coin, too, that someone whom  
25 I might think was a simply terrible single administrator

1       could do a lot more damage a lot more quickly than --  
2       And along with that there is the fact that the change from  
3       one administrator to another carries with it greater  
4       swings in outlook, than you get on an agency with three  
5       or five commissioners, when one of them, in the normal  
6       course of events is replaced.

7                 It is also hard to see how you can make a single  
8       administrator as independent as you can make a collegial  
9       agency, that is, if he is in the Executive Branch he is  
10      appointed by the President and it is easy to recreate the  
11      specter of the AEC in the sense that a safety agency may  
12      find itself taking direction from the energy agency.

13                If there is a single administrator, you also have,  
14      at least in terms of the current -- most of the current  
15      models that occur to me, you probably would have the  
16      President appointing people at the office head level in the  
17      same way that he would assistant secretaries. So it's --

18                Q     Well, the pleasures and pains and the pluses and  
19      the minuses really also go to the question of accountability,  
20      and one might argue that there is less accountability with  
21      a commission, there is anonymity, there is not the ability  
22      to make change, and the problems of management, as I see it,  
23      are stacked against a commission.

24                A     Well, except that I think that it is pretty clear  
25      that over the first -- Well, from 1954 to '77 or '78 when we

1 really began to get to the point where this agency was  
2 having some collegial disagreements, for the first 23 or 24  
3 years of their regulatory history, the nuclear regulatory  
4 apparatus, whether it was the regulatory divisions of the AEC  
5 or was the NRC, had, in effect, the pleasures of the single  
6 administrator structure because there weren't great  
7 disagreements on regulatory matters within the Commission,  
8 without having the pains. And it doesn't seem to me that  
9 that produced -- what that did produce was exactly the kind  
10 of regulatory practices that you all are now investigating  
11 and questioning.

12 MR. BERNERO: Excuse me, I'm concerned about your  
13 personal well-being. It is quarter to 11:00. Would you  
14 like to take a little break?

15 COMMISSIONER BRADFORD: I guess I would. I have  
16 been running a cold and if I could just go and get some  
17 nose drops, my personal well-being would be improved.

18 MR. ROGOVIN: Why don't we take 10 minutes.

19 (A brief recess was taken.)

20 BY MR. BERNERO:

21 Q I would like to take up the matter on this  
22 discussion of Commission form of governments. You wrote  
23 a memorandum recently about how the Commission might react  
24 in a crisis, and the separation of --

25 A That's a slightly different branch. Could I just

1 make one other point with regards to ---

2 Q Surely.

3 A -- the question of Commission functioning during  
4 normal times.

5 Bob, you had been talking before about  
6 hindrances placed on us by the ex parte rules. It does  
7 seem to me that we do take up a lot of problems that may  
8 exist in particular cases on a generic basis, even while  
9 they are pending in the licensing process. Operator training  
10 comes to mind right away as one that is clearly an issue  
11 in the TMI-1 reopening proceeding, and yet that the  
12 Commission has met on several times. I just wouldn't want  
13 to leave the record as implying that simply because a matter  
14 was pending somewhere in some one licensing proceeding  
15 the Commission can't address it generically.

16 BY MR. BALLAINE:

17 Q Actually, I would like to cover one more aspect  
18 of this question before we focus on Commission form in an  
19 emergency situation.

20 As I read your deposition, I got the impression  
21 that you might have the view that ---

22 A Is that my Kemeny deposition or the Hart  
23 deposition?

24 Q Yes. Kemeny.

25 -- that, gee, insofar as the adjudicatory function

1 is concerned, I really think the Commission is a good  
2 idea, as to other functions, well, maybe the Commission  
3 form is less effective than another.

4 Now, first of all, is my characterization of what  
5 you said then generally correct?

6 A Yes. Well, to the adjudicatory process, it is  
7 clearly better to have 3 or 5 Commissioners, and the 3 or 5  
8 question, seems to me, to be one at least worth thinking  
9 about. Certainly the main Commission, in many ways,  
10 functions more smoothly with three. On the other hand,  
11 with the Sunshine law it would mean that two Commissioners  
12 could never speak, so ---

13 Q Yes, but now just getting away from adjudicatory,  
14 I think your words were it was somewhat harder to justify  
15 having a Commission, and I wonder whether, in fact, it would  
16 be your view that if we put aside the adjudicatory job  
17 completely you would come out in balance saying, well, I  
18 guess I would lean more towards a single administrator than  
19 I do to a commission form, or would you still come out for  
20 a commissioner form?

21 A Let's see, you can't put aside the adjudicatory  
22 process without putting aside the licensing process.

23 What you are really saying is that if this were  
24 just an inspection and enforcement and research agency ---

25 Q Suppose -- yes. What I had in mind, really is to

1 think of the Commissioners as the pure adjudicators. I  
2 mean, they really are the supreme court sitting waiting for  
3 a decision and doing nothing else.

4 Now, maybe when you talked about their adjudicatory  
5 role you had much more in mind. You had in mind the  
6 licensing process.

7 A Well, if one went in that direction, I would  
8 suppose it would then not make much sense to have 3 Boards.  
9 You would be talking about an adjudicatory system that was  
10 really a Licensing Board and a Commission.

11 Q Yes.

12 A --And it might also handle civil penalties, and  
13 then everything else run by an administrator.

14 I don't think that is necessarily a better system  
15 than the one we have now, but I think I would agree that  
16 if one went in the direction of lolling off the licensing  
17 process and then leaving it under an adjudicatory board,  
18 the structure you would have left would probably work as  
19 well or better under a single administrator.

20 But let me think a little more about that and  
21 maybe in the context of correcting the transcript or  
22 something, let you know if I -- Because I haven't thought  
23 about that question before.

24 Q Obviously I was misinterpreting what you had meant  
25 by "adjudicatory role". I take it you really had in mind

1 just overall, oversight of the licensing process, including,  
2 in some instances, some final review or -- of the case or  
3 a decision not to take up a final licensing process.

4 A No, I didn't mean that, but it seems to me that  
5 the licensing process can't be separated out from its  
6 adjudicatory side. If ---

7 Q It could if you thought of yourself like a  
8 supreme court, wouldn't it?

9 A Yes.

10 Q You don't know what a case would come to.

11 A Yes, but the staff presentation of its case,  
12 which would then be completely separated from Commission  
13 overview, but that really is the way it is now.

14 The Licensing Boards, the Appeals Boards hearing  
15 process would remain under the Commission -- But what I  
16 thought what you had in mind was something close to two  
17 separate agencies, and what I was saying is you would be  
18 taking everything out of the single administered agency,  
19 except the preparation of the staff case in the licensing  
20 process.

21 Q Okay, that is a pretty close statement. I  
22 think I may have thought something different. I may not  
23 matter, but I think I just thought of being the purest  
24 adjudicative body which is, give me a case, I'm somewhere  
25 in the system now, give me a case, I'm representing -- I'm



1 a Commission and I'm representing disparate views, and  
2 maybe in this structure, I will review all cases and make  
3 a decision, or at least change the degree of participation.

4 A Well, you would have to do that or else make it  
5 a part-time job.

6 Q And frankly, I thought that was kind of what you  
7 were saying when you talked about the pluses of the  
8 Commissioners in the adjudicative role, and this gets back  
9 to what Mr. Rogovin was saying that we think it is important  
10 to be in the adjudicative role, and yet to a great degree,  
11 you don't appear, at least to be in it. You may be in it  
12 more than we see, but ---

13 A Well, I have tried -- I have tried to get us  
14 in -- No, no. Your perception of how much we are in it  
15 is -- it may be right, let me come to that in a minute.

16 But I have personally tried to get us in it more  
17 often than we have been. The other thing that you wouldn't  
18 see, just from reviewing the number of cases we have taken  
19 up is that that General Counsel's office does review and  
20 prepare for Commission scrutiny a summary of, I guess,  
21 almost all of the Appeal Board's decision, so that there is  
22 at least a decision by the Commission not to review,  
23 in certainly any case of any importance. And what the  
24 Commission is saying, in effect, is they are dissatisfied  
25 with the Appeal Board's handling of the case.

1 BY MR. SCINTO:

2 Q Those memorandum aren't published are they?

3 A No.

4 Q So that as far as the perception is from ---

5 A That's right.

6 Q -- you cannot identify a Commission position with  
7 respect to the issue?

8 A That's right, you would -- except to the extent  
9 that you can infer the Commission is satisfied with the  
10 Appeal Board's decision.

11 Q The same kind of inference one makes or doesn't  
12 make with respect to the Supreme Court?

13 A Yes, and in fact, there have been cases where I  
14 have urged review, not because I thought the result was  
15 wrong, but because I thought some part of the Appeal Board's  
16 reasoning was going to cause trouble in another case at  
17 another time, and I didn't want to take it up and readjust  
18 that particular ---

19 BY MR. ROGOVIN:

20 Q Well, Commissioner, just on this point, we have  
21 all worked under the assumption that the Commission should  
22 be doing more adjudicatory work. The Commission has the  
23 opportunity and has declined. Would you see a marked  
24 change in the numbers of cases that would be adjudicated  
25 if, say your point of view were to prevail, are you more

1 interested in having cases brought up than perhaps other  
2 Commissioners?

3 A The best source would be the Secretariat's  
4 records, but I think probably, I have favored taking  
5 review more than any other Commissioner. Would you guess  
6 that was right, Tom?

7 MR. GIBBONS: (Nods in the affirmative.)

8 BY MR. ROGOVIN:

9 Q And can you give us some generalizati as to  
10 how many more cases the Commission would have r involved  
11 in?

12 A Four a year.

13 MR. GIBBON: It is probably more. It is hard to  
14 tell, because a lot of the orders are interlocutory, so  
15 when you say cases --

16 BY MR. ROGOVIN:

17 Q Yes.

18 A We can try and compile something or have the  
19 Secretariat compile something that would show the Commission  
20 votes on whether or not to review cases and get that  
21 out to you if that would help.

22 Q That would be helpful. Let's see if we can  
23 frame the question, recognizing, as you have testified  
24 that the Commissioners get an opportunity through the  
25 General Counsel's memorandum to decide whether or not to

1 hear a particular matter. The question then becomes: (a)  
2 how many of those memoranda, which I guess we would consider  
3 the case, recognizing interlocutory features of pending  
4 matters; how many of those memoranda do you review each  
5 year, and then how many would you have concluded should  
6 have been reviewed by the Commission?

7 MR. BALLAINE: And how many were, I guess, or  
8 is this --

9 MR. ROGOVIN: Yes.

10 COMMISSIONER BRADFORD: Okay.

11 BY MR. SCINTO:

12 Q You indicated they were reviewed by the General  
13 Counsel's office. Does those types of review really tend  
14 to focus on fundamental safety issues or do they tend to  
15 focus on procedural issues or environmental issues?

16 I'm asking what is the nature with this -- Given  
17 your background of what the Commission has done in the  
18 past, if they had been more active in an adjudicatory role  
19 in the past, would that adjudicatory role have really  
20 focused on safety kinds of issues?

21 A I think that the answer, at least in some cases  
22 is "yes" but through a couple of steps.

23 For example, in the Hope Creek case my concern  
24 was that there should have been a cost-benefit analysis  
25 done with regard to further guarding against the possibilities

1 of an accident involving LNG near the plant. Now, in  
2 a sense, that's procedural, that is it was simply that  
3 the law would require the analysis. On the other hand,  
4 if the analysis had shown that some significant improvement  
5 in safety would have been achieved at a relatively low  
6 cost, it would have had a safety result. And that would be  
7 true, I think, of some of the other concerns, which in the  
8 first step would appear to be procedural concerns as well.

9 Q Okay, as an example, in Hope Creek, for the  
10 wide scope that can be met within the framework of cost  
11 benefit, do you think a Commission review would have  
12 focused on the technical difference in analytical technique  
13 between that used by the staff than that the Appeal  
14 Board used, if it would have rejected the staff's view  
15 and used some other technique? I think that's a fair  
16 calculation.

17 Do you think the Commission's review would have  
18 focused on the technical difference between those two  
19 techniques?

20 A I'd have to go back and reread the papers to be  
21 sure.

22 My guess is probably not. The terms in which I  
23 urge review would not have carried us into that.

24 Another case that comes to mind is -- involved  
25 North Ann. and the question of whether the Appeals Board

1 was barred by the regulations by looking further at the  
2 generic safety issues. They felt that they were. I'm  
3 not sure there, that a change in their view of the  
4 regulations would have made any concrete difference, when  
5 they had something in mind that they wanted to look at  
6 and were barred from looking at, or not, but if we had, in  
7 fact, taken it up and said, look, if you want to look at  
8 these things you can. That would have been a purely  
9 procedural change which might then have left the Appeals  
10 Board to inquire into some issue that was troubling them.

11 Q Yes, right.

12 I was just trying to identify the distinction  
13 between the nature of the Commission's view, rather than  
14 suggest one better than another.

15 A Yes. I can only speak for myself. You know,  
16 Joe Hendrie might be more much capable than I of going  
17 down into the guts of the details and making a change.

18 BY MR. BERNERO:

19 Q I would like to go back to the Commission in a  
20 crisis question.

21 First of all, I would like to ask a clarifying  
22 question. Do you believe that with the present statute  
23 the Commission could agree that perhaps the Chairman or  
24 one of your number would be the sole representative and  
25 spokesman, and decision-maker for the Commission during a

1 crisis, and by that, I mean agree in advance, not as you  
2 propose in the first one hour of the accident?

3 A I think the things you said -- Let's see, spokesman,  
4 yes. What were the others you added?

5 Q Spokesman. Decision-maker, primarily the  
6 decision-maker?

7 A Well, the General Counsel says no to that, if  
8 by "decision-maker" you mean including giving orders to  
9 shutdown ---

10 Q To shutdown, evacuate or whatever. Any public  
11 health related decision.

12 A Well, the General Counsel's view is that we  
13 cannot make a delegation of that sort to a member of the  
14 Commission. We can to the staff.

15 Q You can to the staff?

16 A We can to the staff.

17 Q But you cannot to the --

18 Okay, now, in that context do you think that  
19 it would be possible for the Commission to delegate that  
20 to a selected staff member? I don't mean someone  
21 selected by ex officio, meaning someone who happens to  
22 sit in an office, but if one postulated that the senior  
23 staff were called and in advance one had an emergency  
24 management team where due account was taken of personality  
25 differences and decisiveness or technical ability. Do you

1 think it would be desirable and/or practical for the  
2 Commission to delegate that responsibility to a staff  
3 member, in that context?

4 A I think at the moment, it is essential. It is  
5 hard to see how we can have an effective EMT without  
6 exactly such a delegation.

7 The more difficult question is how that delegated  
8 individual should then relate to the Commission or to an  
9 individual Commissioner who might be in the Response Center  
10 also during the crisis. But as far as having a legally  
11 adequate chain through which the Commissioner's authority  
12 can flow to an individual you would have to do that.

13 Q So in other words, you seem to be saying that it  
14 has to be done and it can be done, and therefore, it should  
15 be done, that an individual in the staff, not a Commissioner  
16 would be the one to speak to the Governor of Pennsylvania  
17 or whatever state is affected?

18 A No, on the contrary.

19 As far as exercising the Commission's authority  
20 in terms of directing the staff or giving explicit  
21 orders to the licensee it would have to be done. I would  
22 think that if the EMT arrived at a consensus that an  
23 evacuation was in order, the sensible way to convey that  
24 to the Governor would be for the Chairman to do it. It  
25 would just eliminate all of the questions that went on in



1 the Three Mile Island sequence, in which somebody called  
2 Collins back and said, on whose authority are you ---

3 Q Okay. So you are qualifying then, the EMT  
4 individual, the staff individual in this context would not  
5 have vested all of the decision-making and spokesman  
6 authority.

7 A I'm assuming the EMT has made the decision that  
8 an evacuation is in order.

9 Q Yes.

10 A I'm -- as you may have gathered from earlier  
11 depositions, not of the view that the Commission ought to  
12 countermand such a decision by the staff. I don't think,  
13 if we clearly understood it we would even have countermanded  
14 it that Friday morning, but even if I'm wrong in that, my  
15 own feeling is that once the top staff, given their knowledge  
16 and their general perspective, and they just aren't an  
17 alarmest crew on reactor safety issues, arrive at a  
18 decision that people should move. People ought to move.

19 Q Is the opposite true? If the top staff has  
20 not decided -- the method of hindsight, if we go back to  
21 that Wednesday, March 28th, if the top staff has not  
22 decided to evacuate, wouldn't you consider it possible for  
23 the Commission to call for such action?

24 A Let's see. Not in the situation -- It is hard  
25 for me to imagine a situation in which that would happen.

1 It is not inconceivable, but it is hard for me to imagine  
2 it.

3 BY MR. ROGOVIN:

4 Q Could I give you this situation where you and  
5 your comparares have concluded that there is insufficient  
6 information, and that the question of indcision and lack  
7 of information weighs so heavily that even though the  
8 information they have does not cause anyone to say EPA  
9 guidelines are in play or anything of that nature. There  
10 might be an overriding policy that a group of Commissioners  
11 might implement.

12 A What's missing at the moment, and that situation  
13 could arise in the current framework, the Manual Chapter  
14 and whatever giuidance was given, what is missing, I think,  
15 are some clear criteria from the Commission to the EMT as  
16 to the framework in which we want measures to protect the  
17 public, perhaps including evacuation to be addressed.

18 For myself, I would want those measures to state  
19 very clearly that uncrtanties as to a significant danger  
20 of immediate releases ought to be resolved in favor of  
21 moving people, and that just ought to be stated in those  
22 criteria, so that we wouldn't get into a situation in which  
23 the Commission was -- excuse me, the EMT was very uncertain  
24 about what was going on inside the reactor, but was saying  
25 in effect, while we figure this out people can stay where

1 they are around the plant. That just doesn't seem to me  
2 to be a situation that we should allow to exist.

3 Now, in fact, it is exactly the situation that  
4 existed on Wednesday and Thursday, and the only thing I  
5 can say about that -- or at least on Wednesday -- the only  
6 thing I can say about that is that we didn't know it. And  
7 I don't think the EMT knew it very clearly either.

8 Q Commissioner, just so that the record is clear,  
9 is it your position that the delegation from the Commission  
10 to the EMT would, in a fast moving situation, give the EMT  
11 or indeed, the senior officer at the site the authority to  
12 make an evacuation recommendation without ---

13 A Yes, that's probably right. I don't know that  
14 I have thought it through in sufficient detail, that  
15 though is probably right and I think as a corollary to that,  
16 we should notify, through our State Program office or in  
17 some other way, the governors of all of the states that  
18 have reactors in the event of an accident at the plant,  
19 here are the people whom you might be hearing from with  
20 regard to evacuation or other public health and safety  
21 measures. Not necessarily by name, but at least so that  
22 you wouldn't get into this question of whether a particular  
23 individual has the authority.

24 BY MR. BERNERO:

25 Q Who is Doc Collins?

1 A Yes.

2 BY MR. ROGOVIN:

3 Q One of the situations or the situation that  
4 arose in TMI, and I would like to get your comment on it  
5 and the longrange impact of it, that Doc Collins, indeed,  
6 did at the request and the order of Harold Denton, called  
7 the State of Pennsylvania and told them that an evacuation  
8 was being recomended. Subsequently that morning, when the  
9 evacuation recommendation did not sit well with the State of  
10 Pennsylvania, the State asked whether this was an official  
11 NRC position, and to the best of my understanding ---

12 A Let's see, this was the phone call back to  
13 Collins from Maggie O'Riley or somebody in the Governor's  
14 Office -- you are referring now to Thornburgh's conversation  
15 with Joe Hendrie?

16 Q Well, it is the latter what I'm really referring  
17 to. And the best of my understanding is that the Governor  
18 was advised that it was not the official NRC position.

19 Now, what is your view as to how such a sequence  
20 of events, without regard to how we got to that position,  
21 but how will that impact on people with vested responsibility  
22 of making those phone calls in the future?

23 A You are talking now about the NRC staff?

24 Q The Doc Collinses of the future?

25 A Well, I think that's why it is important to get

1 the new criteria in place.

2 I hadn't thought of it before, but obviously it  
3 would have a chilling affect, that there would obviously  
4 be a feeling that one more phone call ought to be made  
5 first, namely, to the Commission to make sure that it was  
6 all right.

7 Q And it is an inhibiting act as well, because,  
8 at least in this instance, Collins now reads in depositions,  
9 that he was not giving what he thought to be the NRC  
10 position on evacuation.

11 A All I can say about that is that while it may  
12 have been a mistake to have told someone at Collins' level  
13 to make the call in the first place, as distinguished from  
14 having Denton or Lee Gossick do it, or calling down here  
15 and suggesting that the Chairman or one of the Commissioners  
16 make the call, with that aside, it seems to me, and I said  
17 it that morning, that when the top staff from the EMT  
18 arrives at an evacuation consensus, that really shouldn't  
19 be a subject for debate among the Commissioners.

20 That particular situation may have allowed for  
21 a little more -- that sort of luxury, than a situation in  
22 which very large releases were immediately in prospect.  
23 That is, what was triggering the concern there was the  
24 prospect that people would receive exposures on the order  
25 of -- what was it, 1,000 or 1,200 milirem, and a lot of

1 debate about whether that was a measured number or a  
2 calculated number, whether it was offsite or above the  
3 stack. So that there appeared to be little time to  
4 seesaw back and forth over it. But I think the fundamental  
5 principle should be that if the staff reaches an evacuation  
6 consensus, then that recommendation ought to be transmitted.

7 BY MR. BALLAINE:

8 Q Your last answer, and also what you said in the  
9 deposition, still suggests a problem. I think you will  
10 certainly concede that there may be instances in which  
11 ultimately that final phone call is going to have to be  
12 made or confirmed by somebody, a Commissioner, perhaps the  
13 Chairman.

14 A (Nods in the affirmative.)

15 Q If the Commissioners are not part of the actual  
16 staff decision-making process, do you genuinely think  
17 that you can have a situation where the Chairman is prepared  
18 to act as the ceremonial queen who gives no independent  
19 review to it and doesn't get caught up in the very same  
20 bind that you may well have gotten caught up in on that  
21 Friday morning, where you want to gather information so  
22 you can be informative, and in the process of doing that  
23 no information comes in, and before you know it, low and  
24 behold, no decision or the original decision is countermanded,  
25 in effect. Can you really avoid that?

1           A     You probably can't avoid it all together, but  
2     it can certainly be diminished.

3                     For one thing, leaving aside your choice of  
4     metaphors, I think it is possible to have an understanding  
5     among the Commissioners that the conservative thing to  
6     do, when the staff decides that an evacuation is ordered,  
7     is to recommend evacuation without much further discussion  
8     of the subject.

9                     For another --

10                    BY MR. ROGOVIN:

11            Q     However, Commissioner, put into the equation that  
12     that morning there was a recommendation for protective  
13     action to stay indoors, a recommendation to evacuate  
14     five miles, and a recommendation that pregnant women and  
15     preschool children be evacuated, and that be an advisory.  
16     So you had various levels ---

17            A     Yes, but those all flowed from the fact that  
18     the Commission didn't confirm the first advisory. Had  
19     that been done then ---

20            Q     The most sweeping?

21            A     Yes.

22            Q     No question, the most sweeping was the first by  
23     the staff?

24            A     And you know, in this case, what the Commission  
25     did turned out to be the right thing to do, more or less.

1 I mean, one could debate whether the other advisories were  
2 necessary or sensible, but a broader evacuation would,  
3 in retrospect have been unnecessary.

4 What concerns me is that in the cases we were  
5 talking about earlier, during the Commission's normal  
6 operation, 10 to the minus 6 is the sort of acceptable  
7 standard for the possibility of something going terribly  
8 wrong.

9 I don't think you can even get it down to 10 to  
10 the minus 1 if you postulate that when the Commission's  
11 top staff arrives at an evacuation recommendation, the  
12 Commission will sit around and debate it and eventually  
13 countermand it. I think if we did that in 10 situations  
14 there would be just a serious public exposure in more than  
15 one of them. This happens to be one of the ones where  
16 there wasn't.

17 BY MR. BERNERO:

18 Q Would you care to distinguish whether that 10 to  
19 the minus 1 or approach to it, would be descriptive of  
20 the reality of the situation or the remote perception of  
21 the situation?

22 A I don't understand the question.

23 Q Well, you seem to be saying that when there is  
24 uncertainty that the risk of serious exposure offsite is  
25 very high, and one should say take a conservative approach,



1 and if the uncertainty and the perception of risk are  
2 in the mind of the regulator, in this case we are talking  
3 about regulator, you start out on the very moment that  
4 you are informed of the accident with the greatest  
5 uncertainty, either to say something went wrong, I don't  
6 know what yet, I will tell you. And a logic would seem to  
7 drive you, if you take that conservative position that  
8 whenever there is an accident you would evacuate, and really,  
9 there is a balancing. There is a balancing of gaining  
10 facts in order to improve your perception of what the  
11 reality really is. And it is only with hindsight that you  
12 can go back and look at that reality.

13 I'm not sure I understand what your philosophy  
14 is on that.

15 A I can't lay out for you the perfect set of  
16 criteria for advising an evacuation. I can tell you that  
17 my threshold for having the Commission overrule the staff  
18 consensus on that is a much higher one than we arrived at  
19 that morning.

20 But it doesn't fall as low as everytime that  
21 the emergency core cooling system goes on people have to  
22 leave their homes. I mean, that's obviously frivolous.

23 On the other hand, when you start talking about  
24 thermocouple readings in the thousands of degrees and  
25 no one being quite sure what is going on in there and what

1 it is going to take to get water back over the core,  
2 that is not so frivolous.

3 BY MR. ROGOVIN:

4 Q Commissioner, let me ask you a question that  
5 bottoms on the proposition that perhaps the 5 Commissioners  
6 are not the appropriate body to make a recommendation to  
7 a governor for an evacuation.

8 What would you consider to be the backgrounds  
9 and disciplines that should be involved in making such  
10 a recommendation?

11 A I think -- subject to change -- but I think  
12 that that recommendation should actually flow through  
13 the Chairman, that he should be the one who calls the  
14 governor, unless time simply doesn't permit it, in which  
15 case it should go to the EMT, and I think we have more or  
16 less the right people involved in the EMT, at the moment,  
17 though there may be something to be said for having the  
18 head of the office, that is, NRR if it is a reactor, and  
19 NMSS if it is a fuel cycle facility, actually be the person  
20 running the EMT. I'm not sure -- well, let me withdraw  
21 that and just think about it some more. You may want to  
22 send the head of NRR to the site, as we did in Pennsylvania,  
23 in which case it is probably good to have the EDO running  
24 the EMT, but many of the functions shift to the site with  
25 the Director of NRR.

1           Q     The theory of the question, the logic behind the  
2 question is that all the NRC can add to the situation is  
3 the stability of the reactor, the anticipated releases  
4 and attendant problems to that piece of equipment. The  
5 governor, on the other hand, has more matters to consider.  
6 The fact that it is a snowy January night and it is 4:00 a.m.,  
7 when he receives the call, the fact that the highways around  
8 the particular site are impassable, that there are hospitals --  
9 there are a host of emergency problems.

10           Now, when the NRC makes its recommendation, is  
11 there a Footnote saying, of course, we have not considered  
12 the specifics of your locale, and our recommendation may or  
13 may not fit in with the bigger picture, or do you take  
14 on the responsibility of knowing what his other problems are  
15 regarding the geography of the plant?

16           A     Well, in political science terms, I think it is  
17 clearly the former, that the governor is the one who  
18 actually has to order the evacuation, but in more political  
19 and less science terms, in fact, it is going to be very  
20 hard for a governor, confronted by an NRC recommendation to  
21 evacuate, to tell people that in his best judgment they  
22 ought to stay where they are.

23           There is another factor that pulls the other way  
24 in that situation as well. Presumably the evacuation  
25 recommendation will come somewhere in what is perceived to

1 be a deteriorating situation, that is, it is expected that  
2 matters may get worse. And if that is right, then, almost  
3 no matter how bad the weather is and what time of day or  
4 night it is you would think that the governor would at  
5 least want to start the process, because if he has to move  
6 people in a hurry on snowy roads later on, he is going to  
7 be worse off than if he can move them in a somewhat organized  
8 fashion starting somewhat earlier.

9 Q Well, the question then really puts into the  
10 equation the issue of whether the NRC or its Commissioners  
11 have the other disciplines or have information that relate  
12 to the other matters that the governor will have to be  
13 considering.

14 A Yes, and the chances for many of those matters,  
15 such as the local meteorology, of what the wind direction  
16 is and the road conditions, the capabilities of the state  
17 police. In all probability, we wouldn't. Certainly we  
18 would be unlikely to have the disciplines, and probably  
19 our information would not be as good as his would.

20 Q Does this lead you to consider the possibility  
21 of entities such as FEMA or some other governmental agency  
22 that might have a better grasp of emergency evacuation  
23 problems, playing a role in the recommendation, ultimately  
24 to the governor?

25 A I would consider FEMA involvement at an earlier

1 time. I wouldn't rule out that it might be FEMA instead of  
2 the NRC that should be certifying to emergency response  
3 plan, acceptability in the first place.

4 Q And a FEMA representative at the EMT is a  
5 conceivable situation, is it not?

6 A Yes. Yes, it is. I hadn't thought about it  
7 before.

8 My reluctance to accept the proposition out of  
9 hand had to do with the need to make other phone calls to  
10 another agency to get somebody else involved ---

11 Q Yes, I ---

12 A -- But if you -- the notion of adding a FEMA  
13 representative to the EMT, I think, is probably a good one.

14 BY MR. BALLAINE:

15 Q I may be repeating a question that was asked,  
16 but I want to try it because I'm not clear on the answer.

17 We understand that you think there ought to be  
18 high threshold before the Commissioners would overrule a  
19 staff recommendation to evacuate. What about a situation  
20 where there is a specific question posed to the EMT, should  
21 we evacuate, and the answer comes back, "no". Do you  
22 have the same threshold or is part of your view point  
23 that something that I inferred from your deposition before  
24 the Kemeny Commission, that if the staff says we ought to  
25 recommend evacuation, why, my goodness, there must be pretty

1 good cause for it. That doesn't necessarily mean if they  
2 don't think that the evacuation is warranted that you have  
3 the same compelling reason to accept their recommendation  
4 of no evacuation.

5 A As I said in response to Mitch's question  
6 earlier, I think that there is a flaw in the current  
7 practice, and perhaps also the Manual Chapter regarding  
8 the EMT, in the sense that it doesn't lay forth the  
9 proposition that someone has to be responsible from the  
10 outset for constantly raising and considering measures such  
11 as evacuation or other, the public health protection  
12 measures, and certainly there are no criteria set forth  
13 by the NRC for these to act under.

14 So that it is at least conceivable under the  
15 current practice that you get in situations in which the  
16 Commission might, for some reason, feel that those  
17 considerations have been given too little attention at  
18 the EMT, and would merit an advisory of some sort to the  
19 governor, either with regard to evacuation or staying  
20 inside. But my own inclination, faced with the situation  
21 where I had those kinds of doubts, would be to instead,  
22 press the EMT to consider the doubts that I had further,  
23 and either give me a basis to stop worrying about them,  
24 or else conceivably come around to the view they should  
25 act on it then themselves.

1           That, seems to me, to be more likely than that  
2 I would feel that these guys just aren't focusing on some  
3 technical issue that I have seen. It is a little more  
4 like I might say, well, it seems to me they are allocating  
5 the uncertainty the wrong way, they are acknowledging that  
6 there is great uncertainty, but that they don't feel it is  
7 necessary for people to move yet. It is conceivable that  
8 I might say that I'd feel differently about that, but only  
9 after a process of dialogue.

10           Q     You still think it would be appropriate to go  
11 back to the EMT in the first instance and try to at least  
12 make sure that they have focused as much as you have on  
13 the possible grounds for evacuation?

14           A     I'm assuming that any accident that stretches  
15 out over time at all is likely to result in the  
16 Commission being in Beth da, at least, and in constant  
17 touch with the EMT, a. raising the questions that it  
18 has and that it is getting from the outside world. And  
19 that, I should think, might, from time to time, lead to  
20 the situation in which the Commission would question the  
21 key posture on public health protection measures.

22                     But I think the criteria for overruling the EMT  
23 on evacuation and advising one when the EMT feels it is  
24 not necessary, once we get the right criteria for  
25 evacuation consideration in place, is if anything, only

1 very slightly lower than going the other way.

2 BY MR. BERNERO:

3 Q At the outset of this discussion of the  
4 emergency response, somewhere in the early part there you  
5 said that it was vital or necessary or urgent, I forget the  
6 exact word, for the Commission to designate an EMT  
7 individual, a staff member, a person solely responsible.

8 About 10 days ago a memorandum came from Mr.  
9 Rogovin to the Commission that touched on this subject.  
10 Has the Commission done so?

11 A Let's see, the Manual Chapter says that the  
12 Executive Director is in charge. Commissioner Gilinsky  
13 sent out a memorandum in which he addressed the Rogovin  
14 concerns, and as I understand it, that memorandum is still  
15 also in effect.

16 Q In your opinion, right now, there is a clear  
17 line of authority?

18 A No, I didn't say that, but go ahead.

19 Q Well, are you satisfied at the moment?

20 A We met last week, I think, and the Chairman's  
21 notion was that it he would go to the Response Center and  
22 take command.

23 I'm not satisfied with that, if the General  
24 Counsel doesn't feel that it is legal, I'm afraid that  
25 we could spend an awful lot of months trying to clean up the



1 mess that could be made by actions taken in response to  
2 an argument of an illegal order or advisory from the NRC,  
3 and we ought to put that question to the Congress as soon  
4 as we can.

5 In the meantime, I think that the EDO acting  
6 under the procedures in the Gilinsky memorandum ought to  
7 be the person directly in charge of the Response Center,  
8 though I don't have a quarrel in the world with the  
9 Chairman's feeling that he would rather be in physical  
10 proximity with the Center, in the Center or in an office  
11 right next to it. And, in fact, I think I would probably  
12 be inclined to go out there myself, and I think the other  
13 Commissioners would too, although I don't think we would  
14 add very much if all 5 of us physically stood around in  
15 the Response Center jogging people's elbows.

16 The -- But I don't think the Commission has  
17 agreed on that. That meeting came to no conclusive end.

18 Q Doesn't this whole pattern, as you look at it  
19 from the experience of Three Mile Island, and the  
20 deliberations that have been going on now, this controversy  
21 about who is in charge during an emergency, doesn't that  
22 whole framework say that for crisis management there  
23 shouldn't even be a consideration of a -- you know, that  
24 perhaps through legislation that the Commissioners would  
25 be ordered to go home and pray. Doesn't it seem that?

1           A     Well, I think going home and praying overstates  
2     it. I think it is fair to say that for crisis management  
3     there ought to be a single-headed apparatus and that the  
4     most effective role the other Commissioners can play is,  
5     on the one hand, of a consultative one, if anyone wants  
6     to confirm a judgment reached by the actual crisis  
7     management team, and on the other, just necessarily it would  
8     be hard to get more than two or three minutes of praying  
9     time because the telephone would start ringing. There  
10    are a lot of people out there who want to know what is going  
11    on during an accident and they are going to want to hear  
12    it from the Commissioners, and it is a little like  
13    Seabrook. You just can't say, I'm sorry, I have turned  
14    this one over to -- well, in Seabrook it was to Rosenthal,  
15    he or Mr. Gossick, and I don't know anything about it.

16                 And in fact, you don't want to do that,  
17    because some of the people on the emergency management  
18    team are going to have to answer all of those phone calls.  
19    So the Commission serves, I think, as a fairly useful  
20    function in terms of its ability to deal with public  
21    and congressional and Executive Branch concerns during a  
22    crisis.

23                 Now, something -- if you define your crisis  
24    differently from Three Mile Island and say that it breaks  
25    very fast and that decisions have to be made in the first

1 hour or two or three, then I think, basically what you  
2 have said is correct, there has got to be a single head  
3 and the Commissioners just aren't even going to have time  
4 to get into a role in which they can be doing anything  
5 useful.

6 There, the screwy situation in which we are  
7 not in one building is of great importance too, I mean,  
8 if the important time is just a couple of hours, then the  
9 fact that the Commission can't even get to the Response  
10 Center in less than half an hour to 45 minutes if the  
11 traffic is bad, dictates that they not be the ones who  
12 would be expected to take immediate charge.

13 Q I'm glad you brought that "one building" up.  
14 It is a question that frequently occurs, especially to  
15 those in the Inquiry who come from the outside.

16 It is practical practice ---

17 A It must have occurred to those who have to come  
18 down to Bethesda day in and day out, and the staff as well.

19 Q Yes. Well, the staff, of course, has long  
20 toughened its skin to the problem, I think.

21 But typically, when a new agency is formed, one  
22 of the first orders of business matters is, get a building.  
23 This agency is now five years old, roughly, and isn't this  
24 another symptom, that we don't have a building because  
25 of the collegial nature ---

1 A Collegial nature of the Commission? No.

2 Q You don't think so?

3 A Listen, if you can find a building, I'll move  
4 there tomrrow, and I don't care where it is.

5 Q Well, everyone says that, and nothing happens.

6 A I think that the Commission made a decision --  
7 this was before my time -- that it wanted the building  
8 to be downtown, and that that has slowed down the process  
9 of getting into a building. But I don't think that it is  
10 a disagreement among the Commissioners that has slowed it  
11 down.

12 The original decision had been that the Commission  
13 would move to Bethesda. They might not be in a single  
14 building, but the Commissioners would physically be  
15 sitting in Bethesda today.

16 Q So you think it is not a lack of a strong single  
17 manager at the top so much as a general unpalliatability  
18 of the decision.

19 A Well, I'm not sure why more progress toward  
20 a building downtown hasn't been made. I would guess it  
21 lies in part in the congressional pace set in part, and  
22 in fact, there is a good deal of dissatisfaction in  
23 Bethesda with that decision. But it doesn't seem to me,  
24 in any case, that it reflects collegiality so much as the  
25 fact that the decision to consolidate downtown ---

1 Q Well, I'm not really suggesting a mixed  
2 collegial decision as the problem, but a lack of singular  
3 vigor in executive management.

4 I recall when ERDA was formed from the Atomic  
5 Energy Commission, the staff of ERDA, certainly the  
6 nuclear derived staff which dominated that organization  
7 wanted to stay in Germantown. The first Administrator  
8 of ERDA selected and got very quickly, a downtown site,  
9 because I suggest that it was a singular person pounding  
10 the table and saying we are going to do it.

11 A Well, I just don't see anything about the decision  
12 to move the NRC downtown that would be terribly different  
13 from that decision. But why Bill Anders or Marc Rowden  
14 or Joe Hendrie didn't behave -- or whoever it was, Bob  
15 Seamens -- you know, I don't know whether it had to do  
16 with real estate problems, whether it was different  
17 personalities, I just don't know. But I don't think it  
18 is collegiality, because there has not been a single  
19 meeting, since I have been here at which people said,  
20 Jesus, Joe, I just don't think you ought to be working  
21 so hard to get that building downtown. No one has made  
22 that any harder for the NRC Chairman that I know of, than  
23 it would have been for Seamens.

24 Now, I wasn't here, as you know, from '75 to  
25 mid-'77, so there are other people who can give you better

1 testimony on what the actual problems of getting the  
2 Commission downtown are. All I can say is that it hasn't,  
3 since I have been here, been a matter of collegiality.  
4 It might have been much easier if the Commission decision --  
5 well, it would have been much easier if the Commission  
6 decision had been to move to Bethesda, because it is a lot  
7 easier to move two floors out there than it is to move  
8 four buildings down here, in terms of the number of people.  
9 You wouldn't get a full consolidation that way, but you  
10 would have everybody within a 10 or 15 minute commute, and  
11 specifically, you would have the Commission within a few  
12 minutes of the Response Center.

13 Q I think you keep going back to collegiality, and  
14 on this question, as a mixed decision, rather than a lack  
15 of vigor in pressing the decision. I don't doubt that there  
16 is consensus in the Commission that all 5 Commissioners  
17 believe we should consolidate. It is just that, for  
18 instance, there have been many congressional hearings  
19 since Three Mile Island happened. I just postulate that  
20 if there were a single administrator in charge of the  
21 agency, among other things, in an aside or even pounding  
22 the table at a congressional hearing, there would have  
23 been a statement. Here's a dramatic example of where,  
24 being in a separate building hurts.

25 It would have been a point made with some vigor,

1 and with a collegial body at the top, you just don't get  
2 that kind of an answer.

3 A No, Bob, I just don't agree with that.

4 I think if it occurred to me to say that at a  
5 hearing, I would have. I think that if it had occurred  
6 to Joe he would have been delighted to say that, because  
7 he believes very strongly in getting into a single building.

8 I think what you are talking about there is the  
9 difference between some one who might have perceived it  
10 and stressed it and those of us who don't. I did say it  
11 to the Kemeny deposition, but I have not said it in  
12 congressional hearings.

13 BY MR. ROGOVIN:

14 Q Has it been said to the Administration?

15 A Excuse me?

16 Q Has it been said to the Carter Administration?

17 A Not by me, but I don't know.

18 Well, I shouldn't even say that. Just in  
19 conversations with people at DOE and OMB casually, yes.  
20 Not in the table-pounding sense that Bob was  
21 suggesting, but yes, the point certainly has been made. It  
22 has had to have been made in discussions with OMB.

23 BY MR. BERNERO:

24 Q I would suggest that you just use the word  
25 that triggers what I'm going after, that you would have been

1 happy to say it or Joe Hendrie would have been happy to  
2 say it if you perceived it, and what I'm suggesting is  
3 that where a single administrator, as a line manager,  
4 knows that 100 percent of the responsibility is his or  
5 hers. It is a quite different situation than where you  
6 have a collegial body sharing the responsibility. The  
7 perception of need and the perception of responsibility is  
8 quite different.

9 A Well, certainly it is true that all five  
10 Commissioners can't on a day-in, day-out basis perceive  
11 themselves with being 100 percent in charge of the agency.  
12 Obviously, if I gave an instruction to Harold Denton that  
13 Kennedy disagreed with, he would sent a counterinstruction.  
14 You have to, as an individual Commissioner, be conscious  
15 that you have a 20 percent say and not a 100 percent or a  
16 51 percent say in what goes on in the agency.

17 But as far as the particular point we are  
18 discussing now, I really don't think that Joe's ability as  
19 Chairman of a five-member agency to talk about the need to  
20 be in one building is any less than his ability if he were  
21 the single administrator. You would have to ask him why  
22 he didn't explicitly make the point at congressional  
23 hearings, and I won't swear that he hasn't, but I assume  
24 you all have read the transcripts.

25 The congressional inquiries have not really gone



1 in that direction, at least primarily. There may have  
2 been aspects of Senator Hart's last hearing to which the  
3 answer was: well, and of course this would have gone  
4 better if we had all been in one building. But there  
5 really was -- the questions have tended to focus much more,  
6 I think, on Commissioner value judgments about questions  
7 like evacuation and rather less on a question to which  
8 one building was the answer. But I would have to go back  
9 and read the transcripts to be confident of that.

10 The bottom line is that I don't think that it is--  
11 in my opinion it is not because we are a collegial  
12 agency. that none of us thought to say we would be better  
13 off in one building at those hearings.

14 Q I have one last question on Commission structure  
15 that I would like to raise with you.

16 In your testimony earlier today, you went back  
17 through the history of the agency and seemed to be  
18 comparing the Atomic Energy Commission era with the Nuclear  
19 Regulatory Commission era as, perhaps comparable in the  
20 relationship between the Commission and the staff.

21 Are you familiar -- Well, first of all, were  
22 you suggesting that?

23 A No. In fact, it seems to me that there are  
24 some clear distinctions. The AEC had much broader  
25 responsibilities, as I understand it, they operated much more

1 on a central lead-commissioner basis in which one  
2 commissioner would have been basically responsible for  
3 dealing with the regulatory and licensing apparatus, and  
4 the other commissioners wouldn't normally have gotten  
5 much involved in it at all.

6 Q Well, would you go on then, and suggest that  
7 perhaps having a lead regulatory commission and a director  
8 of regulation as existed then, in the Atomic Energy  
9 Commission, was in fact, similar to having a single  
10 administrator?

11 A That is, in a way, the point that I was trying to  
12 make to Mitch before. Yes, in some ways it is, and what  
13 it has produced is all this various phenomena that you are  
14 investigating. And what that suggests, to me, is that a  
15 single administrator is not necessarily the answer,  
16 unless -- Whatever the structure is, it has to be a  
17 structure that radiates down into the staff the encouragement  
18 of the continual raising of safety questions as being the  
19 highest agency priority.

20 BY MR. ROGOVIN:

21 Q But Commissioner, I think you pushed the analogy  
22 a touch too far.

23 If we restrict ourselves to: was the agency  
24 better managed with the lead commissioner, director of  
25 regulations approach, compared to now and not look to whether

1 accidents are a determiner of management, would you view,  
2 from what you have learned and heard, that perhaps it was  
3 a better managed operation under those constraints?

4 A Well, I don't have the familiarity with what  
5 you might consider the indicia of good management. How  
6 long positions stood vacant, how easily information flowed?  
7 I just don't have a feel for that would have worked under  
8 the AEC. I would guess that the problems were different,  
9 and that -- Well, what you really come back to is the  
10 proposition I suggested before, that there are going to  
11 be efficiencies in having a single administrator. There  
12 are also going to be some drawbacks and that the events  
13 that seem to spring to light as being flaws in nuclear  
14 regulation, as the result of Three Mile Island, don't for  
15 me, cut very strongly in the direction of the single  
16 administrator half as much as they do, a need for, as I  
17 say, this attitude that would encourage the questions to  
18 which emergency planning, operator training, reactor  
19 instrumentation, were the answers. Those questions weren't  
20 getting asked.

21 I don't think that the reasons why not have much  
22 to do with whether we're one or five people at the time.

23 Q Commissioner, to change the subject slightly,  
24 you are perceived by some ---

25 A Let me just add. I wouldn't say "weren't getting

1 asked," I'm sure that people could go back and find that  
2 the questions were being asked, they weren't getting  
3 effectively asked, they weren't getting asked, pursued,  
4 and answered.

5 Q Well, that's what I referred to earlier as  
6 not a failure of the safety, but a failure in management,  
7 that such a phenomenon demonstrates.

8 A Yes, but that is an attitudinal -- The kinds of  
9 management that lead to that result stem, I think, from  
10 the attitudes that share the agency's priorities, and  
11 that is, I think, a safety nature of leadership question  
12 that really is apart from whether, in effect, the various  
13 trains run on time in the various sections of the staff.

14 O I think that we have fallen into an enormous  
15 trap in considering that a single administrator or  
16 Commission form of government will create a new day and  
17 the blue bird of happiness will be ours by that one stroke.  
18 I think you would agree that either form with good  
19 leadership could carry the day and do a very credible  
20 job and one we would be proud of.

21 So that we are talking about incremental things  
22 that ---

23 A That's right. If you stipulate that both are  
24 going to be the excellent leadership at the top, then  
25 the problems become of a different nature than what we are

1 talking about here, whether nuclear regulation is suitable  
2 to the much broader swings that you can get from going to  
3 one administrator to the next with a change in the  
4 administration, and whether you can achieve the kind of  
5 independence that the Congress had in mind in setting the  
6 NRC up in the first place, with a single administrator  
7 structure.

8 Q Commissioner, you are perceived by some members  
9 of the nuclear industry as the public interest representative.  
10 The Commissioner who is principally interested in insuring  
11 that intervenors, the public at large get an opportunity  
12 to be heard and play a role in the decision-making in  
13 NRC judgments.

14 Do you, yourself, adopt such a mantle?

15 A Well, I'm always leery of the phrase "public  
16 interest" just because I have never been very confident  
17 that I know what it means in the abstract.

18 But as far as trying to make sure that diverse  
19 concerns get effectively heard in the agency, I care a lot  
20 about that and I think it comes back to the question Bob  
21 asked earlier about technical background versus other  
22 useful backgrounds.

23 I have come to feel, in whatever it is, 8 years  
24 now on regulatory commissions, that the regulatory  
25 processes do tend to obviously be tilted by the groups with

1 which they are in most frequent and effective contact,  
2 and one of the real weaknesses of all types of regulation  
3 is that it doesn't normally seek out and try effectively  
4 to hear the concerns of people who are skeptical about  
5 that regulatory agency's doings and its basic mission.

6 Q Do you feel that there have been substantial  
7 advances in insuring that the public is a participant in  
8 NRC proceedings?

9 A Certainly not as substantial as I would like,  
10 that is, we are not funding intervenors in any meaningful  
11 way. It is a continuing struggle to try and assure that  
12 what I think are proper -- well proper is the wrong word --  
13 useful procedures and cross examination and discovery,  
14 to pick two examples, are available in our most important  
15 hearings proceedings.

16 Q Do you see any possible advantage in a reexamin-  
17 ation of the licensing procedures in that the two  
18 hearing or the two licensing step transaction, it has been  
19 argued, never settles anything, that there is a reopening,  
20 a rehearing at the conclusion of the process.

21 A Let's see, I think there were two different  
22 questions wrapped in there, one having to do with the  
23 two-step hearing and the other having to do with the  
24 standards for reopening or reraising issues.

25 I suppose as -- my legal background would incline

1 me to be very surprised when I came in here and realized  
2 how much the review is deferred until the operating license  
3 stage in nuclear regulation. It first emerged in the  
4 fact that we have these ever-increasing budget requests  
5 with no new applications coming in, and that was a  
6 paradox that I only came to understand when I realized  
7 what a large part of the review was devoted to operating  
8 licenses, compared to construction permits, and that  
9 therefore, the lion's share of the OLs was what was  
10 driving the budget.

11 Now, from a purely legal point of view that  
12 doesn't make much sense. What one would obviously want to  
13 do would be to get the issues settled for the construction  
14 permit stage, because once the plant is built, it is going  
15 to be a lot harder to make changes effectively. What I'm  
16 told -- I know Joe Hendrie testified to the Udall committee  
17 that it would literally put an end to the nuclear industry  
18 if they were required to present the completed design at  
19 the construction permit stage, at least until we had  
20 gotten into a much more complete standardization program  
21 than we have now.

22 So I think what is driving the two-step process  
23 is less what makes sort of good order, tidy, legal  
24 sense than at least the perceived needs of those who are  
25 building the plants to be able to make significant changes

1 later on during the construction process.

2 Q It has been argued that if the Commission --  
3 if the staff were to look to criteria at the construction  
4 stage or at the first stage, there being but one stage,  
5 that the only continuing monitoring by the staff would be  
6 to insure that the criteria that were initially put forward  
7 by the licensee/applicant were, in fact met, and that the  
8 hearing would be on the criteria and the subsequent  
9 developments would . . . merely -- not merely -- but would be  
10 a monitoring to insure that there was adherence.

11 Is this something that you have considered or  
12 might think desirable?

13 A So there would be no operating licensing hearing --

14 Q That's right.

15 A -- at the end.

16 It seems to me that you could only do that in  
17 conjunction with an absolutely fundamental restructuring  
18 of the construction permit review.

19 At the moment -- Again, I guess that's what you  
20 are assuming?

21 Q Yes. Let me be less obtuse.

22 As we hear the pulling and hawing from various  
23 interest groups, the criticism from industry is that the  
24 multiple hearing gives the public interest groups multiple  
25 shots at blocking a particular plant or the location of a



1 plant.

2 A Which has never actually happened, though,  
3 there has only been OL hearings.

4 Q No, but what they are saying is the delay is  
5 built into the process and do you go forward if you are  
6 told that the process is going to take 14 years, that  
7 a reorganization from that -- What I'm postulating is  
8 the consideration of a reorganization from both the  
9 public interest point of view and from the industry point  
10 of view, that the current system does not serve either  
11 satisfactorily, unless you are prepared to say that there is  
12 an interest in those who are opposed to the process, to  
13 nuclear power, that they have a legitimate interest in  
14 an obscure, ineffective, time-consuming process which  
15 eventually works to their advantage.

16 I would assume that you don't hold any belief to  
17 support such a legitimate ---

18 A No. With those adjectives you can help me out.

19 It seems to me that if industry is prepared to  
20 get an application at the time of the construction permit  
21 review such that what is being reviewed is  
22 really the plant that will be built at the end, then there  
23 is the potential for at least shifting much of the review  
24 emphasis back to that stage.

25 The criterion both for reopening -- excuse me.

1 The criterion both for requiring an OL hearing and for  
2 requiring the changes during construction require an  
3 amendment to the construction permit, would then become  
4 very important. At the moment, I may be wrong, but I don't  
5 think we have ever -- I'm not sure quite the way to say  
6 that. But we do not have clear criteria for what  
7 represents an amendment to a CP, especially an amendment on  
8 which a hearing would have to be granted. And if you  
9 didn't have an OL hearing at the end of that process, that  
10 would become a really crucial focus.

11 The other consideration that can be added to  
12 improve the licensing process is certainly early siting,  
13 and the review and approval of sites in advance of the  
14 location of a particular plant.

15 Q And if there were to be a reexamination of this  
16 process, part of the reexamination could also envision  
17 intervenor funding, the use of the staff ---

18 COMMISSIONER BRADFORD: Just one second. Do you  
19 mind my consulting with Tom?

20 MR. ROGOVIN: No, go ahead.

21 (Commissioner Bradford confers with his legal  
22 assistant.)

23 BY MR. ROGOVIN:

24 Q Let me make sure my earlier comments were  
25 understood, I would also envision consideration given to

1       intervenor funding, intervenor possible use of staff,  
2       of the tasking of the staff, perhaps the setting up of a  
3       public counsel's office within the NRC to coordinate  
4       intervenor participation, and many of the advantages that  
5       one could find in other agencies, but brought to bear at  
6       an early stage and then a decision made by the Commission,  
7       one way or the other, and then the implementation of that  
8       decision through the monitoring and examination of the  
9       construction to insure that the plants is being safely  
10      built.

11           A       Let me just add one other factor to the importance  
12      of them getting the standards right for CP amendments and  
13      for a subsequent OL hearing, if there were new information.

14                   That is, that it would then also be very  
15      important to have a rigorous and clearly understood system  
16      of inspection and enforcement during construction, such  
17      that, practices that in some way deviated from the  
18      construction permit, from the commitments made, could clearly  
19      be halted and clearly be corrected, and clearly be  
20      used as a basis for civil penalties. The process we have  
21      now, in which a lot of commitments turn out to be very  
22      difficult or impossible to enforce, wouldn't be a satisfactory  
23      basis for a process in which there was no clear OL review  
24      at the end.

25                   BY MR. BERNERO:

1           Q     Commissioner Bradford, I'd like to shift gears  
2 here and pursue a point that came up in the transcript of  
3 your interview or deposition before the President's  
4 Commission.

5                     I'm on Page 53 of the transcript of that  
6 deposition which took place on the 10th of September.  
7 I want to read you a passage as a preamble to a question.

8                     In the context of discussing the connectors, the  
9 electrical connectors issue, you said the following: "I  
10 think I mentioned, at least in passing, that one of the  
11 concerns in all of this was, as to the special concern  
12 from a lawyer's point of view, the lack of enforceability  
13 of the regulatory framework that seems to lie behind the  
14 connector problem."

15                    You went on with other words, but it is this  
16 issue of "... lack of enforceability..." that I wanted to  
17 ask you about.

18                    Are you saying that in your belief the statutory  
19 authority of the agency has gaps in it, or that the practice  
20 of the agency has gaps in it?

21           A     More the latter, the combination of regulations,  
22 commitments and enforcement actions has gaps in it, that  
23 the -- I don't think there is anything in the Atomic  
24 Energy Act which would make it difficult to impose civil  
25 penalties on, to stay in that framework, people who said

1 that they would use qualified connectors and did not.

2 The problems lie more in the vagueness of what  
3 the term "qualified connectors" may turn out to mean, the  
4 requirements for documenting and of the ability to enforce  
5 the commitment that was actually required of the licensee.  
6 It is not a statutory problem.

7 Q Okay, so in other words, you are saying then that  
8 given the statutory authority that the agency has, it can  
9 indeed go into a licensing issue, such as that, and set  
10 up for itself, adequate regulations to define the needed  
11 performance criteria, whatever they might be.

12 Would you say that the same is true ---

13 A One qualification there. The Commission is  
14 seeking to raise the level of its civil penalty authority,  
15 and I think that is probably necessary.

16 Q Yes. I didn't mean to go into that, that is just  
17 to enhance the effectiveness of enforcement action.

18 A Right.

19 Q If you face the same issue of agency authority  
20 in crisis reaction or crisis management with respect to  
21 action regarding the licensee's operation of the plant,  
22 do you feel that the agency has all of the safety authority  
23 it needs in the statute, to take an effective role in  
24 ordering the licensee to do something or to not do  
25 something?

1 A During a crisis?

2 Q During an emergency.

3 A Well, I'm told by OGC and also by NRR, during  
4 Three Mile Island that they did not doubt that they had  
5 the authority to take any action, and I have no basis to  
6 second-guess that. It may be that since then they have  
7 had some second thoughts, but as far as I know, we have  
8 whatever authority we would need to require licensee  
9 action.

10 Q Would you agree that there is a need for the  
11 agency to clarify how it would exercise that authority  
12 and when it would do so?

13 A Yes. That is with the understanding that it  
14 is never going to be possible to foresee all situations.  
15 The important thing is to make the criteria as clear as  
16 we can.

17 Q Okay.

18 MR. BERNERO: With that clarification, I would  
19 suggest that we break for lunch.

20 COMMISSIONER BRADFORD: No objections.

21 (Whereupon, the taking of this deposition was  
22 adjourned for luncheon at 12:15 noon.)

23

24

25

AFTERNOON SESSION

1:20 p.m.

BY MR. BALLAINE:

1 Q Let me direct your attention now, sir, to  
2 March 28, 1979.

3 You have indicated on prior occasions --

4 A Oh, yes, that. I thought you would never ask.

5 Q -- Or you hoped I would never ask. One or the  
6 other.

7 -- You have indicated previously that you spent  
8 some time at the Incident Response Center. Approximately  
9 how long were you there?

10 A Roughly 2 hours. To the extent that my logs  
11 differ from anything I tell you, use the logs because it has  
12 been a long time.

13 Q During your time there, did you make any  
14 observations with respect to the way in which the Center  
15 was operated that you would want to share with us now?

16 A It is very hard, and I have put this same question  
17 in to the two other interviews or depositions that I have  
18 had on the accident, for me to separate what I know now  
19 from what I knew at the time, and it was easy to fall into  
20 a trap of inserting subsequent knowledge as an observation  
21 at the time. I will try not to do that.

22 I went to the Response Center, not because I had  
23 any sense of the seriousness of the accident, but because  
24 I had never been there when it was in operation and wanted  
25 to get some feel for what went on there. Because I didn't

1 have a sense of the seriousness of the accident, and in fact,  
2 wasn't to get that sense for another 48 hours or so, I didn't  
3 assess the operations of the Response Center with a  
4 critical perspective of how they were dealing with a major  
5 reactor accident. I had the sense the plant was, while  
6 not completely under control, whatever had happened had  
7 happened and things were now coming back to normal and the  
8 accident was being wound down.

9 Against that background, the Center seemed to be  
10 functioning perfectly well, and in retrospect, obviously  
11 since that wasn't the case, there was a serious problem ---

12 Q I'm just interested in what your impressions were.

13 A -- at least between what was actually happening in  
14 the Center and what was actually happening in the reactor.

15 The greatest difficulty then -- it was obvious  
16 even then -- Vick Stello was having a very hard time  
17 getting accurate and complete information both about  
18 conditions in the reactor and about the licensee's intentions  
19 and explanations for why the licensee was doing what he  
20 was doing. And Vick was working very hard on the telephone,  
21 which is a pretty frustrating instrument if you haven't  
22 got the person on the other end that you need, and it was  
23 clear that there was a problem there, that he wasn't getting  
24 the information that he needed.

25 But as to the functioning then, within the



1 Response Center between the three rooms, I didn't observe  
2 anything that troubled me at the time.

3 Q As with respect to your observation that Mr.  
4 Stello was having some difficulty finding out the licensee's  
5 intentions with respect to the reactor, was there anything  
6 in particular that occurred to you that should be done or  
7 were you present during any conversations when people were  
8 discussing what should be done to rectify that particular  
9 difficulty?

10 A Let's see, rectifying it wasn't discussed while  
11 I was at the Center. I'm trying to remember just when the  
12 decision was made to send Dick Vollmer up there. I think  
13 that was later that same day, and the expectation was that  
14 the more senior NRC people that got there it would improve  
15 communications within the site and the Center.

16 Q So, Vollmer, among other things, could be the  
17 link to the licensee to determine the licensee's intentions  
18 with respect to how to deal with the reactor?

19 A I don't know that it was that specific. Vollmer's  
20 presence would just give us a more senior person there to  
21 direct the NRC efforts on the site, including the business  
22 of communicating back to Bethesda of what was really going  
23 on.

24 Q At any time Wednesday, were you aware as to whether  
25 or not somebody at the Incident Response Center had a line

1 to the senior management at Med Ed or GPU or someone  
2 connected with the utility?

3 A No, I was not.

4 I'm just trying to remember if there was  
5 anything that would definitely -- that made me conclude  
6 that they did not, and I think the answer to that is, "no",  
7 that the expressions, for example, of dissatisfaction with  
8 the technical depty that GPU could bring to bear and the  
9 need to get Babcock and Wilcox involved, I think came mostly  
10 later, perhaps Thursday, and certainly Friday. I don't  
11 remember that on Wednesday.

12 Q So the subject just never came up?

13 A As far as I was concerned, really, through Thursday,  
14 it was a condition that was improving, and consequently  
15 there just wasn't the urgency of establishing better  
16 communications that there would have been if I had felt  
17 that the situation was deteriorating, or was still very  
18 uncertain.

19 Q We've talked in terms of Mr. Stello's difficulties  
20 in finding out the licensee's intentions, was it your  
21 observation even more generally that there certainly was  
22 some deficiency as respects to the quality of information  
23 that was coming back from the site as to what was going on  
24 in the reactor?

25 A Yes.

1 Q As with respect to that problem, did you, at  
2 any time Wednesday, have any conversations with Mr. Ahearne  
3 about that, who also was at the Incident Response Center?

4 A John and I talked while I was at the Response  
5 Center and we were often two parties in conversations that  
6 included two or three others. So the subject was certainly  
7 touched on, but we never stood aside and said, "What can  
8 we do about remedying the information problem?"

9 Q As best you can recall, was it your impression  
10 that sending Volimer to the site, basically would  
11 alleviate the problem of the quality of information  
12 coming from the site?

13 A Yes.

14 Q Now, when you talked about your expectations  
15 as to ---

16 A There were other dimensions of the problem,  
17 that is technical difficulties with having a telephone  
18 through Region I or just the fact that the phones often  
19 seemed to be busy on the site itself. Something was  
20 obviously going to have to be done about that, aside from  
21 simply sending Vollmer, but I guess my sense was that  
22 whatever needed to be done in that respect would also  
23 more easily get done, once the senior person was at the  
24 site.

25 Q With respect to your statement that something

1 obviously would have to be done to improve telephone  
2 connections, what did you think was going to be done and  
3 by whom?

4 A I wasn't sure either what was going to be done  
5 or by whom, again, because the situation in the reactor  
6 didn't seem as urgent as I subsequently learned that it was.  
7 I just didn't pay the degree of attention to that, both  
8 that I wish now that I had, and also that we were to come  
9 to pay to it on Friday.

10 Q By the way, at anytime while you were at the  
11 Incident Response Center, did you make any suggestions or  
12 give any directions to the staff people who were working  
13 there?

14 A No.

15 Q Now, with respect to ---

16 A Other than perhaps something having to do with  
17 keeping the Commission advised as to what was going on.  
18 Certainly nothing having to do with actions to be taken at  
19 the site.

20 Q With respect to this decision to send the Vollmer  
21 team to the site, you have already indicated what your  
22 expectations were, I wonder if you can tell me what the  
23 basis for your expectations were? Were you told something  
24 specifically, something that was some assumptions you  
25 may have made or what?

1           A     I'll tell you the place I would look. I don't  
2 remember now, but the place I would look would be the  
3 6:00 o'clock briefing that the Commission had on  
4 Wednesday from the staff by telephone. Whatever was said  
5 in there shaped whatever expectations I had.

6           Q     Did you have the impression, by the way,  
7 Wednesday or even Thursday morning, by the time of the  
8 briefing by the staff that Mr. Vollmer was going to --  
9 when he arrived at the site to be the senior manager, and  
10 I don't mean the senior NEC official, but the "man" in  
11 charge of all the NRC personnel at the site?

12          A     Generally, yes, although I guess I hadn't given  
13 a lot of thought as to how that would work out in terms  
14 of the relationship with I&E, Inspection and Enforcement,  
15 and Region I.

16                   (Discussion off the record.)

17          COMMISSIONER BRADFORD: Let me just elaborate  
18 on that last answer to the extent of saying that I didn't  
19 have the sense that we were sending Dick Vollmer up there  
20 to take on the role of Harold Denton, later to come, that  
21 is, interacting with Governor Thornburgh and President  
22 Carter and the news media on a grand scale.

23                   But in terms of the framework of your question,  
24 that is, NRC people at the site, yes.

25                   BY MR. BALLAINE:

1 Q Yes, I just wanted to see whether in your mind  
2 that was the senior management official responsible for  
3 the activities of the people at the site.

4 A Yes.

5 Q On Exhibit 5091, which is your telephone log  
6 or your secretary's telephone log, there is an indication  
7 about a telephone call involving Doug Costle, C-O-S-T-L-E.

8 Was that a call that was related in any way to  
9 TMI or did it cover some subject unrelated?

10 A The later calls involving Costle, those on  
11 Friday, certainly were.

12 If I remember rightly, and one would have to  
13 check the telephone logs for a day or two before, this  
14 call had to do with another subject and was probably his  
15 returning the call that I had made a day or two earlier.

16 Q By the way, I notice "P.B." initials over in  
17 the lefthand column, does this have some significance?

18 A It is a good thing you asked that question,  
19 because that contradicts what I just told you. "P.B.",  
20 I think, in Ann's notation means that I made the call,  
21 and the 10:00 o'clock notation here probably means  
22 that that's when it was returned. You might just want  
23 to confirm that with Ann on your way out, but I think  
24 that's the way these notations work. So I think what that  
25 means is that I called him and then he called back at 10:00.

1 Q Okay, well -- If what you say is true, then  
2 there were two separate calls, I gather, placed by you  
3 to Jessica Mathews, according to this telephone log, on  
4 the 28th. Do you have any recollection of those calls?

5 A Only in general terms, and the same answer, I  
6 think, that is that they were not TMI-related. I did  
7 not talk to her again, apparently later on that weekend.  
8 I think that she did talk several times with Victor  
9 Gilinsky.

10 (Discussion off the record.)

11 BY MR. BALLIANE:

12 Q Directing your attention to Thursday, March,  
13 29th.

14 There was a briefing that morning by staff  
15 members with respect to the situation at TMI. Do you  
16 recall whether you had any particular concerns in your  
17 mind that you were hoping would be raised or something  
18 that could be thrashed out during the briefing?

19 A This is the Thursday morning meeting?

20 Q The Thursday morning briefing by the staff of  
21 the Commission.

22 A Just one question that carried over in my mind  
23 from what I had heard the day before, and I did ask it  
24 at the briefing which is: I was still trouble by the  
25 dome monitor, the one that gave the very high radiation

1 reading. And everyone was saying that it was obviously  
2 roken. I didn't have the technical background, really  
3 to second-guess that, but I just wanted to come back to  
4 that and see if that was still the consensus, just because  
5 it seemed to me to be a funny way for an instrument to  
6 fail, to have gone up, and up, and up, and up without any  
7 reason.

8 Q Was that concern removed or diminished in any way  
9 after the briefing was over?

10 A Well, yes, because the thrust of the briefing  
11 again was that the primary objective was still to get on  
12 the residual heat removal system and satisfactory progress  
13 in that direction was being made and things should be under  
14 control within an hour or two, and that one instrument just  
15 wasn't corroborated by the readings from the operating  
16 level in the containment. And it was also asserted that  
17 the measurements, the so-called shine measurements,  
18 outside of the containment were not consistent with the  
19 readings anywhere near as high as that instrument was  
20 giving.

21 I think all of that is in the transcript.

22 BY MR. BERNERO:

23 Q I would like to pursue this point a bit,  
24 Commissioner.

25 Was your sense of misgiving associated with the



1 one instrument or was more general? Perhaps maybe I should  
2 amplify the question.

3 It seems in retrospect that the bulk of that  
4 briefing to the Commission contained statements of  
5 imprecise or nonexistent knowledge of what had happened in  
6 the plant, what sort of condition it was in. Did you  
7 come away from that briefing with a general sense of  
8 misgiving?

9 A Not on that subject.

10 I had not then, and didn't really begin to until  
11 Roger Mattson's phone call in the middle of the day, Friday,  
12 begun to focus on what might still be going on in the core,  
13 and this is an area where the absence of technical  
14 sophistication, obviously was a disadvantage to me. It  
15 was the kinds of things I thought I could understand,  
16 which dealt much more with radiation levels offsite, and  
17 whether there was a reason for a continuing concern about  
18 emissions of the radioactivity that had already accumulated  
19 somewhere in the system and I wasn't exactly sure where.

20 I just didn't have any sense on Thursday that  
21 there might still be problems inside the reactor that we  
22 ought to be worried about. I still have that sense that  
23 that part of the accident was over with and there were  
24 some difficulties in getting the right pressure, and  
25 temperature configurations to go on to the residual heat

1 removal system, none of which I knew very much about, but  
2 I was more or less reassured as to that part of the  
3 accident. In retrospect you are right, reading that  
4 transcript there is just a large gap in the area of what  
5 was going on in the reactor.

6 BY MR. BALLAINE:

7 Q According to the chronology of events which is  
8 Exhibit 5092, on Thursday, there is a notation at 2:30 --  
9 actually, excuse me. I'm interested in the one at 1:30,  
10 "Discussed dangers to pregnant women with Tom Gibbons."

11 Is this the first time, as best you recall, when  
12 you discussed this issue of pregnant women's susceptibility  
13 to radiation?

14 A Yes. I had asked either a technical intern  
15 or maybe Hugh Thompson, my technical assistant, to  
16 explain to me more clearly than I then understood, what  
17 the health and safety significance of levels of exposure  
18 in the 20s and 30s and 40s of milirem per hour might  
19 mean, and ---

20 Q These were figures you had heard in the briefing?

21 A Yes, I had heard here in the briefing.

22 -- And the answer was couched in part in terms  
23 of comparisons to things like chest x-rays, which on the  
24 one sense is reassuring, that is, well it is not much more  
25 than a chest x-ray. But on the other hand, raised in my

1 mind the thought that one doesn't give chest x-rays to  
2 certain types of people, such as pregnant women if it can  
3 be possibly avoided. Therefore, if there were, in fact,  
4 pregnant women who were getting the equivalent of a  
5 chest x-ray every hour or two or three in the area near  
6 the reactor, that was a concern I hadn't really focused on  
7 before.

8 Tom's wife happened to have been pregnant at  
9 that time, which is maybe why we had a special little  
10 discussion on it.

11 That actual notation must have come from you,  
12 Tom, because it is not something that I have written down  
13 anywhere.

14 MR. GIBBONS: Yes, that is correct.

15 A -- It must have come when Tom was helping to  
16 fill out my chronology, he must have recollected that.

17 Q Well, I notice according to the chronology there  
18 is a later reference to a communication involving pregnant  
19 women, but I guess what I will ask you is just to tell  
20 me as best you recall, in sequence, any other communications  
21 or conversations you had during the course of that day,  
22 Thursday, with respect to this particular issue?

23 A Well, I just remembered talking about that  
24 question and I can't spot it specifically Thursday  
25 afternoon versus Friday morning, with Hugh Thompson and

1 Myu, M-Y-U, Campbell who was then an intern in my office.  
2 And we probably talked about it three or four times that  
3 afternoon.

4 The reference in the chronology here is -- it has  
5 to do with the fact that Victor Gilinsky was talking to  
6 Lieutenant Governor Scranton, and by then I had become  
7 sufficiently concerned about that question, at least, that  
8 I thought we ought at least to raise it with -- I thought  
9 I ought to at least raise it with Victor and let him  
10 decide whether or not to raise it with the State of  
11 Pennsylvania or whether we should just think about it  
12 some more first.

13 Q I take it he was on the phone when you passed  
14 him the note?

15 A As I remember it, yes. Do you recall that?

16 MR. GIBBONS: I wasn't there. That's what you  
17 told me when you came back.

18 BY MR. BALLAINE:

19 Q I guess the question that I'm interested in  
20 merely is whether you were called from Mr. Gilinsky  
21 saying something over the telephone?

22 A I'm sorry to say, I do not.

23 Do you recall what I might have told you when  
24 I came back?

25 MR. GIBBONS: I just remember that you told me

1 that Victor was on the phone.

2 COMMISSIONER BRADFORD: I think that is  
3 probably right.

4 I think I went down to his office to discuss  
5 the concern with him, found that he was on the phone to  
6 Lieutenant Governor Scranton and may have simply left him  
7 a note and went back to my own office.

8 BY MR. BALLIANE:

9 Q Any particular reason why you went to discuss it  
10 with Commissioner Gilinsky?

11 A No. In terms of my normal interactions with other  
12 Commissioners ---

13 MR. GIBBONS: Could we go off the record?

14 MR. BALLIANE: Yes.

15 (Discussion off the record.)

16 COMMISSIONER BRADFORD: I can't recall whether  
17 I knew that Victor was about to speak with officials in  
18 Pennsylvania.

19 He, you remember, had been Acting Chairman, the  
20 first day of the accident, and on Thursday afternoon he  
21 was still continuing to carry many of those functions  
22 because the Chairman had gone up to brief the Congress  
23 about the accident. So it is possible that I went  
24 specifically because I knew that he might be talking to  
25 the State officials from Pennsylvania later on during the

1 day.

2 It is also just possible that this is something  
3 that I would naturally have taken up with him, because on  
4 many matters, among the Commissioner, he and I tend to have  
5 a similar perspective.

6 BY MR. BALLAINE:

7 Q Now, according to the telephone log Thursday,  
8 there is a notation of a conversation with Dan Ford. I  
9 guess that is also reflected in your chronological log.  
10 Do you have a recollection of your conversation with him?

11 A I have a recollection of a conversation with Dan  
12 which began -- it was his call -- Yes, that would fit with  
13 this one (Looking at the document.) -- in which he was  
14 basically just calling to inquire what was actually  
15 happening.

16 I don't remember the specifics any more than  
17 that. He was, for some reason, dissatisfied with the  
18 information that he was able to obtain from the radio and  
19 the newspapers, and ---

20 Q Any particular conversations about evacuation,  
21 for example?

22 A Not that day, no. I think this should reflect  
23 a later conversation with Dan Ford when evacuation was  
24 discussed. But I don't remember it on Thursday. You could  
25 ask him and it would probably be clearer in mind than in

1 mine.

2 Q The Incident Response Center tapes reflect on  
3 Day 2, Channel 10, No. 422, a conversation which we think  
4 we have identified as involving Hugh Thompson and Jim  
5 Sniezek.

6 I'm going to have this marked as Exhibit 5094.

7 (Exhibit 5094 identified.)

8 Q Now, there is no indication on this that you  
9 were part of the conversation, okay, so I'm just using  
10 this as a reference point. The Exhibit is 3 pages in  
11 total.

12 According to the transcript, Hugh Thompson  
13 is identified as saying: "Commissioner Bradford wants  
14 some additional information as soon as we can reasonably  
15 get it with respect to the radiation level at York Haven  
16 and the surrounding communities."

17 Do you have any recollection of wanting such  
18 information?

19 A As to the areas around the reactor, yes. I  
20 don't remember designating York Haven in particular.

21 Q I was wondering if there were any particular  
22 communities that you were concerned with on Thursday, for  
23 some reason or another?

24 A Well, Goldsboro would have been the one right  
25 across the river, but again, I'm not even sure how many

1 communities that I knew the names of on Thursday.

2 May I just read through this, because I had  
3 not come across this one before.

4 (Commissioner Bradford reads the document.)

5 Q Now, that you have read it, does it refresh  
6 your recollection any further as to ---

7 A No, it does not. I'm sure Hugh is reflecting  
8 the concern I expressed, that we get that information  
9 and get it with reasonable frequency.

10 In fact, what interested me as I read through  
11 it is that I don't recall -- we certainly didn't get it  
12 at four-hour intervals as Hugh requested, and there may  
13 have been only one or two calls that fell into that  
14 area.

15 Q Now, is it your testimony that you are  
16 generally interested in radiation readings in the area  
17 of the site as distinguished from some particular interest  
18 in certain readings in certain areas?

19 A Yes. Yes, I'm not sure how York Haven got in to  
20 the discussion, unless that happened to be the downward  
21 direction of the plant.

22 Q According to your telephone log there is also  
23 an indication of a telephone conversation involving Saul  
24 Levine. Was that in any way related to TMI?

25 A Almost certainly not, but I can't remember what it



1 was related to.

2 Remember, the Commission schedule on Thursday  
3 afternoon will show a couple of meetings that has nothing  
4 to do with TMI. Apparently we were sufficiently sanguine  
5 about the state of affairs at the reactor, to go back to  
6 meetings on -- let's see, one is our "Relationship to  
7 the DOE Program for Dealing with Highlevel Wastes," and  
8 I'm not sure what the 4:45 meeting was.

9 Q All right.

10 For the record, the witness was referring again  
11 to the draft chronology which is 5092.

12 Now, according to this same draft chronology,  
13 at approximately 5:30, Mr. Gibbons got you out of a  
14 meeting and told you about radioactive water. Does this  
15 relate to that so-called industrial waste dumping issue?

16 A Yes, it does. We didn't appreciate that it  
17 was industrial waste dump at the time, it just seemed  
18 more serious than that.

19 Q Okay.

20 Why don't you tell me in your own words the  
21 sequence of events, as best you recall, just on Thursday,  
22 on that particular matter?

23 A At some point, maybe it was that Thursday morning  
24 briefing, the Commission indicated to the staff through  
25 Commissioner Ahearne that obviously none of this water was

1 to be released without Commission approval. I don't  
2 remember whether that was on the transcript, or just  
3 informally after the meeting.

4 Then late in the day, actually it was during  
5 what appears on this chronology as the 4:45 meeting, word  
6 came in that in fact, water -- I think from the Auxilliary  
7 Building as we first understood it, had been released.

8 Q Do you think you believe this was water on the  
9 floor of the Auxillary Building that had come out of the --  
10 that was coolant water?

11 A The assertion was made, I think, that it was water  
12 that was well within the Tech Specs, and I don't -- I think  
13 I would have assumed that it couldn't possibly have been --  
14 Well, I may have assumed it was coolant water, given that  
15 I didn't have any real idea of the extent of the damage  
16 to the core at that point.

17 I just didn't have any very clear picture of where  
18 it might have come from. It just seemed to me to be a  
19 bad idea for the water to be leaving the site and going  
20 into the river, given how little we knew, unless it  
21 absolutely had to.

22 Tom told me about it and in talks with John  
23 Ahearne, who was especially exercised because it  
24 contravened his specific understanding of the instructions  
25 he had given in the morning. He then went and talked to

1 the Chairman and the Chairman, I think, called the  
2 Response Center ---

3 Q You weren't present during that call?

4 A I was not. I think I have read the transcript  
5 of it, but I was not there.

6 Q Did you or other Commissioners in your presence  
7 have any further involvement on Thursday, that you recall,  
8 with respect to this particular issue?

9 A Well, later on that night, probably 9:00 or 10:00  
10 o'clock, John Davis, I think, called me. He told me that  
11 it had stopped, and also that it was the industrial waste  
12 water. And I think I first told John that they ought to  
13 be very sure and call Commissioner Ahearne to make sure  
14 that he knew that, and I decided with all the confusion  
15 it was better if I just called him myself. So I think I  
16 called him directly, and John Davis may have as well.

17 Q Did there come a time later on, either Thursday  
18 or Friday, when you found out that somebody from NRC had  
19 given permission for them to actually dump some of this  
20 industrial waste water?

21 A I don't remember it.

22 Q Do you recall whether or not it was a subject  
23 that was discussed again after, for example, 9:00 p.m. --  
24 the 9:00 p.m. conversation with Commissioner Ahearne?

25 A I think not. Remember, that by the next morning

1 it was overtaken by so much more serious concerns, and  
2 I just don't remember coming back to it again.

3 BY MR. CHIN:

4 Q One question here, Commissioner Bradford.

5 Were you aware of any controversy between NRC  
6 and the Commonwealth of Pennsylvania over this particular  
7 release, during that evening?

8 A Now that you mention it, I think that we were  
9 told at the time that the Commonwealth of Pennsylvania  
10 was pretty upset about it, but I hadn't thought about  
11 that in -- what is it, 7 months now since then. So it  
12 is a pretty foggy recollection.

13 BY MR. BALLAINE:

14 Q When you say, "... at the time..." do you mean  
15 the first time you heard of it or is that ---

16 A Yes. Between the time Tom Gibbons first told  
17 me about it at 5:30 and the time John Ahearne went and  
18 talked to Joe Hendrie. I think someone mention ' that the  
19 Commonwealth of Pennsylvania wanted it stopped.

20 BY MR. SCINTO:

21 Q Wanted the discharge of the water stopped? Is  
22 that what you are referring to?

23 A That's my belief, but always with the caution  
24 that ---

25 Q Okay. I recognize that. I was going to ask you

1 the question and I thought you said the Commonwealth  
2 wanted it stopped, and I wasn't sure whether you were  
3 referring to the discharge of the water or the NRC's  
4 intervention?

5 A Ah, no, the discharge of the water.

6 Q Okay, that's what they wanted stopped?

7 A Yes.

8 BY MR. CHIN:

9 Q Do you recall any controversy arising out --  
10 feeling that the Commonwealth felt that it was NRC's  
11 responsibility to stop the water rather than the  
12 Commonwealth?

13 A I don't know what the Commonwealth's feeling  
14 in the matter was. Certainly, in terms of the overall  
15 posture of the State role in protecting people from  
16 radioactivity from nuclear reactors, it would have to have  
17 been the NRC in all likelihood, the issue in the order,  
18 because the states are basically preempted in that area.

19 I won't say, "would have to have been," but it  
20 might well have seemed to them that the order could better  
21 cover from the NRC.

22 Q And you agree with that?

23 A Yes. I think legally we would be on sounder  
24 ground having the order come from the NRC.

25 That is not to say that there isn't some way

1 the State could have found, in an emergency, to enforce it,  
2 but as a general proposition, because it is a matter that  
3 involves radioactivity and it involves a power reactor,  
4 much clear authority lies with the Federal Government.

5 BY MR. BALLAINE:

6 Q I notice, by the way, on the telephone log there  
7 is also an indication, I take it, that you called Jessica  
8 Mathews, but I gather you didn't get through and had to  
9 leave word.

10 A Yes.

11 Q Do you have any recollection of why it was that  
12 you were calling her?

13 A I think that I do, and I think that it was non-  
14 TMI.

15 Q Directing your attention now to Friday morning,  
16 March 30, 1979 --

17 A That was non-TMI.

18 Q Okay.

19 Now, on Friday morning, early in the morning,  
20 you had a -- you met Mr. Gibbons and a third person in  
21 the morning for breakfast, I understand?

22 A Yes.

23 Q Did that relate, in any way, to TMI?

24 A No, it did not. The third person was the  
25 General Counsel of the Maine Public Utilities Commission, and

1 he happened to be in Washington. In fact, to note that  
2 his name appears on the chronology as having been present  
3 at the meeting Thursday night, we discussed ---

4 Q Horace Libby?

5 A Yes. He was in town, we have both known him  
6 from the days when we worked on the Maine Public Utilities  
7 Commission. So he sat in on that meeting and then we had  
8 breakfast with him Friday morning, but that was not really  
9 TMI related. In fact, it was not TMI related at all.

10 Q Now, with respect to Friday morning, obviously  
11 there came a time when you first were present and received  
12 information from the staff, there had been some kind of  
13 a reading from the site and a recommendation for evacuation.

14 Do you remember whether your first impression  
15 was that there had been a staff position favoring  
16 evacuation out some distance as a result of what had  
17 happened that morning?

18 A My impressions -- I can recreate them in  
19 general, but the specifics are pretty blurred.

20 My impression was that there had been a  
21 significant release of radioactivity, I believe the number  
22 used was 1200 milirem and it wasn't clear whether that  
23 was calculated or measured, as the conversation went on.

24 At one point Harold Denton certainly said that  
25 an evacuation recommendation had been made to the State of

1 Pennsylvania. Joe Fouchard then said right afterwards,  
2 that they are waiting for you to call and confirm it, or  
3 words to that effect. And the difficulty is that I have  
4 read the transcripts since then, so I know what I should  
5 have known and I think that is a fairly accurate appraisal  
6 of what I actually heard and knew.

7 I did not come away with the feeling that there  
8 had been a clear and unequivocal consensus arrived at  
9 in the Response Center, that that had been transmitted to  
10 the State of Pennsylvania and we were now being informed of  
11 it as well, though that may be what Harold intended to  
12 convey.

13 The conversation didn't start out that way. The  
14 conversation started out with Lee Gossick talking about  
15 release numbers, and then kind of wondered around with  
16 some conversation about releases, something about calling the  
17 State of Pennsylvania.

18 Q Now, by the way, with respect to that 1200 mr  
19 reading, do you remember what your initial impression was,  
20 your first impression was as to where that calculation,  
21 for what point that calculation or reading was made with  
22 respect to the site, over the site, site boundary, two  
23 miles out, whatever?

24 A No, I certainly don't recall it now. If it is  
25 not in the transcripts ---



1 Q I am interested in your impression?

2 A I think that the time, my impression was that  
3 it was a calculated release rather than a measured one,  
4 but that later on in the course of the same conversation,  
5 someone else suggested that -- whether by coincidence or  
6 what, that the same 1200 milirem number had been measured  
7 over the stack.

8 So I think that there was a good deal of  
9 confusion as to whether it was a calculation -- the best  
10 I can recall, the first number was a calculated one and  
11 then there was a measured number, which was the same. But  
12 the calculated one was offsite and the measured one was  
13 over the stack.

14 Q Let me clarify one thing.

15 Where were you when this series of conversations  
16 first began with Mr. Gossick? In your office?

17 A Those conversations were all in my office.

18 For reasons I don't recall now, I think  
19 Commissioner Gilinsky came to my office around 9:30, right  
20 after we had gotten a phone call from the Response Center.  
21 He had had a call directly from Gossick, and then I think  
22 John Ahearne came in a moment or two later.

23 Q As the conversation with Gossick was going on?

24 A No. The conversation with Gossick really  
25 began, as I remember it, after all five Commissioners got

1 there, although possibly after -- just after the Chairman  
2 got there.

3 Q For what it is worth, let me just show you the  
4 transcript of March 30th. Really, the only question I  
5 have is whether from recollection, you can tell us how  
6 much conversation you had before what is recorded in  
7 the transcript.

8 A I see. Okay, so your problem --

9 Q Yes.

10 A -- Your problem is that you don't have the  
11 beginnings of this conversation. Was it not recorded on  
12 the Response Center tapes?

13 Q It is not clear to me. For some reason we don't  
14 get anything that -- Well, we get very small snatches,  
15 but I have a feeling something is missing, don't you?

16 MR. BERNERO: Yes.

17 MR. BALLIANE: I don't know why.

18 MR. BERNERO: Switching channels there, that  
19 happens all the time to trace a conversation.

20 BY MR. BALLIANE:

21 Q They got you and they got John Ahearne or  
22 something like that, because maybe this much worth of  
23 conversation is very small lines, and then it gets into  
24 here. Now, maybe that's everything and that's why I'm  
25 interested as to the sequence?

1 A No. I can't recall anything that predates this  
2 anymore.

3 Tom's notes would be the only independent source  
4 we have, a record of what was said before the tape arrived.

5 Q Now, am I correct --

6 MR. GIBBONS: If we could go off the record?

7 MR. BALLAINE: Just do it on the record.

8 MR. GIBBONS: All right, we will go on record.

9 My notes show Kennedy coming in at 9:37, and  
10 I had had the squawk box going to the other people starting  
11 at 9:30. So there was 7 minutes.

12 MR. BALLAINE: And Commissioner Kennedy is there  
13 right away?

14 MR. GIBBONS: Kennedy is right there right away,  
15 so there is 7 minutes that went on.

16 MR. BALLAINE: Of something.

17 COMMISSIONER BRADFORD: And do your notes give  
18 any indication of what was said in those 7 minutes?

19 MR. GIBBONS: Yes.

20 (Commissioner Bradford looks at Mr. Gibbons' notes.)

21 COMMISSIONER BRADFORD: It looks as though  
22 evacuation was at least discussed in that 7 minute segment,  
23 but I can't remember in what terms.

24 BY MR. BALLAINE:

25 Q Okay. Am I correct that it was your opinion that

30

1 the staff had recommended evacuation and that the  
2 Commission should, therefore, affirm that recommendation  
3 to the State?

4 A Tom's notes show, though the transcript does  
5 not, my saying at one point that it would seem to me that  
6 the conservative thing to do was to go ahead and confirm  
7 the staff ---

8 Q And that's your recollection?

9 A Yes.

10 MR. GIBBONS: Could we go off the record for  
11 one second?

12 MR. BALLAINE: Yes.

13 (Discussion off the record.)

14 MR. BALLAINE: On the record.

15 Off the record, Mr. Gibbons said something to  
16 the Commissioner about whether they knew that Mr. Collins  
17 had actually called the State, or something like that.

18 BY MR. BALLAINE:

19 Q I do understand, and all I really care about is  
20 that you did have some view that there was a staff  
21 recommendation?

22 A That the staff had communicated to the State  
23 and that an evacuation was in order. But whether -- I think  
24 it was also clear, from the thrust of what Joe Fouchard was  
25 saying throughout that conversation, that the State wanted

1 some kind of confirmation from the Commission itself.

2 It also was not clear whether this was a staff  
3 consensus, because you had Harold Denton on the one hand  
4 saying we recommended it a while ago, and Brian Grimes  
5 saying he didn't think it was in order.

6 Q Do you have a recollection of that at the time,  
7 by the way?

8 A Not independently of having reviewed the  
9 transcripts, but I do have a recollection at the time, that  
10 there were different staff views, and then I think you  
11 have later, Denton actually saying he is not so sure about  
12 it anymore, either.

13 I gather now that Grimes, had in fact,  
14 communicated his review separately to the Chairman before  
15 the transcripts started. I did not know that until fairly  
16 recently, but I gather it is in the deposition of the  
17 Hart Committee.

18 Q Now, were you present when Chairman Hendrie  
19 first got a telephone conversation with the Governor?

20 A Yes.

21 Q As of that time, it was still your opinion that  
22 whatever the staff had recommended should be also  
23 recommended on behalf of the Commission by the Commissioners?

24 A That's what I would have done at the time, when  
25 it came to calling up the Governor, but it seemed to me that

1 this concern whether people might get more of a dose by  
2 going out of their houses and somehow coming across the  
3 plume, was a legitimate one. So I didn't feel strongly  
4 enough about my own separate feeling to feel that I should  
5 say, by the way, Governor, the vote is 4 to 1 or something  
6 of that sort.

7 Q Actually, you are anticipating some other  
8 questions.

9 My first question in this regard is do you  
10 remember whether you had any idea what Chairman Hendrie  
11 was going to recommend, if anything, to the Governor  
12 during that first conversation?

13 A I think that I did not, as the conversation  
14 began.

15 Q Did you have any impression as to whether there  
16 had been any so-called collegial decision at the time of  
17 this first conversation with the Governor and the Chairman?

18 A No. I think that the best description I could  
19 give of the process was that the Chairman had either  
20 arrived at his own decision as to what he wanted to say,  
21 or had simply sensed a consensus and felt he was conveying  
22 it. But there was certainly no process of voting or  
23 even a formal once-around-the-table each person expresses  
24 his views of that discussion.

25 Q Did you have any sense, by the way, as to the

1 consensus of the Commissioners at that time?

2 A No, I really did not. I think you just have to  
3 let each one speak for himself as to what he felt was in  
4 order at that point in time.

5 There was a real tension between, in effect,  
6 doing what seemed to me to be the conservative thing,  
7 which is confirming the staff recommendation on the one  
8 hand, and on the other, this perception that that might,  
9 in fact, not be the conservative thing if people could  
10 get more of a dose by moving around. And on the third  
11 hand, also there was always the expectation that more  
12 information might come in shortly as to whether the  
13 release was still going on or had been terminated. So  
14 that the temptation to wait for more information, always  
15 given that we were talking about exposures in the milirems  
16 and not about sudden major exposures of much higher levels,  
17 the temptation to wait for better information exercised,  
18 really quite a strong pull during the evacuation discussions  
19 on Friday morning.

20 I think the tone of them changed after the  
21 Mattson phone call, but what I have just said is correct  
22 for the Friday morning discussion.

23 Q When you talk of the idea that one of the  
24 conservative things might have been to confirm the staff's  
25 recommendation, in what respect? Simply because

1 evacuation seemed to you to be a conservative thing to  
2 do or for some other reason?

3 A Conservative in the sense that the staff had  
4 been thinking about this for longer than we had, and  
5 that we had no sources of information independent of  
6 information the staff had already used in arriving at  
7 its conclusions.

8 Another point that I found compelling was one  
9 stated in a phone call, that they just couldn't be sure,  
10 even if this release had been cut off that there wouldn't  
11 be more just like it, they couldn't be sure what caused  
12 this one, they couldn't be sure of what intervals the  
13 future releases would come. Had it just been a matter of  
14 this one release, which had been cut off, with a high  
15 degree of confidence that there wouldn't be any more, then  
16 I think I would have been more moved by this concern that  
17 the plume had passed by and was dispersing and people  
18 shouldn't, in effect, go out and mingle with it.

19 BY MR. BERNERO:

20 Q Excuse me.

21 Commissioner Bradford, I would just like to be  
22 sure we understand that prior to the Mattson phone call  
23 that the thrust of the discussion was whether or not to  
24 evacuate with respect to radiological releases of this  
25 intermediate level?



1 A That's right.

2 Q And that after the Mattson phone call it was  
3 a discussion of the potential for very much larger  
4 releases?

5 A That's right, and I think that's a very important  
6 point.

7 The Mattson phone call, combined with the later  
8 concern that we now know to have been, in some ways  
9 ill-founded, about a hydrogen/oxygen mixture in the reactor.

10 MR. BERNERO: Okay.

11 BY MR. BALLAINE:

12 Q And now, we are well before the Mattson phone  
13 call?

14 A Well, three hours before, perhaps.

15 Q Now, there came a time when there was a second  
16 phone call between the Governor and the Chairman. Were you  
17 present either during that phone call, at the beginning  
18 of that phone call?

19 A To the best of my recollection, I was present  
20 for part of it. Tom, correct me if you recall any  
21 differently.

22 I believe it took place in either the Chairman's  
23 office or in one of the assistant's offices just off the  
24 Chairman's office.

25 MR. GIBBONS: It was definitely in Bill Dorie's

36

1 office.

2 MR. BALLAINE: That phone call itself?

3 MR. GIBBONS: Yes.

4 BY MR. BALLAINE:

5 Q All right, and the Commissioners at the time  
6 were meeting in this room, the Chairman's Conference Room  
7 or the Chairman's Office?

8 A No. I think the meeting in my office had really  
9 just broken up and ---

10 MR. GIBBONS: I would say that -- I think my  
11 notes reflect it, but we had been in the Chairman's  
12 office maybe a half an hour or so before ---

13 COMMISSIONER BRADFORD: Okay, and the meeting --

14 BY MR. BALLAINE:

15 Q Before the second call?

16 A Okay, then the meeting had moved down to the  
17 Chairman's office.

18 We didn't actually meet in this room, I think,  
19 at all, during that Friday, Saturday, Sunday period. The  
20 only meeting we had in those early days in here was on  
21 Wednesday morning when both Gilinsky and Kennedy and I  
22 met in here.

23 Q Now, at the time of the second phone call, did  
24 you know whether Chairman Hendrie was going to recommend,  
25 if anything, to the Governor with respect to evacuation?

1           A     I just don't recall now, in fact, I don't  
2 even recall whether that call was initiated by Chairman  
3 Hendrie or by Governor Thornburgh, anymore.

4           Q     Had there been any so-called collegial decision  
5 by the Commissioners as respects to what should be  
6 recommended?

7           A     No more so than before.

8           Q     Now, as of the time of the second phone call,  
9 what was your opinion as to what should be recommended?

10          A     I think that I was basically content -- well,  
11 content is the wrong word, but I was prepared to accept  
12 the pregnant women and small children recommendation that  
13 was being made, largely because I felt it might be sufficient  
14 in the long run, at least it was progress from what had  
15 seemed to me to be an insufficient recommendation made earlier.

16                 I also felt, realistically, a recommendation like  
17 that would begin to cause other people to think about  
18 whether or not they should leave also, and that therefore,  
19 if the larger evacuation became necessary it would be  
20 easier, perhaps, as a result of that advisory.

21          Q     Can you tell us, according to your best  
22 recollection, how this recommendation about pregnant  
23 women and/or small children came to be discussed amongst  
24 the Commissioners prior to the time of the actual phone  
25 call by the Chairman?

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(Reporter's note. There was a brief pause  
in the deposition while there was a change of reporters.)

(Continued on next page.)

UH gsh

1 BY MR. BALLAINE:

2 Q Why don't I do this. I'm going to pose a fresh  
3 question which, with a little bit of luck, won't be too far  
4 off from the last question I asked.

5 Can you tell us from your best recollection the sequence  
6 of conversations involving the subject of evacuating pregnant  
7 women and/or small children leading up to the time of the  
8 second conversation between Chairman Hendrie and Governor  
9 Thornburgh?

10 A Do you want me to start with the origin of the  
11 concern in my office the preceding day?

12 Q Friday.

13 A Friday only. Okay.

14 Q By the way, is it your belief that we haven't  
15 already discussed the origin of your concern the previous  
16 day?

17 A No. I knew we had.

18 Q Just Friday morning, then.

19 A I have very little recollection of discussing that  
20 subject on a Friday morning. I know that either Thursday  
21 afternoon or Friday morning I had mentioned it to John  
22 Ahearne, as well as to Commissioner Gilinsky in the manner  
23 we've already discussed.

24 And I know that John mentioned it. I may have also while  
25 the discussion was still taking place in my office before we

UH gsh

1 moved down to the Chairman's office.

2 But I don't recall a discussion before the second phone  
3 call to Governor Thornburgh in which the commission as a  
4 whole discussed that specific subject and said that this is  
5 what we ought to do.

6 I certainly was not unhappy to hear the Chairman make  
7 that recommendation. But I can't now remember how we arrived  
8 at it or the discussions from which he might have derived it.

9 One other thought in that context. What had triggered  
10 his second call to Governor Thornburgh, as I recall, is that  
11 we received news of the second release which laid against  
12 this concern that we weren't sure how often this would happen  
13 or how serious they would be.

14 It seemed enough to override the earlier recommendation  
15 that people should just simply stay inside and wait for the  
16 first one to pass.

17 Q Where did that information concerning the second  
18 release come from, as best you can recall?

19 A To us from the response center. To them?

20 Q No, that's okay. Just as far as you're concerned.

21 Now the conversations you described in response to my  
22 question about pregnant women and small children, in fact,  
23 had there been conversations that embraced the appropriateness  
24 of evacuating small children or did they relate only to  
25 pregnant women?

1           A           Well, my own concern had been in terms of the  
2 group of the population that would be exceptionally  
3 susceptible to being exposed to radiation. That would be  
4 pregnant women and also very young children.

5           I can't recall whether each of the conversations that I  
6 then had with other commissioners used the terms "pregnant  
7 women and then small children" or "especially susceptible  
8 groups of the population," or just how it was phrased.

9           Q           But at least in your mind it hadn't been limited  
10 to pregnant women.

11          A           No.

12          Q           Prior to the second phone call, had there ever  
13 been any discussion amongst any commissioners as to the  
14 distinction between an advisory and a recommendation or an  
15 evacuation?

16          A           No. It was clear to us that we did not have the  
17 power to order an evacuation. But at least as far as I  
18 was concerned, if we advised the Governor or recommended  
19 something to him, those were the same animals -- as to whether  
20 he gave an advisory or an order, that was something that I  
21 hadn't focused on.

22          Q           Okay. What about with respect to the issue of how  
23 far -- do you recall any specific conversations on how far  
24 out the recommendation would go?

25          A           No. I think at that point we were using five miles

1 as a minimum area of concern.

2 Q Why? Simply because that had been the way the staff  
3 had originally relayed?

4 A Yes. They seemed to be thinking in terms of  
5 multiples of five, five and then ten.

6 And then I guess on Saturday, Joe at one point talked of  
7 20. But basically the only time that I remember talking in  
8 terms of a smaller radius than that was Sunday afternoon,  
9 when we were talking more in terms of 2 or 3.

10 Q Now according to your log, which is Exhibit 5091,  
11 there are two conversations in the morning with Doug Costle of  
12 the Environmental Protection Administration.

13 Did these phone conversations relate to TMI?

14

15 A Yes, they did.

16 Q Now with respect to the one listed at 9:55, do I  
17 understand from these notes that this was Mr. Costel's call  
18 to you, if you recall?

19 A I don't recall that that is the way the log reads.  
20 Yes, I do recall, too, because I was in the meeting with the  
21 other commissioners and came out of that meeting to return  
22 it, I guess.

23 That is the way to read this line is that he called at  
24 9:55. I had to let it pass for 10 minutes and then at 10:05  
25 I came out and returned it.



PH gsh 1 Q What's the substance of the conversation you had  
2 with him, as best you recall?

3 A I'm afraid that I can't separate out that  
4 conversation at 10:05 from the later one at 10:35. It's  
5 possible at 10:05 I simply called back and said, I can only  
6 talk for a few minutes, or for a few seconds now.

7 Can I call you back in half an hour?

8 In any case, what those conversations taken together were  
9 was a request from Costle for all the information I could  
10 give him just off the top of my head. And he specifically  
11 wanted to know whether I thought that there was any use for  
12 the airplane that EPA then had out in Nevada, which was  
13 capable of sensing and analyzing different types of  
14 radiation very quickly.

15 I said that I could certainly see no harm in it. And if  
16 he was in a position to bring it east, by all means to do  
17 so.

18 Q Do you recall whether you had any discussion with  
19 him with respect to this question of evacuation, which I take  
20 it from the time was still pending among the commissioners?

21 A I don't recall. There were several other  
22 conversations with him that day and I'm sure that it was  
23 touched on in some of them, but I just don't recall in those  
24 first two.

25 Q Now there came a time, as you indicated earlier,

UH gsh 1 when Dr. Mattson spoke indicating concern with respect to the  
2 state of the reactor. And according to your deposition  
3 before the Kemeny Commission, page 185, there came a time  
4 after Mattson expressed his concerns by middle to late  
5 Friday. According to the transcript of the Kemeny Commission  
6 deposition, you were "uncomfortable for about 48 hours with  
7 the condition of the commission evacuation recommendation."

8 Could you clarify what you meant by your discomfort of  
9 the condition of the evacuation recommendation?

10 A Yes. After the Mattson call and, more specifically,  
11 after Joe Hendrie first raised the possibility of a hydrogen/  
12 oxygen detonation in the reactor vessel, it seemed to me  
13 that there were sequences of events that could result in  
14 much larger releases of radioactivity than we had been  
15 previously talking about within very short times; that is,  
16 short in terms of the times people would need to react to  
17 them.

18 While it looked as though all of those events were  
19 unlikely ones, I was uncomfortable both that somehow the  
20 commission wasn't focusing a little more on whether people  
21 should be near the plant, and also with our either making an  
22 evacuation recommendation to Governor Thornburgh, or at least  
23 telling him in no uncertain terms that the times that he might  
24 have to implement an evacuation might be very short, as little  
25 as half an hour, and letting him judge for himself whether he

UH gsh 1 wanted to take precautionary steps in light of that knowledge.

2 Q Now there came a time Friday evening when you  
3 attended the meeting involving some HEW officials, including  
4 Mr. Costle.

5 Is that right?

6 A Yes, although he wouldn't be an HEW official.

7 Q All right, sorry.

8 A HEW officials and Mr. Costle.

9 Q This concern you've expressed, you believe you had  
10 it before that meeting?

11 A I think not because I think the hydrogen/oxygen  
12 concern wasn't expressed until 7:30 or so that night for the  
13 first time.

14 To me, I think at the time of that meeting, I would have  
15 been still very concerned as a result of the concerns that  
16 Roger Mattson expressed, but I wouldn't have had a specific  
17 sequence of events that I was looking at.

18 Q Okay. Now you indicated that you thought the  
19 governor at least should be told the amount of time you  
20 might have to have an evacuation, maybe as little as one-half  
21 an hour.

22 Where did you get that figure from, as best you recall?

23 A That figure I probably didn't have specifically  
24 until the next day. I think it came during a conversation  
25 with the other commissioners, but specifically with the

1 Chairman, in which I tried to just walk through what would  
2 happen or what could happen if a hydrogen/oxygen detonation  
3 were to occur in the reactor.

4 It was something that I knew nothing about myself. But  
5 the line of questioning I had was is it possible that it  
6 could happen? Can we be sure that there is no way, for  
7 example, for the hydrogen/oxygen mixture to ignite?

8 The answer was no.

9 Can we be sure that if it doesn't ignite, it won't rupture  
10 the reactor vessel?

11 The answer to that was no.

12 Can we be sure that if that doesn't happen there won't be  
13 a sudden significant release of radiation?

14 The end result of that line of questioning in any case  
15 was that there could be a very short period of time. That  
16 is somewhere in the transcript. I haven't reviewed it  
17 recently.

18 Q I take it, then, the half hour that you were  
19 referring to would be from the time of an explosion that  
20 would rupture the vessel.

21 A That's right.

22 Q That the releases would be such that people would  
23 have to evacuate in half an hour in order to avoid some  
24 severe doses.

25 A That's right.

b13.01.9

PH gsh 1 Q And this was Chairman Hendrie, then, in effect,  
2 whom you were running through this line of things.

3 A That's right. Well, not just Chairman Hendrie; it  
4 was the whole crew that was then meeting in the Chairman's  
5 office.

6 Q These are commissioners?

7 A Commissioners, and by then a fair number of  
8 commission staff as well -- commissioners, technical  
9 assistants, legal assistants, general counsel.

10 Q Okay. Now, again, according to your telephone log,  
11 you had a conversation with Dan Ford, I take it, at 4:30.

12 Do you recall anything about the substance of that  
13 conversation you had?

14 A No, I don't. I can conjecture that it was very  
15 like the first one, only more urgently stated. That is,  
16 Dan's calls to me during that time were essentially requests  
17 for information and I would guess in view of the very  
18 considerable change in information since the time we had  
19 talked on Thursday, that he was calling again to find out  
20 what new information I had to give him.

21 Q I just wondered whether you recall any conversations  
22 about evacuation?

23 A If I remember correctly, the first time that Dan  
24 expressed a strong view on evacuation was not until late the  
25 following day to me. But I could easily be wrong about that.

813.01.10

UH gsh

1 I do know that at the time given for that conversation,  
2 4:30, with me having to leave to be at HEW by 5:00, we could  
3 not have talked for more than four or five minutes.

4 Q And do I understand from prior testimony that to  
5 the best of your knowledge and belief, the meeting involving  
6 HEW and Mr. Costle was not the result of some suggestion or  
7 statement by you, but you believe it was at Mr. Costle's  
8 urging.

9 A One of these calls from Costle to me, perhaps the  
10 one at 12:55, perhaps the one at 1:35, he said that he and  
11 Mr. Califano had been talking and had felt that they should  
12 get their staff experts, especially the HEW radiation people,  
13 together and they would appreciate it if someone from the  
14 NRC -- specifically me -- would come over and give them the  
15 best assessment we could of what was going on at Three Mile  
16 Island.

17 And I agreed to do that and suggested that Commissioner  
18 Gilinsky should come as well to have someone who understood  
19 the technical side of things at least a little better than  
20 I did.

21 Q Now describing some of the things that were said  
22 at the meeting that afternoon, on page 196 of your deposition  
23 before the Kemeny Commission, I believe you say: "They had  
24 strong opinions and strong concerns themselves. They were  
25 really trying to get answers."

UH gsh 1 My first question on that is whether they expressed any  
2 opinions or concerns with respect to evacuation recommendations  
3 during this meeting?

4 A Not that I recall. We had typed up the notes that  
5 Hugh Thompson has from that meeting, and if you'd like, we  
6 will consider that part of your request for his notes.

7 In general, as I remember the meeting, it began with them  
8 asking pretty much for worst case scenarios -- what is the  
9 worst thing that can go wrong?

10 And Victor Gilinsky responded to that. That one we didn't  
11 have the hydrogen/oxygen mixture concern in front of us to  
12 work with, if I remember correctly. And they just kept  
13 pressing -- what, in my opinion, were the radiation releases  
14 that could be expected?

15 How likely were the events that could lead to that?

16 That was the first part of the discussion.

17 They were also concerned that they were having difficulty  
18 getting accurate information from the response center from  
19 the site about off-site levels of radiation, and we agreed  
20 to make sure that they had someone, I think, in the response  
21 center, and that that person was getting all the information  
22 that they needed.

23 I don't remember the specifics, but, in essence, we had to  
24 tighten up the coordination a great deal between our response  
25 center and the HEW people.

b13.01.12

UH gsh

1 Q Now directing your attention to Saturday, March  
2 31st, I think you indicate in the deposition before the  
3 Kemeny Commission that by Saturday morning you had become  
4 sufficiently concerned with respect to the evacuation  
5 situation that you expressed your concern to Doug Costle.

6 Is that correct?

7 A Saturday in the middle of the day, yes. You see,  
8 on Friday night, quite late, I think the last thing in the  
9 transcript is Friday night. You have a meeting between  
10 Joe Hendrie, John Ahearne, and me, and that meeting came  
11 about because I think Joe and I and also Victor Gilinsky,  
12 though he didn't attend it, had begun to focus on this  
13 hydrogen/oxygen question.

14 And while it seemed clear to us that the commission wasn't  
15 going to come to any stronger evacuation consensus that day,  
16 we did think that it ought to be passed on to the governor,  
17 so that if he wanted to make an independent assessment of it  
18 and decision about it.

19 And so John and I at least went back to the Chairman and  
20 asked him at least to call Harold Denton and see whether that  
21 scenario — that assessment had been discussed with Governor  
22 Thornburgh in Harrisburg that evening.

23 Q This is late Friday night?

24 A Late Friday night. And Denton wasn't available.  
25 The Chairman had a conversation with Vic Stello that was not



UH gsh 1 on the squawk box.

2 It may have been by then on the communications system to  
3 the white House that had been installed. While they didn't  
4 talk directly to hydrogen and oxygen, they seemed to say that  
5 some very sort scenarios had been discussed with the  
6 Governor and that, therefore, he probably was aware that he  
7 had to have everything in writing to us.

8 Q They seemed to say --

9 A The half of the conversation that I heard,  
10 Hendrie talking to Stello.

11 Now at the time I thought they were talking about hydrogen  
12 and oxygen. But I talked to Vic Stello since then and he  
13 said he sure didn't understand it that way because he never  
14 thought that there was any oxygen in the reactor in the  
15 first place, and if he had thought Joe Hendrie was talking  
16 about that, why, by golly, he would have stopped that concern  
17 right there instead of waiting until Sunday.

18 So it's clear that what I thought I was hearing in the  
19 Chairman's office was not what Vic Stello thought he was  
20 hearing in the trailer at Harrisburg, or in the hotel at  
21 Harrisburg, or wherever that was.

22 And Denton, who had actually carried on the conversation  
23 with the Governor, wasn't there, anyway. So we couldn't  
24 confirm it with him.

25 Q All right. Now on Saturday, you did talk to Mr.

B13.01.14

UH gsh 1 Costle. The telephone log reflects a call, although not  
2 necessarily one that got through at 1:46, and then there is  
3 a similar note in your chronology.

4 Do you believe that at the time you expressed your concern  
5 to Doug Costle it took place around 1:40 on Saturday  
6 afternoon or was it earlier?

7 A No, it was earlier, and I'm not sure.

8 Q Here's one at 1:10.

9 A That's the one.

10 Q Now that is reflected on the chronology. Okay.  
11 So you think that that was when you talked to him and  
12 expressed your concern?

13 A Yes, it was before we left here in the cars to go  
14 out to the response center. And what had happened there was  
15 we had a long report from Harold Denton which included  
16 his conversations with Governor Thornburgh. And I had tried  
17 to ask during that phone call whether Harold had discussed  
18 this hydrogen/oxygen evolution with the Governor, and Harold  
19 said that he had not, which surprised me because, as I said,  
20 I understood from my half of the Stello conversation that he  
21 had. But he did say that he had discussed scenarios with  
22 the governor and that he might have as little as half an hour  
23 in which to execute an evacuation.

24 I was puzzled by that because I didn't know of any  
25 scenarios other than of the hydrogen/oxygen explosion, which

PH gsh 1 would leave him with as little as half an hour.

2 So I wanted to ask Harold just exactly what scenario he  
3 had in mind if it wasn't hydrogen and oxygen.

4 But as you read through the transcript of that conversation  
5 just as I was approaching that question, the White House  
6 operator interrupts the call and says, I'm sorry, Mr. Denton.  
7 The President wants to talk to you.

8 So, obviously, I had to let Harold go to talk to the  
9 President. We were then leaving to go out to Bethesda, and  
10 it was clear to me that I wasn't going to be able to get that  
11 question addressed effectively, again, until much later that  
12 afternoon, if at all.

13 And since for all I then knew, this hydrogen/oxygen  
14 situation was becoming serious. The numbers we were beginning  
15 to hear that oxygen might be getting into the bubble at the  
16 rate of 1 percent a day, but nobody knew quite how much  
17 hydrogen was there. Nobody knew that the radiolysis rate  
18 was. No one knew whether there was a detonation mechanism.

19 It just seemed very uncertain. And it wasn't at all clear  
20 to me that Governor Thornburgh had ever been advised that  
21 this was a concern of the NRC's.

22 It also seemed to me that one way of conceivably getting  
23 us to focus more on that question, or at least getting  
24 Governor Thornburgh advised of it in some other way, was to  
25 express the concern to people in the Executive Branch who were

b13.01.16

UH gsh 1 dealing with the same questions.

2 C Let me first find out -- I see on page 186 of your  
3 deposition before the Kemeny Commission that you described  
4 your concern as the fact that the commission, I gather, was  
5 not dealing with the evacuation situation systematically.

6 Now that may be the way that you described it in the  
7 conversation, but I'm not entirely clear what that means.

8 Why don't you just tell us as best you can the substance  
9 of what you actually said to Mr. Costle on Saturday?

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UH gsh 1 A It wouldn't be very different from what I said to  
2 you in my last answer.

3 Q The recitation of all these?

4 A Yes. That is, there is this possibility -- there  
5 are these great uncertainties associated with it; specifically,  
6 nobody sees a way for the detonation to be set off because  
7 it's not the kind of atmosphere that could occur casually.

8 Furthermore, the general feeling at that time was that  
9 mere flammability wasn't the problem. The mixture had to get  
10 up to the level at which it could detonate.

11 It's typical of the uncertainties in the situation that  
12 about 24 hours later Bob Budnitz was telling us that  
13 flammability was, indeed, a problem.

14 So I would have just described the problem in those terms  
15 to Costle and explained that I, as nearly as I could tell,  
16 ascertained that the Governor's office had been given a  
17 very clear picture of it, and I didn't see any prospect of  
18 our doing it in the near future unless the people on the  
19 Executive Branch team either took their own look at it and  
20 concluded that it was a serious problem, or else indicated  
21 back to us that they had a real concern about it.

22 Q Putting aside for the moment your belief that the  
23 Governor hadn't been given a clear picture of the situation,  
24 was there something that you believed the commissioners should  
25 have been doing that they weren't doing?

LH gsh 1 A By way of informing the Governor?

2 Q Of anything. Either deciding one way or the other  
3 on evacuation, informing the governor. I'm just trying to  
4 get an idea whether there was something specific that you  
5 believed the commissioners should have been doing -- putting  
6 aside --

7 A I understand the question. I was an inchoate  
8 set of concerns at the time, though it later became the  
9 memo that you alluded to earlier about what the commission  
10 should do in the event of a crisis.

11 Again, we didn't seem to have any fixed agenda on which  
12 we addressed certain problems at certain times. And I  
13 couldn't for the life of me imagine that the President would  
14 have put us here or the Congress confirmed us here to try to  
15 fix the reactor in a situation like that.

16 It seems to me that we really ought to have been addressing  
17 the evacuation question above all others and come to grips  
18 with that, and having made a decision one way or the other,  
19 abided with that until other new information came in and  
20 then gone on and worked on whatever else seemed worth  
21 working on.

22 But the discussions seemed to have a lack of focus to  
23 them, which was understandable in view of the shortage of  
24 hard information, but which had the effect of allocating  
25 all of the uncertainty about what was going on in the

UH gsh 1 reactor back against the people who were still in the  
2 communities around it.

3 Q You indicate that the commission should have been  
4 addressing evacuations questions. Part of the time you did  
5 express your concerns to Mr. Costle.

6 What had you done to try to get the commission to focus on  
7 that?

8 A Well, I stated my own view both on Friday morning  
9 and again on Saturday.

10 Q When you say "your own view," do you mean that there  
11 should be an evacuation?

12 A That the conservative view was to conform to the  
13 staff recommendation. Then I spent a good part of the  
14 Friday morning, some of it on the transcripts and some of it  
15 off trying to get that phone call made, trying to find out  
16 whether the Governor had been told of these short lead times.

17 Q Now we're just talking about addressing the  
18 evacuation question.

19 A The two are related because it seemed to me that if  
20 we weren't going to make an evacuation recommendation, the  
21 very least we could do was to give him the information so that  
22 he could make a separate decision.

23 You can't separate those two.

24 Q Let me ask you this. As of the time -- all of my  
25 questions will be in this period right up to the time that you

B13.02.4

UH gsh 1 called Mr. Costle. I take it that at that time it was your  
2 opinion that there should be an evacuation not limited to  
3 pregnant women and pre-school children.

4 Is that right?

5 A It was my opinion that we ought to at the very least  
6 advise the Governor that he might have as little as half  
7 an hour.

8 To me that would have said, furthermore, that it would be  
9 our recommendation to evacuate.

10 Q Okay, just your own.

11 A But I attached less significance to that than to  
12 giving him the unequivocal information about the half hour  
13 because the evacuation decision is his. The fact that if  
14 we can tell him clearly that if he's got a half hour, that  
15 seems to me to be 75 to 80 percent of what we have to do.  
16 If we then go on to say, and in our judgment, if we were  
17 sitting in your chair, we'd evacuate, well, that might be  
18 nice for him to know, but he's the one sitting in that chair.

19 Q During Saturday, up to the time that you talked  
20 to Mr. Costle, was your belief that there were other  
21 commissioners who shared your view either that the Governor  
22 should be expressly told about this possible half hour time  
23 period in order to evacuate, or that there should be a  
24 recommendation of evacuation now?

25 A I'm sure that there were other commissioners who



B13.02.5

PH gsh 1 shared the view that the Governor should be told because it  
2 was specifically to talk out that feeling that John Ahearne  
3 and I went to see the commissioner, at whatever time that  
4 was. And we did that following a conversation perhaps that  
5 I had alone with Victor Gilinsky or perhaps that John and I  
6 both had with Victor.

7 So yeah, there were clearly at least three of us at that  
8 point.

9 Q Gilinsky, you and Ahearne.

10 A Who felt that the Governor should be told from the  
11 beginning as much as we knew about the hydrogen/oxygen  
12 concern.

13 Q I guess what really my question would be is why,  
14 prior to calling Mr. Costle, didn't you or somebody, another  
15 commissioner with a like view, simply say, here's what a  
16 majority of commissioners want to do to recommend, let's  
17 have a vote, or why aren't we deciding on the recommendation  
18 or at least getting on the phone right now and telling the  
19 Governor exactly what the facts are?

20 A Well, it was my hope to do that after the  
21 conversation with Denton.

22 Remember that after the conversation with Stello at 11:00  
23 that night, the impression that John Ahearne and I had was  
24 that the Governor had been told.

25 Q Okay, but you were disabused of that.

DH gsh 1 A I was disabused of that during the Denton  
2 conversation on Saturday morning.

3 At sometime also, either before or just after Denton  
4 called, I think Victor Gilinsky expressed himself pretty  
5 unequivocally that a broader evacuation was in order, something  
6 to the effect that what should be said is if you don't have  
7 to be around that power plant this weekend, it would be just  
8 as well if you went and stayed somewhere else.

9 The pattern of those discussions was that things like that  
10 would get said, but that the discussion would then drift off  
11 away from that.

12 Nobody would then say, would you make a motion to that  
13 effect. Can we have a vote?

14 Q Why not? Why didn't you -- let's put it this way.  
15 At least at the time you called Mr. Costle, you could have  
16 easily felt strong enough to have done something.

17 A By that time, the commission meeting had broken up  
18 and two or three commissioners were already on their way to  
19 Bethesda. The commission wasn't going to reassemble in  
20 any decision-making configuration until much later that  
21 afternoon.

22 So at the time I made the call, it was because it was  
23 clear to me that at least several more hours were going to  
24 pass before it was even possible to raise the question  
25 collegially.

1           Before that, the best answer I can give you is that in  
2           that situation I was going by my own sense of how hard the  
3           commission deliberative process could be pushed without sort  
4           of breaking down into closely split votes, which I think is  
5           a luxury you don't have.

6           It does not good.

7           As I may have said on another transcript, saying that the  
8           commission voted 3 to 2 not to evacuate Harrisburg. It just  
9           is not a sensible kind of recommendation to transmit.

10          It seems to me to be very important that whatever  
11          recommendation, if the time came when the Chairman had to  
12          call up the Governor and say, our recommendation is that you  
13          evacuate, that there ought to be no doubt that that was an  
14          absolutely serious recommendation from the Nuclear Regulatory  
15          Commission that the commissioners had arrived at and were  
16          prepared to stand by it, that to have the Chairman transmitting  
17          a 3 to 2 recommendation that he didn't agree with.

18          Q           I take it that you assume that you wouldn't have  
19          agreed with him.

20          A           That was my sense of the conversations, at least as  
21          of Saturday, noon. And for that matter, I shouldn't say  
22          3 to 2. I have no particular notion what the three  
23          commissioners —

24          Q           I wanted to clarify that.

25          A           I'm just speaking hypothetically. Whether it's 3 to

B13.02.8

UH gsh 1 2 or conceivably, 4 to 1, it seemed important that it really  
2 carry the weight of commission authority, that the people on  
3 the other end of the phone not be put through a different  
4 version of who the hell is Doc Hollinson? Are we talking  
5 about 50 percent or 60 percent of the commission, and will  
6 this change again?

7 In that questioning process, in which I tried to walk  
8 through the sequence which led to conceivably half an hour  
9 in which to evacuate, it was, I had thought, designed to  
10 lead to the conclusion that at least some firmer advice to  
11 the government was in order.

12 It didn't seem to get there. And one of the reasons  
13 that it wasn't getting there was we couldn't figure out  
14 Saturday morning and Saturday noon what, in fact, the  
15 Governor had already been told.

16 And behind all that also was the question of allocating  
17 the uncertainty. There was obviously -- there would seem  
18 to be two clear barriers to anything going more seriously  
19 wrong; One, that the mixture hadn't reached a detonation  
20 level; two, that there was nothing to set off a detonation  
21 that anyone could think of going on in the reactor.

22 Q All right. I take it then that at least by the  
23 time you called Mr. Costle, that you were convinced that you  
24 were not going to be able to get the commissioners to do  
25 something that you felt had to be done in connection with this

813.02.9

LH gsh 1 evacuation issue?

2 A That I wasn't going to be able to get it done  
3 soon enough. I couldn't tell on what schedule it would be  
4 possible to really face up to the hydrogen/oxygen problem.

5 And I guess you really need to combine a couple of my  
6 last two answers to, I think, understand why I at least felt  
7 that it wasn't time yet to sort of pound on the table and  
8 say, we're doing this all wrong. We've got to do it somehow  
9 differently. Which would be a pretty direct challenge, after  
10 all, to the leadership of the person that's in charge of the  
11 commission.

12 The two things you have to blend are, one, the uncertainty  
13 about what the Governor had already been told. The other  
14 was, and you have to put that word together with the fact  
15 that there seem to still be these two fairly firm barriers  
16 to an actual explosion taking place inside the reactor.

17 So that it seemed as though there were at least a day or  
18 two more before this came of concern and also, after the  
19 Denton phone call -- I mean after the Stello phone call -- it  
20 seemed possible that the governor had been told that he only  
21 had half an hour, that he might only have half an hour and  
22 that for some reason, that didn't seem to him to dictate  
23 an evacuation.

24 Q Yes. But still, when you called Costle, you had  
25 made up your mind that the commission, working through the

DH gsh 1 commission was not going to get either a message passed to  
2 the Governor that had to be passed, or a recommendation made  
3 to the Governor that had to be made, in your view, with some  
4 degree of speed.

5 A That's right.

6 Q And I take it what your hope or intention was was  
7 that this kind of information or recommendation would come from  
8 another source in the Executive Branch of government?

9 A Not necessarily. In the Executive Branch, they,  
10 after all, had the DOE labs to turn to. They also could  
11 take a look at this problem. They could reach their  
12 own conclusion. Or they could simply get back to us in some  
13 semi-formal way. That is, Jack Watson or whoever else, if  
14 they felt it worth doing, could have come back to the NRC and  
15 said, look, will you please give us a yes or no recommendation  
16 on evacuation given this concern.

17 Q Did you talk with any of the other commissioners  
18 about your intention to call Mr. Costle?

19 A No, I did not.

20 Q Did you tell them after the phone call, any of  
21 them?

22 A I've told Victor Gilinsky since then.

23 Q Since then means well after the incident?

24 A Yes. Perhaps in April. Maybe not even then.

25 Q At the time you called Mr. Costle, did you have any

UH gsh 1 impression as to whether there was an NRC staff position on  
2 the appropriateness of evacuation?

3 A No. The last word that we'd had on that was Roger  
4 Mattson's call.

5 Q That had been the prior day.

6 A I'm afraid that that stuck fairly strongly in my  
7 mind. Then Harold Denton having reached the site was  
8 typically more sanguine on the whole question of lower and  
9 immediate levels of releases.

10 That didn't concern him so strongly on Friday morning. And  
11 he was not making calculations about radiolysis. And as  
12 came out in the phone call on Saturday morning, that whole  
13 concern, he said something just like, I haven't focused on  
14 that before.

15 So the fact that he was sanguine about what had concerned  
16 him Friday morning, on the one hand, was that it was nice  
17 to have that information; but on the other hand, he was also  
18 saying that he just hadn't been thinking about what by then  
19 was worrying me.

20 Q I take it, then, from your answer, though, that  
21 you did not believe that there was a "staff" recommendation  
22 one way or the other with respect to further evacuation.

23 A I think my sense of the staff position as of then  
24 was that the evacuation based on the immediate level releases  
25 had, in effect, at least been withdrawn because that problem

B13.02.12

DH gsh 1 by then was under control. There was no recommendation, I  
2 though, on the hydrogen/oxygen concern. I didn't even come  
3 until Sunday to know the extent to which the staff was aware  
4 that I had been working on it.

5 Q That actually was going to be my next question,  
6 whether you considered on Saturday having somebody, or maybe  
7 you, going formally back to the staff and saying, here's what  
8 we understand.

9 At the commissioner's level, what do you understand? What's  
10 your recommendation?

11 A My understanding was that Joe had by then done that.  
12 In fact, it now turns out he did it in a 2:00 a.m. call to  
13 Roger Mattson.

14 But even on Saturday morning, he made reference to the  
15 fact --

16 Q So you believe that the staff -- I'm just  
17 wondering what your belief was?

18 A I believed that the problem was being worked on.  
19 What was troubling me was that by leaving people where they  
20 were while the problem was being worked on, we were putting  
21 a lot of confidence in those two barriers.

22 And the other point, two other points that were troubling  
23 me. One, I had no great faith, then or now, in evacuation  
24 plans as a way of moving people on anything like one or two  
25 hours' notice. And the other was that by then, we were three



DH gsh 1 or four days into an accident, which the staff assessment  
2 had not, for whatever reasons, gotten correct in the first  
3 two days.

4 There had been huge, by then, clearly huge gaps between  
5 what was going on in the reactor and what we at H Street and  
6 the staff at Bethesda thought was going on at the reactor.

7 Q So you lost some confidence in the staff's ability  
8 to accurately evaluate.

9 A Leaving the staff's ability aside, at least lost  
10 some confidence in the whole process of transmitting  
11 information about the reactor and analyzing it and getting it  
12 to the commission.

13 I wasn't sure where the problems were, but they were  
14 obviously huge problems. And to go from being confident about  
15 the safety of the reactor, in general, on Tuesday night to  
16 hinging everything on a couple of percentage points of  
17 oxygen and the fact that nobody could offhand think of a way  
18 to set fire to it on Saturday, is just a bigger jump than  
19 I was prepared to make.

20 Q Now on Saturday, you had some senior staff  
21 officials on the site. So presumably, they were closer to  
22 adequate sources of information than the staff had been on  
23 Wednesday and Thursday, when everybody was located in  
24 Bethesda, or the senior staff was at Bethesda, right?

25 A That's right.

1 Q Had you given any consideration to whether there  
2 ought to be specific directives sent to Denton or to Stello  
3 to say, you know, look, let's lay this all out and get those  
4 people working on an analysis right away, get a judgment  
5 from them as to whether or not my concerns are warranted,  
6 putting aside whatever you testified to already doing in  
7 the Denton conversation?

8 A Yes. That was the process that I thought Joe had  
9 set in motion. The answer was that it was going to take  
10 another couple of days to get those calculations back.

11 On Friday, a couple of days. On Saturday, just another  
12 24 hours.

13 And what was troubling me was that there just wasn't enough  
14 margin of safety, given the margin of safety that had already  
15 gone awry the first three days of the accident.

16 Q In Mr. Gibbon's note -- I was going to say page 41,  
17 41 of the 4th day, I guess.

18 At any rate, at the very bottom it says --

19 A Could I just add one thought to what you said  
20 about why not push the process harder?

21 You have to look, I think, at those three days, Friday  
22 through Sunday, as something of a continuum. That is, I  
23 didn't when I called Costle simply throw up my hands and say,  
24 I give up on getting a sensible answer.

25 We then went on working on that question on through until

01: gsh 1 Sunday afternoon, when Bob Budnitz came.

2 On the one hand, Victor Gilinsky pulled together an  
3 evacuation matrix which clearly said that if there were a  
4 flammable hydrogen/oxygen mixture in the reactor, it was  
5 time to evacuate. On the other hand, Budnitz had come in  
6 and said, yes, flammability is something that you'd have to  
7 worry about because that alone, let alone detonation, will  
8 generate sufficient pressures.

9 So all of a sudden, instead of having to have 16 percent  
10 oxygen, it turned out to be important if you only had 4 or 5  
11 percent oxygen in the vessel.

12 So eventually, that process reached a point where the  
13 four commissioners did concur in what turns out to be the  
14 absolutely incorrect conclusion that I had had all along,  
15 which was that evacuation was necessary.

16 Q What do you mean it was for the wrong conclusion?  
17 It was just for the wrong reasons.

18 A Incorrect in terms of how much oxygen was actually  
19 being generated. There was no problem. I'm not sure if it  
20 was incorrect in terms of the right way to allocate  
21 uncertainties.

22 In fact, I'm sure it's not to the extent that I would have  
23 done it the same way again.

24 Q Referring to the bottom of page 41 for Saturday the  
25 31st, there's a notation next to the hour of 1:15. PB, says

813.02.16

UH ysh 1 Thornburgh, may get a call from another source.

2 A All that I could have meant by that, I don't remember  
3 using those exact words, was that the Executive Branch were  
4 to conclude that this was a significant concern, there was  
5 nothing then to prevent them from advising the Governor  
6 separately.

7 If the NRC continued not to conclude that any further  
8 advisory were necessary -- and the Executive Branch did --  
9 they might call for it separately.

10 Q During your conversation with Mr. Costle, had you had  
11 any particular discussion of the fact that perhaps somebody  
12 else in the Executive Branch would actually call Governor  
13 Thornburgh and provide the type of information that you  
14 thought had to be provided?

15 A Not that I remember. My recollection was that this  
16 was just a concern that you all ought to be aware of, and  
17 we ought to be working on it, if it seems to you to be a real  
18 one. For what it's worth to you, I don't think that we're  
19 allocating the uncertainty correctly.

20 You may take a look at it, but you may come to another  
21 conclusion.

22

23

24

25

013.03.1

DH gsn 1 Q It appears that there was a telephone call that  
2 was made to the Governor's office by a man named Anthony  
3 Robbins of NIOSH.

4 Have you ever heard of the gentleman or have any reason to  
5 believe that that's as a result of your telephone conversation  
6 with Mr. Costle?

7 A It's interesting that you tell me that. That's the  
8 first time that I've heard that, and it explains somebody  
9 else's once asking me if I'd ever talked to Anthony Robbins,  
10 a question which at the time I couldn't understand.

11 (Laughter.)

12 BY MR. BERNERO:

13 Q Does he live at York Haven.

14 A He was at the meeting at 5:00 on March 30th. That  
15 is the first time I met him and I think it's the only time  
16 that I ever spoke to him.

17 I did not ever speak personally with him about this  
18 concern.

19 BY MR. BALLAINE:

20 Q He was, by the way, I believe, at the meeting on  
21 Saturday in the situation room.

22 Do you think he was also at the Friday meeting?

23 A I think he was at the Friday meeting. I had  
24 forgotten that he was at the Saturday meeting. It's not  
25 inconceivable that I talked with him once in the weeks

13.03.2

UH gsh

1 following the accident because I did talk a couple of times  
2 with Rick Cotton, who was Califano's chief aide following  
3 the accident, and he at one point told me of some questions  
4 that some of the HEW staff people had, and I may have talked  
5 directly with one of them, and it may have been Robbins.

6 But since you're talking about those, now I never discussed  
7 that concern with Robbins.

8 Q There is, again, on your telephone log a notation  
9 called to Mr. Dan Ford again. But if I read this correctly,  
10 you didn't speak to him at that time. Did you talk to him  
11 on Saturday or Sunday, as best you recall?

12 A Yes. It appears on my chronology that I talked  
13 with him at about 9:30 on Saturday night.

14 Q Did you talk at all about the kinds of concerns  
15 that you had expressed to Mr. Costle?

16 A No, I didn't. He, by then, was very concerned  
17 and felt very strongly that some form of more extensive  
18 evacuation was in order, but I just didn't feel that I  
19 could discuss the commission deliberations with him.

20 And while I had asked him for any information or analysis  
21 that he could give me and responded as best I could to his  
22 questions, I had to repeatedly say, look, I'm sorry. I just  
23 can't talk about that. It's part of the commissioners'  
24 deliberative process and maybe some day we can talk about it,  
25 but we can't tonight.

1 Q On page, again with respect to Mr. Gibbon's notes  
2 for Saturday, on the 45th page there's a notation, I think,  
3 attributable to JH, which I take to be Commissioner Hendrie,  
4 if we have calculations showing flammability, would have  
5 called Governor to get people out of there.

6 Now what I'm first interested from you, Commissioner, is  
7 whether you have a recollection as to whether the commissioner  
8 at any time indicated, yes, if at any time we have reached a  
9 point that the bubble in our view is flammable. Well, then,  
10 at that point, we will recommend some broader evacuation  
11 than was then in effect.

12 A I don't have a specific recollection of Chairman  
13 Hendrie's saying that now. But Tom's notes are a much more  
14 reliable source of what was actually said during those three  
15 days than my memory today.

16 Q Do you have a recollection of that?

17 MR. GIBBON: An independent recollection of the notes?  
18 I do remember Hendrie discussing the fact that he had called  
19 the meeting in Bethesda at the press conference so that he  
20 could get the staff's calculations.

21 THE WITNESS: These were calculations on hydrogen and  
22 oxygen?

23 MR. GIBBON: Yes. The reason he called the meeting  
24 in Bethesda was so if the staff's calculations had turned out  
25 badly, they could have an immediate commission meeting. And

1 I got the firm impression that he had put off the phone call to  
2 Governor Thornburgh until he could get the staff's calculations

3 MR. BALLAINE: All right.

4 BY MR. BALLAINE:

5 Q You indicated earlier on Sunday that there did come  
6 a time when the commissioners made a recommendation, or at  
7 least some kind of decision.

8 A Let me just, if I could, clarify one other thing.

9 Tom, do you recall if this was being said during a  
10 commission meeting?

11 MR. GIBBON: You see, that's, again, the point that  
12 I made at the beginning of this session, that I think unless  
13 somebody's prepared to make an extensive retrieval effort  
14 with the original tapes, these transcripts are at best a  
15 very spotty guide to all that was said during those three  
16 days on the subject of hydrogen and oxygen and on the subject  
17 of evacuation, on any subject.

18 BY MR. BALLAINE:

19 Q Now with respect to the decision that was made, at  
20 least among commissioners who were still here in the Washington  
21 area on Sunday, at that time did you believe that there was  
22 any staff recommendation one way or the other with respect  
23 to the appropriateness of evacuation?

24 A I didn't have a firm continuing belief on that  
25 question, other than that I assumed that any time the staff



1 thought that evacuation was in order, they would certainly  
2 tell us.

3 By then it wasn't clear that the staff was still in charge  
4 of coming to evacuation conclusions independently of the  
5 commission. We were then working in a room 30 feet from the  
6 response center.

7 Harold Denton, who was the essential member of the EMT, was  
8 off at Harrisburg, and I don't remember having the feeling  
9 that the staff was being asked to independently assess or was  
10 independently assessing on its own, whether it should through  
11 the EMT mechanism come to an evacuation recommendation.

12 Q In retrospect, do you think that it was appropriate  
13 for the commissioners to have been making this kind of  
14 judgment amongst themselves as to evacuation recommendations  
15 without some kind of staff consideration and opinion?

16 A Well, let's see, we did have staff input into  
17 Victor Gilinsky's night-long effort on Saturday.

18 Q That had nothing to do with whether or not you would  
19 make a recommendation.

20 A It was how to go about making that recommendation.  
21 We also, in the sort of second link, had staff input into  
22 whether the conditions in those boxes under the heading of  
23 evacuation had been met.

24 So that on the one hand, the group working with Steve Hanauer  
25 had laid out the evacuation criteria, and on the other hand,

UH gsh 1 a group of staff and outside consultants reporting back to  
2 Bob Budnitz had worked on describing what the conditions  
3 were.

4 And about all that we all actually did on Sunday afternoon  
5 was to discover that there was a mesh between one part of the  
6 staff's conditions for evacuation and the other part of the  
7 staff's assessment of what the actual conditions were.

8 Q As of the time that you reached this agreement  
9 among the commissioners, did you believe that there was any  
10 one member of the staff that you could point to who actually  
11 would have made that same recommendation of evacuation?

12 A You're asking me what I did believe at the time,  
13 won't get us anywhere because I didn't have any belief  
14 because I wasn't asking the questions.

15 Q You didn't give any thought.

16 A If you ask me to think back on it and you asked  
17 whether there might have been, I just don't know. Bob Budnitz  
18 was certainly very concerned.

19 Q Anyone else?

20 A I don't know who else Budnitz may have worked on.  
21 But what he did was to sketch for us the flammability  
22 contamination, the reactor vessel.

23 He also set forth ways in which it was at least possible  
24 that enough heat or a spark or something could be generated  
25 within the vessel so that you actually could set the thing off

13.03.7

PH gsh 1 So he had, in effect, taken down both of the barriers.

2 Q All right. But I'm asking for other people, and  
3 I guess the answer is --

4 A Well, my point is that he was working with a bunch  
5 of other people in pulling all those things together.

6 And when I tell you that I can't think of anybody else,  
7 it doesn't mean that there weren't 40.

8 Q Okay. Now you talked about this concern that you  
9 expressed to Mr. Costle on Saturday. And I take it that you  
10 have had other conversations in the same vein with him over  
11 the weekend.

12 Is there anyone else that you expressed this concern to  
13 other than people within the staff or the commission?

14 A Let's see. I certainly expressed it to Tom.

15 Q I mean outside the NRC.

16 A And this is on either Saturday or Sunday?

17 Q Friday, Saturday, Sunday, or Monday.

18 A Well, it wasn't done until Saturday. To whom I  
19 expressed the concern? You mean --

20 Q The kind of concern that you expressed to Mr.  
21 Costle. You know, the Governor needed more information and  
22 he should be given recommendation.

23 A You're not asking if I told anyone else that I  
24 called Costle.

25 Q No.

PH gsh 1 A Not that I can remember. Physically, I was at the  
2 commission offices almost all of the waking hours during that  
3 period.

4 It's conceivable, and even likely, that I told my wife.  
5 But I would doubt very much that I told anyone else who was  
6 involved with the Three Mile Island accident.

7 Q Let me show you what's been marked as Exhibit  
8 5095.

9 (Exhibit 5095 identified.)

10 Q This, I believe, is a one-page memorandum which  
11 you prepared at or about the time that the commission was  
12 considering a public statement explaining the licensing process

13 Now I'm really only interested in one thing that you say  
14 in that memo. It's, I guess, the third sentence. You say:  
15 "I have a sense that there's some odd maneuvering at work  
16 here."

17 And I wonder if you could elaborate a little bit for me  
18 on what you meant by that?

19 A That's really what is laid out in the rest of the  
20 memo. Do you mind if I take a moment to read it?

21 Q Sure. Please do.

22 (Pause.)

23 A Yes, okay.

24 Q I wonder if you can elaborate on odd maneuvering  
25 here, unless you think that you can't do any better than what's

1 actually said in the letter.

2 A I can do a little better, but not much.

3 The substantive concern is the one that is set forth in  
4 the January 31 memorandum.

5 What had happened at that point was that the commission  
6 had withdrawn its endorsement from the executive summary and  
7 some of the rest of the so-called Rasmussen Report, WASH-1400.

8 We were thereupon called to testify as to why we had  
9 done this and what it all meant.

10 We were getting letters from the industry suggesting some  
11 interpretations to us. We were getting letters and questions  
12 from Congressmen saying, in effect, but, of course, you  
13 still believe that everything is safe, don't you?

14 And the draft testimony that was coming up from within the  
15 staff, also the off-site policy evaluation continued to  
16 say in various ways, reactors are safe.

17 It seemed to me that the end result of this process was  
18 that industry spokesmen and all of their thousands of rotary  
19 and other service club appearances around the country were  
20 looking for a statement by the NRC to substitute for the  
21 old "safer than me" that they've been able to take from the  
22 executive summary of the Rasmussen Report.

23 I just didn't want the commission's testimony explaining  
24 its actions based on the Lewis Report to be used on that way.

25 What I was really trying to do was to get that reactors are

UH gsh 1 safe formulation out of the commission testimony, which was  
2 going to be given in the next week or so.

3 Q Am I correct that on or about February 26th there  
4 was a hearing at which you were present. And all the  
5 commissioners in which the Chairman said, at least in  
6 substance, that there was adequate protection to health  
7 and safety. I take it that you were distinguishing between  
8 that statement and the statement of what is "safe," because  
9 what is safe is a very subjective term.

10 A The testimony got reworked substantially and in the  
11 end, I still wasn't fully comfortable with it. So I gave  
12 a short separate statement at that same hearing.

13 Q Okay. I think I recall that. I want to talk for  
14 a moment only about Davis-Besse.

15 You, of course, were approached by Mr. Creswell shortly  
16 before TMI, as it happens, under the so-called open door  
17 policy.

18 Had you ever had an inspector come to you under the open  
19 door policy prior to Mr. Creswell?

20 A Not an inspector. I've had other employees come.

21 Q That's my next question. Just how many have during  
22 the time that you've been commissioner before Mr. Creswell?

23 A There are three that come to mind, none with  
24 concerns as specific as Creswell's to a particular reactor  
25 and a particular sequence of events.

1 Q And other than those instances, were you aware of  
2 any other instances in which somebody had gone to a  
3 commissioner under the open door policy?

4 A Since I've been with the commission?

5 Q Yes.

6 A Yes, I think three others, including one that was  
7 quite specific, a particular concern with a particular  
8 reactor.

9 That was one in which the individual involved, it turned  
10 out, was having a great many difficulties while the technical  
11 concerns were looked at.

12 I think they were found to be not serious.

13 Q Now as I understood your testimony before in  
14 deposition by the Kemeny Commission, your belief before the  
15 Creswell incident was that basically, there were no reprisals  
16 against people who came forward under the open door policy  
17 to the commission.

18 Is that, in fact -- was that in fact your belief?

19 A Yes, that's still my belief.

20 Q Okay.

21 A My concern about reprisals in Creswell's case  
22 didn't have to do with his coming to the commission. He had  
23 said that even before he came to the commission, he had felt  
24 that his continued raising of the concerns within the region  
25 had resulted in personnel evaluations that he considered

UH gsh 1 adverse.

2 Q I take it that he's the only one of the people who  
3 came to you under the open door policy that made that kind  
4 of allegation?

5 A The others in each case had already been subjected  
6 to actions that they considered to be adverse. Indeed, that  
7 was part of the reason for coming to me.

8 Q With respect to the other people, did you do anything  
9 in the aftermath of the open door meeting in order to  
10 determine whether there, indeed, was some kind of retribution  
11 for what the person was doing in coming to you, at least?

12 A Yes, I did, in the sense of trying to learn more  
13 about the background to the controversies. In each case,  
14 these were long-standing controversies within the agency.  
15 In two of the three cases -- no, let me put it differently.

16 In two of the three cases, I think that the individuals  
17 are now reasonably satisfied, at least the last I knew of  
18 their situations they were, as to the personnel side of the  
19 activity. And one of the three -- no, I guess I can't say  
20 that.

21 We have dealt in many ways with the particular safety  
22 concerns raised by two of the three and are still working on  
23 the concerns expressed by the third.

24 Q I wonder if you have any opinion today as to  
25 whether or not there is some kind of retribution quite apart



UH gsh 1 from what might happen on the merits to someone who jumps over  
2 the normal chain of command under a kind of open door policy  
3 within the NRC?

4 A Not to my knowledge is the best that I can do for  
5 you.

6 In Creswell, I haven't heard anything to that effect in  
7 Creswell's case since the open door meetings, which, of  
8 course, also means since Three Mile Island.

9 It would be pretty unlikely, I think, for him to be the  
10 target of reprisals at this point.

11 Q By the way, in connection with the Creswell matter,  
12 we know from deposing Commissioner Ahearne that some devices  
13 were used in an effort to keep the staff from finding out  
14 that Creswell had come to the commissioners, or at least to  
15 you and to Commissioner Ahearne, and still allowing you to  
16 try to check back and find out.

17 A Not were used; would have been used.

18 Q Okay. It became obviated by the circumstances.  
19 I wonder what was done in the prior experiences that you had,  
20 if anything, to keep the people back on the staff from  
21 finding out that an individual had jumped over their heads,  
22 to so speak, in order to speak to you about their concern.

23 A Well, as I say, all three of the cases were ones of  
24 long-standing concern. They were all pretty soon after I  
25 came here.

LH gsh

1 Q I take it there wasn't the one concern?

2 A Confidentiality is not a serious problem. They  
3 were matters that I would have logically inquired into any  
4 way because they've been the subject of extensive public,  
5 and in some cases, conventional discussions.

6 So it was easier to make it without specifically saying  
7 that the individual had come in the open door because --

8 Q Are you of the opinion that the open door was  
9 valuable, at least as far as your specific experience has  
10 been concerned?

11 A Yes. Certainly, the policy seems to be an essential  
12 one.

13 Q I wonder whether you thought in particular with  
14 respect to the particular things that were brought to your  
15 attention, that it turned out to be valuable insofar as the  
16 NRC's function of, you know, trying to insure adequate  
17 safety is concerned, as distinct from other perfectly valid  
18 considerations that might be served.

19 A It certainly was valuable. It would have been more  
20 valuable, of course, if somehow it had led us to re-evaluate  
21 what to do about the Davis-Besse sequence in time to get the  
22 right advisory notices out to Three Mile Island.

23 Q That actually reminds me of one more question in  
24 that regard.

25 You indicated in your deposition before the Kemeny

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UH gsh 1 Commission that Hugh Thompson made some kind of preliminary  
2 analysis that there was some merit to Mr. Creswell's concern.

3 At any time, to the best of your recollection, did he  
4 pinpoint certain aspects that he did view to be of merit  
5 or other aspects that he viewed to be of less merit?

6 A Not that I can recall now. Basically I asked him  
7 to make sort of a threshold determination. This is something  
8 that we're going to want to follow up on. And he said, yes,  
9 and explained to me in general terms.

10 Q Is there anything in writing, by the way, or was  
11 this oral?

12 A I think this is just oral. He talked extensively  
13 with Creswell by phone himself and then we talked about it.

14 I had originally indicated to Creswell that I would be  
15 glad to go out to his region and meet with him. He had  
16 offered to come to Washington at his own expense.

17 That seemed unnecessary. But unfortunately, three weeks  
18 before Three Mile Island and about ten days after Creswell  
19 first called me, we got into the brouhaha involving shutting  
20 down the five plants that had the computer code problem  
21 and errors in their seismic design, and we had to testify  
22 four or five times in the following days before the  
23 Congress on that.

24 I just never got out there.

25 Creswell felt that his concerns were urgent enough that

B13.03.16

OH gsh 1 they couldn't wait. So he came up.

2 But it was sometime during those three weeks that he  
3 made, whenever the threshold appraisal was, that this clearly  
4 was not a frivolous set of concerns.

5 Q All right. Let me go back a bit to something that  
6 was a matter of discussion earlier.

7 I want to show you what's been marked as Exhibit 5096.

8 (Exhibit 5096 identified.)

9 Q It's a memorandum for Jack Watson signed by  
10 Joseph Califano, dated noon, March 31, 1979.

11 Take a look at it, if you would, and tell me whether  
12 you've ever seen it before and, if so, when the first time  
13 you saw it was.

14 (Pause.)

15 A I have never seen it before. May I take a moment  
16 to read it?

17 Q Sure.

18 (Pause.)

19 Q Okay. Never seen it before?

20 A I have never seen it before. I had heard some two  
21 or three months after the accident that Califano had, in  
22 fact, made a recommendation of some sort here. But I've  
23 never seen the memorandum and, in fact, I never had that  
24 confirmed.

25 Q During any of the conversations with Mr. Costle, was

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DH gsh

1 there ever discussion of any memoranda that were prepared  
2 either by EPA or HEW with respect to, you know, the need to  
3 urge further evacuation?

4 A No.

5 Q To the best of your knowledge and recollection, did  
6 you have a conversation, again, not having seen this, do you  
7 remember having had conversations with anybody at HEW in  
8 which you expressed the kinds of concerns that you've  
9 testified to having expressed with Mr. Costle?

10 A I do not, but I'm checking the telephone logs to  
11 see. I did talk to Rick Cotton in Califano's office, but  
12 not until the day after the memorandum you've just shown me  
13 was sent.

14 I don't remember whether my conversation with Cotton would  
15 have touched on my concerns or not. I rather doubt it  
16 because by the middle of Sunday afternoon, it had begun to  
17 appear to me that the NRC was on a course that would result  
18 in our dealing with those concerns one way or the other.

19 I may later have told Cotton about the concerns that I  
20 had had during the accident, but I'm almost certain I did not  
21 tell him of them before.

22 Now I'm absolutely certain that I didn't tell him before  
23 that memo was dispatched because Costle was the first person  
24 outside of this agency that I told.

25 That was at nearly 1:00 and that memo, which is clearly

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quite a long one, was not written casually or hurriedly. It  
seems to have arrived at the White House a few minutes after  
1:00.

PH gsh 1 Q I notice, by the way, that there was a reference  
2 in the Friday log to Rick Cotton, although it's not entirely  
3 clear to me whether or not --

4 A I think that that means that I did not speak with  
5 him. Again, why don't you stop by and ask on your way out  
6 to run through what the marks mean. That flat squiggle is  
7 distinguished from a check. It doesn't mean that I spoke  
8 to him, but I don't know what the difference is between the  
9 flat mark and the blank space.

10 Q Okay. There is a notation on April 2.

11 BY MR. CHIN:

12 Q The only question I have, in the Califano memo,  
13 you talked about a 20-mile kind of a radius. Was that  
14 discussed on Friday afternoon over at the Secretary's office?

15 A I think so. I think in those worst case scenarios,  
16 one of the questions that came up was how far out might  
17 the releases extend.

18 Q That was a question posed to you?

19 A Posed to Commissioner Gilinsky. But as it turned  
20 out, he did most of the talking for the NRC at that meeting.  
21 I noticed in this memo, they referred to our having said  
22 times as short as 6 hours, which confirms my recollection  
23 that we weren't fully aware of the hydrogen/oxygen concern  
24 and where it would lead us until after we went over to HEW  
25 on Friday afternoon.

813.04.2

UH gsh 1 Q And the 20 miles dealt with an explosion or a  
2 meltdown?

3 A The 20-mile figure came up again. Joe Hendrie used  
4 it in a press conference -- I guess that was after this --  
5 on Saturday afternoon. And just as I'm not sure exactly  
6 where he took that number from when he used it in his press  
7 conference, I don't know whether Califano got it from here.

8 Hugh's notes may give you some better feel for the exact  
9 numbers that we discussed. But I think basically, what  
10 Victor did was to describe the worst case scenarios from the  
11 earlier studies that have been done and let them draw their  
12 own conclusions.

13 Q Is your recollection that Mr. Gilinsky raised the  
14 20-mile limit?

15 A No, I'm sorry. I don't remember 20 miles  
16 specifically being discussed as different from 10, 30, or 50.  
17 That may well be a number that they derived themselves from  
18 our discussion.

19 Let me look at the memo again for a minute. I don't  
20 remember it saying that we told them 20 miles.

21 Q No, I don't think that it says that.

22 A That's right. The 20 miles is the number that  
23 they arrived at based on whatever we told them and whatever  
24 information they may have derived from their own calculations.

25 MR. CHIN: That's all. Thank you.



b13.04.3

UH gsh

1 MR. BALLAINE: Mr. Commissioner, we have a couple  
2 more questions we want to ask you.

3 BY MR. SCINTO:

4 Q Just one. I am right in indicating that Mr.  
5 Creswell came to see you shortly before the Three Mile  
6 Island accident.

7 Is that correct?

8 A That's right. I think the 20th of March sticks in  
9 my mind.

10 Q In Mr. Creswell's discussion with you, did he  
11 discuss just the famous incident at Davis-Besse or did he  
12 discuss other incidents?

13 A He discussed just Davis-Besse. He didn't confine  
14 himself to one famous incident.

15 His concern was that that was a badly managed plant, that  
16 there were at least two specific problems that had occurred  
17 there that troubled him, along with the management and its  
18 attitudes in general.

19 I don't think he discussed other incidents at other  
20 plants.

21 Q I was going to ask you, did he discuss with you  
22 the Rancho Seco incident that is in his memorandum?

23 A I don't recall his mentioning Rancho Seco.

24 Q Are you aware of any commission follow-up on the  
25 concerns raised by Mr. Creswell in this memorandum relating to

013.04.4

UH gsh

1 the Rancho Seco incident?

2 A No. In fact, you'll have to refresh my memory.

3 This is his memorandum of what date?

4 Q It's in January, the memorandum in January. It  
5 went up through the chain and eventually was sent to the  
6 licensing board.

7 MR. BALLAINE: I think it was in the big package.

8 THE WITNESS: Yes. I recall that memo. I thought  
9 you meant a separate memo solely on Rancho Seco.

10 BY MR. SCINTO:

11 Q No.

12 A No. The whole set of actions that we've taken  
13 with regard to the B&W plants and operating reactors generally  
14 after Three Mile Island, I'm not aware of any specific  
15 actions.

16 Q That were taken specifically in connection with the  
17 incident that Creswell described.

18 A At Rancho Seco.

19 Q Right. And you obviously don't recall what  
20 incident this is.

21 A This is the one with the lightbulb.

22 Q You recall what the incident was.

23 (Laughter.)

24 THE WITNESS: Yes. But I think I learned about it  
25 during the commission's deliberations on what to do about the

B13.04.5

UH gsh 1 other B&W plants after Three Mile Island.

2 BY MR. SCINTO:

3 Q Is it your understanding that the action that the  
4 commission has taken with respect to the other B&W plants  
5 responds to that concern?

6 A I can only answer that yes in a general sense. I  
7 can't tell you which action, specifically.

8 Q I recognize that. I wasn't anticipating that you  
9 would be able to do that.

10 A I was a packet of actions related to B&W plants'  
11 response to the set of concerns that have been raised about  
12 them as a result of the Three Mile Island and Rancho Seco.  
13 I think there was also a feedwater problem at Oconee.

14 BY MR. CHIN:

15 Q One quick clarifying question just before we end.  
16 In the guidelines that you discussed as necessary for the  
17 EMT to consider in recommending evacuations, do you believe  
18 those guidelines should include some deliberation about the  
19 conditions at the site and the area surrounding the site  
20 such as population, hospitals, nursing homes, prisons?

21 Should the staff consider those aspects in their  
22 deliberations, particularly when there's some uncertainty  
23 involved?

24 A We ought to know if there are special difficulties  
25 associated with evacuating a particular area. There might be

813.04.6

UH gsh

1 some reason why one would want to move a little more  
2 quickly to deal with the specific problems

3 But, again, the most we would do with that would be to  
4 pass it on as advice to the Governor. And I don't think we  
5 really ought to be the ones who dwell on that.

6 Conceivably, FEMA, and certainly the Governor's office,  
7 when they're aware that there may be some very short lead  
8 times involved, ought to be moving.

9 We ought to be able to tell them and you ought to pay  
10 special attention to hospitals, or whatever. Whatever local  
11 geographic features seem troublesome.

12 But I don't think that we ought to be spending a lot  
13 of time conducting the specific analysis about what ought to  
14 be done during the accident. During the licensing and the  
15 approval of the emergency plant, yes.

16 Q So in other words, the commission should be  
17 concerned largely with the technical assessment rather than  
18 site assessment.

19 A I think that's generally true. The greatest  
20 service that we can do is to pass on a clear picture of  
21 what's going on in the reactor and above all else, a clear  
22 picture of what the uncertainties associated with what our  
23 level of knowledge is.

24 We can tag a recommendation onto that, but the main thing  
25 is that the Governor be given just the clearest picture we can

UH gsh 1 give him of what it is that he's dealing with.

2 MR. CHIN: Thank you.

3 THE WITNESS: Can I ask myself a question?

4 (Laughter.)

5 THE WITNESS: You asked at the beginning of the  
6 morning questions about revealed standards and overall  
7 safety philosophy.

8 I had a concern about exactly what adequate protections  
9 for public health and safety meant. In very specific  
10 instances for some time, and last spring, probably, I think  
11 as a result of the Rasmussen Report, discussions and debates  
12 had asked OTC to do an extensive history of the meaning of  
13 adequate protection of the public health and safety.

14 They've just sent that up as of a few days ago. And it's  
15 a document that might be of interest.

16 MR. BERNERO: Yes, we'll contact you.

17 THE WITNESS: I've only had a chance to skim it  
18 myself, but it seems to be a fairly sweeping history and  
19 analysis from the point of view of what the commission is  
20 allowed to take into account.

21 MR. BALLAINE: Okay. Apparently, at long last we  
22 have no further questions. Because this is a continuing  
23 investigation, we can only adjourn this deposition. We may  
24 have to come back and ask you some further questions.

25 Hopefully, that won't be the case.

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But we want to thank you for your candid responses and  
thank the Reporter also.

(Whereupon, at 4:00 p.m., the hearing was adjourned.)