

ORIGINAL

# OFFICIAL TRANSCRIPT PROCEEDINGS BEFORE

NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

**DKT/CASE NO.** 50-382

**TITLE** LOUISIANA POWER AND LIGHT COMPANY  
(Waterford Steam Electric Station, Unit 3)

**PLACE** New Orleans, Louisiana

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of: )  
 )  
LOUISIANA POWER AND LIGHT COMPANY ) Docket No. 50-382  
 )  
(Waterford Steam Electric Station, )  
Unit 3) )

Room 265, West Courtroom  
Court of Appeals Building  
600 Camp Street  
New Orleans, Louisiana

Friday,  
February 11, 1983

The above-entitled matter came on for further  
hearing, pursuant to adjournment, at 9:00 a.m.

BEFORE:

SHELDON J. WOLFE, Chairman  
Administrative Judge  
Atomic Safety and Licensing Board  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

DR. HARRY FOREMAN  
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I N D E X

		<u>VOIR</u>				
<u>WITNESSES</u>	<u>DIRECT</u>	<u>DIRE</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RECROSS</u>	<u>BOARD EXAM.</u>

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P R O C E E D I N G S

9:06 a.m.

1  
2 JUDGE WOLFE: All right. We're now in  
3 session.

4 Would your witness resume the stand, Mr.  
5 Churchill -- Dr. Mileti? Or is that the order of busi-  
6 ness this morning?

7 MR. CHURCHILL: I think that is the first  
8 order of business.

9 JUDGE WOLFE: All right.

10 MR. GROESCH: Your Honor, I have one order  
11 of business that I would -- that was begun yesterday.

12 THE REPORTER: Sorry, Mr. Groesch, would you  
13 speak into your microphone.

14 MR. GROESCH: I'm sorry.

15 I have one order of business that I would like  
16 to take care of before we get into the cross-examination  
17 of Dr. Mileti; and that is the motion to have the  
18 parties disqualify themselves for -- to recuse themselves  
19 for --

20 JUDGE WOLFE: The parties you say?

21 MR. GROESCH: I'm sorry. Not the parties,  
22 but to have the Licensing Board recuse themselves for  
23 actions throughout this hearing that have been prejudicial  
24 to the case of the Joint Intervenors.  
25

1 JUDGE WOLFE: You raised the motion yester-  
2 day --

3 MR. GROESCH: Yes.

4 JUDGE WOLFE: -- and I denied it. Now you're  
5 reraising it again, Mr. Groesch?

6 MR. GROESCH: The motion was denied yester-  
7 day; is that correct?

8 JUDGE WOLFE: That is correct.

9 And I told you that I was denying it because  
10 you had not complied with the requirements of a section  
11 of our regulations that I gave to you yesterday; and you  
12 said you would look at that portion of 10 CFR that I  
13 cited to you.

14 I'll cite it to you once again.

15 MR. GROESCH: Yes. It's -- I believe it's  
16 2.704, Subpart (c).

17 JUDGE WOLFE: All right.

18 MR. GROESCH: Yes. I have looked at it last  
19 night. I see where the Board requires an affidavit for  
20 a motion of this type. I was not able to secure an  
21 affidavit for the hearing this morning.

22 What I would like to do is to use not only  
23 2.704, Subpart (c), but I would also like to use as my  
24 grounds for recusal the Constitution of the United States,  
25 Fifth Amendment due process clause.

1 JUDGE WOLFE: Well, before we get into that,  
2 whatever else you may rely on, you certainly can't rely  
3 on 2.704. There are no affidavits, no written motion be-  
4 fore this Board.

5 And you're rearguing now -- and adding the  
6 Constitution of the United States to an argument that  
7 you made yesterday, and which I denied -- the Board  
8 denied?

9 MR. GROESCH: Yes, Your Honor, I am rearguing  
10 this.

11 JUDGE WOLFE: Well, I won't hear anything  
12 on 2.704(c). You haven't complied with the requirements,  
13 so I won't hear any argument on that.

14 MR. GROESCH: All right. Then we will use --

15 JUDGE WOLFE: Make your other argument brief.

16 MR. GROESCH: The other argument which is  
17 under the United States Constitution, the Fifth Amendment,  
18 the due process clause, the -- when the liberty and  
19 property of peoples are put in jeopardy by actions of  
20 prejudicial jurors -- jurists, that the parties can ask  
21 that these prejudiced judges can recuse themselves.

22 Now I'm using as my grounds for this the  
23 following broad categories, and I understand that we are  
24 under a time constraint in these hearings. What I would  
25 like to do is this: I would like to read about 15

1 broad categories, and in order to facilitate things I  
2 would like to submit an affidavit to the Board due ten  
3 days after these hearings that would be included in the  
4 record, that would state in full the bases of this  
5 motion.

6 JUDGE WOLFE: I take it you're requesting  
7 leave -- you don't need leave of the Board to file such  
8 a motion supported by an affidavit or affidavits. I  
9 think it calls for affidavits.

10 MR. GROESCH: Well, what I would ask is that  
11 this affidavit be included in this trial record. Other-  
12 wise, I would be forced to include the entire brief that  
13 would show the prejudice of the Board. It would take a  
14 lot of time.

15 I understand that we are under a time con-  
16 straint. Therefore, it would, I believe, not be un-  
17 necessarily burdensome to keep the record open for that.

18 JUDGE WOLFE: Well, the record need not be  
19 kept open for that. If you wish, pursuant to 2.704(c),  
20 you may file such a motion supported by affidavits setting  
21 forth the alleged grounds for disqualification.

22 I'm reading directly from 2.704(c). "If the  
23 Presiding Officer does not grant the motion, or the Board  
24 member does not disqualify himself, the motion shall be  
25 referred to the Commission or the Atomic Safety and



1 Licensing Appeal Board, as appropriate, which will deter-  
2 mine the sufficiency of the grounds alleged." The record  
3 need not be kept open for that purpose. You may file  
4 such a motion, and the Board -- that this Board -- if  
5 the Board denies it, then it's referred to the Appeal  
6 Board.

7 MR. GROESCH: All right. Well, I'm ready to  
8 begin to name the broad grounds --

9 JUDGE WOLFE: Well, I don't think that's  
10 necessary at this point, Mr. Groesch. You can put that  
11 in your motion.

12 MR. GROESCH: Well, I would like to begin to  
13 name the broad grounds --

14 JUDGE WOLFE: I'm not going to rule again on the  
15 motion for disqualification, that it does not comply with  
16 Section 2.704(c). You're wasting everyone's time in  
17 setting forth those reasons, or whatever grounds you  
18 have.

19 Those grounds can be set forth in your motion.

20 MR. GROESCH: Are you, therefore, ordering  
21 me not to set forth my motions to show prejudice of this  
22 Licensing Board, even --

23 JUDGE WOLFE: It will --

24 MR. GROESCH: -- though I'm using as my  
25 grounds for this the Constitution, Fifth Amendment, due

1-6

1 process clause? Are you ordering me not to do this?

2 JUDGE WOLFE: I'm directing that you not --  
3 in compliance with Section 2.704(c), submit your motion  
4 and all your grounds, and the Board will rule on it at  
5 that time.

6 MR. GROESCH: All right, Your Honor, we'll  
7 comply with this.

8 We are ready to begin the cross-examination  
9 of the rebuttal witness of the Applicant.

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JUDGE WOLFE: All right. Proceed.

Whereupon,

DENNIS S. MILETI

the witness on the stand at the time of the evening adjournment, resumed the stand as a witness by and on behalf of the Applicant and, having been previously duly sworn by the Administrative Judge, was examined and testified further as follows:

CROSS-EXAMINATION

BY MR. GROESCH:

Q Dr. Mileti, good morning.

A Good morning.

JUDGE WOLFE: I would note for the record that Mr. Fontana is appearing in the courtroom today.

All right.

MR. FONTANA: Just for the record, I still request a broad request that I be able to leave whenever I'd like to.

JUDGE WOLFE: Would you note that at the times you are leaving, please. Note it on the record.

MR. FONTANA: Okay.

JUDGE WOLFE: All right. You had something, Mr. Churchill?

MR. CHURCHILL: I'm sorry?

JUDGE WOLFE: I thought you were going to say

1-8

1 something to the Board.

2 MR. CHURCHILL: No, sir.

3 JUDGE WOLFE: All right. Go ahead.

4 BY MR. GROESCH:

5 Q Dr. Mileti, yesterday you mentioned in your  
6 rebuttal testimony the concept of symbolic interaction.  
7 Could you define that?

8 A Symbolic interactionism is a theoretical  
9 perspective in the field of social psychology within  
10 sociology. Its basic premise is that people's behavior  
11 is largely dependent on what they perceive reality to  
12 be when they're about to engage in the behavior.

13 Q Dr. Mileti, do you draw on the works of  
14 Herbert Bloomer?

15 A I am familiar with the works of Herbert  
16 Bloomer, as well as the works on which his formulization  
17 of symbolic interactionism is based, for example, the  
18 works of George Herbert Heade and others.

19 Q How does the work of -- I suppose it's Dr.  
20 Bloomer -- guide you in the area of symbolic logic -- or  
21 I'm sorry -- symbolic interaction?

22 A His was an early formulization of that  
23 theoretical approach, and so his basic ideas about human  
24 behavior being explained from that point of view or  
25 theory permeate much of the ideas that exist today about

1 how it is that people's perceptions of reality affects  
2 their behavior.

3 Q What is the relation between symbolic inter-  
4 action and reality construction?

5 A I don't know what you mean by "reality con-  
6 struction."

7 Q That is not a term that you work with as a  
8 professional sociologist?

9 A I have not used that term, no.

10 Q In your work, do you define specifically the  
11 word "situation"? Is that a technical term to you, if  
12 someone were talking about situations in symbolic inter-  
13 action?

14 A The situation might be the context in which  
15 a person finds themselves, and it's comprised of a variety  
16 of different things, for example, what they see and ob-  
17 serve, what they hear, and other things in their social  
18 context.

19 Q Would you say that a situation is -- You  
20 said that they draw on things that they see, they hear.  
21 Do you think that a situation then would be constructed  
22 by perceptions?

23 A Different people would define and interpret  
24 the situation that they're in in different ways and  
25 perceive different personal realities in that situation.

1-10

1 Q Dr. Mileti, are you familiar with the term  
2 "emergent norm"?

3 A Yes, I am.

4 Q Could you define how the term "emergent  
5 norm" is used in your work?

6 MR. CHURCHILL: Your Honor, I'd object. This  
7 is improper cross-examination. If he's trying to voir  
8 dire the witness to determine whether he knows the  
9 definition of words, he's beyond that point.

10 JUDGE WOLFE: Are you laying a foundation?

11 MR. GROESCH: Yes. I'm laying a foundation  
12 of -- that's beyond voir dire. You know, the witness, we  
13 believe, is -- you know -- expert. So we're not trying  
14 to find out whether or not he's an expert or not.

15 JUDGE WOLFE: All right. Objection over-  
16 ruled.

17 THE WITNESS: The notion of emergent norm  
18 is one that is used to help characterize how it is that  
19 people behave the way they do in emergencies. By  
20 definition, emergencies are breaks in the routine of  
21 social life.

22 When an emergency occurs, it turns out that  
23 norms, which typically determine or guide behavior, which  
24 I might add is the basis for the existence of the dis-  
25 cipline of sociology, change.

1-11

1 We find, for example, that priorities shift  
2 in a community, and things like manufacture and pro-  
3 duction and norms about manufacturing, for example, tables,  
4 are suspended and receive lower priority than any other  
5 shifts and changes in norms.

6 What has been observed in those who have  
7 studied empirical observations of emergencies is that  
8 new norms come into being, by and large, that determine  
9 people's behavior.

10 And, interestingly, those new norms characterize  
11 all emergencies. And people in one particular community  
12 are often surprised at how their community responds in  
13 the emergency, because it's unfamiliar to them -- the  
14 norms that determine behavior.

15 However, those norms pop up in different  
16 emergency contexts. And it's on that basis, because of  
17 those pattern changes in norms and emergent norms, that  
18 conclusions can be made about how people, in fact, deal  
19 with and respond to emergencies.

20 - - -

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ged

1 Q Is it a good idea, in your opinion, to establish  
2 an emergent norm in an emergency situation?

3 A I don't think that we have a choice about  
4 emergent norms occurring in emergency situations.

5 In fact, the idea that they recur time and  
6 time again and that we have some good idea about what they  
7 are is then a good basis for emergency planning, in that  
8 we have some solid evidence about how people behave in  
9 emergencies, and we can take that behavior into account  
10 when drafting emergency plans.

11 Q In your opinion is it a good idea to let these  
12 types of norms generate themselves by chance?

13 A Again, we don't have a choice about how these  
14 norms emerge or don't emerge. They are a natural  
15 tendency when human beings live in groups.

16 However, we can take appropriate steps  
17 through emergency preparedness to take advantage of some  
18 of the patterns that we know about, some of the  
19 emergent norms that we know about.

20 For example, one of the emergent norms we  
21 know occurs in a warning information situation time and  
22 time again, is that people need to have the emergency  
23 information that they receive confirmed for themselves.

24 It's a norm that people seek additional  
25 information. Therefore, by devising public information



1 systems at the time of an emergency in such a way that  
2 people can readily and quickly get that confirmation that  
3 they need we can help guarantee that they will form  
4 appropriate perceptions of danger and maximize the odds  
5 that they will behave appropriately.

6 There are other examples.

7 Q So in your opinion, the people in St. John  
8 and St. Charles Parish have already established a norm  
9 of turning on their radio and television station when they  
10 hear a siren; is that correct?

11 A No, that is not correct. In my opinion, what  
12 I would say is that were there an emergency in some part  
13 of Louisiana because people live in that part of  
14 Louisiana, and the natural tendency of people is to seek  
15 additional information, that people in Louisiana in that  
16 emergency would seek additional information.

17 That emergent norm does not exist today, but  
18 I would predict that it would exist in that future  
19 emergency.

20 Q Do you know of any works that have quantified  
21 this tendency of people in St. John and St. Charles  
22 Parish to go to this norm of behavior in an emergency  
23 situation?

24 A No, I do not.

25 Q Is this norm of behavior of turning on -- or

2-3  
1 to get confirmation of situations from a communications  
2 system of some sort, this is, you think, a universal --

3 A It's been found in every emergency that's  
4 ever been researched where people have looked to see if  
5 that's indeed what happened, and those emergencies have  
6 been diverse enough to suggest that it indeed will happen  
7 in all future emergencies.

8 Q Now, some people seeking information of this  
9 sort, confirmation information, could they, for instance,  
10 use their telephone?

11 A People, when they are seeking confirmation,  
12 receive information that helps them confirm the threat  
13 information they are getting at the time in a variety of  
14 ways.

15 It is possible that someone would turn on the  
16 radio. It's possible that someone would turn on the  
17 television.

18 It is also possible that someone would turn  
19 to the telephone.

20 Q Is it possible that people would, for  
21 instance, go outside and knock on their neighbor's door  
22 and say, "Do you know what's happening?"

23 A Sir, in reference to human behavior, if you can  
24 think it up, it's possible for a person to indeed perform  
25 it.

2-4  
1 So yes, indeed, it is possible that someone  
2 would do that. Yes.

3 Q I would be talking here about a significant  
4 percentage of the population, not just one person.

5 Do you have any kind of percentage breakdown  
6 of a population in a modern society that would turn on  
7 their radio to get confirmation in an emergency situation?

8 A I have no percentages or distributions that  
9 would describe that. However, in my opinion, I can say  
10 that it's very difficult to get people in an emergency to  
11 stop them doing what they are doing and to do something  
12 else.

13 So in terms of seeking information, people  
14 would most likely turn to the easiest way to get  
15 additional information.

16 For example, turning to a TV would be easier  
17 than getting up off the couch to walk outside to knock on  
18 a neighbor's door.

19 It's likely that their first attempt to seek  
20 additional information, therefore, would be to turn to the  
21 most easiest source of additional information, which in  
22 most American homes is the media.

23 Q Now, I might be wrong in this, but it would  
24 seem to me that someone in your situation who would be  
25 testing the reaction of people after -- or during an

-5  
1 emergency. You would be testing them after the emergency  
2 happened, but you would be asking them questions about  
3 what you did during emergencies.

4 That's what you do pretty much?

5 A. That's one research design. There certainly  
6 are many others, which include looking at actual behavior  
7 when it goes on.

8 Indeed, the best way to study actual behavior  
9 is to observe actual behavior.

10 Sociologists, however, often also ask people  
11 about their future behavior, and also ask people about  
12 their past behavior.

13 Q. Yes, I understand all this, but what I'm  
14 saying is it would seem to me a very easy question in a  
15 brochure that you -- maybe I shouldn't use the term  
16 "brochure" in these hearings, but if you are asking a  
17 thousand people what they did when they felt the earthquake,  
18 "Did you turn the radio on?" it would seem to me a very  
19 simple question to ask and, therefore, a simple percentage  
20 to get that kind of information, and that type of informa-  
21 tion is not available; is that your testimony?

22 A. I'm sure that it might be available in some  
23 researcher's data file somewhere, but I don't know that  
24 that would do anything more than describe how people  
25 recalled what they did in that particular disaster or

2-6  
1 emergency.

2 I don't know, in other words, that a general  
3 percent distribution has ever been written down as the  
4 common thread to be found in all emergencies.

5 Q I see. So if a person would hear a siren  
6 anywhere in the country, you would think that they would  
7 do three major things: They would turn on the radio,  
8 turn on the television, or use the telephone?

9 A No. I don't think a person would do all three  
10 of those things at first at all.

11 I think the first thing a person is most  
12 likely to do were they to hear a siren is turn to one  
13 source of additional information, and it probably would  
14 most likely be a source of additional information that  
15 required a passive behavior on their part.

16 For example, turning to the media where they  
17 didn't have to do as much work as it takes to be  
18 aggressive about using the telephone.

19 Again, however, I'm not saying that some  
20 people would not use the telephone.

21 Q Doctor, I think you are a scientist. I think  
22 you are a pretty good scientist, but you are telling me  
23 that you don't have a really good grasp on the number of  
24 people in modern technological society who would turn on  
25 the radio, given a population size?

2-7  
1 A No, sir. I said I don't have a percent  
2 distribution of the number of people who when they first  
3 heard the sirens would turn to a radio versus the  
4 television versus the telephone.

5 I have a pretty good idea or opinion about  
6 what most people would do, but it would be difficult for  
7 me to express in percentages what I meant by the word  
8 "most."

9 Q Are you familiar with the safety information  
10 brochure, Applicant Exhibit 13?

11 A Yes, I am.

12 Q Do you know where it says, "Don't use the  
13 phone"? I know it says it somewhere in here.

14 It's the third line, what they are saying the  
15 summary column is, "What To Do If You Hear the Outdoor  
16 sirens."

17 Do you think that that will do any good to  
18 have a line such as this in this brochure?

19 MR. CHURCHILL: Your Honor, may we show the  
20 witness a brochure. He doesn't seem to have one up there  
21 with him.

22 MR. GROESCH: Oh, I'm sorry.

23 JUDGE WOLFE: Yes.  
24  
25

1 JUDGE JORDAN: Mr. Groesch, there is another  
2 place where it also says, "Don't use the phone."

3 MR. GROESCH: It doesn't jump out at you.

4 JURDGE JORDAN: It is on the four panels, the  
5 second panel halfway down, has one paragraph devoted to  
6 that topic.

7 THE WITNESS: I've seen both places now.

8 In my opinion, this brochure does not provide  
9 a motivation for future behavior. It's providing infor-  
10 mation.

11 It's my opinion that were a person to turn  
12 to the telephone in an emergency, for whatever reason might  
13 occur at the time, that this brochure likely would not  
14 stop them from doing that.

15 However, there may be a person or two who  
16 happens to remember this information and not use the phone  
17 because of it.

18 BY MR. GROESCH:

19 Q This would be basically inconsequential to  
20 the total community action, in your opinion?

21 A I have no idea what portion it would be.

22 Q You're saying an individual or two, so it  
23 wouldn't make a great deal of difference statistically?

24 A If a person were turning to the telephone,  
25 statistically I don't think the brochure would keep them

3-2  
1 from turning to the telephone.

2 Q Doctor. you've been involved in the TMI re-  
3 start hearing; is that correct?

4 A That hearing has not begun.

5 Q I see.

6 JUDGE JORDAN: This is a little confusing,  
7 and probably we should try to straighten it out now.  
8 The restart hearings before the Licensing Board did begin  
9 some two years ago and was completed. There is now other  
10 proceedings, I guess, that you mentioned going on before  
11 the Supreme Court, perhaps. So I'm not sure what you had  
12 in mind, or what Mr. Groesch had in mind when he said the  
13 restart hearings for TMI.

14 THE WITNESS: I beg your pardon. Let me  
15 clarify what I meant.

16 Were I to be involved in any TMI restart  
17 hearings, my involvement has not begun yet. Certainly  
18 those hearings have begun.

19 BY MR. GROESCH:

20 Q What percentage of the population around  
21 the reactor at Three Mile Island turned to their telephone  
22 as a first source of communication?

23 A I don't know.

24 Q How many people -- What percentage of the  
25 population around the reactor at Three Mile Island at the



3-4 1 A I imagine that's a possibility for role  
2 playing, yes.

3 Q Can you act out -- In role playing can you  
4 act out doubts and feelings and also act out how you  
5 would respond to those doubts and feelings?

6 A I'm sure that it's possible to engage in any  
7 behavior in role playing.

8 Q Does role playing help in establishing emergent  
9 norms in society?

10 A I imagine it can in some regards, and it  
11 can't in other regards and situations. For example, I  
12 know that role playing for emergencies -- officials or  
13 people that have emergency roles in organizations, for  
14 example, is part of preparedness exercises. It's very  
15 important for emergency officials to have a clear idea of  
16 their roles in emergencies prior to the emergency.

17 Q These officials that it would be good for this  
18 to do, how far down the ladder do you think it would be  
19 good to do this? Let me kind of clarify.

20 In some of these areas they have volunteer  
21 firemen and people who are not professionals. Do you think  
22 people who are not professionals should be involved in  
23 emergency exercises as a role playing technique?

24 A What's important is that emergency workers  
25 have a clear idea of what their emergency role is; that

1 need not come from role playing. It can come from other  
2 places.

3 For example, firemen, who in an emergency  
4 would be asked to put out fires, already have a clear idea  
5 of how one goes about putting out fires.

6 Q These emergency workers for whom it would be  
7 good to engage in role playing, do they have -- these  
8 workers have a number of options during the course of a  
9 disaster that they would have to go through? In other  
10 words, let me see if I can clarify this.

11 Do emergency workers in -- Just a moment.  
12 Let me clarify this.

13 Why, in your opinion, is it good for emergency  
14 workers, but not for the population in general?

15 MR. CHURCHILL: Objection, Your Honor. This  
16 question does not -- This line of questioning from the  
17 last few questions does not relate to this witness'  
18 direct testimony.

19 MR. GROESCH: This witness is a rebuttal wit-  
20 ness.

21 MR. CHURCHILL: It does not relate to this  
22 witness' rebuttal testimony.

23 MR. GROESCH: I think it -- I believe that  
24 this witness has said that practice evacuations for  
25 populations are not productive. I believe that's his

3-6

1 testimony.

2 MR. CHURCHILL: Your Honor, we heard no in-  
3 dication of practice evacuations in any of his questions.

4 JUDGE WOLFE: It's my recollection that there  
5 was an allusion by this witness to that very question.

6 MR. CHURCHILL: I'm sorry, Your Honor. In  
7 Mr. Groesch's questions, he hasn't mentioned practice  
8 evacuations.

9 JUDGE WOLFE: In Mr. Groesch's question?

10 MR. CHURCHILL: Yes, sir. The question that  
11 I'm objecting to perhaps it relates to practice evacua-  
12 tions, but I don't know that. He hasn't indicated that.

13 JUDGE WOLFE: Do you understand the question,  
14 Doctor?

15 THE WITNESS: Yes.

16 JUDGE WOLFE: Objection overruled. Answer  
17 the question.

18 THE WITNESS: In my opinion, it would be un-  
19 productive for the public to be subjected to a practice  
20 evacuation for several reasons.

21 Persons who need to have a clear idea of  
22 their roles so that they can perform their emergency jobs  
23 might gain something from being subjected to training. It  
24 would help them have a better idea about what their emer-  
25 gency job is, especially if their emergency job has less

1 than perfect correlation with their everyday job.

2 For the public, however -- and in helping the  
3 public define the role of, for example, an evacuee or a  
4 person who shelters, or a person who's to seek additional  
5 information, we're not talking about them engaging in  
6 actual emergency response in the sense that they're ful-  
7 filling a job with duties.

8 A practice evacuation would lead people to  
9 form ideas about what that emergency might be, in the  
10 absence of many of the significant real-world factors that  
11 would comprise that particular emergency.

12 In other words, it would be artificial. I  
13 doubt that there would be a semblance of what the signi-  
14 ficant factors are during a real emergency, and on that  
15 basis could lead them to make conclusions about what are  
16 appropriate behaviors for some future unspecified emer-  
17 gency prematurely.

18 BY MR. GROESCH:

19 Q Wouldn't -- let's say the father of a family --  
20 have a role to play in evacuation very similar to the role  
21 that an emergency worker would have for society at  
22 large?

23 A Fathers already know the role of father.

24 Q Fathers already know the role of father? Is  
25 that your testimony?

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✓  
1 A Yes, I believe that's what I said.

2 Q You're saying that your studies indicate that  
3 fathers in emergency situations always act as fathers; is  
4 that correct?

5 A No, I didn't say that. I said people are  
6 fathers today, tomorrow and in the future are familiar  
7 with what being a father means.

8 Q Do you know how many families exist in St.  
9 John and St. Charles Parishes who don't have fathers?

10 A No, I do not.

11 Q Do you think that the mother of a family that  
12 would be without a father would have the same -- would not  
13 have to go through a role playing in order to assess --  
14 in order to more -- to better carry out her role in an  
15 evacuation?

16 A If she were a member of an evacuation organiza-  
17 tion -- excuse me -- an emergency organization, it would  
18 be good that she was familiar with her duties in an  
19 emergency organization.

20 I don't think that one would need to rehearse  
21 a mother on how to be a mother. One is a mother when  
22 there isn't an emergency, and one continues to be a mother  
23 in an emergency.

24 - - -  
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3-3

1 time of the accident turned on the radio?

2 A I don't recall those figures, and I'm not sure  
3 that they even exist. That doesn't mean that they might  
4 not. It has been a year or two since I looked at most of  
5 the major studies that would have contained that sort of  
6 information, if it exists.

7 Q The answer would be the same then for tele-  
8 vision?

9 A Sir, I'm not sure that that was a question that  
10 was researched.

11 Q Dr. Mileti, do you think that it would -- in  
12 your research are you involved in role playing?

13 A No, I am not.

14 JUDGE WOLFE: It would be helpful to me cer-  
15 tainly if you would explain what role playing is.

16 THE WITNESS: To my way of thinking, role  
17 playing is the acting out of the aspects of behavior that  
18 are associated with a role.

19 For example, when children pretend to be doc-  
20 tors and nurses, they're role playing a role of being a  
21 doctor or a nurse.

22 BY MR. GROESCH:

23 Q Doctor, does role playing -- In role playing  
24 could you or could anyone also act out doubts or feelings  
25 of inadequacy in handling a situation?

4-1  
ged  
1 Q Does your studies indicate that males and  
2 females adopt different roles during emergency situations?

3 A Males and females play many different roles,  
4 and in this society in non-emergency situations they are  
5 typically different and sometimes in emergency situations  
6 they can be different, but they can also be the same.

7 What is significant is how people are behaving  
8 and if one is talking about an evacuee, for example,  
9 women and men can play the identical -- behave in the same  
10 way when they are evacuating.

11 Q Women and men behave in the same way when  
12 evacuating; is that your testimony?

13 MR. CHURCHILL: Your Honor, I have an  
14 objection to this line as well. I don't see how it  
15 relates to this witness' testimony.

16 MR. GROESCH: Your Honor, I don't necessarily --  
17 the fact that my line of questioning is not directly  
18 telegraphed to Mr. Churchill or is directly telegraphed  
19 even to the Board is not necessarily a fault.

20 I mean, if I'm going somewhere with this,  
21 that's fine. If his answers throw off where I'm going,  
22 then we'll just have to let it drop.

23 But I don't necessarily think it is incumbent  
24 upon the cross-examiner to tell everyone in the courtroom  
25 exactly where I'm going with this.

4-2 1 JUDGE WOLFE: Objection overruled. Answer  
2 the question.

3 You may proceed, Mr. Groesch.

4 BY MR. GROESCH:

5 Q Your testimony is that a man or a woman reacts  
6 in the same way as a father or mother in protecting a  
7 family in evacuation situations?

8 A No, sir, I didn't say that. I was saying that  
9 a woman can get in a car and drive from one place to  
10 another during an evacuation in the same way that a man  
11 can get in a car and drive from one place to another in an  
12 evacuation, be that man or woman single or married, with  
13 or without children; that that behavior, the act of  
14 evacuating has happened successfully in this nation  
15 many times, regardless of people's sex.

16 Q Do you think that in normal life, everyday  
17 life, that men and women have different feelings of  
18 adequacy or the ability to cope with situations?

19 Isn't it provable psychological, although I  
20 don't have numbers at my fingertips, that, say, men feel  
21 more in control of situations than women do in most  
22 instances?

23 A Indeed, sir, men and women are different and  
24 that does affect their behavior.

25 Traditionally, this results from the fact that



1 this society socializes, that is, teaches men and women to  
2 be different.

3 Q So your testimony is that although society  
4 teaches them to be different, that emergency situations  
5 standardize any of those differences and allow either a  
6 man or a woman who would be in a position of having to  
7 drive out children to make them equally capable of doing  
8 that job?

9 A Both of them are capable of doing that job and  
10 have done that job.

11 What you are suggesting, I think, is that one  
12 would have to convince men and women differently in order  
13 to get them to both do that job.

14 Q No, that's not what I am suggesting.

15 JUDGE WOLFE: We are trying to tie down --  
16 This line of questioning should be tied down to the  
17 adequacy of the brochure in this respect, Mr. Groesch.  
18 BY MR. GROESCH:

19 Q In emergency situations, do sometimes  
20 ambiguities develop about what there is to do?

21 A Unfortunately, yes, and that's the whole  
22 reason for having emergency preparedness plans to try to  
23 reduce ambiguity about what people should do in an  
24 emergency.

25 Q Your testimony is that emergency preparedness

1 plans up to a certain point are good, and then beyond that  
2 they can be counterproductive, at least for the general  
3 population?

4 A I would say that exactly. Indeed, not only  
5 for the general public, but also for emergency workers.

6 Emergency planning is a reasonable task to  
7 engage in up to a point and then it becomes counter-  
8 productive.

9 For example, if you'll forgive me becoming a  
10 bit colorful, I think Dwight Eisenhower said, "Plans are  
11 irrelevant, but planning is essential," and what he was  
12 suggesting that if we make our plans too specific and  
13 allow for too little flexibility during an emergency,  
14 they can indeed be counterproductive.

15 So yes, planning is good within limits.

16 Q Are you familiar with -- You are familiar  
17 with the brochure.

18 Could you turn to the inside page?

19 A Which one?

20 Q The one with the map on it.

21 The chart seems to me to be very specific  
22 about what to do in the case of an evacuation.

23 Don't you think this is too much detail for  
24 the general population?

25 MR. CHURCHILL: Your Honor, I object to this

4-5  
1 question as being outside the scope of this witness'  
2 testimony.

3 This seems to be a followup on the line that  
4 started with the last question, and the line is in fact  
5 outside the scope of his testimony.

6 MR. GROESCH: Your Honor, I am just trying to  
7 get an understanding from this witness about how much  
8 detail that he thinks is necessary.

9 If in fact he thinks that this much detail  
10 is not counterproductive for the general population that  
11 this brochure is going out to, okay, then let him say so,  
12 and then we'll find out what the basis for that is.

13 MR. CHURCHILL: He did not testify, Your  
14 Honor, he did not testify on the amount of map detail  
15 that should or should not be in this brochure.

16 JUDGE WOLFE: I think the witness' testimony  
17 on rebuttal opens up this line of questioning.

18 Objection overruled.

19 THE WITNESS: Sir, I am not an expert on  
20 readability and, therefore, can't offer expert opinion on  
21 the readability of this map.

22 I feel good about --

23 JUDGE WOLFE: I don't think Mr. Groesch is  
24 speaking to readability, Doctor, if you'll excuse me for  
25 breaking in, Mr. Groesch.

1 I think he is speaking to is there too much  
2 planning and detail now in this chart below the map, and  
3 doesn't that, as you say, defeat its purpose in being  
4 overly detailed, over-planned. Is that your question?

5 MR. GROESCH: Yes, that's where I was going.

6 JUDGE WOLFE: All right.

7 THE WITNESS: Let me say that when I was  
8 talking about too much detailing in planning being counter-  
9 productive, I was speaking in reference to the roles of  
10 people who would help guide or direct the emergency.

11 If we became too specific about saying given  
12 these 38 possible future contingencies, this is what  
13 people should do, that would create too much confidence  
14 in the people who have an emergency role to play, that all  
15 possible contingencies were indeed covered.

16 Actual events rarely reflect the scenarios  
17 that we draft into planning, and that kind of level of  
18 specificity is unwarranted and counter-productive.

19 I'm not sure and can't offer a judgment about  
20 whether this is too specific for the public to understand.

21 I am sure that there are some folks in the  
22 public for whom this would be too specific. There must  
23 be.

24 And I am sure that there are some folks in  
25 the public for whom this would not be too much specifics.

4-7 1 Q Well, if, for instance, the emergency planners  
2 had come in here and said that there are two or three ways  
3 to get out of this area, but we are going to put one down  
4 in our brochure, would not that be a mistake?

5 A I don't know. That would be based on what's  
6 the appropriate and most logical way to get the inhabitants  
7 out of the area during an evacuation and what should be  
8 significant and addressed in the plans to accompany those  
9 transportation routes is designs to get the proper  
10 information out to the public at the time to indeed have  
11 that happen.

12 Q My question is this; maybe I'm not expressing  
13 it well, but it seems to me that if the emergency planners  
14 would have to change their directions in getting people  
15 out of this community, then it would be a mistake to put  
16 down one direction on the map because would not that make  
17 people follow that norm?

18 Would not this establish a norm, and, therefore,  
19 if the emergency planners, because of wind conditions  
20 or whatever, have to change direction, that this map  
21 would get in the way; is not that your testimony?

22 MR. CHURCHILL: Your Honor, we seem to be  
23 relitigating the plan that is clearly outside the scope  
24 of this hearing.

25 JUDGE WOLFE: That is correct. We have already

1 made our finding on evacuation.

2 I will sustain an objection to that question.  
3 We are here only to determine the adequacy of the brochure,  
4 Mr. Groesch.

5 MR. GROESCH: Yes. Well, my -- maybe I should  
6 ask the question again, and then I could reargue it.

7 BY MR. GROESCH:

8 Q Is it not your testimony that if you give  
9 people one thing to do in an emergency situation and make  
10 them good at that, that the reason you don't want to do  
11 that is because another situation, an emergency, which  
12 would have different parameters, would be -- the norms  
13 that you developed in practicing would therefore be  
14 applied in a wrong way.

15 MR. CHURCHILL: Your Honor, I have to object  
16 to this line of questioning. I think what he's leading  
17 to is to try to get this witness -- or he's trying to make  
18 a point that perhaps the arrows shouldn't be on this map  
19 or should be somewhere differently.

20 This witness has not in his direct rebuttal  
21 testimony offered any information about the consistency  
22 or inconsistency of this map or this brochure with the  
23 plan.

24 He's attempting to use this witness on cross-  
25 examination to raise a new issue which we have never even  
heard of before in this hearing.

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1 MR. GROESCH: I don't believe I am trying to  
2 do that. I am trying to get a specific example from  
3 this witness about this chart. I am not questioning the  
4 plan. I know that there's primarily one way to evacuate,  
5 and there's testimony that says that there could be  
6 other ways to evacuate in changing conditions.

7 What I'm saying is let's take this witness'  
8 rebuttal testimony and apply it to this situation and  
9 say, "Are we being too specific? Are we establishing a  
10 norm of behavior that could be counterproductive?"

11 I'm just -- That's all I'm doing is applying  
12 his testimony to this brochure, not challenging the plan.

13 MR. CASSIDY: Your Honor, if I might, I think  
14 in the terms that Mr. Groesch has couched his question  
15 that's before the witness, that it is a proper question.

16 (Bench conference.)

17 JUDGE WOLFE: Objection overruled.

18 Do you remember the question, Doctor?

19 THE WITNESS: No, I don't.

20 (The question was read by the reporter as  
21 follows: "Is it not your testimony that if you  
22 give people one thing to do in an emergency situa-  
23 tion and make them good at that, that the reason  
24 you don't want to do that is because another  
25 situation, an emergency, which would have different

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parameters, would be -- the norms that you developed in practicing would therefore be applied in a wrong way?"

THE WITNESS: Let me restate that question so I think I know what it is I'm answering. If you're asking if you instill in people's minds a set way of behaving prior to a particular event and that in a future event, that way of behaving is inappropriate, could your first attempts at instilling in them ways of behaving be inappropriate and counterproductive?

MR. GROESCH: Sure.

THE WITNESS: The answer is indeed yes.

- - -



1 BY MR. GROESCH:

-3  
2 Q So, therefore, we're asking people, when we  
3 give them this brochure, we tell them to locate the  
4 evacuation routes for your section, locate the section  
5 you live in, locate your reception center, locate your  
6 pickup points, locate your children's reception center;  
7 and then we have them try an example.

8 Is that not establishing a method of behavior  
9 prior to the event?

10 A It's suggesting a method of behavior.

11 Q Yes.

12 A As I've said, it's not -- This brochure  
13 would not be the motivation for behavior. That would  
14 largely be situational.

15 Q But it is suggesting very strongly, in my  
16 opinion, a very direct and positive thing to do?

17 A Yes, indeed.

18 Q And, therefore, in this hearing, which we've  
19 litigated the plan before and this Board has found that  
20 the plan is adequate, primarily this method will be the  
21 main way out of this parish, but there is in the record  
22 very strong indications of other means of evacuation  
23 that could be utilized.

24 MR. CHURCHLL: Objection. This -- Your  
25 Honor, this is what I said before. He's challenging the

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plan. The brochure has to reflect the plan, and it does reflect the plan.

MR. GROESCH: I am not challenging the plan whatsoever. I am challenging the fact that the plan has different methods of evacuating. It is in your partial initial decision that there is one primary method of evacuating, which is in here.

What I'm saying is that this witness' testimony shows very strongly that it is a mistake to establish a norm of behavior.

JUDGE WOLFE: Well, at most, all I've heard is Mr. Groesch's arguments and conclusions. I haven't heard a question. What you're saying is not persuasive to the Board one way or another. Address anything you have to say -- or your questions to the witness.

There is no question outstanding.

MR. GROESCH: I thought there was an objection outstanding.

JUDGE WOLFE: Well, what is your question?

MR. GROESCH: Am I wrong, that Mr. Churchill was --

JUDGE WOLFE: No. All that Mr. Churchill was doing was responding to your argument and saying, "Well, this was what he was concerned about, where you were going."

1 there's no question before the --

2 MR. GROESCH: Oh, I see. There was no ob-  
3 jection. I'm sorry.

4 MR. FONTANA: While there's a pause, I would  
5 like to be excused.

6 JUDGE WOLFE: All right, Mr. Fontana.

7 (Mr. Fontana was excused.)

8 BY MR. GROESCH:

9 Q Dr. Mileti, is it a mistake in an evacuation  
10 brochure to specifically and strongly identify one method  
11 of evacuation in an area in which other methods could --  
12 are available and are also in the plan, although not in  
13 the brochure?

14 A No, I don't believe it is. However, if the  
15 method of evacuation identified in the brochure is in-  
16 appropriate in a future emergency, very careful attention  
17 would have to be paid to explaining that, what was de-  
18 signed in this map because some folks may still have it,  
19 and make reference to it -- is inappropriate, and that the  
20 recommendations for how they should evacuate are being  
21 changed.

22 It would put a great deal of importance on  
23 the emergency information system at the time. One of the  
24 nemesis -- excuse my mispronouncing -- mispronunciation  
25 of that -- of emergency situation is public confusion.

1 Q Let me see if I understand your testimony be-  
2 cause I think I've even forgotten my question. But your  
3 testimony is that it would be a bad idea to put one plan  
4 in if there are other plans?

5 A I don't recall saying that.

6 Q Then it would not be a bad idea?

7 A I think it's a good idea for an evacuation  
8 brochure to identify how the people who are reading the  
9 brochure might evacuate. What I said was should the  
10 circumstances change in the future, and in the actual  
11 emergency, if there is one, that evacuation route has to  
12 be changed, it's going to put a great deal of importance  
13 on the information at the time it goes to the public,  
14 so that they don't become confused.

15 Q Yes, I think they might be confused.

16 Now in order to allay this kind of confusion  
17 in a plan -- a hypothetical plan, let's take it, so that  
18 we don't have to be too specific here -- in a hypothetical  
19 plan that has one or more methods of evacuating and a  
20 brochure that has one plan -- one method of evacuating in  
21 the brochure, but there is more than one method in the  
22 entire plan, would not -- how would you allay the con-  
23 fusion that would be generated in a real emergency if  
24 the situation was such that the plan that was not in the  
25 brochure was the one that had to be carried out?

1                   How could you allay that anxiety that would be  
2                   apparent during the emergency, before the fact, to help  
3                   people to cope with a situation that could very possibly  
4                   change?

5                   A.        I think you've asked me several questions.  
6                   Was one how can you delay anxiety about confusion in the  
7                   future emergency before the emergency occurs?

8                   Q        Yes.

9                   A.        I don't believe that one could. I think that  
10                  the key determinant -- in fact, I know the key determinant  
11                  to the public being confused or stressed or anxiety-  
12                  ridden, and more importantly, in determining their be-  
13                  havior in an emergency, is the situational perceptions of  
14                  risk and the situational perceptions they have about  
15                  what they think they should do at the time.

16                  Now, in explaining that, one has to take into  
17                  account the most essential factor that alters what people  
18                  perceive at the time; and that is the information that  
19                  they receive at the time.

20                  Relatively speaking, the effect of prior public  
21                  education has much smaller effect than the information  
22                  that they receive at the time. Therefore, beforehand, if  
23                  I were concerned about emergency situations when people  
24                  might be anxiety-ridden or stressed, I would devote  
25                  attention to designing and taking steps to make sure that

1 it could be implemented well, a good public emergency  
2 information system to be used at the time of the emer-  
3 gency.

4 JUDGE WOLFE: Doctor, you said you saw several  
5 questions in the one question. Had you finished or not?

6 THE WITNESS: I've forgotten what the others  
7 might have been.

8 MR. GROESCH: I think that's all right.

9 BY MR. GROESCH:

10 Q So your testimony is that nothing that you  
11 could do beforehand would allay this type of anxiety?

12 A My testimony is that any effort to try to  
13 allay that anxiety or whatever it is that we're talking  
14 about are much better placed if we're really concerned  
15 about having people behave appropriately in an emergency  
16 in the emergency information system, because regardless  
17 of what we do beforehand, if we don't have a sound  
18 emergency information system, the public will not respond  
19 appropriately.

20 And regardless of what we do or don't do be-  
21 forehand, if we have a sound public emergency information  
22 system, the public will likely behave appropriately.

23 MR. GROESCH: Your Honor, if I could take  
24 five minutes, I might be able to wrap up with this wit-  
25 ness.

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JUDGE WOLFE: All right. We'll have five minutes. Do you need more, Mr. Groesch?

MR. GROESCH: Ten minutes wouldn't be bad. That way I can kind of organize myself.

JUDGE WOLFE: All right. Ten minutes.

(A short recess was taken.)

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JUDGE WOLFE: All right, Mr. Groesch.

BY MR. GROESCH:

Q Dr. Mileti, did your testimony deal in any way with getting people to use the brochure, to getting more people to use the brochure?

A I don't believe that it did.

Q Is it your testimony that it is not -- Is it your testimony that brochure design is -- Let me start over.

Is it your testimony that brochures themselves have very little to do with how successful an evacuation is?

A Pre-emergency public education, which would include pre-emergency brochures, has been shown to not have a significant effect on how people actually respond in an emergency.

The reason is because whatever knowledge people bring to an emergency situation, that becomes secondary in importance to the information and the knowledge they pick up during the emergency.

Q Not emergency workers, though?

A No, sir. For emergency workers it's very important to have beforehand clearly specified roles for them to do.

Q You mentioned that at Three-Mile Island that



5-2  
1 many people did not understand that the radiation was in  
2 the air; is that correct?

3 A. Many people at Three-Mile Island in terms of  
4 the public were confused about what the risk was. The  
5 uncertainty in their perception of the risk was a problem  
6 for the public.

7 Some of the people in the public thought that --  
8 or did not know what the risk actually was. They had  
9 many misperceptions of risk.

10 Q. But the specific example that you mentioned  
11 that ended up in the brochure was that the risk is in the  
12 air; is that correct?

13 A. My recommendation, yes, was to clearly  
14 specify that what the risk was was airborne.

15 JUDGE JORDAN: Is it then your opinion this is  
16 the type of pre-emergency information that really can be  
17 useful during an emergency?

18 THE WITNESS: It is among pre-emergency  
19 information that can be useful. What is important in  
20 terms of pre-emergency information is to give the public  
21 information that helps them be less confused during an  
22 emergency, and certainly included in that is what it is  
23 they are to fear in an emergency.

24 BY MR. GROESCH:

25 Q. Did the people who lived around Three-Mile

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1 Island, you said that they didn't know that the risk was  
2 in the air, but that they understood that there was a  
3 threat to their lives?

4 A The perceptions that existed in the public  
5 around Three-Mile Island were not homogeneous. That is,  
6 many different people thought and perceived many different  
7 things.

8 Some of them, for example, I recall by talking  
9 to a few in a public hearing meeting, thought that the  
10 radiation, for example, was heavier than air and in their  
11 basements.

12 Q Did people understand that radiation  
13 threatened their lives, though? That's my question.

14 A I did not talk to any people about whether or  
15 not they thought radiation threatened their lives or not.

16 I suspect that some did and I suspect that  
17 some didn't.

18 Q You asked the questions where the radiation is?

19 A No, sir, I didn't ask questions. I had several  
20 conversations in terms of my own personal experience.

21 Q I see.

22 A And then I've read reports that others have  
23 done on research about perceptions of the public at Three-  
24 Mile Island.

25 Q This perception that has been put into our

5-4  
1 brochure about the risk being in the air, is that  
2 scientifically established, that a very large portion of  
3 the population around Three-Mile Island believed that, and  
4 where would that be published?

5 A There are several reports that have documented  
6 what people's perceptions in reference to the risks, as  
7 well as other factors, were at the time of Three-Mile  
8 Island.

9 In my opinion one of the best reports was  
10 prepared by a sociologist named Cynthia Flynn doing some  
11 research through Mountain West Research, Incorporated, I  
12 believe.

13 She is based in Seattle and she prepared a  
14 telephone survey that measured people's perceptions as  
15 well as other things at several time intervals after the  
16 accident.

17 That was prepared, I believe, for the Nuclear  
18 Regulatory Commission and it has been distributed by her  
19 company.

20 There are others, however.

21 Q Your testimony, then, is that you don't  
22 recall whether or not the literature that you have  
23 surveyed about Three-Mile Island, or in your personal  
24 conversations with people in the area, whether or not  
25 a significant section of the -- a significant percentage

5-5  
1 of the population believed that radiation was a risk to  
2 their lives?

3 A I don't recall precisely, no. However, I must  
4 guess that some of them certainly did.

5 They would have had to, but that's just a  
6 guess. I don't recall precisely what the precise  
7 measurements of perceptions were, and I'm sure the people  
8 who measured risk, and some did, that certainly would have  
9 come out.

10 Q In your opinion, should a brochure that  
11 talks about or is concerned with the possibility of an  
12 accident at a powerplant have a clear explanation of the  
13 harm radiation can do to the human body?

14 A In my opinion, it's extremely important that  
15 if what we are concerned with is having people behave  
16 appropriately in an emergency, that during an emergency  
17 they have a clear idea of precisely what the risk is.

18 In reference to how one goes about providing  
19 them that information, the best place to prepare for  
20 providing them that information is during the situation,  
21 because that's certainly when we know what the risk actually  
22 is.

23 In reference to the brochure, I think it's  
24 important that the brochure convey to them information  
25 about risk that's generically appropriate for their

5-6 1 knowledge in helping them respond well.

2 For example, that what there is to fear is  
3 airborne.

4 Q Isn't what it is to fear -- I know that you  
5 are not a nuclear scientist or even a health physicist,  
6 but there are certain somatic effects that come from  
7 radiation, like cancer or thyroid nodules or even acute  
8 doses that will give you radiation sickness. I mean,  
9 these are all things that happen to your body.

10 They are not simply the fear is in the air.

11 Don't you think that that would be a more  
12 clear -- give people a more clear understanding of what  
13 it is they are risking?

14 A Sir, I believe if your goal were to provide  
15 people information about what radiation could do to the  
16 human body, that you would want to address what it is  
17 that radiation could do to the human body in much the  
18 same way that if we were designing the brochure for flood  
19 safety in the flood plains along the Mississippi River, we  
20 would want to describe how it is physiologically that  
21 human beings drown.

22 But I have not seen, for example, any flood  
23 brochures that describe that or tornado brochures that  
24 describe what wind can do to the body.

25 I underscore the need for people to have a good

1 perception of risk at the time and what those risks are  
2 are best determined at the time.

3 Q Isn't there a great difference, though, Doctor,  
4 between what people's experiences with high wind or  
5 people's experiences with water and people's experiences  
6 with radiation, isn't there a tremendous difference in  
7 those?

8 A Yes, indeed, and you don't have to have a Ph.D.  
9 in social science to conclude that a tornado is different  
10 from a nuclear powerplant accident.

11 There's a great deal of difference between  
12 what people perceive in terms of what the physical aspects  
13 of each of those potential emergencies are.

14 However, within any one particular hazard,  
15 there are many people who have experienced it and have  
16 good knowledge about it and those who haven't experienced  
17 it and don't have good knowledge about it.

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5-8  
1 Q How many people, say, in St. John and  
2 St. Charles Parish have an experience with radiation; do  
3 you know by chance?

4 A I have no idea. I would guess very few, but  
5 that's an unfounded guess.

6 Q Yes. Do you think that a lot of people in  
7 this bayou area would have an experience with water or  
8 air?

9 A I'm sure they might, indeed, because water  
10 and air is common to life. However, water and air in  
11 their extremes, either extreme lack of water or lack of  
12 air, or oversupply of water or the speed at which air is  
13 traveling, few people have experience with.

14 For example, one of the biggest concerns in  
15 the National Weather Service today along the Florida coast  
16 is the hurricane hazard, and unlike we might suspect,  
17 most folks there have not experienced a hurricane.

18 One of the biggest concerns in southern  
19 California in getting ready for a great earthquake that's  
20 due is that few people correctly perceive what that  
21 earthquake can do to them.

22 Q Is there in those areas, are there information  
23 campaigns going on, pre-emergency campaigns in which there  
24 is an attempt to spell out the tremendous destructive  
25 potential of earthquakes or the unbelievable destructiveness

5-9  
1 of hurricanes?

2 A. There are elaborate emergency preparedness  
3 efforts going on in both Florida and California to prepare  
4 for those events.

5 Q. So the emergency officials in those areas  
6 think it is good enough to not educate the people on the  
7 hazards of these and just kind of plan around the hazard?

8 A. No, sir, not at all. There are efforts going  
9 on in both California (that I know of for sure) and I  
10 would guess Florida (because I know the folks in charge  
11 of the Hurricane Center there) to explain to people what  
12 it is that they should do should an earthquake or a  
13 hurricane occur, and the kind of information that they  
14 will be getting at the time.

15 Q. But not attempting to educate them prior to  
16 that event?

17 A. Yes, that is --

18 Q. I mean, not educating them on what to do, but  
19 educating them on the destructive potential; that, in your  
20 opinion, is not a good thing to do?

21 A. The physical destructive potential of an  
22 earthquake, for example --

23 Q. Yes.

24 A. -- is unclear, because you could have one  
25 building survive an earthquake well and another one come



5-10  
1 down.

2 So people aren't saying that all of Los Angeles  
3 will fall down in an earthquake.

4 People do need to understand what the risk is  
5 so that they can understand why they need to do what they  
6 need to do in an emergency.

7 Q And especially in a radiation emergency  
8 because radiation is so unfamiliar to the population; is  
9 that not correct?

10 A I do not believe that the radiation hazard is  
11 any more unfamiliar to people than the earthquake hazard  
12 or the flood hazard.

13 There are people who have good knowledge about  
14 what risks and hazards are in reference to all of them,  
15 some that have good knowledge only on a few, and most  
16 people lack knowledge on most, which only underscores the  
17 importance of giving that kind of information out to help  
18 people in emergency situations.

19 Q Other than the sentence in the brochure under  
20 the section "What Radiation Is," that says -- the second  
21 sentence in the second paragraph.

22 It says, "Sometimes you must be careful how  
23 much of this radiation enters your body," and when the  
24 next sentence says, "If the amount of radiation in the air  
25 is large, you must protect yourself from it."

5-11  
1 Do you think that that is sufficient information  
2 in a pre-emergency brochure to warn the population?

3 I understand you are not a health physicist,  
4 but there are certain generic things we can talk about.

5 A I think that the amount of information in this  
6 brochure is adequate for what it's attempting to do.

7 I also think that one of the -- a major  
8 problem in correcting people's perceptions about what risk  
9 is is tending to overplay what threats are.

10 For example, in southern California a few folks  
11 perceive that what might happen in the next great  
12 earthquake is what they saw in the movie "Earthquake" where  
13 the whole city fell down.

14 That would make for inappropriate response  
15 during an earthquake, because indeed that won't happen.

16 By virtue of the fact that this brochure  
17 exists suggesting that an area needs to be evacuated  
18 suggests that there's a risk to life and that one would  
19 have to move in order to get to a safe area.

20 It's called safety information and evacuation  
21 brochure and the like.

22 Were we in this brochure to show the gambit,  
23 the full range, what exists and details of a curve, what  
24 the health effects (and this isn't my area, as you've  
25 said) might be, that might alter people's perception of

5-12

1 what the risk is at the time and cause them to engage in  
2 the wrong behavior.

3 What is dramatically important that people  
4 perceive in the emergency what the risk is, and what the  
5 risk actually is in that emergency is defined by the  
6 emergency itself.

7 I can't underscore more importantly that during  
8 that emergency people should be provided the information  
9 that helps them understand what it is that there is to  
10 fear, why it is that they should respond the way they do,  
11 and how they should respond.

12 That is of vital importance.

13 To alter this brochure in such a way that would  
14 help or force people to misperceive what the risk is in an  
15 accident could have negative impacts.

16 I think the contents of the brochure in  
17 reference to radiation risk and in reference to priming  
18 people to prepare for dealing with the possible future  
19 emergency is more than adequate.

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1 BY MR. GROESCH:

2 Q Around Three Mile Island -- maybe in some of  
3 your -- the studies that you have looked at, was there  
4 not a lot of -- Strike that from the record.

5 What's going to motivate people to read this  
6 brochure? Just the existence of it?

7 A It's outside of my area of expertise to under-  
8 stand what motivates people to read.

9 Q I see. Is that not -- The testimony of  
10 Dr. Hunter was primarily involved with methods to make  
11 people read the brochure; isn't that correct?

12 A It was my understanding that the testimony was  
13 addressing the motivation that a brochure could give  
14 people for responding to the emergency.

15 MR. GROESCH: We have no more questions.

16 JUDGE WOLFE: Is there redirect, Mr. Churchill?

17 MR. CHURCHILL: Should I wait with my re-  
18 direct until after the other parties have cross-examined?  
19 I can do that. That might save time.

20 JUDGE WOLFE: I thought Messrs. Turk and  
21 Cassidy had already conducted their cross yesterday.  
22 Isn't that correct, Mr. Turk?

23 MR. CHURCHILL: I'm sorry --

24 MR. TURK: Yes, that's correct.

25 MR. CHURCHILL: I'll go ahead with my redirect.

7-2  
1 JUDGE WOLFE: All right.

2 REDIRECT EXAMINATION

3 BY MR. CHURCHILL:

4 Q Dr. Mileti, would the emergency information  
5 brochure influence the definition for the emergent norms  
6 that might emerge in the event of an accident at Water-  
7 ford 3?

8 A No, it could not. Emergent norms, by  
9 definition, occur naturally in social groups when emer-  
10 gencies occur. Emergency preparedness plans should take  
11 that into account, design the plants to conform to how  
12 people behave, rather than vice versa.

13 Q Do you think that the evacuation routes and  
14 reception centers that are contained in the emergency  
15 plan, do you think that information is appropriate for  
16 inclusion into the emergency brochure?

17 A I think it's among the most important in-  
18 formation that should be included in the brochure. How-  
19 ever, if during the actual emergency, things are going  
20 to change from there, careful attention needs to be paid  
21 to that in the emergency information system.

22 MR. CHURCHILL: Thank you, Dr. Mileti. I  
23 have no further questions.

24 JUDGE WOLFE: Board questions.

25 /

## BOARD EXAMINATION

7-3  
1 BY JUDGE JORDAN:

2  
3 Q I gather by your most recent responses to  
4 Mr. Groesch that you do not have a feeling for the --  
5 for action of the people in the area that will read the  
6 brochure?

7 A No, I do not.

8 Q For those people that do read the brochure,  
9 what would be the most significant benefit either to the  
10 individual or to the success of the emergency action?  
11 What would the brochure do to benefit either those  
12 people or the success of the -- say -- evacuation?

13 A There probably are several benefits. But in  
14 my honest opinion I think the most key benefit that would  
15 exist for the most people is to recall during an emer-  
16 gency that some attention had been paid by officials to  
17 planning for the emergency, and that might help them be  
18 able to distinguish between official information at the  
19 time and rumor and misinformation at the time and help  
20 them, therefore, be able to more readily receive in-  
21 structions and respond appropriately during the time of  
22 the accident.

23 Q What part of the brochure then do you believe  
24 accomplishes that purpose?

25 A I haven't reviewed the brochure with that

7-4

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1 idea in mind. But I think the idea that there are  
 2 certain ways to get out would get across that someone  
 3 thought about evacuation. The idea that there is a source  
 4 of official information would help people come to think  
 5 about that, and the idea that some responses are ap-  
 6 propriate and others may be inappropriate would help  
 7 them recall that there is official information that they  
 8 may want to seek.

9 JUDGE JORDAN: Thank you.

10 BOARD EXAMINATION

11 BY JUDGE FOREMAN:

12 Q In the news last night and this morning, there  
 13 was portrayed or there was news about an emergency or  
 14 disaster planning for earthquakes. I suspect that might  
 15 have been a meeting you would have attended, had you not  
 16 been here.

17 A That was not one of the two meetings I was  
 18 planning to go to, but that was because I was planning  
 19 to go to the other two meetings.

20 Q Well, my question relating to those was  
 21 there was graphically portrayed on television an emer-  
 22 gency exercise; and it appeared to me that that exercise  
 23 was directed to members of the public and not only to  
 24 emergency planning workers.

25 And if that was so, then the people who

1 arranged for that could be well at odds with your parti-  
2 cular philosophies or your thinking. Am I wrong in my  
3 perception about those exercises, as far as you know?

4 A I'm sorry. I don't know what those exercises  
5 were. However, it's likely that they were in Los Angeles;  
6 and I know personally the people who might have arranged  
7 them.

8 And if that exercise included the public, I'm  
9 not sure how it might have included the public. It may  
10 have included them by enabling them to watch the exercise  
11 on TV, in which case that would have reinforced for them  
12 the notion that there are plans for how to deal with an  
13 earthquake emergency in Southern California.

14 I don't think it might have involved them in  
15 an evacuation, because I know for a fact that were that  
16 earthquake to be predicted, the plan is not to ask people  
17 to evacuate at all, but rather to ask them to go home and  
18 stay there.

19 Q Intuitively, at least to me, I find it hard  
20 to believe that pre-education is not useful in preparing  
21 the public to meet an emergency or that it is just minimally  
22 useful.

23 You have repeatedly -- and I think very clearly  
24 stated that studies have shown that that is of relatively  
25 little importance. Am I right in that perception -- the



1 pre-education?

2 A Studies have shown that we're hard pressed  
3 to come up with scientific or statistical evidence to show  
4 that it helps. However, people in my profession, like you,  
5 find it intuitively uncomfortable to suggest public in-  
6 formation can't help, which is why none of us would recom-  
7 mend that efforts such as these are not good.

8 The thing that such a brochure can accomplish,  
9 however, is to help people realize that there are official  
10 schemes that they can rely on during an emergency. The  
11 reason that it's likely that specifics laid out in public  
12 education before an emergency for the public don't make --  
13 or help them that much in responding to the emergency  
14 when it occurs is that all -- most emergencies are very  
15 low probability events.

16 If someone really took the brochure and read  
17 it in great detail several times and remembered everything  
18 in it, it's likely that they may not, when that emergency  
19 actually occurs, remember what was specifically in the  
20 brochure because the routine of normal life and living  
21 pushes low probability events, like these for the in-  
22 dividual, back into the -- out of the limelight.

23 People don't tend to preoccupy themselves with  
24 knowledge that they don't use often.

25 Q I get the feeling -- and again you can correct

7-7

1 me if I'm wrong -- that it really would not have been  
2 any great harm to the public if this brochure weren't  
3 put out at all?

4 A If the emergency information system during a  
5 future emergency is a good one and a sound one, we could  
6 accomplish public safety, relying just on that one tool  
7 without this brochure.

8 However, despite planning, things sometimes  
9 go wrong. And information like this can indeed be use-  
10 ful. And if nothing else, if this brochure -- people  
11 might remember that someone has devoted some attention to  
12 emergency planning because they had a brochure on it once,  
13 that alone may help.

14 It may not alter the response. But it may  
15 cause them to go to the TV ten seconds sooner, and that  
16 may not work out statistically to show an accomplishment,  
17 but it's worth having done, even though we can't show it  
18 statistically.

19 Q Well, turning now to the purpose as to why  
20 we're here, namely, to determine the adequacy of this  
21 revision of the brochure and specifically to your role  
22 in it, I hear you say that you reviewed it for elements  
23 that you considered desirable and necessary, but that you  
24 did not review it for certain other characteristics.

25 And, therefore, I get the feeling that it

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✓  
1 doesn't make any difference whether this brochure -- in  
2 your critique, that is -- that it doesn't make any dif-  
3 ference whether this brochure was prepared for the two  
4 parishes in Southern Louisiana or whether it was pre-  
5 pared for Southern California. You did not look at it  
6 from that viewpoint at all?

7 A. I'm sure it does make a difference, in terms  
8 of the reading level and other sorts of things that other  
9 sorts of experts would know about. But I didn't look at  
10 it from that point of view, no, because I have no knowledge  
11 in that area.

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1 Q Do you think that is an important consideration,  
2 if not a prime consideration?

3 A That whether or not it can be read? Yes.

4 Q Yes?

5 A Yes, I do. I would imagine that if one is  
6 distributing a brochure, it's important that people who  
7 receive it can read it, but I base that on common sense  
8 and not on any expertise.

9 JUDGE FOREMAN: Can comprehend it, okay.

10 Thank you.

11 BOARD EXAMINATION

12 BY JUDGE WOLFE:

13 Q Doctor, you mentioned the Missisauga (or  
14 however you pronounce that) evacuation.

15 A I'm sorry, I didn't hear you.

16 Q The Missisauga evacuation?

17 A Yes, sir, Missisauga.

18 Q Missisauga, thank you.

19 I take it from your testimony that you do  
20 firmly support the issuance of this revised brochure?

21 A Yes, I do.

22 Q And your mentioning of this Missisauga  
23 evacuation, you did not intend to dilute or diminish your  
24 support for the issuance of this revised brochure?

25 A Oh, absolutely not, no. What I was suggesting

B-2  
1 was that we can have successful evacuations even when we  
2 don't have public education like this brochures and even  
3 when we don't have plans for emergency warning information  
4 systems.

5           However, I think we could increase the  
6 probability that we'll have successful evacuations if we  
7 do have good plans beforehand.

8           Q       Just in a few sentences, what did happen at  
9 Missisauga? I'm not aware, where is that and what was  
10 it?

11           A       It's in Canada and what happened was that I  
12 believe a train derailed or a chemical spill occurred of  
13 some sort and chlorine gas, I believe, was released, and it  
14 posed a very immediate threat to a large number of people.

15                   By and large what happened was that the  
16 information about that threat was distributed to the people  
17 who needed to evacuate and emergency workers and the  
18 public got everybody to evacuate very quickly without  
19 problems and very effectively and nobody's life was  
20 placed in jeopardy.

21                   In that community there was no prior education  
22 about chemical spill evacuations. There wasn't even  
23 planning devoted to emergency information.

24                   But they were just lucky that went well.

25           Q       I see. You were queried with respect to

B-3

1 Dr. Hunter's testimony when, among other things, she  
2 recommended that a survey should be done in the area to  
3 determine the credibility of the brochure, and if not a  
4 survey, at least some sort of practice run, for example,  
5 should be conducted to determine the adequacy of the  
6 brochure.

7 Your response was that you disagree and that  
8 you didn't think a survey was warranted, and I would add  
9 to that, if that wasn't incorporated within your answer,  
10 I take it you would also say that you wouldn't think that  
11 any sort of, say, limited practice procedure would be  
12 desirable, either; is that correct?

13 A. Yes, that is what I said.

14 Q. Why do you say that? I know you had some  
15 testimony on it. Would you develop that a bit more for  
16 me.

17 A. Well, you have asked two questions and I  
18 will answer them both.

19 Q. Yes.

20 A. However, it's likely I'll forget the first  
21 by the time I --

22 Q. I'll bring it up. Go ahead.

23 A. -- answer the second.

24 In reference to a practice evacuation,  
25 emergencies are very real situations to the people who

1 experience them and they are comprised of a variety of  
2 different things that affect human behavior, and as those  
3 things affect human behavior and people decide what to do,  
4 learning goes on and they carry that experience to their  
5 next emergency.

6 My concern is that a practice evacuation will  
7 be less than real and people will form experiences and  
8 patterns of behavior that they may carry with them to  
9 an actual emergency that came from an artificial dry run.

10 Those behavioral patterns that they recall  
11 during an actual emergency may be inappropriate in that  
12 actual emergency; that it's almost impossible to design  
13 a real world laboratory like that where we could create  
14 the real aspects of a nuclear powerplant incident.

15 We could certainly, however, find out if  
16 people know how to drive on the highway to evacuate, but I  
17 think people already know how to do that.

18 So I see that no benefit could come from  
19 involving the public in a practice evacuation and some  
20 harm could come.

21 Q Now as to the second question on whether or not  
22 a survey should be conducted with regard to determining  
23 the credibility of the brochure.

24 A As I recall, Dr. Hunter was suggesting that  
25 credibility is important for motivation and motivation was

1 supposed to be the goal of the brochure, to motivate future  
2 behavior.

3 Indeed, the credibility of the information  
4 during an emergency, that warning information that people  
5 get during an emergency, credibility is extremely important  
6 in that context, but I don't see the brochure as a  
7 motivational tool and, therefore, don't see the  
8 importance of assessing credibility for designing it as  
9 a motivational tool.

10 Q How about a survey as to the informational  
11 quality of the brochure?

12 A I'm sure that you could design a survey,  
13 certainly, to see if people understand what it is that  
14 they are reading.

15 However, as I've heard Dr. Klare say, he has  
16 written this to the lowest possible educational level to  
17 still be able to get the information across, and I would  
18 suspect that that means that the most people will be able  
19 to understand it as possible.

20 I don't see the point of documenting that  
21 people above whom -- who have not enough education to  
22 understand this won't understand it. We already know that.

23 Q Did you or did you not state, Doctor, that  
24 an emergent norm of behavior does not exist today in  
25 Louisiana?



1 A Yes, I did. By definition, emergent norms  
2 emerge in the emergency situation.

3 Q And finally, I think -- Well, I'll ask the  
4 question.

5 In your opinion, what would most people do  
6 upon hearing a siren during an emergency situation?

7 A If the first information people got in an  
8 emergency was the sound of a siren, my opinion is that  
9 most people would stop for a second and wonder what it  
10 meant.

11 And then in order to try to find out what  
12 it meant, most of them would turn to an additional source  
13 of information, and the source that they would turn to is  
14 the most handy easy source of information, and that would  
15 be the media, the electronic media, the radio or the  
16 television, because that's the easiest way for them to  
17 get additional information.

18 JUDGE WOLFE: All right. Is there cross-  
19 examination on Board questions, Mr. Groesch?

20 RECROSS-EXAMINATION

21 BY MR. GROESCH:

22 Q Dr. Mileti, you said that a practice  
23 evacuation would oftentimes -- you said that there was a  
24 variety of things that go into people's behavior during  
25 emergencies that one of the problems with that is that you

1 think that practice evacuations can be perceived as less  
2 than real by the population; is that correct?

3 A Yes, I do think that's correct. It would  
4 definitely be perceived as less than real, unless we  
5 didn't tell them it was a practice.

6 Q But you don't see that as a problem for  
7 emergency workers in perceiving whatever test they are  
8 doing as being less than real?

9 A Absolutely not, because what's important for  
10 emergency workers and the only reason exercises are  
11 important for emergency workers is that they have a clear  
12 idea of what job it is that they are supposed to perform  
13 in the emergency.

14 In other words, a clear mental job description.

15 Q Do you think if the population found that a  
16 portion of the brochure was incorrect or not totally  
17 correct, it would affect their perception of the brochure?

18 MR. CHURCHILL: Objection. This is beyond the  
19 scope of the Board's questions.

20 MR. GROESCH: I withdraw it. It probably is.

21 BY MR. GROESCH:

22 Q Let me see if I can restate this. Judge Wolfe  
23 talked about credibility a little bit.

24 In your opinion, the credibility of whoever  
25 wrote this brochure is very important; is that not correct?

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1           A           I think what I said was that the credibility of  
2 information provided during an emergency is very important  
3 to how people perceive that information during an  
4 emergency.

5           Q           But it's not that important in a pre-emergency  
6 brochure?

7           A           For what reason?

8           Q           Well, obviously, if the population -- if the  
9 brochure makes a statement and the population in general  
10 finds out that that statement is not correct, are they  
11 going to perceive this brochure as being not credible  
12 and, therefore, would they perceive that information coming  
13 during the emergency would therefore not be credible?

14          A           I think you have two questions there. Let me  
15 try to answer them both.

16                    Yes, I think, indeed, if you told the  
17 public a lie and they found out that it was a lie, they  
18 wouldn't believe it.

19                    And I've forgotten what the second part of  
20 your question was.

21          Q           And the second part is -- I'm talking about  
22 the pre-emergency brochure, and I believe your testimony  
23 is that if the public perceives a section of the pre-  
24 emergency brochure as being not correct or a lie, even,  
25 that they would not believe the rest of the information

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1 in the pre-emergency brochure.

2 A I believe if the public perceived that part  
3 of this brochure were a lie, that that would affect how  
4 the public would interpret and whether or not they would  
5 believe the rest of the information in the brochure, yes.

6 Q Do you think that that would translate into  
7 the information coming during the emergency?

8 Do you think that the public would therefore  
9 say, "This is a -- They lied to me in this brochure.  
10 Maybe they are lying now"?

11 MR. CHURCHILL: Your Honor, I object. This  
12 is well beyond the scope of the Board's examination.

13 MR. GROESCH: I don't believe so. I believe  
14 Judge Wolfe brought up this question of credibility and  
15 whether it was important and --

16 MR. CHURCHILL: No, sir. Judge Wolfe asked  
17 the question related to his previous testimony and  
18 related to Dr. Hunter's testimony, do you believe that it  
19 is necessary to conduct a survey of the credibility of  
20 the source of the brochure.

21 It had nothing to do with the question of  
22 whether there was a lie in the brochure. That would  
23 have nothing to do with the credibility of the source.

24 JUDGE WOLFE: Yes, that was the thrust of my  
25 question, Mr. Groesch.

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I'll sustain the objection.

MR. GROESCH: I have no further questions.

JUDGE WOLFE: Mr. Turk?

MR. TURK: I have a brief line of cross-examination following Judge Foreman's questioning.

RE-CROSS-EXAMINATION

BY MR. TURK:

Q Dr. Mileti, do you recall Judge Foreman asking you as to whether the brochure has any utility -- well, I'm paraphrasing a little too much perhaps.

In response to one of Judge Foreman's questions, you stated that in your view people don't preoccupy themselves with knowledge which they may have gained sometime before from reading a public information brochure, because the emergencies are, by definition, not regularly recurring events, and that this is not information they would use often.

Do you recall making that statement in response to Judge Foreman?

A. Yes, I do recall that.

Q Did you mean to imply that the brochure would not be used by members of the public in the event of an emergency?

A. No, I did not. What I meant to say was that

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people did not remember, by and large, the contents of it because they don't preoccupy themselves with remembering that information during the normal routines of life, which is when emergencies pop up. So it is likely that knowledge gained -- specific knowledge by having read this brochure, we can't count on the public remembering it when the emergency occurs.

- - -

9-1 1                   However, that doesn't mean that someone might  
2 not keep this in a place and go to it in an emergency.  
3 That, indeed, could happen.

4           Q           Indeed, if you look at the first page, which  
5 is captioned, "A Message To Our Neighbors and Friends,"  
6 if you open the brochure slightly, you'll see a page  
7 entitled "A Message To Our Neighbors and Friends."

8           A           Yes, I see that.

9           Q           The third paragraph there, in fact, states:  
10 "Keep this booklet in a handy place." You do see that,  
11 don't you?

12          A           Yes, I do.

13          Q           And if you open the brochure to the inside,  
14 the full -- inside -- the page with the map and the  
15 chart. To the right of the chart you'll see a column  
16 which is captioned, "Follow these steps to get ready  
17 for the trip."

18                   And in Item 2 the public is instructed to  
19 gather what they will need. The first item stated is  
20 this booklet. That's true, isn't it?

21          A           Yes, I see that.

22          Q           So you would agree that there's a likelihood  
23 that members of the public will refer to this brochure  
24 during the evacuation?

25          A           Some of them will, yes.

9-2  
1 Q In light of that fact -- Well, let me back  
2 up for a second.

3 Do you recall questioning by Mr. Groesch  
4 concerning the fact that there were explicit directions  
5 given and arrows listed on the map as to evacuation routes  
6 they might follow -- or that they should follow?

7 A Yes, I do recall that.

8 Q In light of the fact that it is likely, as  
9 you have recognized, that members of the public or some  
10 members of the public may refer to the brochure during  
11 an evacuation, do you feel that the brochure might be  
12 improved by the insertion of the caveat in the appropriate  
13 place to the effect that "In the event of an evacuation,  
14 your actual emergency route may be different. Please  
15 listen to instructions at the time of the emergency."

16 Do you think that sort of instruction might  
17 improve the brochure?

18 A I don't think it would hurt the brochure. I  
19 don't know if it would be necessary or not, because re-  
20 gardless of what's written in the brochure, we have to  
21 also make sure that information gets to those very same  
22 people over the emergency information system at the time.

23 Q Well, if at the time of an emergency -- and I  
24 know that you're not familiar with the prior testimony in  
25 the case or what the emergency plans detail -- but if in



1 the event of an emergency it turned out that a different  
2 evacuation route was being prescribed, do you think it  
3 might help -- or perhaps you don't agree with me -- but  
4 do you think it might help if there was some sort of  
5 caveat like the one I suggested printed in the brochure?

6 A It really would depend on what was going on  
7 during the emergency. If, for example, we had the  
8 caveat added to the brochure that said, "This brochure  
9 does not prescribe an evacuation route. Get that from the  
10 media," and people turned to the media and they weren't  
11 getting that information at the time, it would create  
12 confusion.

13 So it would have to -- If you altered the  
14 brochure to say that, make sure that the information system  
15 was being able to provide that kind of information at the  
16 time.

17 Q And I suppose also that you could word a  
18 caveat in such a way so as not to lead people to expect  
19 to be given the evacuation routes? For instance, you might  
20 say, "In the event the evacuation route is different at  
21 the time of the emergency, then listen to the instructions  
22 given over the media, and disregard the instructions for  
23 your evacuation route here."

24 This is assuming you could word it in a con-  
25 cise method that wouldn't confuse the public.

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✓  
1 A. You had better be giving the information about  
2 the evacuation route over the media at the time as well.  
3 That's absolutely essential.

4 In addition to that essential requirement, it  
5 would be nice if people had handy a map that some of them  
6 may still have at the time and be able to take with them.

7 Certainly, some people would misplace this  
8 and not have it handy at the time. And that's why we  
9 need to be sure that the emergency information is providing  
10 all that's needed to get everybody able to evacuate out.

11 I see this in that role as a supplemental  
12 role, as a bonus. It's not an essential role. It's a  
13 bonus role.

14 Q I'm not sure if you answered my question.  
15 My question really was directed to the insertion of the  
16 caveat rather than to the message which is given at the  
17 time of the emergency.

18 Maybe just to summarize and ask you the  
19 question again: Do you feel that an appropriate caveat,  
20 as I have suggested, or in some other words as may be  
21 appropriate, would hurt this brochure?

22 A. I do not think it would hurt the brochure,  
23 no.

24 MR. TURK: Okay. I have no further questions.  
25 /

JUDGE WOLFE: Mr. Cassidy?

MR. CASSIDY: Thank you, Your Honor.

RE CROSS-EXAMINATION

BY MR. CASSIDY:

Q Judge Wolfe had inquired about the statement you had made on emergent norms not existing in Louisiana today. I just wanted to follow that up so I would be very clear on what you were saying.

Your reason for stating that is because there is not an emergency today; is that correct?

A Yes.

Q In terms of emergency planning and development of the brochure, in particular, you assume, I expect, that those emergent norms exist at the time of emergency and base the planning on that; is that correct?

A Absolutely, yes.

Q And you assume that the same emergent norms will occur in the Jefferson and -- excuse me -- St. Charles and St. John the Baptist Parishes at the time of an emergency as you've indicated is the national norm; is that correct?

A Yes, I would predict that those same norms would occur in any of our nation's communities, were an emergency to happen.

Q And there is sufficient study and experience

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1 that would verify that those emergent norms that form the  
2 planning basis are consistent across the country?

3 A Yes, there are. There are hundreds of studies  
4 that have shown that those same norms occur time and time  
5 again.

6 Q If I could capsulize the difference between  
7 your opinion and that of Dr. Hunter, it seems that my  
8 understanding of Dr. Hunter -- and you tell me if this is  
9 your understanding as well -- is that her approach is to  
10 suggest a course of action which in the pre-emergency  
11 stage would internalize and develop certain responses  
12 to the emergency. Is that a fair statement of what your  
13 understanding of her overall position would be?

14 A Somewhat. But I prefer stating it in my own  
15 terms.

16 Q Please.

17 A My perception of her argument is that this  
18 brochure can be used to motivate people to appropriate  
19 response in an emergency.

20 Q Is it a fair statement -- as I understand your  
21 position -- that the brochure is not to motivate, but  
22 you're using those emergent norms that you already know  
23 to exist from experience and basing the planning around  
24 what people are going to do in an emergency rather than  
25 trying to modify their behavior to respond in a certain

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1 way?

2 A. Absolutely. But I'd like to add one more  
3 thought; and that is, it's also my opinion that a brochure  
4 cannot motivate future emergency behavior.

5 MR. CASSIDY: No further questions.

6 JUDGE WOLFE: Redirect, Mr. Churchill?

7 REDIRECT EXAMINATION

8 BY MR. CHURCHILL:

9 Q Dr. Mileti, you stated that in response to a  
10 question by Judge Foreman, that you thought common sense  
11 would suggest that we design the brochure to be read-  
12 able by as many people as practicable; is that correct?

13 A. That's right.

14 Q By that you didn't mean to suggest or contra-  
15 dict your previous testimony that if any given individual  
16 was unable to read the brochure that that individual would  
17 be, for that reason, at greater risk than the other  
18 members of the community?

19 A. No, I did not, again because individual would  
20 be subjected to the real determinants of that individual's  
21 behavior in an emergency; and that's what's going on in  
22 the emergency.

23 Q But to the extent that the brochure is use-  
24 ful -- for useful priming information and to educate  
25 the public, it makes sense -- good common sense, as long

1 as this tool is here, to have it read by as many members  
2 of the public as is reasonable?

3 A Yes, that is exactly what I think.

4 MR. CHURCHILL: Thank you. I have no  
5 other questions.

6 JUDGE WOLFE: Have you finished?

7 MR. CHURCHILL: Yes, sir.

8 JUDGE WOLFE: All right. Is the witness to be  
9 permanently excused?

10 MR. CHURCHILL: Yes, sir, as far as the  
11 Applicant is concerned.

12 JUDGE WOLFE: There are no other questions?  
13 All right.

14 (Witness excused.)

15 JUDGE WOLFE: All right, Mr. Churchill, call  
16 your next witness -- rebuttal witness.

17 MR. CHURCHILL: Could we have a moment?

18 (Pause.)

19 MR. CHURCHILL: Your Honor, I would recall  
20 Dr. Klare to the stand.

21 JUDGE WOLFE: You remain under oath, Dr.  
22 Klare.

23 THE WITNESS: Yes, I do.

24 /

25 /

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1 Whereupon,

2 GEORGE R. KLARE

3 was recalled as a witness by and on behalf of the  
4 Applicant and, having been previously duly sworn by the  
5 Administrative Judge, was examined and testified further  
6 as follows:

7 DIRECT EXAMINATION

8 BY MR. CHURCHILL:

9 Q Dr. Klare, do you think that it would be help-  
10 ful to number the pages of the brochure, as has been sug-  
11 gested by the Joint Intervenors?

12 A No. I feel that numbering the pages would be  
13 confusing, as a matter of fact. There is a very natural  
14 sequence to opening a brochure of this sort, and I think  
15 that that could be -- that will be enough for people to  
16 be able to open it and follow the proper sequence.

17 I have looked at all the other brochures that  
18 all the other safety documents for existing nuclear power  
19 plants, and I don't recall a single brochure format that  
20 was numbered.

21 In fact, some of the booklets were not num-  
22 bered either, as a matter of fact -- some of the other  
23 forms of these documents were not numbered.

24 In addition to that, it seems to me that the  
25 directions given at the bottom of the panels in several

1 places provide enough information for finding information  
2 in the booklet.

3 These instructions are given at several  
4 locations, as a matter of fact. So I think that that's  
5 sufficient.

6 Actually, reference to specific pages is not  
7 normally called for. The only time the reader needs to  
8 turn from the normal sequence is to open the entire bro-  
9 chure, to turn to the map to get information.

10 And that, I believe, is clear from the in-  
11 structions already given. And I would feel that the  
12 use of numbers under these conditions would only be con-  
13 fusing.

14 And that's particularly true, as I think you  
15 would recognize when the brochure is completely opened  
16 out. How that section would be numbered would certainly be  
17 questionable.

18 Q Dr. Perry, the Joint Intervenors have also  
19 criticized the sequence in which the information is pre-  
20 sented in the brochure. Can you comment on that, please?

21 MR. GROESCH: I think you meant Dr. Klare, if  
22 I'm not mistaken. Just to clarify the record. You said  
23 Dr. Perry.

24 MR. CHURCHILL: Dr. Klare.

25 THE WITNESS: Right.



1 Actually there was one change made with  
2 sequencing in mind, and I think it is a very useful  
3 change from the form which you see.

4 That change is to put the "What Radiation Is"  
5 section in the first panel, as the booklet is opened this  
6 way. That makes it possible to read the emergency action  
7 plans in sequence. When one finishes and comes to the  
8 heading, "What if you are told to evacuate," that would  
9 be in the last panel, as the document is opened. And  
10 then it's possible to turn directly inside the document  
11 and read the next information, which follows right on  
12 with it, "What to do if you are told to evacuate."

13 So I think the natural sequence of the bro-  
14 chure, under these conditions, is a good one; and I think  
15 that change is a useful one to have made.

16 As it exists now, I think there are -- I  
17 think the order is a good one and the sequence is a good  
18 one because the first thing one sees is the summary in-  
19 formation that one would want the reader to see, so that  
20 if the reader should not read the entire document, key  
21 information would have been presented -- important in-  
22 formation would have been available to the reader.

23 Following that there is the "Message to our  
24 neighbors and friends," which I think in terms of its official  
25 nature and its friendliness encourages people to continue,

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and then the remainder of the document can be read in a natural and expected sequence.

So it seems to me that it's in the -- in a very good sequence at this time. The back of the document, "Where to go to get more information or other help," should, I think, be at the back, just as it is.

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ged  
1 Q Dr. Klare, one other point. You had  
2 mentioned about the summary at the beginning, which brings  
3 to mind a question.

4 The title of that summary is, "What To Do If  
5 You Hear the Outdoor Sirens."

6 I recall that Ms. Duplessis had criticized  
7 that and suggested that instead of being titled that, it  
8 should be labeled as a summary.

9 Do you have a view as to which would be the  
10 most appropriate title?

11 A I think it's far better to tell people  
12 exactly what it is that they should expect to find in a  
13 particular panel.

14 If one simply said "Summary," that would not  
15 be as clear as it is, since it says what it does, "What  
16 To Do If You Hear the Outdoor Sirens."

17 That's really what we want people to do. We  
18 want them to carry out the steps in that box upon  
19 hearing the sirens.

20 Q If this is the most important information, and  
21 we have heard several times that it is, do you believe  
22 that the title that it now has would tend to draw people  
23 to that information more than if it were entitled, "Summary"?

24 A Yes, I certainly do. It gives them a  
25 reason for using that information that the term "summary"

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1 might not give them.

2 Q Do you agree with Ms. Duplessis' comment that  
3 readers will "have great difficulty in locating vital  
4 information," because of headline size and the size of  
5 textual print used in the brochure?

6 A No. As I had indicated earlier, I believe  
7 we have used headlines with great care. We've selected  
8 them with great care.

9 For example, the three possible steps that  
10 a reader -- or I should say that a person might be asked  
11 to take at the time of an emergency appear in capitals  
12 within the headlines.

13 Furthermore, I think each of the headlines  
14 is quite descriptive of what is in the paragraph  
15 following.

16 The small units of text are set apart in that  
17 way.

18 Where special information is needed, such as  
19 the radio stations or TV channels to turn to, they are  
20 set off typographically so that there can be little  
21 question of the reader missing them.

22 So it seems to me that the way this is set up  
23 currently takes account of headline size, headline  
24 importance and takes account of desirable size of print.

25 Q Do you believe that the repetition of material

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1 which is now in the brochure is adverse to its readability?

2 A No, I do not feel that that's the case. I  
3 believe that repetition could be adverse if the information  
4 repeated was not important information.

5 But it seems to me that the information  
6 repeated is indeed important information and should be  
7 repeated.

8 As Dr. Mileti has said and as we have felt,  
9 the most important single thing for people to remember in  
10 an emergency is to turn on the radio or the television  
11 set, and that is repeated most often.

12 In addition to that, that kind of information  
13 is set off so that people are unlikely to miss it. It's  
14 likely to attract their attention.

15 And then, since that information is quite  
16 limited in nature, it doesn't add significantly to the  
17 number of words that people need to read.

18 Then, finally, and I think from a research  
19 point of view this is important, it is shown quite clearly  
20 studies of eye movements that people reading repeated  
21 information do not take as much time having to read it as  
22 they do newly presented information.

23 There are a number of studies that show this.  
24 So I don't think that this adds significantly to the amount  
25 of work a reader must do in getting the necessary

1 information.

2 Q Do you believe that there is confusion in the  
3 brochure with respect to the use of the terms "reception  
4 center" and "pickup points"?

5 A No, it seems to me these are really quite  
6 clearly set out.

7 If you turn to the box labeled, "What To Do  
8 If You Hear the Outdoor Sirens," for example, and read the  
9 sentence telling you to go to one of the pickup points,  
10 you can get a ride there, it seems to me that is a  
11 functional kind of definition that a reader could hardly  
12 miss.

13 Then further on, the definition of pickup  
14 point --

15 MR. GROESCH: Where are we? I am sorry.

16 THE WITNESS: In the box, "What To Do If You  
17 Hear the Outdoor Sirens."

18 MR. GROESCH: All right. Go ahead, I'm sorry.

19 THE WITNESS: And it says, as indicated, "Go  
20 to one of the pickup points listed on the chart inside  
21 this booklet. You can get a ride there."

22 So it seems to me quite clear what the pickup  
23 points are in a functional definition of that sort.

24 That kind of definition is repeated inside the  
25 booklet where one comes to the Item No. 4 under, "Follow

1-5 1 These Steps for Using the Chart," it says, "If you cannot  
2 do that, you can be picked up from special points near  
3 you."

4 So once again, that kind of information about  
5 pickup points is given.

6 In the same way, reception center is clearly  
7 suggested by the information given under Item 3 in that  
8 same panel, "Follow These Steps for Using the Chart."

9 It suggests, as indicated, that this is a place  
10 to go as one evacuates.

11 This information is given in much the same  
12 form in the box, "What To Do If You Hear the Outdoor  
13 Sirens."

14 So it seems to me it's given in both locations.

15 I might say in connection with this that this  
16 kind of functional definition is preferable to a formal  
17 definition for most readers.

18 Also, as I have indicated in the past, using  
19 information about existing word meanings people have, the  
20 term "center" is a term known as a place where many people  
21 gather by over three-fourths of fourth grades, approximately  
22 86 percent in the study that I mentioned, in the volume  
23 that I mentioned earlier.

24 The term "pickup" is likely to be known by  
25 over three-quarters of sixth graders, again, without other

1 contexts.

2 So the meanings of those terms are likely to  
3 be known by most readers, even without the context that I  
4 have cited.

5 So I don't feel that what a pickup point is,  
6 what a reception center is, should remain in any doubt for  
7 virtually all readers.

8 BY MR. CHURCHILL:

9 Q In talking about a functional definition,  
10 Dr. Klare, you mentioned that reception center, such a  
11 definition was in the box, "What To Do If You Hear the  
12 Outdoor Sirens"?

13 A It says to "Go to the reception center for your  
14 section of the map."

15 Q Down at the bottom?

16 A Yes.

17 Q And if you are told to evacuate, the second  
18 item under that --

19 A That's right.

20 Q Is that also a functional definition?

21 A Yes, indeed it is, because it is listed,  
22 again, as a reception center in that second item.

23 Q Dr. Klare, do you agree with Ms. Duplessis'  
24 criticism of the location of the information which explains  
25 how to use the chart?



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1 I think she said in her direct testimony that  
2 the information on how to use the chart is contained on the  
3 panel that's next to the map.

4 A Well, actually, one needs to use the map and  
5 chart in conjunction with each other, so that to have  
6 artificially moved something down alongside the chart seems  
7 to me to be a non-functional change.

8 One has to use those two together. So to  
9 present the material at the top of the page is, I think,  
10 the best way to do this.

11 I believe that she mentioned that the first  
12 information for that appeared under, "Try This Example,"  
13 and as I read it, that information appears in the panel  
14 prior to that, above that place in the panel.

15 It is mentioned again in "Try This Example,"  
16 but not for the first time.

17 Q So do you believe that the explanatory material  
18 on how to use the chart is now clearly presented?

19 A Yes, I do. I think it is.

20 Q Now, Ms. Duplessis in a recent amendment to  
21 her testimony has suggested that the use of the words  
22 "community," "evacuation" and "reception" may make the  
23 chart more difficult to read. Do you agree?

24 A No. I think it would be confusing if one were  
25 to try to substitute other words for those. Those are the

1 words that are commonly used in conjunction with emergency  
2 planning, so they should be used, in my view, in the chart  
3 for consistency.

4 Furthermore, by checking once again on known  
5 meanings of these words, one sees that "community" is  
6 likely to be known as "people living together" by over  
7 three-quarters, 78 percent roughly, of fourth graders.

8 "Evacuation" is defined in the brochure and  
9 extensively used in context throughout the brochure. So I  
10 don't see that that should be a problem.

11 "Reception" is not used alone, but always in  
12 conjunction with -- in the term "reception center," in  
13 conjunction with "center" in the term "reception center."

14 "Center" being known as a place where many  
15 gather, there seems to me little doubt that people would  
16 understand what a reception center is.

17 So I don't really believe that the existence  
18 of those terms should cause difficulty for the bulk of  
19 readers. I don't see that there should be a problem with  
20 those.

21 In any event, as I said, I do believe it would  
22 be confusing to switch to other terms, hoping not to have  
23 to use those terms.

24 That, I think, would be more confusing than  
25 any difficulty readers might have with those terms, as such.

1 BY MR. CHURCHILL:

12 1  
2 Q I take it when you did your work on the read-  
3 ability on this, Dr. Klare, there were many instances where  
4 you did attempt to use new terms, or to substitute terms  
5 that would be better understood by more people?

6 A Yes, I did. Wherever possible, wherever there  
7 was evidence that people would get the same or essentially  
8 the same meaning with a term more likely to be known by  
9 readers of lower educational levels, I used those terms.

10 Q Now, with respect to the map, Dr. Klare, do  
11 you believe that the map in the brochure is presented in a  
12 confusing manner, as has been suggested by the Joint  
13 Intervenors?

14 A No. It seems to me that it is quite clear.  
15 It is a large map. It's an uncluttered map. It contains  
16 the essential information, and it certainly is easier  
17 to use and to follow than the standard road map might  
18 be.

19 Some of the brochures -- some of the safety  
20 documents used a standard road map with all the detail on  
21 it, which, it seems to me, simply adds to the potential  
22 confusion.

23 But here, if one were to add street names and  
24 locations for the pickup points, one would certainly add  
25 to the kind of detail that would make the map harder to

12-2

1 read, and, therefore, add confusion.

2 I believe that residents of the area are very  
3 likely to know where those other side streets that they  
4 might use to get to the main roads would be anyway. So  
5 it doesn't seem to me that these need to be pointed out.

6 They are major landmarks, these main roads;  
7 and people know about them. They would be able to get  
8 there without difficulty, in my view.

9 Non-residents might not know some of these,  
10 but then, after all, they would be unlikely, at best, to  
11 be using this particular map.

12 Now there was one example given of the John L.  
13 Ory Elementary School, I believe; and it was suggested  
14 that people might not know how to get there.

15 Well, to get there or to go there would be  
16 inconsistent with the instructions. I don't think we  
17 would want to encourage people to go there. So the  
18 evacuation instructions, I think, would be contradicted,  
19 if one were to take that particular stand.

20 Another thing which has been done to the map  
21 that I think improves it is to add the reception centers  
22 at the edge of the ten-mile zone in the map. One can  
23 see that once one believes the map on the recommended  
24 routes, that -- the evacuation routes, that the reception  
25 centers are clearly marked, so that one knows where one

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12-3

1 is going at that time.

2 And then, of course, finally, as I indicated  
3 earlier, the pickup points will be clearly indicated on  
4 the map with numbered triangles, so there will be no  
5 question in the user's mind in that connection.

6 Q But, Dr. Klare, one point of clarification on  
7 your last answer. You said that people who were not sup-  
8 posed to go to the pickup points, that it would be in-  
9 consistent with the plan. Did you mean people in --  
10 You meant non-residents?

11 A I meant non-residents, yes.

12 Q And the residents who would go there for a  
13 ride, your testimony was that they would be likely to  
14 know about where these pickup points were?

15 A Yes, I think they would. The pickup points  
16 are major landmarks for most of the people. People living  
17 in the area would know where these particular points are,  
18 so I don't see that these would be unusual, unknown, un-  
19 likely kinds of places to direct readers to.

20 Q Dr. Klare, you have heard testimony  
21 about the manner in which Ms. Duplessis has applied the  
22 Fry Readability Graph to this brochure. Do you agree  
23 with the way in which she has used the Fry Readability  
24 Graph in her analysis?

25 A Well, I was pleased to see that she had used

12-4

1 it. As indicated, it is a very good way of getting at  
2 difficulty.

3 But I was very sorry to see that she misused  
4 it. The very first direction in the Fry Readability Graph  
5 is "Randomly select three sample passages." She picked  
6 one and probably two passages deliberately, not randomly,  
7 to, presumably, indicate difficulty. These were ones  
8 that had, for example, names with several syllables.

9 Well, one certainly cannot get -- as she  
10 suggests -- an average value for a document like this from  
11 passages that were selected in a manner other than random.  
12 If one wants to use only three samples, one must select  
13 them randomly.

14 Then, as indicated, if the particular samples  
15 do not show much range in difficulty, that may be enough.

16 However, if one picks the samples in some  
17 fashion other than random, that also invalidates that  
18 further consideration in using a readability measure of  
19 this sort.

20 So, as I say, I was sorry to see this measure  
21 misused. And since a good share of my professional energy  
22 has gone to the study of readability, I'm even more con-  
23 cerned with that kind of misuse.

24 Now, certainly, the scores for -- that were  
25 given were particularly, it seemed to me -- therefore,

1 picked with something other than a good overall average  
2 in mind.

3 Q Would it be a more accurate measure of the  
4 readability of a document to analyze the entire document  
5 rather than just a few samples?

6 A Yes, indeed it would. There are a number  
7 of studies that show that unless one chooses samples  
8 randomly, one can't be satisfied with a small number of  
9 samples.

10 And, furthermore, even when one does choose  
11 them randomly, as a recent study in the Reading Research  
12 Quarterly indicates -- and it was done specifically with  
13 the Fry Graph -- as this study indicates, a complete  
14 analysis is far preferable to a sample analysis when one  
15 can do a complete analysis.

16 So there is no question in my mind that it's  
17 preferable to make a complete analysis of a document to  
18 get this kind of index.

19 Q I take it that in all cases it's not possible  
20 to do a complete analysis. The document might be too  
21 long, and it would be impractical. Is that correct, sir?

22 A Yes. Certainly, a book or something of that  
23 length, that would be true of.

24 Q Do you do a complete analysis of all the  
25 textual material in the brochure?

12-5

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1 A I did.

2 Q And that was the basis for the figures that  
3 you gave earlier in this hearing?

4 A That was the basis. I analyzed the entire.

5 Q One other thing on this subject. Ms. Duplessis  
6 suggested that passages in the brochure unsampled by her  
7 might be as high as post-graduate level. Were there any  
8 paragraphs in the brochure that high?

9 A None even approached that. I thought it was  
10 rather interesting that one of the samples chosen was taken  
11 from the middle of the "Try This Example" section where  
12 there were a number of names. And if one turns to that  
13 panel, "What to do if you are told to evacuate," and then  
14 under that, "Follow these steps for using the chart,"  
15 Item No. 6, one sees below that very panel, "If you have  
16 questions about your route, reception center or pickup  
17 point, write or call one of these offices as soon as you  
18 can."

19 So even if there were to be difficulty with  
20 that particular paragraph, a way is provided for readers  
21 to get the needed information.

22 Furthermore, I think it's quite clear that  
23 the kinds of names that were used, as, for example, in that  
24 paragraph, are likely to be known to readers of this  
25 document. I don't think that the number of syllables in



12-7

1 those names necessarily reflects the degree of difficulty  
2 for these readers familiar with those words.

3 In fact, in an early version of this parti-  
4 cular graph, Professor Fry suggested that these names  
5 not even be included in the count, suggesting that very  
6 same kind of reasoning.

7 Q Dr. Klare, in the preparation of the brochure,  
8 have you considered and been responsive to comments re-  
9 lating to the readability and other aspects of presenta-  
10 tion of this information?

11 A Yes, we have been particularly receptive to  
12 comments and have evaluated all of them very carefully.  
13 These have included Ms. Duplessis' testimony and that of  
14 others who have read the document in one connection or  
15 another.

16 We have looked at all their comments and, in  
17 fact, have adopted a number of these to improve the docu-  
18 ment. For example, we have greatly improved the read-  
19 ability of this document. That probably is the most  
20 responsive thing that we have done.

21 We have taken the potential ambiguity out, for  
22 example, of the heading, "Schools and Pickup Points," by  
23 inserting the word, "other." It now reads, "Schools and  
24 Other Pickup Points." That was a source of potential  
25 ambiguity, and that was, I believe, suggested by Ms.

Duplessis as a source of ambiguity. We have removed it.

We have moved some of the material to create smoother organization. We have moved the material on "What Radiation Is" from the fourth panel on this section to the first panel so that "Emergency Action Plan Information" could follow directly from this particular part of the brochure to the next page to make that sequence a more natural one.

We have eliminated extraneous information, such as definitions of technical terms in the radiation area that would not be essential to the reader using the document as an information source.

So what I have testified to earlier are kinds of comments that we have evaluated and found not to be useful; in fact, to, in many cases, add confusion for a reader, so that we have been responsive to the kinds of things that have been suggested where our evaluation indicates that you could improve the document.

Q Dr. Klare, are you testifying then that in your professional judgment the comments of the Joint Intervenors that you have referred to earlier in your testimony today that you have not adopted are ones that should not be adopted?

A. Indeed, I have, yes. That's exactly what I

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I think we have, on careful evaluation, adopted all those which seemed to us in our best professional judgment to need to be adopted. We have not adopted those which in our best professional judgment would add confusion or make the document less easy to use or certainly less comprehensible.

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1 Q Dr. Klare, when you say "our best professional  
2 judgment," does that mean you?

3 A Yes, it means me. I did have some information  
4 on some points from Dr. Miletic, for example. Those have  
5 also been included, that the risk in the case of a  
6 nuclear accident is likely to be airborne.

7 Q One final question. Do you believe that the  
8 information in the brochure as it now exists is clearly  
9 presented and well organized for effective reference?

10 A I think it is. I do not see how we could  
11 improve the document further to make it readable to any  
12 larger number of readers that can currently read it.

13 I think it is as readable as possible, consistent  
14 with the kind of information that we are trying to present  
15 in the document.

16 I believe it will be readable to the public  
17 at large, I think, in fact, to a very, very large segment  
18 of the public.

19 MR. CHURCHILL: Thank you, Dr. Klare.

20 Your Honor, that completes the direct  
21 testimony. Dr. Klare is now available for cross-  
22 examination.

23 JUDGE WOLFE: Mr. Groesch.

24 We'll have a ten-minute recess. Rather than  
25 a recess, we'll have a recess now for lunch and we'll

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1 return at 1:15.

2 MR. GROESCH: Your Honor, is it possible --  
3 Ms. Duplessis has to go to work at, I believe, 1:30; and,  
4 therefore, if we could have ten minutes now, she could be  
5 here with me during the cross-examination and possibly we  
6 could break at that time.

7 I don't know how long it's going to take,  
8 probably not very long.

9 JUDGE WOLFE: All right, then, we'll just  
10 have a ten-minute recess now.

11 (Recess taken.)

12 JUDGE WOLFE: All right, Mr. Groesch.

13 CROSS-EXAMINATION

14 BY MR. GROESCH:

15 Q Dr. Klare, we're going to be talking about  
16 sequencing a little bit, so I would suggest that you turn  
17 to the inside page where the map is.

18 I believe your rebuttal testimony was saying  
19 something along the nature that in the section, "What To  
20 Do If You Are Told To Evacuate," Part 6, it says, "Try  
21 This Example," Ms. Duplessis had stated that it should  
22 be next to the chart on the bottom, whereas you are saying  
23 that it's all right where it is because it's going to be  
24 used with both the map and the chart.

25 MR. CHURCHILL: Your Honor, I have an objection

1 to that question.

2 I think Mr. Groesch has mischaracterized  
3 Ms. Duplessis' testimony.

4 I don't believe Ms. Duplessis testified that  
5 that particular section should go someplace else.

6 I think that what she was saying and the point  
7 she was making in her testimony was that the information  
8 appeared inappropriately under that heading where it does.

9 MR. GROESCH: Your Honor, I believe her  
10 statement was that the "Try This Example" Section was  
11 not congruent with the chart.

12 From Page -- let's see, Page 5 of her  
13 testimony, the second full paragraph that starts out  
14 with, "Explanations."

15 It says something -- it says exactly,  
16 "Explanations of how to use the chart do not appear  
17 adjacent to the chart." Therefore, it's our contention  
18 that this is a valid question.

19 JUDGE WOLFE: Objection overruled.

20 MR. GROESCH: I believe all I had done at the  
21 point we were at was simply characterize what the  
22 testimony was.

23 BY MR. GROESCH:

24 Q Doctor, let's go through this example to see  
25 how much it relates to the map and how much it relates to

1 the chart.

2 I don't think it will take too long, but ..

3 Doctor, could we read the sentences sentence-  
4 by-sentence, and then we'll see whether or not it relates  
5 to the map or the chart; can we do that?

6 A. All right.

7 Q. I guess I could -- Could you read it? It  
8 doesn't matter.

9 A. Would you like me to read the complete  
10 paragraph in Ms. Duplessis' testimony, where it says --

11 Q. Not in her testimony. I'm talking about on  
12 the map.

13 A. Well, the next sentence in the testimony  
14 relates directly to that. This information --

15 Q. No, I would rather, if I would -- conducting  
16 cross-examination.

17 A. I am only suggesting that it indicates where  
18 this is under "Try This Example," and that, of course,  
19 isn't correct. So I think I need to point that out.

20 Q. Does the section, "Try This Example," explain  
21 how to use the chart?

22 A. It's the second place that's explained, yes.  
23 All the material above that also relates to using the  
24 chart.

25 "Try This Example" is only one part of that

1 entire explanation.

2 I do feel that's important in the point under  
3 consideration.

4 Q Dr. Klare, let's go to the section marked,  
5 "What To Do If You Hear the Outdoor Sirens."

6 How is the reader -- I believe your testimony  
7 can be characterized that this section is the summary  
8 section, the most important points; if they don't read  
9 anything else, this would be sufficient.

10 A I think it does contain the single most  
11 significant piece of information, which is to turn on your  
12 radio or TV, and it gives the radio and TV -- radio  
13 stations and TV channels that will carry the information.

14 Q But that information is also in other parts  
15 of the brochure, so --

16 A That's true.

17 Q -- this section is a section that is probably  
18 the most important section -- maybe we could use that  
19 word -- in the chart?

20 A Well, as I say --

21 Q In the brochure?

22 A -- I think it does contain the single most  
23 important information in regard to radio and TV.

24 It does contain some other important  
25 information.



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1 Q How would a reader know that that's the most  
2 important section if there are other titles that are  
3 bigger, other captions?

4 A Well, as I think has been indicated earlier,  
5 one of the most important single things to do in an  
6 emergency is to react properly when one hears the outdoor  
7 sirens, and that's why it is headed that way, because it  
8 says, "What To Do If You Hear the Outdoor Sirens."

9 Q But wouldn't the eye naturally be drawn to  
10 larger print?

11 A I think in general people look at the top of  
12 a panel when they are going to read. There's a lot of  
13 evidence on where people look.

14 I think they would see that heading, first  
15 of all, really.

16 Q On the other side of the front part it says,  
17 "Emergency Action Plans."

18 A Yes.

19 Q At the top of the panel.

20 A Yes.

21 Q Wouldn't the eye be drawn to that as a more  
22 important part than what appeared in the headline of  
23 "What To Do If You Hear the Outdoor Sirens"?

24 A Well, I don't feel that the slight difference  
25 there would make a large difference in where people looked.

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1 This is not a matter of newspaper headlines  
2 where one has what are sometimes characterized as bold  
3 screaming headlines.

4 I think the people will, since the material is  
5 in small units with appropriate titles, I think people can  
6 find them with no difficulty.

7 JUDGE WOLFE: Then the question comes up why  
8 you have the larger printing for "Emergency Action Plans"  
9 than you do for "What To Do If You Hear the Outdoor Sirens"?

10 THE WITNESS: The reason for that, Your Honor,  
11 is that that is a heading which covers several of the  
12 other categories.

13 So where that is the case, it is generally  
14 best to have slightly larger type for the more inclusive  
15 type heading.

16 JUDGE WOLFE: Well, the "Emergency Action  
17 Plan" heading is larger, is it not, than the heading,  
18 "What To Do If You Hear the Outdoor Sirens"?

19 THE WITNESS: Yes, it is.

20 JUDGE WOLFE: And my question is, why is one  
21 heading in larger print than the other?

22 THE WITNESS: I see.

23 JUDGE WOLFE: I don't see that I've gotten an  
24 answer.

25 THE WITNESS: Yes. Well, for one thing, they

3-8 1 are not on the same panel, so I don't think one would be  
2 confused with the other.

3 If this box were on the same page or in the  
4 same panel as the "Emergency Action Plans," I think that  
5 would be a very serious consideration.

6 JUDGE WOLFE: Let me put it another way. Why  
7 isn't the "Emergency Action Plans" heading on that  
8 particular page and/or panel of a lesser size equivalent  
9 to the heading, "What To Do If You Hear the Outdoor Sirens"?

10 THE WITNESS: Well, Your Honor, I think that's  
11 the case because of the relative size of the headings in  
12 the box to each other versus the headings in the "Emergency  
13 Action Plans" to each other.

14 Now, I feeling was that by putting in all  
15 capitals the three possible key actions, "Protect Your  
16 Breathing, Shelter in Place, and Evacuate," that those  
17 would draw the reader's eyes to appropriate kinds of  
18 actions likely to be recommended in the radio and  
19 television broadcasts.

20 I think they actually are in a sense the most  
21 attention attracting of the headlines in that section.

22 JUDGE WOLFE: Go ahead, Mr. Groesch. Sorry to  
23 interrupt.

24 MR. GROESCH: That's all right.  
25

3-9 1 BY MR. GROESCH:

2 Q Dr. Klare, there's a number of headlines in  
3 here that seem to me to be of almost equal importance, if  
4 I were just to pick this brochure up and want to know  
5 some information.

6 One of them said, "Emergency Action Plans,"  
7 and one said, "What Are the Actions You Might Need to  
8 Take," "What If You Are Told to Evacuate," and the one  
9 that we pointed out or the actual one that is on the top  
10 of the summary, "What To Do If You Hear the Outdoor  
11 Sirens," and that particular one is repeated twice in the  
12 booklet.

13 A "What To Do If You Hear the Outdoor Sirens"  
14 is repeated twice? I don't understand, I'm afraid.

15 Q There must be --

16 JUDGE WOLFE: Mr. Groesch, isn't what you  
17 are getting to -- May I put a question to the witness?  
18 May I interrupt?

19 MR. GROESCH: Sure, go ahead. It's all right.

20 JUDGE WOLFE: How would it detract from the  
21 contents of this block or whatever you want to call it  
22 here that is headed, "What To Do If You Hear the Outdoor  
23 Sirens," how would that detract or possibly impair the  
24 thrust of the information if that heading, "What To Do If  
25 You Hear the Outdoor Sirens," were -- the type thereof

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1 was made as large as the caption for "Emergency Action  
2 Plans"? Isn't this what you are ultimately getting to,  
3 Mr. Groesch?

4 MR. GROESCH: Yes, it --

5 THE WITNESS: I would be happy to answer that,  
6 Your Honor, if you --

7 JUDGE WOLFE: Yes. Is that what you are  
8 ultimately getting to, Mr. Groesch?

9 MR. GROESCH: We are just trying to get an  
10 idea on --

11 JUDGE WOLFE: All right.

12 THE WITNESS: I don't think it would detract.  
13 I think we could change that and make it larger. So that  
14 if that is a potential source of ambiguity, there's no  
15 reason we could not make that change.

16 Certainly, I see no problem with making it.  
17 I'd be happy to recommend that change be made.

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1 JUDGE JORDAN: Isn't the size of the  
2 type determined there actually by the size and length of  
3 the line? If you made it larger, you'd have to put it  
4 on two lines, if you have the same number of words?

5 THE WITNESS: Yes, we would have to do that.  
6 I don't think that would create any undue problems,  
7 however. We could certainly do that.

8 BY MR. GROESCH:

9 Q You don't think something needs to be added  
10 to the title of the summary, in order to -- to the title  
11 of the "What to do if you hear the outdoor sirens," in  
12 order to indicate it's a summary statement?

13 A No, I don't see that that would be necessary,  
14 Mr. Groesch, because the most important single information  
15 in this kind of a priming document is to emphasize the  
16 single most important action to take. And that is to  
17 turn on your radio or TV.

18 So I think that heading is a very action-  
19 oriented heading. I think it's far better than the  
20 statement that might say, "Summary," because people might  
21 wonder what it summarized.

22 I think this tells them exactly what to do  
23 in the case of the sirens.

24 Q Dr. Klare, I think we've established that  
25 you've never gone to St. John or St. Charles Parishes; is

that correct?

1           A.       I'm not sure that's correct because in some  
2 of my earlier trips to Louisiana we did leave New Orleans  
3 and did get across the river, for example. So I'm not --  
4 I really can't say for sure any longer whether that would  
5 be true.

6                       But in our many trips to Louisiana, both my  
7 wife and I were outside New Orleans.

8           Q.       I was just interested in the statement that  
9 you were making about residents would know things or land-  
10 marks. Is this -- This is more or less just a common  
11 sensical thing, rather than an expert statement; is that  
12 correct?

13           A.       Well, I don't know quite how you're characteriz-  
14 ing an expert statement, but I think it is certainly common  
15 sense, yes.

16           Q.       Dr. Kiare, you never taught in Louisiana, is that  
17 correct?

18           A.       Pardon me?

19           Q.       You've never taught a course in Louisiana?

20           A.       No.

21           Q.       I -- It's --

22                       MR. GROESCH: I'm going to be staying within  
23 the rebuttal. I won't be talking about headlines. I just  
24 wanted to establish that --  
25

14-3 1 MR. CHURCHILL: I would object to that question.  
2 He has been voir dired and cross-examined at length.

3 MR. GROESCH: I will withdraw the question.

4 BY MR. GROESCH:

5 Q Dr. Klare, did you know that in the state of  
6 Louisiana that in the teaching of reading that the larger  
7 print indicates that -- that the larger print indicates  
8 the major topic, the major ideas, and that the state  
9 education practice mandate that they teach in this  
10 manner?

11 A Did I know that specific item of informa-  
12 tion?

13 Q Yes.

14 A I have not read that specific item of in-  
15 formation, but I would be surprised if that were not the  
16 case.

17 Q With that kind of training in the larger  
18 print, obviously it would appear to most people -- at least  
19 who have been taught that way -- that the larger print  
20 would be the most important information?

21 A Headings are typically in larger print. And,  
22 of course, as is well known, the size of type in the  
23 earliest grades is larger so as to keep the reader's  
24 eyes from straying from the line that is being read  
25 to the line below.



1 Q Is there anywhere in the brochure that sub-  
2 headings appear in larger type than the main heading?

3 A Subheadings under a main heading appear in  
4 larger type than the main heading? Is that what you  
5 mean?

6 Q In other words, a major idea is introduced  
7 and -- in large print, and minor ideas under it appear in  
8 even larger print? Is there any of that?

9 (Pause while Mr. Groesch conferred.)

10 All right. Well, let's go to the section  
11 entitled -- well, at the top of it, it's "How you will be  
12 told about the emergency." I'm interested primarily in  
13 the part -- the paragraph at the bottom that is entitled  
14 "What are the actions you might need to take."

15 The main idea of that particular paragraph is  
16 that there are three actions that you might be asked to  
17 take: protect your breathing, shelter in place or  
18 evacuate.

19 As those points are further explained, the  
20 print is larger on the next panel.

21 Q You mean "protect your breathing" is larger,  
22 and "shelter in place" is larger, and "evacuate" is  
23 larger? Is that what you're --

24 A Yes.

25 Q Yes --

1 A. That's deliberate --

2 Q. -- I'm sorry --

3 A. -- because those are the three actions that  
4 might be given over the educational broadcast system. I  
5 think it is particularly important that they be larger,  
6 so as to attract attention.

7 Q. Well, in light of the training of the people  
8 of Louisiana to see subtopics as being in smaller print --

9 A. Compared --

10 Q. -- is that not inconsistent with the title of  
11 the paragraph, "What are your actions you might need to  
12 take," and won't that add to the confusion?

13 A. It seems, in fact, to me to greatly eliminate  
14 any possible confusion because what might be said over  
15 the emergency broadcast system is "You might be" -- or  
16 under some circumstances -- "you would be asked to protect  
17 your breathing." Those are the exact words, and the  
18 kind of recommendations that would be given.

19 Shelter in place is another. And evacuate  
20 is another.

21 It does seem to me that to keep people from  
22 carrying out the wrong action, that those should get  
23 that emphasis.

24 Q. Dr. Klare, when we talk about reception centers  
25 and pickup points, how would a person quickly identify

1 these definitions from reading the summary?

2 A From reading the box, "What to do if you hear  
3 the outdoor sirens"?

4 Q Yes. "What to do if you hear the outdoor  
5 sirens."

6 A Would you repeat the question? I'd like to  
7 hear it exactly as you stated it.

8 Q Okay. How can a person who has just read  
9 the section marked "What to do if you hear the outdoor  
10 sirens" quickly identify the definitions of the term  
11 "pickup point" and "reception center" from just the sum-  
12 mary?

13 A Certainly, it seems to me if it says, "If you  
14 cannot do that, go to one of the pickup points listed on  
15 the chart inside this booklet, you can get a ride there,"  
16 that that is rather clearly defined functionally. I  
17 don't see why -- or in fact how, one could make that much  
18 clearer.

19 Q I think what our principal worry here is that  
20 the definition of a reception center does not appear  
21 to be clear as meaning the final place that a person  
22 would go during an evacuation.

23 A Well, I guess all I can say is that evidence  
24 on the meaning of information, that people are likely to  
25 know even at low educational levels suggests that they

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would know that.

It is a place where people gather. And since it is mentioned twice, once in connection with school children and once in connection with adults, that that would be clear.

I just can't see that that would be a problem, I guess.

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14-8

1 Q This is with sixth-graders, I think you --  
2 Is that your --

3 A Oh, indeed. In fact, much lower than that.

4 Q Dr. Klare, after you've read this summary, how  
5 can you quickly identify the definitions?

6 A Do you mean if someone said to you, "What is  
7 a pickup point," how you would know what to answer?

8 Q Let me rephrase the question. Are you saying  
9 that the definition of a reception center is self-  
10 evident? Is that what you're saying?

11 A I believe it is, yes.

12 Q Okay. You were talking about a study in which  
13 you were mentioning eyeball studies -- rapid eye movement,  
14 I suppose?

15 A Right.

16 Q As --

17 A No, these are where you use an eye-movement  
18 camera to measure or record fixations and inter-  
19 fixation movements, siccative movements. That's what  
20 I was referring to.

21 Q This study was used to measure -- Was eye  
22 movement more rapid with more repetition in the text?

23 A People were given the same material, that is,  
24 repeated material, on second reading and on third read-  
25 ing the time spent to read that material decreased so that

1 I was simply saying that the amount of time needed to  
2 read new material is greater than that to read repeated  
3 material.

4 I was simply responding to the notion that  
5 having this repeated material is going to significantly  
6 delay or encumber a reader while reading, and as I've  
7 indicated, the eye movement studies -- I have done one  
8 myself on this very thing -- do not show that to be the  
9 case.

10 Q Are you aware that in the testimony of Ms.  
11 Duplessis that she was concerned only with readers who  
12 were not highly skilled when she talked about repetition?

13 A Could you tell me --

14 MR. CHURCHILL: Your Honor, he should confine  
15 his questions to Dr. Klare's testimony.

16 MR. GROESCH: Okay. We can ask it another  
17 way.

18 BY MR. GROESCH:

19 Q Were these studies done with preschool  
20 children -- I'm sorry -- with kindergarten or --  
21 Were these studies done with readers who had low levels  
22 of skill, such as kindergarteners or first graders?

23 A No, they were not done with kindergarteners  
24 or first graders. I don't think they could read this  
25 booklet with comprehension, so that I don't think that

14-10

1 would really be too relevant to this question.

2 Q Were these studies done on adults with low  
3 reading skills?

4 A Indeed, one was done with adults of low  
5 reading skills. At least one that I know of. They are  
6 likely actually to be helped as much -- relatively -- as  
7 more skilled readers.

8 Q And this conclusion that you've drawn is  
9 the result of this one study; is that correct?

10 A Oh, no, no. There are other studies with  
11 readers reading repeated material.

12 Q But not low-level readers?

13 A I can't say at this point. They may well  
14 be.

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1 BY MR. GROESCH:

2 Q Going back to this idea of pickup point and  
3 reception that these definitions are self-contained or  
4 suggested, which I believe was the word that you used in  
5 your testimony.

6 A Suggested?

7 Q Yes.

8 A I don't recall using that term, but....

9 Q What term would you use?

10 A I referred to functionally defined by their  
11 use.

12 Q Functionally defined?

13 A Yes.

14 Q All right.

15 These were functionally defined -- I mean, you  
16 know that they are functionally defined by studies, and  
17 they are functionally defined just by the way they are  
18 stated?

19 A Their function is suggested by the way they  
20 are used in context, which in general is quite a good way  
21 to give people meanings of terms.

22 It's the way most meanings of terms are, in  
23 fact, learned.

24 Q And have you ever tested this with readers of  
25 low reading levels?



15-2 1 A Have I tested to see if they would learn  
2 meanings of words in context?

3 Q Yes, of words that --

4 A I have not done so myself, but I see no  
5 reason why from studies that have been made that that  
6 would not be the case here. I think in fact it would.

7 Q So in other words, you are saying that you  
8 know of studies of readers of average efficiency, I  
9 suppose, who understand these terms and you think that  
10 can be --

11 A I'm sorry, I don't quite understand what you  
12 mean by "average efficiency."

13 Q Possibly we are not on the right track here.  
14 Hold on just a second, let me talk to....

15 I think what we are getting to here is this.  
16 What would be the harm in saying something like --  
17 inserting a sentence that would say a reception center  
18 is a place where final evacuation is -- where the  
19 evacuees are contained -- I'm not sure what even the  
20 wording would be right now, but what would be wrong with  
21 inserting a sentence like that in there?

22 A I see no harm in it, if you are speaking of  
23 harm. It would simply add to the words in the document,  
24 and I don't see that adding those words would do much in  
25 addition, because as I pointed out, in addition to people

1 already knowing the meanings of those words out of context,  
2 having them in context ought to add to what is already  
3 known.

4 MR. GROESCH: We have no further questions.

5 JUDGE WOLFE: Mr. Turk?

6 MR. TURK: The Staff has no questions.

7 JUDGE WOLFE: Mr. Cassidy?

8 MR. CASSIDY: I have a few questions, Your  
9 Honor.

10 CROSS-EXAMINATION

11 BY MR. CASSIDY:

12 Q Dr. Klare, in Ms. Duplessis' testimony the  
13 other day she had indicated that several sections, I  
14 believe four all together, that she had applied the  
15 Fry readability scale to.

16 You testified earlier with regard to the  
17 random selection process in Fry. Does Fry define how  
18 a section should be randomly selected?

19 A No. He simply says, "select randomly," and  
20 the common meaning of the term "randomly" or "random" in  
21 the case of selection is do not pick particular paragraphs  
22 which you think will have some particular value, because,  
23 of course, if you do, then you can't get a meaningful  
24 average. You get a biased average.

25 In her particular case she picked one, which

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1 in her own testimony, she admitted had names, for example,  
2 of several syllables, which would raise the syllable count,  
3 and would therefore not add to in a reliable way the  
4 kind of information needed to get an average.

5 She selected material from the section here  
6 called "What Radiation Is."

7 Q I think you've answered the question. I think  
8 it's been all explained before.

9 A All right.

10 Q With regard to the specific paragraphs that  
11 she selected, did you do any analysis since she has  
12 testified as to whether or not her assessment of the  
13 grade level of those samples were correct?

14 A No, I didn't recompute those.

15 Q Okay. Just based on your expertise, would you  
16 disagree with the grade levels that she reached on those  
17 particular samples?

18 A I would for "Try This Example."

19 For the section, "What Radiation Is," no, I  
20 think that is a fair characterization. I believe she said  
21 high seven.

22 On the basis of a complete analysis, I wouldn't  
23 say high seven, but I would say seven.

24 Q Which one was it that you disagreed with?

25 A "Try This Example."

15-5

1 Q What is the basis for your disagreement on that?

2 A Well, I have an analysis here for that. My  
3 analysis of the complete paragraph says that it is sixth  
4 grade level; that is, exclusive of the material around  
5 it.

6 Q I believe on that page -- or that panel, and  
7 correct me if I'm wrong, but in your earlier testimony, I  
8 believe you stated that for that panel it was a fifth  
9 grade reading level?

10 A That's correct.

11 Q And when you stated "that panel," do you mean  
12 that entire section down the side of the map or just that  
13 top panel?

14 A No. I mean this entire section down to the  
15 break.

16 Q Okay. What I'm curious about as a result of  
17 Ms. Duplessis' testimony and your rebuttal is how does  
18 one get fifth grade level when you've got seventh grade  
19 level for this particular passage or -- did you say seventh  
20 grade?

21 A Sixth grade. yes.

22 Q Does that mean that some of those other  
23 sections are lower, like third grade?

24 A Yes, it does.

25 Q When you'd arrived at your average, did you

15-6 1 just take a mathematical --

2 A Yes, I looked at the individual paragraphs, of  
3 course, but I simply got an average for the section, which  
4 is usually the most meaningful way to do it, because even  
5 though there may be some variation, the chances are that  
6 that degree of variation, the kind I just mentioned, is  
7 not going to be significance in the over-all average.

8 The average is a better value.

9 Q Okay. With regard to the use of repetition,  
10 Mr. Lookabaugh, the FEMA witness, had testified that he  
11 thought repetition was a good characteristic, as you have.

12 Ms. Duplessis indicated that at some point  
13 repetition ceases to become useful.

14 Why, in your opinion, is it a desirable  
15 quality here?

16 A Well, I think it is a desirable quality for  
17 several reasons. It is the most important information,  
18 for one thing.

19 If one uses it several places, even a scanning  
20 reader is likely to see it, someone who doesn't read the  
21 entire booklet.

22 In addition, if you want to get material into  
23 long-term memory, if you want to encourage people to  
24 remember something that could be useful to them at the  
25 time of the emergency, that probably is the most important

15-7  
1 single thing.

2                   So repetition does indeed help people get  
3 something from what is called short-term memory into  
4 long-term memory.

5           Q.       If the repetition was eliminated from the  
6 brochure, you would have a somewhat shorter document; isn't  
7 that correct?

8           A.       That's correct.

9   - - -

1 Q In weighing the advantages of a shorter  
2 document with less words and the ability of the reader  
3 to understand against the use of repetition, which in your  
4 professional opinion would be a better approach?

5 A I think the better approach is to use the  
6 repetition.

7 Q Why?

8 A Because that way the most important item or  
9 items of information are singled out.

10 Q Let me interrupt you for a second.

11 Wouldn't it also stand out more if in a  
12 shorter document where it may not be repeated, but in a  
13 more condensed document it could be made to stand out in  
14 some manner, larger print, et cetera?

15 A Let me see if I understand your question.  
16 You are saying wouldn't it be still more  
17 effective; is that what you are saying?

18 Q I'm just asking if, in your opinion, whether  
19 it would be or not. Obviously, Ms. Duplessis thinks that  
20 it would be.

21 A Yes. Well, I don't see that the amount of  
22 repetition here is such that it makes the document  
23 significantly longer.

24 In other words, I think that the use of  
25 repetition far outweighs its value -- that is, far

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1 outweighs the value to be gained by eliminating that  
2 repetition, because especially in the case of the radio  
3 and TV information that is especially important.

4 MR. CASSIDY: No further questions.

5 JUDGE WOLFE: Mr. Churchill, redirect?

6 MR. CHURCHILL: I have no further questions,  
7 Your Honor.

8 JUDGE WOLFE: Are there Board questions?

9 BOARD EXAMINATION

10 BY JUDGE JORDAN:

11 Q With respect to the panels on the back, and  
12 I remember your saying that the last panel, "What Radiation  
13 Is," will be moved over to the first column, at least  
14 three more columns.

15 Now, the first column, then, following "What  
16 Radiation Is," at least the first headline is "Emergency  
17 Action Plans."

18 Now, does that refer to that paragraph which  
19 it heads, ending at the next paragraph, "Will An Emergency  
20 Affect You," or does it refer to all three of the columns  
21 on that page?

22 A Yes, Your Honor, it refers to all the other  
23 columns on that page.

24 JUDGE JORDAN: All right. That's all.  
25



5-10 1 BY JUDGE JORDAN:

2 Q Well, in any event, why wouldn't it be much  
3 better either to have the headline centered on the page  
4 in such a way that it obviously refers to all of them or  
5 have it be considerably larger type than the others?

6 A Well, certainly, there would be no reason we  
7 could not increase that headline size. My opinion would  
8 be that it would be better to leave it at the beginning  
9 of those panels rather than center it over the three.  
10 That would be my judgment.

11 Q Whether it interferes with the understanding  
12 or not, I am not at the moment, certainly, trying to judge;  
13 but there certainly was confusion in my mind as to what  
14 that headline referred to.

15 But whether that confusion, as I say, is  
16 significant or not, I don't know.

17 I presume your conclusion is that it will not  
18 interfere significantly with the understanding of the  
19 document?

20 A Yes, that is my judgment, Your Honor. I  
21 think especially in view of the fact that the heading,  
22 the phrases, "Protect Your Breathing, Shelter in Place,  
23 and Evacuate" are of the size they are in their respective  
24 headings.

25 JUDGE JORDAN: All right. That's all I have.

1 JUDGE FOREMAN: I just have a couple of  
2 questions.

3 BOARD EXAMINATION

4 BY JUDGE FOREMAN:

5 Q Dr. Klare, I was impressed about the large  
6 amount of discussion there was about print size and  
7 eye-catching capability and so forth, and just for my own  
8 point of view.

9 As I open up the booklet, the eye-catching  
10 phrase that appears to me is "A Message to Our Friends and  
11 Neighbors."

12 That is much more eye-catching than the "What  
13 To Do When One Hears the Outdoor Sirens." Was it intended  
14 that things be that way?

15 A Well, that is a good point, Your Honor. I  
16 think, as was indicated, as Judge Wolfe indicated, it  
17 would be useful to increase the size of the other heading,  
18 and I do have to agree that would be better.

19 I had not, I'll admit, seen it relative to  
20 the headline, "A Message to Our Neighbors and Friends,"  
21 as you are pointing out here.

22 I think if we were to increase the size of  
23 the heading, "What To Do If You Hear the Outdoor Sirens,"  
24 it would be a benefit in the booklet.

25 JUDGE FOREMAN: Thank you. That's all I have.

## BOARD EXAMINATION

15-12  
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2 BY JUDGE WOLFE:

3 Q Doctor, in at least two places and more  
4 directly in the brochure, more specifically in the portion  
5 to the right side of the map under the caption, "What To  
6 Do If You Are Told to Evacuate," at Point No. 5 there is  
7 a precautionary sentence there, "Do not go to your  
8 children's school to pick them up," and that's in heavy  
9 bold print.

10 In a less specific manner, under the caption,  
11 "What To Do If You Hear the Outdoor Sirens," it states,  
12 "If you have children in school, they will be taken to  
13 the reception center for their school."

14 Now, with that as a backdrop or background, I  
15 understand that you have changed the wording on the  
16 chart from "Schools and Pickup Points" to "Schools and  
17 Other Pickup Points."

18 In your opinion, since in at least two places  
19 it more or less specifically states, "Do not go to your  
20 children's schools to pick them up," isn't it confusing  
21 if someone were to read the chart and it says, "Schools  
22 and Other Pickup Points"?

23 Wouldn't someone think, "Well, when they tell  
24 us not to go to school to pick up children, and I go to  
25 the chart, they have the caption 'Schools and Other  
Pickup Points'? Would you comment?

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1 A I do see your point in saying that. Cer-  
2 tainly, we would not want to encourage people to go to  
3 the schools, as you indicated. They are pickup points,  
4 of course. All schools are pickup points.

5 Q Would it be better, for example -- I don't  
6 know -- just to have the caption, instead of being  
7 "Schools and Other Pickup Points," just to have the  
8 caption "Pickup Points"?

9 A It's certainly a good question. I suppose  
10 there would be the possibility that people might wonder  
11 why there were schools there in the list in that case.

12 Q Yes.

13 A And I suppose one has to balance that against  
14 the notion that they can serve as pickup points.

15 Q Well, for example, when you -- on the chart  
16 under A2, under the column "Schools," and what will be  
17 "Other Pickup Points," there is listed, for example,  
18 St. Charles High School; right?

19 A Yes.

20 Q All right. There is an emergency situation,  
21 and the parents understand that they're not to go to  
22 schools to pick up their children, but instead go to  
23 reception centers.

24 Well, now, what if there is an emergency,  
25 and a parent, understanding that he or she is not to go

1 to a school to pick up a child or children, that they  
2 see St. Charles High School listed under A2? I'm a  
3 little bit confused.

4 Are they not to go to the high school to pick  
5 up their children? But it is a pickup point. I don't --  
6 I'm a little bit confused there.

7 A. I can see your point. Were they to go, they  
8 would probably find their children had already been taken  
9 to a reception center, since they will be the first ones  
10 to move. So they would not be successful in getting them,  
11 and this would simply add to the confusion, which is the  
12 reason they're encouraged not to go.

13 But I do see your point, that by including  
14 the -- I believe -- that by putting the term "schools"  
15 there along with "pickup points," instead of just using  
16 the heading "pickup points," that they might think, con-  
17 trary to the intent or the instructions, that they could  
18 still do that.

19 That's what you were suggesting, I believe.

20 Q. Well, I'm asking your opinion. I'm not  
21 suggesting anything.

22 A. Yes. Well, I think it's a good suggestion, as  
23 a matter of fact. I don't see now why we couldn't make  
24 that change. I think it would be a relatively simple one  
25 to change.

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2 Certainly we should take it under considera-  
tion.

3 JUDGE WOLFE: All right. Mr. Groesch, cross  
4 on Board questions?

5 MR. GROESCH: No, Your Honor.

6 JUDGE WOLFE: Mr. Turk?

7 MR. TURK: Two brief questions, Dr. Klare.

8 RE-CROSS-EXAMINATION

9 BY MR. TURK:

10 Q In line with Dr. Foreman's and Dr. Jordan's  
11 question concerning the size of the type and titles  
12 and to which columns titles refer. If you look at the  
13 second panel -- what appears as the second panel though  
14 it will become the third panel, the panel begins, "How  
15 will you be told about the emergency," the bottom para-  
16 graph there is captioned, "What are the actions you might  
17 need to take," am I right in assuming that that caption,  
18 "What are the actions that you might need to take,"  
19 refers to the following panel?

20 A Yes, it does, in fact. Of course, since the  
21 phrases -- the relevant phrases are in boldface within  
22 the paragraph, I would hope the reader would give them  
23 increased emphasis, and then upon seeing them there,  
24 recognize those same phrases in the next headings to  
25 follow.

1 Q Do you think that the brochure might be made  
2 more clear if the type face in the title, "What are the  
3 actions that you might need to take," were to be made  
4 larger than the type face in the captions which appear on  
5 the next panel --

6 A Well --

7 Q -- so as to cue the reader to the fact that  
8 this is an introductory paragraph to the next panel?

9 A -- it's certainly worth considering. Another  
10 possibility might be simply to use some way of emphasizing  
11 the word "actions." I think something other than all  
12 capitals, because we'd like to save that kind of emphasis  
13 for the particular phrases that are likely to be heard  
14 over the emergency broadcast system.

15 But I see no reason we could not increase the  
16 size of type there. I think we would have to, as was  
17 pointed out, in the case of "What to do if you hear the  
18 outdoor sirens" -- probably have to go to a second line,  
19 if we were to do that, because the heading currently takes  
20 up the entire line.

21 So, again, I think it's something we ought  
22 to consider, at least. I was suggesting an alternative  
23 by somehow emphasizing the word "actions," which might be  
24 done in bolder face, or perhaps -- I don't think we'd want  
25 to use italics. Italics are generally not read as

1 rapidly, although a single italicized item would make very  
2 little difference.

3 But would you -- Well, we'll certainly take  
4 it under consideration; and I do see your point. It  
5 does, in fact, refer to the following three.

6 Q One other question I wanted to ask you con-  
7 cerns the title of the chart for schools and other pickup  
8 points, as that title, you indicate, has now been revised  
9 to read.

10 Are you aware of why the title includes  
11 the word "schools"? What judgment was made that that word  
12 should appear there?

13 A Well, the reason initially was that people  
14 might need to know whether the schools that their children  
15 go to are on the map or not. But I don't think that  
16 probably is as critical a need at this point, since that  
17 was discussed earlier, so I don't think it's probably as  
18 critical a reason for keeping that term in the heading, as  
19 it was initially.

20 Q Are you aware of whether or not the inclusion  
21 of the word "schools" in that title was decided upon  
22 so that members of the public might realize that all  
23 schools are, in fact, pickup points? Have you ever  
24 given that consideration?

25 A Yes. We did, in fact, talk about that. They



1 must be pickup points, of course, in the sense that the  
2 children are picked up at those schools and taken to  
3 their own reception centers.

4 So, yes, that would --

5 Q Well, not just children, but, in fact, any  
6 adult who needs transportation could go to a school and be  
7 picked up there and brought to a reception center?

8 A Right. Indeed, yes. We did consider that,  
9 and the schools would still remain, whether the word  
10 "schools" was taken out of the heading or not. Those  
11 schools would remain pickup points.

12 Is that what you're referring to?

13 Q Yes. I think my point was a little more  
14 direct, in fact. I was curious to know whether you had  
15 heard --

16 A Yes --

17 Q Perhaps you hadn't.

18 A -- I had.

19 Q -- that one reason for including the word  
20 "schools" in the caption title there is to cue members of  
21 the public who might need transportation to go to the  
22 school. That would be a pickup point for them?

23 A Yes, it is a cue. And that's why I say that  
24 we do need to take that under consideration, whether we  
25 ought to remove the word "schools" or not.

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MR. TURK: I have no other questions.

JUDGE WOLFE: Mr. Cassidy?

MR. CASSIDY: I have no questions, Your Honor.

JUDGE WOLFE: Redirect, Mr. Churchill?

MR. CHURCHILL: Your Honor, would it be possible to have a very short recess? Most of the Board's questions related to certain specific suggestions on the brochure, and maybe -- with a very short recess, we could discuss the Board's suggestions and maybe come up with something a little more definitive, when he resumes.

It would only take a few minutes, I'm sure.

JUDGE WOLFE: Well, we're here at the pleasure of the parties. We've gone past our luncheon recess. It's now 1:30. Shall we just proceed beyond your redirect and then proceed to the Board's direction to the parties when they're to file their proposed findings and conclusions of law and briefs, and then to just go on into the ten-minute -- maximum of ten-minute closing statements, and then close the record?

Is this agreeable to everyone?

MR. GROESCH: That's fine with me.

MR. CASSIDY: Your Honor, I don't think I understand Mr. Churchill's reason for requesting a break. If he has -- needs time for further questions of

1 Mr. Klare, that's fine. If he's suggesting that they go  
2 out and decide whether or not they're going to implement  
3 the suggestions that the Board and some of the parties  
4 have made, I think it would be better if they spent a  
5 little bit more time giving them consideration than a  
6 ten-minute break.

7 JUDGE WOLFE: Mr. Churchill?

8 MR. CHURCHILL: Your Honor, what I wanted to  
9 do was talk to Dr. Klare and others to determine how  
10 we could be responsive to the particular suggestions that  
11 were raised in the questions by the Board.

12 I don't think it would take very long. Per-  
13 haps it would help ultimately in the decision in this  
14 case.

15 JUDGE WOLFE: Well, I take it what you have  
16 in mind, Mr. Churchill -- or maybe I'm reading more into  
17 what you're saying than that which you intend -- I take  
18 it that you want to consult with your people and find  
19 out whether you will on the record state that in accord  
20 with -- perhaps what Joint Intervenors propose or what  
21 the Board's questioning indicated the Board was concerned  
22 about, that Applicant is now willing to change a caption  
23 or to make it -- to put it in larger print, or to delete  
24 something.

25 Is that correct or not? I don't know.

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MR. CHURCHILL: Yes, sir, that's correct.

I was trying to be a little evasive because I didn't want to come back with nothing.

That is what I want to do, Your Honor.

JUDGE WOLFE: Any objection to that -- to a ten-minute recess for that purpose, Mr. Groesch?

We can go forward to redirect. I don't care.

MR. GROESCH: I agree with Mr. Cassidy that -- you know -- I think changes really should be considered more than ten minutes.

MR. CHURCHILL: Excuse me. I'm sorry, I didn't mean to interrupt.

MR. GROESCH: Well, that's really basically what I had to say. So I would object on that grounds. I think that if there are substantial changes, I would hope that the Applicant would consider them longer than ten minutes.

MR. CHURCHILL: Your Honor --

(Bench conference.)

JUDGE WOLFE: We will have a five-minute recess for the moment.

(A short recess was taken.)

/  
/

1 JUDGE WOLFE: All right. Back on the record.

2 We think that, as Mr. Groesch points out, that  
3 ten minutes is not sufficient time to develop what you had  
4 in mind, and further, we think that anything that's on the  
5 record as to suggestions, recommendations or just queries  
6 by the Board should also be taken into consideration by,  
7 certainly, the Joint Intervenors and by the Staff and by  
8 FEMA.

9 So I think we should proceed instead then to  
10 complete your redirect of Dr. Klare and then proceed  
11 immediately to the Board's directions with regard to  
12 proposed findings, conclusions of law and briefs.

13 All right. Proceed with your redirect of  
14 Dr. Klare.

15 MR. CHURCHILL: To make sure I understand,  
16 Your Honor, you are saying that if the Applicant were at  
17 this time, based on the Board's questioning able or willing  
18 to agree to a modification or two to the brochure, and  
19 that we would agree to recommend that modification to the --  
20 that is, that we would be willing now to state that we  
21 would be willing to recommend that change to the state  
22 and parish governments, that you would rather not hear about  
23 that now?

24 JUDGE WOLFE: I would think that -- Well, I'm  
25 not going to tell you how to write your proposed findings.

7-2  
1 You might want to put that in your proposed findings, that  
2 the Applicant commits to doing such-and-such, and then  
3 there would be time within which for the Staff and FEMA  
4 and the Joint Intervenors to comment on that commitment,  
5 whether it goes too far, doesn't go far enough or no such  
6 commitment should be made.

7 I have no idea. I think time within which for  
8 the other parties to look at what you agree to do or  
9 revisions to be made should be looked at not only long and  
10 hard by you, but by the other parties as well.

11 MR. CHURCHILL: Your Honor, I think that's a  
12 good suggestion that is not inconsistent with the results  
13 of our discussion over the break, and on that basis I  
14 have no further questions for Dr. Klare.

15 JUDGE WOLFE: All right. The witness is to  
16 be permanently excused?

17 MR. CHURCHILL: Yes, sir. As far as from the  
18 Applicant's point of view, yes, sir.

19 JUDGE WOLFE: Well, no one else has indicated  
20 they wanted to ask any more questions, so the Doctor is  
21 permanently excused.

22 (The witness was permanently  
23 excused.)

24 JUDGE WOLFE: All right. Would the parties  
25 now, in place, discuss with one another the timing for the

17-3  
1 submission of proposed findings, conclusions of law and  
2 the time within which Applicant shall respond, have final  
3 response.

4 We'll go off the record now. The parties can  
5 confer. We'll hope to get a concensus. If not, we'll  
6 set the time.

7 (Discussion off the record.)

8 MR. CHURCHILL: Your Honor.

9 JUDGE WOLFE: Yes.

10 MR. CHURCHILL: The parties have conferred and  
11 we've all agreed on the schedule as specified in the  
12 regulations.

13 The regulations call for the Applicant to  
14 file its proposed findings 30 days after the close of the  
15 record, which is today, so that the Applicant's proposed  
16 findings would be due March 14.

17 The Joint Intervenors' findings, due 40 days  
18 after the close of the record, would be due March 23rd.

19 The Staff's findings would be due on April 4th,  
20 1983.

21 In accordance to the regulations the Applicant's  
22 reply findings would be due five days after the service of  
23 the Staff's findings.

24 JUDGE WOLFE: All right. Pursuant to 10 CFR  
25 2.754, the Board directs the parties to file proposed

7-4  
1 findings of fact, conclusions of law and briefs.

2 The Applicant is directed to file within 30  
3 days after the record is closed, namely by March 14th.

4 The Joint Intervenors are directed to file  
5 their proposed findings of fact, conclusions of law and  
6 briefs by March 23rd.

7 And the Staff is directed to file these  
8 documents by April 4, 1982.

9 The Applicant is then directed to file its  
10 reply within five days after service of the Staff's  
11 submission.

12 MR. GROESCH: There is one problem that I have,  
13 Your Honor.

14 JUDGE WOLFE: Yes.

15 MR. GROESCH: I would like to ask that a free  
16 transcript be provided of these hearings of whatever the  
17 days were, the four days, under 10 CFR 2.750, Part C,  
18 which provides a Hearing Officer can provide free  
19 transcripts to one party in the hearings.

20 That would be the only time constraint I would  
21 have. Otherwise, I would have to wait for --

22 JUDGE WOLFE: You missed an asterisk.

23 MR. GROESCH: Pardon?

24 JUDGE WOLFE: You missed an asterisk in that  
25 section.



17-5  
1 MR. GROESCH: The asterisk says that,  
2 "Transcripts will be made available to a party at the  
3 same time and location as it is made available to the NRC  
4 Staff." Is that it?

5 JUDGE WOLFE: No, the asterisk, as I see it,  
6 reads, "This paragraph is suspended until further action  
7 of the Commission."

8 So you will not be provided with a free  
9 transcript.

10 MR. GROESCH: I'm not sure when they would  
11 come into the public document room. The last hearings  
12 that we had, Judge Jordan was kind enough to let me have  
13 his transcripts.

14 Certainly I don't feel that it would be my  
15 place to ask that at this point, but that would be my  
16 only constrictions on time.

17 JUDGE WOLFE: Yes. We'll go off the record  
18 for a moment.

19 (Discussion off the record.)

20 JUDGE WOLFE: All right. These proposed  
21 findings, conclusions of law and briefs, you are directed  
22 to file by the dates that the Board has set forth; and  
23 as we indicated at the close of the original hearing, you  
24 should read, certainly, Section 2.754(c), which sets out  
25 what the proposed findings of fact should contain.

1 As we pointed out at the close of the record  
2 during the initial -- after the initial hearing, these  
3 proposed findings should not summarize pleadings and filing  
4 dates; they should not summarize testimony; they should not  
5 summarize prior rulings in the case, except where  
6 necessary; they should set forth in declarative sentences  
7 and use the active voice.

8 Uncontroverted findings should be set forth  
9 first; ultimate findings of fact should be supported by  
10 subsidiary findings.

11 Staff and the Joint Intervenors should where  
12 possible incorporate by reference Applicant's proposed  
13 findings with which they really do not disagree.

14 Further, with regard to the briefs, the  
15 parties should file these briefs discussing the important  
16 issues and then how they should be resolved.

17 The briefs should set forth the captioned  
18 contentions, discuss the reasons and issues by the contention  
19 or contentions should be resolved in favor of the  
20 submitting party, and should cite controlling statutes  
21 and case law and should cite the supporting findings of  
22 fact by number.

23 We will now hear closing statements directed  
24 to and solely directed to the limited issue upon which  
25 we've been hearing evidence for the last four days.

18-1  
1 JUDGE WOLFE: All right. Mr. Churchill, you  
2 may go first.

3 MR. CHURCHILL: Your Honor, my closing remarks  
4 are very brief.

5 As you know, we are assembled here to discuss  
6 the contents of the brochure, and the Applicant has put  
7 into evidence the brochure which will be distributed by  
8 the state and parish agencies in the area surrounding  
9 Waterford 3.

10 That brochure has been the result of many,  
11 many months and long, long hours involving the input of  
12 many different people and the concurrence and agreement  
13 of a number of different state and local agencies.

14 We have engaged expert help extensively,  
15 both from a sociological point of view with respect to the  
16 types of information systems and how people respond to  
17 emergencies through Dr. Mileti, and through making sure  
18 that the brochure is readable to as many people as is  
19 practicable so that we can still get the message across  
20 without compromising the message.

21 We've heard testimony that this brochure from  
22 that point of view is higher in readability, that is,  
23 designed for a lower educational level, than any other  
24 brochure for any other nuclear plant in the country.

25 In addition, we've heard testimony that it

1 wasn't -- that in attempting to improve and increase the  
2 readability a great deal of other factors went into  
3 it of a very sophisticated nature, everything from con-  
4 sidering words that will be best understood by more  
5 people of lower educational achievement, to considering  
6 such concepts as making sure that information is presented  
7 in blocks or in tab form, rather than just straight text,  
8 paying close attention to type size, headlines, giving a  
9 great deal of attention to the format of the brochure, the  
10 sizes of charts and maps, trying to simplify maps and  
11 charts as much as possible, and so on.

12 We have, additionally, considered very care-  
13 fully the comments of all parties, certainly FEMA and the  
14 NRC. And we have considered the comments to the extent  
15 that we knew them from the Joint Intervenors, based not  
16 only on their testimony but on previous affidavits.

17 We have provided the expert testimony of  
18 Dr. Klare, which was that we have carefully considered all  
19 of the Joint Intervenors' comments, have adopted some  
20 and where we have rejected others, we have so testified  
21 and given the reasons why in the best professional  
22 judgment of Dr. Klare, it would be preferable not to  
23 adopt those particular comments.

24 We believe that this is indeed a good bro-  
25 chure that adequately and, in fact, in an exemplary

18-3

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1 fashion, presents in a clear, straightforward and under-  
2 standable manner the information which we believe is re-  
3 quired by the NRC regulations.

4 And as has been testified by the witnesses  
5 from FEMA and indeed the NRC as well, the brochure does,  
6 in fact, meet the guidance and criteria contained in  
7 NUREG-0654.

8 Consequently, we feel that the Board will have  
9 no difficulty in passing on the acceptability of the  
10 emergency information brochure for the area surrounding  
11 the Waterford 3 plant.

12 JUDGE WOLFE: Mr. Groesch, a closing state-  
13 ment.

14 MR. GROESCH: Yes, Your Honor.

15 I probably will not use up the whole ten  
16 minutes.

17 I would hate to see this brochure if the  
18 Joint Intervenors had not taken a long, hard look at this  
19 brochure.

20 We have been ruled from discussing the bro-  
21 chure in the context with the other communication systems  
22 that the Applicant and the Joint Intervenors had litigated  
23 prior to this point.

24 We believe that we should have been allowed  
25 the opportunity to have looked at that as an integral

18-4

1 whole.

2                   However, let me talk about the brochure a  
3 little bit. We have on record at this point the number  
4 2909 people who will not be able to use the brochure  
5 in the St. John and the St. Charles area.

6                   The only testimony that we have that the  
7 people will get this information was from Dr. Klare who  
8 said that it was his knowledge that -- from some studies  
9 that illiterates and people who don't read very well  
10 get information from other sources. I think that this  
11 is a very, very dangerous thing for this Board to feel  
12 that information of this sort will be passed on to people  
13 who can't read.

14                   We still -- and the only way to really liti-  
15 gate that, in my opinion, would be to view the entire  
16 communications system as a whole, as I said previously.

17                   However, one of the things that I believe that  
18 the Joint Intervenors have shown in this case is that  
19 designing a document is a very difficult task. And in  
20 fact, the parties in this case that I believe -- that has  
21 distressed me so much has not been Louisiana Power &  
22 Light, who I think has put together a lot of effort on  
23 this brochure, possibly not as much effort if we hadn't  
24 prodded them.

25                   But to me it's a question -- the government

1 people -- and especially the FEMA people -- seem to have  
2 absolutely no interest in imparting information. The  
3 FEMA witness, Mr. Lookabaugh, believed that it was not  
4 common sense to even check the readability of the bro-  
5 chure or even check the literacy levels of the area that  
6 the brochure would target.

7 This to me is just intolerable. And we also  
8 have evidence that the technical parts of the brochure --  
9 "What Radiation Is" is simply not technically correct,  
10 and that the evidence shows that NUREG-0654, which re-  
11 quires some information about radiation does not even have  
12 to be true information about radiation.

13 That's incredible, plus the part about  
14 "What Radiation Is" you could read this brochure and  
15 there is absolutely nothing in this brochure that would  
16 lead you to think that radiation could hurt you, except  
17 there could be large amounts of radiation in the air.  
18 It mentions cancer once.

19 But it says radiation treats cancer. It  
20 doesn't even say that it causes cancer. It says,  
21 "Radiation does things, such as treat cancer and other  
22 helpful ways."

23 So I mean to me the brochure in that part  
24 simply shows that the more radiation you have, probably  
25 the less cancer you'll have. It's really unclear to me.

18-6

1 I attempted to do a cross-examination of  
2 this, not even with the Applicant's people, but with the  
3 NRC people. They seemed to have no interest in passing  
4 on this kind of information.

5 So I was a little distressed with the govern-  
6 ment in this case. I think that they can take a better  
7 attitude about these brochures. We have a very -- a  
8 reactor that everyone knows is very close to a large  
9 population area.

10 Recent studies from Sandia and other places  
11 have shown that this reactor, if it had a bad accident,  
12 could really kill and hurt a lot of people.

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1 MR. GROESCH: However, I would like to say  
2 one thing about the Applicant in this case, and that is  
3 the first sentence in the part, "A Message To Our Friends  
4 and Neighbors," is a lie.

5 Everyone knows it. It was brought out clearly  
6 in this proceeding that Louisiana Power & Light prepared  
7 the brochure.

8 The brochure was not prepared by state and  
9 parish governments. They reviewed the brochure, and I  
10 think it should be clearly stated in "A Message To Our  
11 Friends and Neighbors" how this document came to be,  
12 because as Dr. Hunter has pointed out in her testimony  
13 that it is a very complex process of communication; you  
14 have to understand who the communicator is; you have to  
15 understand what the message is; you have to understand  
16 what the target is.

17 If the people of St. John and St. Charles  
18 Parish get this and say, "This is those utility people who  
19 have lied to us about what Waterford 3 costs and they are  
20 the ones who made this up and they've got Ikey Luca and  
21 Bertram Madere in their pocket," or something like this,  
22 they are just going to think that this is nothing but a  
23 piece of junk.

24 So I think that the Applicant could have been  
25 much more up front about who made this brochure.

19-2

1 Also, from the parishes' point of view, it  
2 appears to me that if in fact someone uses this brochure  
3 and is hurt in an evacuation from Waterford, that if I  
4 read this brochure, I would file suit against the state.

5 I would not file suit against Louisiana Power  
6 & Light because the state and parish governments prepared  
7 a brochure.

8 That's what the first sentence says, and I  
9 think it's an effort on the part of the utility to escape  
10 culpability in the case of an accident or if people have  
11 been hurt.

12 In the chart sections around Waterford, I  
13 think the chart is extremely small. It's extremely too  
14 much detail and the idea that you are going to put a  
15 triangle in this thing with a number in it, people aren't  
16 going to be able to find out what's going on.

17 So to me you could possibly just get rid of  
18 this whole map thing. If all you wanted them to do was  
19 turn on the television and radio, put out a brochure that  
20 says that.

21 Don't gum it up with all this stuff,  
22 especially if there's going to be more than one evacuation  
23 plan. I think there's going to be.

24 They've got one listed that's their primary  
25 plan, but they've got at least two or three others that

1 nobody has ever seen. I'm sure that I haven't seen them,  
2 although in your partial initial decision that you did,  
3 you didn't mention that on the record that they said that  
4 they could possibly go other ways.

5 So it's probably a mistake to put this map  
6 on here.

7 I also think, and possibly it's my fault for  
8 not getting someone who is an expert in this, but reading  
9 maps is a completely different thing than reading text,  
10 and there is, I think, a lot of evidence that people don't  
11 read maps very well.

12 Maybe I should have brought that out more  
13 strongly, but it's difficult with limited resources.

14 So I think on the balance it's three orders of  
15 magnitude better than the initial one, which is similar  
16 to the one around the Grand Gulf plant, which we had seen  
17 at the last hearing, which is completely incomprehensible  
18 to anyone, I think, except possibly maybe Judge Jordan  
19 would understand it, being a physicist; but I don't think  
20 anyone in the community would understand it.

21 So I would say it's three orders of magnitude  
22 better than that, but it still has very large gaps in it,  
23 and I think that you have allowed us to talk about this in  
24 order to give some kind of semblance of justice, but I  
25 think most of the substantive parts of our contentions have

19-4  
1 been ruled out by Board order, so although we appreciated  
2 being able to look at this, I think it's not the primary  
3 interest of the Joint Intervenors.

4 The last point that I would like to make --

5 JUDGE WOLFE: Your ten minutes has expired.  
6 Can you finish in a half a minute or so.

7 MR. GROESCH: Sure. The last point I would  
8 like to make is about the special needs card, which was  
9 ruled out of the boundary of these hearings by Judge Wolfe.

10 I thought it was very prejudicial to the  
11 Joint Intervenors that this card should be ruled out.

12 The Applicant themselves have admitted that  
13 this card has been rewritten down to a lower level.

14 We have not been able to view this or have  
15 our reading experts look at it, and it's clearly tied to  
16 this document and prejudicial to the Joint Intervenors that  
17 we were not able to view this in totality.

18 JUDGE WOLFE: All right.

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JUDGE WOLFE: All right, Mr. Turk.

20-1

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2 MR. TURK: If we look at the history of the  
3 reopened record to consider the adequacy of the bro-  
4 chure, it becomes clear to me at least that what has  
5 happened is the Applicant came forward with one proposed  
6 public information brochure; the parties submitted com-  
7 ments on the adequacy of that draft; the Joint Inter-  
8 venors, in particular, were very critical of that  
9 draft. Thereafter, the Applicant withdrew the brochure,  
10 revised it, substantially taking into account the Joint  
11 Intervenors' concerns and came forward with this new  
12 revised brochure which is before us as Applicant's  
13 Exhibit 13.

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14 The Staff has reviewed that document. We have  
15 not said that it's perfect. We have not said that it's  
16 technically perfectly accurate. In fact, Mr. Perrotti  
17 on the stand conceded that it was not perfectly technically  
18 accurate, although he did state that for the purposes  
19 for which it was intended it does the job; it's suf-  
20 ficient.

21 As a general information brochure it satisfies  
22 NUREG-0654, and is a sufficient basis for licensing.

23 During the course of the last four days, we  
24 heard several suggestions as to how the brochure may be  
25 modified to make it a little bit better. I think on

20-2  
1 balance all of the suggestions do not -- even if we look  
2 at all of the suggestions together -- they do not warrant  
3 the conclusion that the brochure is inadequate to  
4 authorize licensing.

5 Some of the suggestions may, in fact, be  
6 good. Hopefully, the Applicant will take into account  
7 those which may make the brochure better, so that ulti-  
8 mately the public does have an even better brochure than  
9 what they have now put forward and which the Staff and  
10 FEMA have stated meets the Commission's regulations and  
11 guidelines.

12 In particular, let me respond briefly to a  
13 few of Mr. Groesch's comments. First, he comments on the  
14 problem of persons who don't speak English well and the  
15 problem of illiterates.

16 I think it's obvious from reading NUREG-0654  
17 and the Commission's regulations that there are no  
18 special requirements which an Applicant must meet in  
19 order to have a sufficient brochure, which addresses  
20 the problems of such persons.

21 There is no requirement that brochures be  
22 printed in other languages. There is no requirement that  
23 brochures come out with pictographs, if that's a word,  
24 as opposed to words for people who aren't able to read  
25 words.

20-3

1 In addition, Mr. Groesch has commented upon  
2 the positions taken by Mr. Lookabaugh and Mr. Perrotti.  
3 He states that Mr. Lookabaugh testified that common  
4 sense did not lead to a requirement in this case that  
5 the literacy rates in the area -- or in the target  
6 population in the area be particularly considered.

7 Now, it's correct that Mr. Lookabaugh did  
8 testify to that general proposition. But as Mr. Looka-  
9 baugh noted, the brochure itself has been passed on  
10 by the state and local officials who certainly are more  
11 familiar with the general population down here than  
12 reviewers back in Washington or in Texas, in FEMA's  
13 Region VI.

14 In addition, Mr. Groesch faults the NRC  
15 for allowing the document to go forward with technical  
16 inaccuracies concerning radiation. Again, I would note  
17 that as Mr. Perrotti testified, the brochure does the  
18 job. It's not a brochure intended as a textbook on  
19 radiation.

20 It's not something which is intended for  
21 nuclear energy officials in this state or in the  
22 parishes to rely upon for their understanding of radiation  
23 or for what may be needed during an emergency.

24 It's something that goes out to the general  
25 public. And from that perspective, as Mr. Perrotti, I

20-4

1 believe, testified, it does the job.

2 I think, having spent four days here, that --  
3 I have one regret; and that is, that all the different  
4 concerns could not have been addressed by the parties  
5 working together so that we might have stipulated to the  
6 adequacy of the brochure, in which all comments had been  
7 addressed.

8 At this time, however, I think, following our  
9 hearing on the testimony, that the decision of the  
10 Licensing Board should be that the brochure does the  
11 job; and it is sufficient, although there may be some  
12 good suggestions as to how to improve it.

13 I have nothing further.

14 JUDGE WOLFE: Mr. Cassidy.

15 MR. CASSIDY: May it please the Board and the  
16 other parties, I think that the -- Mr. Groesch's --  
17 a couple of Mr. Groesch's comments are well taken in the  
18 sense that it is rather difficult to assess a portion of  
19 a whole plan in a vacuum.

20 I think that perhaps some of his concerns  
21 about the -- his apprehension of the government's lack of  
22 interest is in part due to the fact that here we're  
23 concerned with one particular part of a whole, taken out  
24 of context and does not necessarily account for the  
25 total picture of what the plan provides for.



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1 As far as the evidence that has been provided  
2 to the Board, I think taken as a whole there is a substantial  
3 amount of evidence which would allow the Board to decide  
4 that the plan -- or the brochure is in fact adequate.

5 When I say "adequate," I mean that it meets  
6 the requirements of NUREG-0654, FEMA Reg. 1, which is  
7 admittedly only guidance to the states and local  
8 governments and the utilities; and meets, as Mr. Lookabaugh  
9 indicated, a common sense standard which would include  
10 the ability of the specific population to read and  
11 comprehend the document.

12 I would like to take a few moments to correct  
13 what I think was a somewhat misleading statement  
14 inadvertently made by Mr. Perrotti on the stand with  
15 regard to the signing off, I believe, was the term that  
16 Judge Jordan used in his question to Mr. Perrotti of  
17 the plan.

18 As the Board is aware, FEMA reviews these  
19 plans at the request of the state and local governments.

20 The process for review is not a piecemeal  
21 process. The plan, including the public information  
22 brochure, is -- and in this case will be within the next  
23 month or so, submitted to FEMA for formal review under  
24 the signature of the Governor of the State of Louisiana.

25 FEMA will review the entire plan, including

21-2 1 the public information brochure at the regional level.

2 The review will be forwarded to Washington  
3 for further review, and then passed on as a formal finding  
4 pursuant to 44 CFR Part 350, as proposed, to the NRC.

5 We don't do a piecemeal review of a part of  
6 the plan.

7 Mr. Lookabaugh's testimony here was presented  
8 as part of the memorandum of understanding between NRC  
9 and FEMA, and certainly to the extent that he does make --  
10 provide opinion as to the adequacy of the plan is  
11 correct, and that is the Agency's position.

12 I just wanted to clarify that and distinguish  
13 as opposed to a final sign-off on a specific portion of  
14 the plan, because we just don't do that; but as a whole  
15 I think that the evidence before the Board, including  
16 the testimony of Mr. Lookabaugh is that the plan does  
17 meet the standards, that it is in fact -- that the  
18 brochure meets the standards.

19 It is in fact a good document and that the  
20 Board can so find, based on the evidence that's been  
21 presented.

22 JUDGE WOLFE: All right. The hearing record  
23 now is formally closed, and we now stand adjourned.

24 (Whereupon, the hearing was closed at 2:20 p.m.)  
25

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

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in the matter of: LOUISIANA POWER AND LIGHT COMPANY  
(WATERFORD STEAM ELECTRIC STATION)

Date of Proceeding: Feburary 11, 1983

Docket Number: 50-382 OL

Place of Proceeding: New Orleans, Louisiana

were held as herein appears, and that this is the original transcript thereof for the file of the Commission.

Mary L. Bagby

Official Reporter (Typed)

Mary L. Bagby

Official Reporter (Signature)