

ORIGINAL
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of:

LONG ISLAND LIGHTING COMPANY

(Shoreham Nuclear Power Station
Unit 1)

Docket No. 50-322-OL-3

Location: Hauppauge, New York

Pages: 10,430-10,705

Date: Thursday, June 7, 1984

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EPW-439 - Distribution: R 01*

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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 In the matter of: :
 :
 LONG ISLAND LIGHTING COMPANY :
 : Docket No. 50-322-OL-3
 (Shoreham Nuclear Power Station, :
 Unit 1) : (Emergency Planning)
 :
 -----X

Court of Claims
 State of New York
 State Office Building
 Room 3B46
 Veterans Memorial Highway
 Hauppauge, New York 11787

Thursday, June 7, 1984

The hearing in the above-entitled matter resumed
at 9:00 a.m., pursuant to recess,

BEFORE:

JAMES A. LAURENSEN, ESQ., Chairman
 Atomic Safety and Licensing Board
 U.S. Nuclear Regulatory Commission
 Washington, D. C. 20555

DR. JERRY KLINE, Member
 Atomic Safety and Licensing Board
 U.S. Nuclear Regulatory Commission
 Washington, D. C. 20555

DR. FREDERICK SHON, Member
 Atomic Safety and Licensing Board
 U.S. Nuclear Regulatory Commission
 Washington, D. C. 20555

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1 APPEARANCES:

2 On behalf of LILCO:

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19 On behalf of the State of New York:

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21 Special Counsel to the Governor
22 Executive Chamber
23 Room 299
24 State Capitol
25 Albany, New York 12224

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| John A. Weismantle | | | | | |
| Dennis S. Mileti | | | | | |

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P R O C E E D I N G S

(9:00 a.m.)

JUDGE LAURENSEN: Is everyone ready to resume?

Mr. McMurray.

Whereupon,

CAROL A. CLAWSON,

MATTHEW C. CORDARO,

DENNIS S. MILETI,

ELAINE D. ROBINSON,

JOHN H. SORENSEN,

-and-

JOHN A. WEISMANTLE

were called as witnesses by and on behalf of Long Island Lighting Company and, previously having been duly sworn, were examined and testified further as follows:

CROSS EXAMINATION

BY MR. MC MURRAY:

Q Dr. Sorensen, when we left off yesterday, we were talking about the Flynn survey and the Field Research survey. The Flynn survey asked people in 1979 in the TMI area about whether certain information was useful; correct?

A (Witness Sorensen) That's correct.

Q And this was whether they considered that information useful during the accident, I believe you said?

A Yes.

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1 Q Okay. In order to help them in their decision-
2 making?

3 A Yes.

4 Q Now, I haven't yet received a copy of the Field
5 Research survey. With respect to the data that you refer
6 to that is reflected on Tables 4 and 5, what was the
7 question that was asked to the respondents that elicited
8 that data?

9 A I'm not sure. I don't have them either. They
10 are being copied.

11 MR. MC MURRAY: Judge Laurenson, I think that
12 we are either going to have to interrupt the copying pro-
13 cess, or we are going to have to wait until I get the
14 copy, because I need to know the answer.

15 JUDGE LAURENSEN: Well, can't you come back to
16 this when the copies are available, and move on to some-
17 thing else now?

18 MR. MC MURRAY: I think it might be better if
19 we just interrupted the copying process.

20 JUDGE LAURENSEN: I have no idea where that is.

21 MR. CHRISTMAN: It's somewhere in mid-stream I
22 think. I don't know either.

23 Do you want us to interrupt the copying and
24 bring Dr. Sorensen back his copy; is that right?

25 MR. MC MURRAY: Yeah, why don't you do that. I

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1 think that would be best.

2 MR. CHRISTMAN: If we haven't sent it out to a
3 copier, I can do that. Just a second.

4 (Mr. Christman leaves the courtroom.)

5 BY MR. MC MURRAY: (Continuing)

6 Q We will come back to that particular question.
7 Oh, there it is.

8 (Mr. Christman hands the witness, Dr. Sorensen,
9 a document.)

10 BY MR. MC MURRAY: (Continuing)

11 Q Do you now have in front of you the two Field
12 Research surveys that we have been referring to, Dr.
13 Sorensen?

14 A Yes, I do.

15 Q Could you please tell us what the questions were
16 that elicited the data found on Tables 4 and 5?

17 A Okay. One question reads as follows: As you
18 know, various people in groups have spoken up about
19 nuclear power and the pros and cons of what to do about
20 it. I'm going to name some of these groups and I would
21 like you to tell me how reliable you think each one would
22 be as a source of information about nuclear power. As I
23 name each group please tell me whether you think they
24 would be very reliable, somewhat reliable, or not too
25 reliable as a source of information about nuclear power.

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- 1 Q That was for which survey, that was the March --
- 2 A The question about being very reliable, Table 4.
- 3 Q Okay.
- 4 A The second question is identical to the first
- 5 one except very believable, somewhat believable, or not too
- 6 believable. And is used as reference, using the same
- 7 format about believable.
- 8 Q Both of these surveys were conducted in 1981,
- 9 the Field Research surveys, correct?
- 10 A No.
- 11 Q I'm sorry. One was in 1980, June 1980, and one
- 12 was in 1981, correct?
- 13 A That's correct.
- 14 Q And the people who responded to those surveys
- 15 were being asked about whether or not the sources were
- 16 reliable or believable at that time that they were respond-
- 17 ing to the question, correct?
- 18 A Correct.
- 19 Q And they were also being asked not about whether
- 20 those sources would be believable during an accident
- 21 specifically but just whether they were believable or
- 22 reliable as sources of information regarding nuclear power
- 23 in general, correct?
- 24 A That's correct.
- 25 Q You state on -- well, the Flynn survey asked

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1 people about the usefulness of information from the
2 Governor, correct? Among other sources.

3 A I believe that's correct.

4 Q The Field Research surveys asked people about
5 the reliability or believability of state government of-
6 ficials in general, correct?

7 A I think it was state and local agencies and
8 officials.

9 Q Do you think that when people are asked whether
10 or not they believe, or find reliable, information from
11 state and local agencies and officials that they are
12 necessarily referring to a Governor?

13 A It could be a Governor; it could be someone
14 else. That's one of the problems with these kinds of
15 surveys and polls, I guess is more accurate a description,
16 is that often because they are so poorly conducted they
17 leave a lot of room for interpretation of how people
18 answer the question.

19 Q Well, would you say that the Field Research
20 survey is an example of a poorly conducted survey?

21 A Well, it's not a poorly -- well, let me back
22 off. It depends on what kind of standards one uses. I
23 think in terms of a social science survey that is trying
24 to develop theory test hypotheses and so forth, yes,
25 it's a poorly conducted survey. But in terms of looking

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1 at it as a poll, like some of the polls the County has done,
2 some of the polls that Yankelovitch has done, and a wide
3 variety of other polls, it's of very typical quality.

4 So, I wouldn't say that it's any poorer and I
5 wouldn't say it's a whole lot better than those kinds of
6 polls.

7 Q Have you reviewed the methodology used in
8 conducting that poll?

9 A I briefly reviewed it at one point in time.
10 It's basically fairly similar to the kinds of methodologies
11 we've been discussing throughout the course of this hear-
12 ing on doing polls.

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1 Q Do you think it is poor practice to attempt
2 to compare the data from the Cynthia Flynn Survey and the
3 Field Research Surveys?

4 A Well, yes and no. I think that these things can
5 be learned to a step -- I think some things from them can
6 be used to draw conclusions and compare conclusions.

7 I wouldn't compare one number to another number
8 and say that the differences observed can be readily
9 interpreted, but I think we can say we learned something
10 from one poll and something from the other, and we can present
11 those for face value what they say, without, you know,
12 comparing the numbers in a statistical or arithmetic
13 fashion.

14 Q Don't you have, Dr. Sorensen, some very serious
15 reservations about comparing the data from the Flynn Surveys
16 and conclusions drawn by the Flynn Survey, to the conclusions
17 drawn in the Field Research Surveys?

18 A I think I already answered that. I said that I
19 don't have reservations about drawing conclusions from
20 those two surveys and comparing them. I would not necessarily
21 say in one survey twenty percent found something credible,
22 and one survey thirty percent found something credible, and
23 therefore, one is ten percent more credible than the other.

24 Q But you believe you could draw qualitative
25 comparisons.

1 A I believe you can.

2 Q Reliable qualitative comparisons?

3 A What do you mean by, 'reliable.'

4 Q What do you mean by, 'reliable?' Do you have
5 any standards that you would apply to determine whether
6 you could draw a reliable comparison?

7 A Well, basically I would review the methodology,
8 which I have done, determine if there is any extremely
9 significant ways in which the survey were biased. Look
10 at several factors dealing with the nature of the sampling,
11 et cetera, and if what I found was reasonable, then I would
12 say that there is some basis for drawing conclusions.

13 Then, if I felt that the kinds of thrust of the
14 surveys were comparable, then I think one is legitimate
15 in saying Survey A found this, Survey B found this, these
16 agree or disagree.

17 But not to draw quantitative differences as
18 you seem to be implying that I am doing. But nowhere in
19 my testimony do I do that.

20 Q Do you think it is reliable to draw comparisons
21 between studies which survey different sample populations?

22 A Sure. We have done it all throughout the
23 testimony.

24 Q Do you think it is reliable to compare and draw
25 conclusions from surveys which ask completely different

1 questions. That is, whether or not information is useful,
2 and then comparing that to whether or not information is
3 believed or reliable?

4 A I think you can learn something from that
5 comparison. I think you can learn some things in how people
6 think information is useful, and how they think information
7 is believable.

8 I think you can present that for what it is.

9 Q Do you think it is reliable to compare data
10 which asks people their feelings during an accident about
11 information during an accident to their feelings about
12 the credibility of sources of information six months or a
13 year or perhaps two years later. It is unclear from the
14 data here?

15 A I am sorry. Could you repeat the question?

16 Q Let me try and break it down. I think we have
17 agreed that the Flynn Survey asked people about their feelings
18 about the usefulness of information during the emergency,
19 correct?

20 A Correct.

21 Q The Field Research Survey asks people about
22 their feelings about the credibility of sources of
23 information on nuclear power in general at the time they
24 are answering the questions, which is about a year and
25 a half or two years later, correct?

1 A Yes.

2 Q And you feel you can reliably draw comparisons
3 between those two surveys?

4 MR. CHRISTMAN: Objection. This has been asked
5 and answered twice now.

6 MR. McMURRAY: I am focusing on the specific
7 fact that at one point questions were asked about accidents
8 and usefulness of information during accidents, and on the
9 other hand, the usefulness of information about nuclear
10 power in general two years later.

11 WITNESS SORENSEN: I think that you can look
12 at how people found information useful or not useful during
13 the accident and state what the research findings are. I
14 believe you can sometime take another survey, look at how
15 people feel about various sources of general information,
16 and learn something about that, that establishes two
17 sets of findings, and I think you can present them and
18 draw some sort of conclusions from what those observations
19 are.

20 I don't think you can say that -- compare them
21 numerically, but I believe you can compare them qualitatively.

22 Q What is the point you want to make by making
23 these comparisons?

24 MR. CHRISTMAN: Objection. That is asked and
25 answered in the written testimony.

1 JUDGE LAURENSEN: Overruled. This is cross
2 examination.

3 WITNESS SORENSEN: Would you repeat the question?

4 BY MR. McMURRAY: (Continuing)

5 Q What is the point you are trying to make by
6 making these comparisons?

7 A (Witness Sorensen) The point that I am making
8 here is that an agency that is not seen as a believable
9 source of information can be useful in a -- what was useful
10 in a past accident. That is one -- as I point out, it is
11 possible -- in other words, there are other possible
12 explanations to have low credibility at some point in time,
13 say at the time the accident -- or time the questions
14 were asked, and have been a useful source of information
15 in a nuclear power plant accident.

16 That is just taking and restating those
17 conclusions.

18 Q Let me refer you to the top line -- I am sorry,
19 you have used the word comparison or comparing right in
20 your testimony. You say you are not comparing the data?

21 A Well, I am comparing the findings from the data.

22 Q Let me ask you this. The surveys -- strike that.
23 You state in your testimony it is impossible to determine
24 the credibility of state government officials or the
25 Governor during the accident at TMI, correct?

1 A Well, at the time that accident was initiated.

2 Q That is right. But you are able to determine
3 that a year and a half or two years later that credibility
4 was fairly low, correct?

5 A According to the second survey.

6 Q For government officials.

7 A For government officials in general, that is
8 right.

9 Q It is possible that between the time of the
10 accident and the time the surveys were conducted, that
11 credibility fell, correct?

12 A Of course. But that is irrelevant to the
13 point.

14 Q Just answer my questions, Dr. Sorensen. But
15 the question that was asked of the people in the Flynn
16 Survey was whether they found the information useful at
17 the time of the accident, correct?

18 A Precisely.

19 Q Right. Now, you don't know whether -- and the
20 usefulness question was not asked in the Field Survey,
21 correct?

22 A No.

23 Q So, you don't know whether usefulness co-varies
24 with credibility, correct, from this data, so it is very
25 possible, is it not, that as credibility falls, usefulness

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falls as well, or perceptions of usefulness, correct?

A Well, that could be a hypothesis.

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1 A Well, that could be a hypothesis.

2 Q You don't know whether or not that is true from this
3 data, right?

4 A I do not know.

5 Q And you can't say from this data that that is
6 not true, correct?

7 A No. Certainly, that is a possible explanation.
8 To clarify what I am saying is that an official can be
9 usefule during an accident and have low credibility at
10 some point in time.

11 Q Two years later, correct? That is the only
12 conclusion you could draw from this data, right?

13 A It seems to me that is the issue we are litigating
14 here.

15 Q You think that is the issue we are litigating,
16 in your mind?

17 A Well, it certainly bears upon it.

18 Q Aren't we talking about whether or not information
19 received could be useful even though someone is perceived
20 as having low credibility, or is that not the issue in your
21 mind?

22 A Well, again, what this says is that at one point
23 in time an organization can be seen as not credible yet
24 they still were capable of providing useful information at
25 another point in time.

1 Q What is the relevance of that comparison,
2 Dr. Sorensen?

3 A Well, I think the county's contention is because
4 LILCO is not seen as a credible organization at this point
5 in time, they can't provide good information at a later
6 point in time during an accident.

7 Q You mean useful information, correct?

8 A Well, if you want to call it useful.

9 Q But you don't know whether or not from this
10 data usefulness co-varies with credibility, do you,
11 Dr. Sorensen?

12 MR. CHRISTMAN: Asked and answered. Objection.

13 JUDGE LAURENSEN: Sustained.

14 (Pause.)

15 BY MR. MC MURRAY:

16 Q Page 31 of your testimony, Dr. Sorensen, you
17 say at the ver top of the page that "The evidence suggests
18 that people tend to distinguish the levels of credibility
19 among various categories of people involved with a nuclear
20 power emergency."

21 When you say "the evidence suggests," are you
22 now talking about the field research surveys again?

23 A Yes, the data in table 4 and 5.

24 Q When you look at table 4 -- maybe you can
25 explain to me how the data suggest that.

1 A I think I do in my testimony, but let me reiterate
2 that if you look at people who would be involved with
3 a nuclear power plant accident, they would certainly include
4 scientists from the nuclear power industry, and they would
5 also involve utility officials.

6 And according to the data here, it is that the
7 people, at least in the vicinity of TMI, saw scientists
8 from the nuclear power industry relatively reliable related
9 to the other sources here and saw that officials with
10 relative low credibility in comparison to the other sources
11 which suggests that, quote unquote, the nuclear power
12 industry overall has variance in the way people perceive
13 the credibility, depending on which organization or which
14 people across organizations you are talking about.

15 Q The questions -- I guess both surveys asked about
16 scientists from the nuclear power industry, correct?

17 A That is correct.

18 Q None of the -- neither of the surveys asked
19 specifically about the generic category of scientists
20 from a utility, correct?

21 A You are quite right in that.

22 Q What does scientists from the nuclear power industry
23 mean?

24 A I guess it would mean whatever people who were
25 responding to the question interpreted it as being. We

1 have no way of knowing that.

2 Q Let me refer you -- let's go to table 4 for a
3 second.

4 Are you there?

5 A Yes.

6 Q It seems that scientists from the nuclear power
7 industry rank somewhat higher from scientists from
8 universities and independent laboratories, correct?

9 A Well, in terms of ranking based upon responding
10 sources as very reliable, that is correct.

11 Q I guess you couldn't draw the conclusion then that
12 giving scientists academic affiliations necessarily would
13 raise the perceptions of their credibility above just
14 scientists from the nuclear power industry in general.

15 A Well, from this data I certainly wouldn't draw that
16 conclusion.

17 Q Dr. Sorensen, let me refer you to page 22 of your
18 testimony which is sponsored by Dr. Barnett.

19 Would you agree with Dr. Barnett's finding that
20 most people are skeptical of whether they would receive
21 reliable information in a radiological emergency?

22 A Where on page 22 are you referring?

23 Q On the top. It is the bullet.

24 A I have no doubt that people who Barnett interviewed
25 in those situations would have responded this way. There is

1 no reason for me to doubt his data.

2 Q Do you have any reason to disbelieve that that
3 finding is true as to the general public?

4 A I have no way of knowing that.

5 Q You have no data?

6 A No, I have no way of knowing whether this
7 particular finding applies to every single person in the
8 United States or not.

9 Q The question is not whether it applies to 100
10 percent of the people but whether it can be generally applied
11 to the population of the United States -- that is, that
12 most people are skeptical of receiving reliable information?

13 A I have no way of knowing whether it is
14 generalizable or not based upon his testimony.

15 Q Do you have an opinion?

16 A I have opinions on everything.

17 Q Do you have an opinion with respect to whether or
18 not this statement can be generalized to the general popula-
19 tion?

20 A Well, I can answer that from several points of
21 view.

22 From a methodological viewpoint, I would say that
23 without the details of how these people were chosen, which
24 I suspect was not in a random fashion, that methodologically
25 it would not be generalizable to the rest of the population.

1 Q So what you are saying is from this data you could
2 not draw the conclusion that this was generalizable to the
3 general public?

4 A That is correct.

5 Q Going around in circles.

6 The tables, pages 35 and 36 -- I guess just
7 table 5 shows that the chief nuclear engineer for GPU
8 had a 25 percent rating as being very believable, correct?

9 A Yes. That is correct.

10 Q Do you have any data -- do you know what the
11 data is for how many people found him very unbelievable?

12 A I suppose I could look it up.

13 END 3

(Pause.)

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A (Witness Sorensen) Twenty-seven percent in the TMI area, and twenty-two percent is state-wide.

Q Found him unbelievable? That's the lowest --

A Found him not too believable.

Q Not too believable? And that was the lowest category that one could answer?

A There is three possible choices.

Q And that was the most unbelievable one?

A Yes.

Q Okay. We have already agreed that the questions about scientists don't refer to a particular utility or utility at all. It would appear, wouldn't it, that if you compare the rating for the Chief Nuclear Engineer for GPU with the rating for the other scientists that you could draw the conclusion from this data that affiliation with the utility causes one's credibility to fall, correct?

A I don't think you can draw that conclusion from this data. I wouldn't do it.

Q Can you draw the conclusion that in this -- you would not draw that conclusion from this data?

A No. It's only one of several possible explanations.

Q Why don't you explain what some of the others might be?

A Well, it could be that people don't equate

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1 scientists with engineers. It could be that -- the fact
2 that you are comparing scientists in general with a
3 specific role within an organization, that the differences
4 occur.

5 Those are two possible explanations, other
6 explanations.

7 Q You mean that individuals have lower credibility
8 than organizations, is that --

9 A Different.

10 Q Different. Are they higher or lower?

11 A Sometimes they are higher, sometimes they are
12 lower, sometimes they can be the same.

13 Q That's true when you compare any entity with
14 another entity, right?

15 A That's correct.

16 Q I go back to my question, then. Wouldn't you
17 agree that although the Chief Nuclear Engineer could be
18 considered a scientist from the nuclear power industry,
19 in fact -- well, you would agree would you not that his
20 credibility rating is substantially lower than those for
21 scientists from the nuclear power industry in general?

22 A Yes. I would conclude that in terms of how
23 these are ranked, that the ranking is lower than the other
24 one, than the -- the ranking of the Chief Nuclear Engineer
25 is lower than the ranking of scientists from the nuclear

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1 power industry. That's what I would conclude.

2 Q And you could also conclude from this data, could
3 you not, that the Chief Nuclear Engineer's affiliation with
4 GPU is a possible reason for the lower credibility that he
5 has?

6 A That's one possibility.

7 Q Would you agree in general that a scientist's
8 affiliation with the utility would cause his credibility
9 to drop below that of the general level of credibility for
10 scientists from the nuclear power industry?

11 A I have no evidence that would suggest that
12 systematically.

13 Q Are you aware of any evidence that any of your
14 fellow panel members have, including Dr. Barnett?

15 A No, I'm not aware of it.

16 Q Would it surprise you that that's an opinion
17 that Dr. Barnett held?

18 A I don't know if it would surprise me or not.

19 Q Well, would you have any basis on which to
20 disagree with Dr. Barnett?

21 A I'm just saying, if that's what Dr. Barnett
22 says, I have no basis in this table to support or refute --

23 Q Do you have any basis in your mind for support-
24 ing or refuting him?

25 A No. I think it's a question that's unresolved,

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1 given the kinds of data we have.

2 Q You are talking data in general or the data in
3 these tables?

4 A Data in general.

5 Q Would you say, Dr. Barnett, that reliability and
6 believability are the -- I'm sorry, Dr. Sorensen, that
7 reliability and believability are the same?

8 A In some people's minds they could be the same;
9 in others they may not be the same.

10 Q No distinction was drawn in these surveys re-
11 garding whether people would believe factual information
12 as opposed to recommendations regarding protective actions,
13 correct?

14 A Unfortunately, that's correct.

15 Q In fact, if such a distinction had been made
16 there might be a difference as to whether or not people
17 would -- strike that.

18 Wouldn't you agree that if that distinction was
19 made, there might be a difference in people's minds as to
20 whether they would find factual information believable as
21 opposed to protective action recommendations?

22 MR. CHRISTMAN: Objection. The question about a
23 survey that hasn't been taken calls for pure speculation.

24 JUDGE LAURENSEN: Sustained.

25 MR. MC MURRAY: Judge Laurenson, I'm not sure I

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1 understand the Board's ruling.

2 JUDGE LAURENSEN: I agree with Mr. Christman.
3 You are calling for a speculative answer. It does not
4 elicit any probative or reliable evidence for the Board.

5 BY MR. MC MURRAY: (Continuing)

6 Q Do you have an opinion, Dr. Sorensen, on whether
7 if you conducted such a survey you would obtain -- strike
8 that.

9 Do you think it's important to make the distinction
10 that I've just been talking about in a survey?

11 A I think it's -- if one made that distinction we
12 would have more light to shed on what we are talking about.

13 Q It would be more useful in this dialogue,
14 correct?

15 A In terms of -- yes, I agree.

16 Q You say on Page 32 of your testimony, Dr.
17 Sorensen, that the role a person plays seems to be more
18 important in determining credibility than his organiza-
19 tional affiliation, correct?

20 A Uh-huh.

21 Q I'm not sure I understand the basis for that
22 conclusion.

23 It's right in the middle of Page 32.

24 A I believe what is meant is that you learn more
25 from looking at what role a person plays in understanding

#4-6-SueT

1 the credibility issue than you learn from just looking at
2 a general organizational affiliation.

3 Q You don't think it's important to find out how
4 organizational affiliation affects credibility?

5 A Oh, I didn't say that it wasn't.

6 Q It is important, isn't it?

7 A I think it does have importance. I happen to
8 be of the opinion that the role people play and the per-
9 ceptions of individuals is more important in the credibility
10 issue than of broader organizational affiliation.

11 Q But, just to make things clear, you do agree that
12 one's organizational affiliation is also an important
13 factor?

14 A Yes, I do agree that's it's an important factor.

15 Q You say also on Page 32 that from this we can
16 conclude that a scientist or engineer working for a utility
17 will be a more credible source of information in an
18 emergency than an official or officer of that utility, a
19 local government official or a state official.

20 Do you see that?

21 A Uh-huh.

22 Q Are you aware of any testimony or data that
23 refutes that statement?

24 A No, I'm not.

25 Q Are you aware of any testimony provided by your

#4-7-SueT

1 fellow panel members that would refute that testimony?

2 A No, I'm not aware.

3 Q You say in the last paragraph: Thus, it is
4 important that LERO use scientists and also engineers as
5 part of the warning process because the public will be more
6 readily -- will more readily believe in these roles, et
7 cetera.

8 The use, I take it, that LERO is supposed to put
9 these scientists and engineers to is to confirm LILCO's
10 warning messages, correct?

11 A That is certainly one use that they can be
12 put to.

13 Q Have you reviewed LILCO's EBS messages?

14 A Yes, I have.

15 Q None of those messages indicate that scientists
16 or engineers have confirmed the appropriateness of LILCO's
17 protective action recommendations, correct?

18 A I'm not sure. I don't recall the exact wording
19 of it, the EBS messages.

20 Q Do you think the EBS messages are intended to
21 leave that impression?

22 A I think the messages are intended to leave
23 the impression that scientists, engineers and the like are
24 involved in the emergency warning process.

25 Q But not necessarily that they have confirmed the

#4-8-SueT

1 appropriateness of LILCO's protective actions, correct?

2 A I don't recall if the warning messages use the
3 word "confirm" or not.

4 Q Mr. Weismantle, do you have any answer to that
5 question?

6 A (Witness Weismantle) I would want to refresh my
7 memory as to the exact wording of the messages. May I
8 have the books back there?

9 (Mr. Weismantle looks through documents.)

10 The typical wording on messages that are pertinent
11 to situations whereby protective action recommendations are
12 being made by the Director is found in several of these
13 messages. So, I will just read Message G which has to do
14 with a general emergency with sheltering and evacuation
15 being recommended: The Director of Local Response for
16 Emergencies at the Shoreham Nuclear Power Station, give his
17 name, has consulted with, give the names and titles of
18 scientists, LILCO officials, nuclear engineers, and other
19 officials from the -- and then give the names of the public
20 agencies, if that applies, and has recommended the follow-
21 ing.

22 And then it goes into the recommendations.

23 Q So the word used is "consulted," correct?

24 A That's correct.

25 Q It's nothing in there that, in that EBS message,

#4-9-SueT

1 you can find that says that scientists and engineers have
2 confirmed the, confirmed, appropriateness of LILCO's
3 protective action recommendations, correct?

4 A No. There is nothing that says that exactly.

5 Q Dr. Sorensen, I would like to ask what data you
6 have that supports your belief that one's role is more
7 important than one's affiliation?

8 A Well, for one, it's based upon my previous re-
9 search into the role credibility plays in how people re-
10 spond to warnings. And I think this is one of the conclu-
11 sions that we drew in our earthquake prediction project,
12 that a person making a prediction, role was probably more
13 important in people's mind than the organization they re-
14 presented.

15 Q That was a specific conclusion you have drawn
16 in your study?

17 A It is something we learned from the study.

18 Q But it's not necessarily written down --

19 A I don't know if it's written down in those
20 exact words or not.

21 Q Which earthquake prediction study are we talking
22 about now? You have done a lot of them, right?

23 A Well, there is one project that involved many
24 sub-projects. And I can't recall exactly which sub-project
25 or how many of them led us to that belief or that conclusion.

#4-10-SueT

1 Dennis, do you know?

2 (Witness Mileti) I can't recall specificall off-
3 hand. It seems to me this possibly could be in the general
4 monograph that we wrote, or it could be in one of the papers
5 that we presented at UNESCO.

6 Q Could you quickly give the name of that mono-
7 graph?

8 A It's the same one as yesterday, and the same one
9 on my vitae that I gave you last Summer. It's called
10 "Earthquake Prediction Response and Options for Public
11 Policy" by Dennis S. Mileti, Janice R. Hutton and John H.
12 Sorensen, published in 1971 at the Institute of Behavioral --
13 1981 at the Institute of Behavioral Science at the University
14 of Colorado.

15 That's the reference for that monograph.

16 Q Was the particular purpose of that study, Dr.
17 Sorensen, to determine the relative importance of role
18 versus affiliation?

19 A (Witness Sorensen) Well, one of the purposes
20 of the study was to determine who was a credible source of
21 information for earthquake predictions.

22 Q So you weren't really trying to figure out the
23 relative importance of role versus affiliation?

24 A I'm not sure I understand your question.

25 Q Was that one of the goals of your study?

#4-11-SueT

1 A It probably was not explicitly stated in the
2 research proposal that was sent to --

3 COURT REPORTER: Excuse me. I could not hear
4 you.

5 WITNESS SORENSEN: It was probably not specifi-
6 cally stated as one of the research goals in the proposal
7 that was sent to the National Science Foundation.

8 WITNESS MILETI: It was, however, one of the
9 major conclusions which was reported to the National Earth-
10 quake Prediction Evaluation Council in California, Earth-
11 quake Prediction Evaluation Council and the California
12 Seismic Safety Commission, as well as the Governor's Office
13 in the State of California.

14 And also subsequent to that, altered and changed
15 how the U. S. Geological Survey is planning on issuing
16 earthquake predictions in this nation as well as around the
17 world, and is also part of how the Southern California and
18 Northern California Earthquake Preparedness Project are
19 gearing up and preparing local communities to issue earth-
20 quake predictions should one ever emerge.

21 BY MR. MC MURRAY: (Continuing)

22 Q In your study, your earthquake prediction study,
23 Dr. Sorensen, did you compare the credibility of people
24 with the same role working for different organizations?

25 Dr. Sorensen?

#4-12-SueT 1 A (Witness Sorensen) With the same -- could you
2 elaborate on that a little bit more? I'm not sure I
3 understand.

4 Q I don't know how I can make it more understand-
5 able.

6 A Did we compare a scientist from the USGS with a
7 scientist from a university versus a proclaimed scientific
8 expert, self-proclaimed?

9 Is that what you mean?

10 Q That would be an example.

11 A At times I believe -- I'm certain that we did.
12 I'm not sure if we did it quantitatively or qualitatively
13 based upon findings from the various parts of the study.

14 (Witness Mileti) I could give you more informa-
15 tion on that if you would like it. I do recall doing it
16 quantitatively in one of the surveys in North Carolina,
17 the one we talked about yesterday.

18 Q That was a comparison between scientists and
19 a psychic?

20 A That was studying what actually happened in
21 North Carolina that involved a scientist and a psychic.

22 Q And is that comparison the data that you would
23 use to support Dr. Sorensen's statement that role is more
24 important than affiliation?

25 end #4

1 A That is part of the experience that we had
2 that I would use to support what is also my statement.

3 Q So you think that scientists and psychics
4 are comparable?

5 A No, sir. I think scientists and psychics
6 are different.

7 Q They have different roles, correct?

8 A No, as I believe, you asked me a question about
9 where in the earthquake prediction series of studies we
10 may have quantitatively addressed a particular phenomenon,
11 and I recall that one of those studies was in North
12 Carolina. I was just proffering that information.

13 Q I asked about people with the same roles.

14 A (Witness Sorensen) They had the same role in
15 the respect that they are both just viewing earthquake
16 predictions.

17 A (Witness Mileti) Were you thinking³ about
18 a particular kind of --

19 Q So, when you use the term, 'role,' you are
20 just talking about in general terms who is issuing earthquake
21 predictions? That is your definition of a role?

22 A (Witness Mileti) That certainly is one way
23 to define a role. A role is a job, if you will, an
24 earthquake predictor, is an earthquake predictor, is an
25 earthquake predictor; a scientist is a scientist is a
 scientist. Those are roles.

1 Q You were generally looking at the question of
2 credibility of people, all the people who perform that
3 role, right?

4 A Yes, and that included --

5 Q And then you had to break it down into sub-parts,
6 right? Like scientists, psychics, other people like that,
7 correct?

8 A Anybody who might issue a prediction, including
9 for example a scientist affiliated with the U. S. Geological
10 Survey, a scientist from a university, quasi-scientist,
11 right down the scale.

12 Q So you were looking at the relative credibility
13 of thos sub-roles, correct? People who had those sub-roles?

14 A I am sorry. I don't understand the word,
15 'sub-role.'

16 Q Well, you were looking at the overall credibility
17 of everybody who had the role of issuing earthquake
18 predictions, right?

19 A That is one of the things we did, yes.

20 Q But within that, you were also looking at the
21 relative credibility of various sub-categories underneath
22 the heading people who give earthquake predictions, such
23 as scientists, psychics, what not, correct?

24 A We were appraising any person who would occupy
25 the role of predicting an earthquake, and the variety of

1 different hypothetical as well as actual earthquake
2 predictions that we studied, led us into circumstances where
3 in North Carolina a psychic and a scientist from the
4 university were in cahoots to make a prediction, and in
5 other communities in places where an earthquake prediction
6 was made by the U. S. Geological Survey, and in other
7 nations where it was made by other scientists from different
8 affiliations.

9 Q When you use the word, 'role,' page 32, in
10 the middle of the page, Dr. Sorensen, were you using the
11 term, 'role' to mean anybody who gives information about
12 nuclear power, or were you using it in a little less broad
13 sense?

14 A (Witness Sorensen) I think I was specifically
15 using it to represent the type of position that person
16 occupied within an organization.

17 Q Thank you. Mrs. Robinson, LILCO has arranged
18 for a couple of Brookhaven scientists, who we discussed
19 yesterday, to be at the ENC, correct?

20 A (Witness Robinson) That is correct.

21 Q Are those the same scientists that are referred
22 to in the EBS messages?

23 A No, they are not.

24 Q Are you aware of whether there is a public
25 perception on Long Island that Brookhaven scientists

1 have alligned themselves with LILCO in the Shoreham
2 controversy?

3 A I have no knowledge of such a general perception,
4 no. I think certain individuals have clearly been perceived
5 as doing that, but --

6 Q I am sorry?

7 A I said I think certain individuals have been
8 perceived as doing so, but I --

9 Q Individuals who are Brookhaven scientists?

10 A Certain individuals who also happen to be
11 scientists at Brookhaven National Laboratory. I think that
12 there are many others of whom there is no such perception.
13 And they have not alligned themselves with LILCO on this
14 issue, so it is a valid perception.

15 Q Do you think it is important to know -- for
16 LILCO to know whether or not people do perceive Brookhaven
17 scientists as having alligned themselves with LILCO in the
18 Shoreham controversy?

19 A I think it is important to know what the
20 professional standing is of the individuals at Brookhaven
21 laboratory. Their personal qualifications. Their personal
22 standing. Their personal histories. Both these gentlemen
23 who we are discussing here, have very extensive resumes
24 of public participation, appointments to commissioners,
25 those kind of criteria.

1 I don't think that anything else is really
2 important at this point. It is their personal credibility,
3 their personal status that we are talking about.

4 Q Well, are you saying that these two gentlemen
5 are household names in Suffolk County?

6 A Absolutely not.

7 Q You would probably agree that they were pretty
8 anonymous. That most people would not know who Dr. Brill
9 was, correct?

10 A Aside from the scientific community, I think that
11 is pretty valid. But he is an M. D., and I think that
12 confers a certain credibility in our society. I also
13 think that if he were being used as a resource by a
14 reporter, that reporter, and I will turn this to Ms.
15 Clawson who is much more knowledgeable in that particular
16 area, since she has been on the other side of it, but I
17 can tell you that reporters tend to ask you why you are
18 saying things, who you are, go into your background,
19 would be interested whether somebody had served on the
20 Kemeny Commission, in addition to which the resumes or the
21 CV of these two scientists, and any others who do chose to
22 participate in the future, because I don't want to give you
23 the idea that these are the only two who could conceivably
24 be there, will be available in the press kits that will
25 be handed out to reporters so they would have a basis for

1 questioning them.

2 A (Witness Cordaro) It is LILCO's belief that
3 any association with Brookhaven Laboratory is indeed a
4 positive influence from a credibility standpoint, and
5 I am speaking in non-sociological terms right now.

6 The laboratory has an excellent reputation.
7 The number of awards won by the laboratory. It is viewed
8 quite highly by congressional leaders. Congressional
9 leaders go to the forefront in trying to bring in more
10 work to the laboratory on a consistent basis. There is
11 a lot of positive publicity which emanates from Brookhaven
12 Laboratory.

13 From my role, or involvement with the scientific
14 community in general, Brookhaven has an excellent reputation.
15 And I think all these factors contribute to the credibility
16 of any scientist who holds a responsible position at
17 Brookhaven Laboratory.

18 Q Well, Dr. Cordaro, let me ask you this. If
19 people thought that Brookhaven scientists were pro-LILCO,
20 wouldn't this hurt their credibility.

21 A That depends on who the people are. I am sure
22 people who are opposed to Shoreham, or the most ardent
23 opposition to Shoreham and anti-nuclear types, have a
24 perception that Brookhaven scientists are somewhat non-
25 objective when it comes to nuclear matters because of their

1 association with nuclear science in general, as well as
2 the fact that some Brookhaven scientists have expressed
3 the belief, or support of the Shoreham project itself.

4 But I think in a general sense, in the general
5 population, from my observation, that this is not a widely
6 held opinion.

7 I think in general the population has a very,
8 very high opinion of Brookhaven Laboratory.

9 Q Well, other than your opinion or your belief,
10 what evidence do you have that the general public gives
11 high credibility to Brookhaven National Lab?

12 A I think it is obvious from the number of school
13 trips that are taken to the Laboratory, the number of
14 positive articles reporting on the research of the
15 laboratory, the number of people in general who visit the
16 Laboratory in their weekend visitation programs, which
17 start during the warmer months and continue on through
18 the Fall. People are, indeed, intrigued by the Laboratory
19 and think quite highly of them.

20 A (Witness Robinson) I think there is one
21 additional piece of evidence, while it is not as quantitative
22 as Dr. Sorensen and Mileti can provide, and that is that
23 those political figures and institutions which have
24 ardently opposed the opening of Shoreham, and the operation
25 of a nuclear power plant on Long Island, have been equally

1 ardent of their support of the continued operation of
2 Brookhaven National Laboratory, and there was a great
3 deal of publicity on this for the Project Isabel, and
4 the continued funding of that project at Brookhaven National
5 Laboratory.

6 So, I don't think that you could link BNL and
7 LILCO in the public mind.

8 Q Before you answer, Ms. Clawson, do you have
9 any data that supports that conclusion, Mrs. Robinson?

10 A If by data you mean the records in the press
11 and my own -- I was a participant in that -- in the
12 organizational efforts to support Project Isabel, but
13 Newsday and various other publications, there was a lot
14 of publicity about the support that was being afforded by
15 the political establishment, the local governmental
16 establishment, to support Project Isabel, to have it
17 funded, to continue its operation, and to prevent any
18 attrition at Brookhaven National Laboratory.

19 Personally, I am -- going back to the time that
20 I was on the legislature, and even thereafter, when
21 resolutions were introduced to oppose the operation of
22 Shoreham, to oppose the operation of Jamesport Power Plant,
23 the proposed Jamesport nuclear plants, they never included
24 Brookhaven National Laboratory, and in fact, it did cause
25 some confusion in some peoples minds as to whether there

1 was a difference in the radiation at Brookhaven and
2 at nuclear power plants.

3 A (Witness Clawson) Let me just add very briefly
4 that I think we need to make some distinction between the
5 political posturing that is going on in the community now
6 regarding the possibility of operating Shoreham versus
7 the possibility of not operating Shoreham. And in terms
8 of linking Brookhaven scientists to a position on this.

9 And the distinction that we have to make is
10 what is happening now versus what would happen after the
11 plant is operating, and we may be dealing with an accident
12 scenario.

13 I think at that point in time, the likelihood
14 of a Brookhaven scientist saying something totally contrary
15 to his professional beliefs, whether it be a pro-nuclear
16 or whatever kind of belief, is utterly ridiculous to
17 speculate about.

18 Q Ms. Clawson, we are not talking about whether
19 or not a scientist would say something contrary to his
20 beliefs. We are talking about public perception of what
21 the scientist says. It is two different matters, wouldn't
22 you agree?

23 A I agree that it is two different matters, but
24 we are talking about it now in the context of the political
25 posturing that is going on in the community relative to the

1 Shoreham plant, as opposed to a factual accident situation
2 that would occur -- that may occur after the plant is
3 operating, and we are trying to respond to an incident
4 at the plant.

5 I think we are talking about apples and oranges.

6 Q Well, do you have any quantitative data that
7 show that Brookhaven and LILCO are not linked in the
8 public's mind?

9 A I think it is irrelevant

10 Q Despite your belief that it is irrelevant,
11 you don't have any data, correct, as to whether or not
12 there is a link between Brookhaven and LILCO in the
13 public's eye?

14 A I don't have any data one way or the other
15 concerning that.

16 Q And you don't think it is important to know
17 that?

18 A Not in the context of an accident scenario,
19 that is correct.

20 Q You would agree, wouldn't you, Ms. Clawson,
21 that public perception of credibility is and can be
22 influenced by press reports, newspaper articles, et cetera?

23 A Yes, I do.

24 Q So, you would agree, wouldn't you, that where
25 there is negative publicity regarding LILCO, its management,

1 its ability to operate the plant, its ability to implement
2 an emergency plan, its ability to keep its diesel generators
3 running, all those factors would have an influence on the
4 public's perception of LILCO's credibility?

5 MR. CHRISTMAN: Objection. The question is
6 unclear as to whether we are talking about credibility
7 today, or before an accident, or in the event of an accident
8 at the time.

9 JUDGE LAURENSEN: Overruled.

10 WITNESS CLAWSON: I would say that would have
11 as much weight today as our operating a nuclear plant,
12 having an approved plan, a plan that is approved by the
13 Board and by the Federal Government, having passed a FEMA-
14 graded exercise, having an operating license, would give
15 us the positive publicity to generate the confidence that
16 we can operate the plant successfully, and I believe this
17 can turn around in view of those kind of developments.

18 Yes, today under these circumstances and
19 under the barrage of negative publicity that we have had,
20 there aren't many of us on this panel that would say that
21 Long Island Lighting Company has a high degree of credibility.

22 BY MR. McMURRAY: (Continuing)

23 Q Would you say that by having an approved plan
24 and operating a plant, a utility's credibility rises?

25 A (Witness Clawson) I would say that certainly

1 is a contributing factor to it.

2 Q Do you know of any data presented by your fellow
3 panel members that would refute that?

4 A I am using the same kind of analogy that you
5 are using; and that is, because there are negative press
6 reports regarding other developments relating to the Long
7 Island Lighting Company, therefore, the public does not
8 have confidence in the Long Island Lighting Company's
9 ability to operate the plant.

10 Conversely, with positive publicity which would
11 result from our getting a license to operate the plant,
12 from having an approved plan, from passing the FEMA-graded
13 exercise, it would follow that confidence in the company
14 would rise on our ability to operate the plant.

15 Q How would that follow? Doesn't that directly
16 contradict Dr. Barnett's testimony? Mrs. Clawson, I
17 would like an answer from you, please.

18 A Well, do you want to point me to Dr. Barnett's
19 testimony, and I will comment on it?

20 Q You don't know --

21 A What specific aspect of his testimony are we
22 talking about?

23 Q Your testimony is --

24 MR. CHRISTMAN: Objection.

25 BY MR. McMURRAY: (Continuing)

1 Q -- you don't remember whether or not Dr. Barnett
2 has said something different.

3 A (Witness Clawson) I don't remember line for
4 line, a 121 pages of testimony on credibility. If you
5 can point it out to me, I will comment on it.

6 Q Are you aware of press reports which have stated
7 that seventy-five percent of the public does not believe
8 LILCO can implement its emergency plan?

End 5. 9
Reb fols.

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1 A No, I am not. Let me also add to that, I am
2 aware of polls across the nation that say 71 percent of
3 the people in the United States believe a nuclear plant
4 can blow up like a bomb, and that is not true either.

5 Q Nevertheless, what they believe is important in
6 how they would respond, correct?

7 A It could be a factor. That is right.

8 A (Witness Miletic) I would like to add that what
9 they believe is probably the most significant determinant
10 of what they do at the time. And debating this
11 academic question about pre-emergency credibility and how
12 that might affect, in your speculation, their behavior
13 in an emergency is unfounded on the basis of the scientific
14 record.

15 (Pause.)

16 Q Do you recall your TMI Path analysis,
17 Dr. Sorensen?

18 A (Witness Sorensen) Yes, I recall that it does
19 exist.

20 Q Could you answer this question, Dr. Sorensen,
21 yes or no: You would agree, wouldn't you, that your Path
22 analysis shows that pre-emergency beliefs about credibility
23 of the utility had an effect on response?

24 MR. CHRISTMAN: I object to relitigating that
25 Path analysis which was discussed at great length on at

1 least two occasions in the past. This is repetitive,
2 cumulative, and duplicative.

3 MR. MC MURRAY: I am just following up on
4 Dr. Mileti's statement.

5 JUDGE LAURENSEN: For the limited purpose of this
6 credibility contention, the objection is overruled.

7 WITNESS SORENSEN: Would you repeat the question?

8 MR. MC MURRAY: Would you read it back, please?

9 (The reporter read the record as requested.)

10 WITNESS SORENSEN: I can't answer that yes or no.

11 BY MR. MC MURRAY:

12 Q Let's go to page 11 of your testimony, please.

13 On page 11 of your testimony you present data from the Social
14 Data Analysts survey, Mr. Weismantle, correct?

15 A (Witness Weismantle) That is right.

16 Q And there we can see, by looking in the first
17 column -- that is, those who would trust the listed
18 officials a great deal -- that LILCO ranked the lowest in
19 terms of the question asked, correct?

20 A Yes. They had the lowest percentage in that
21 column.

22 Q And under the column Those Who Would Trust
23 LILCO Not At All, most people -- that is, 62 percent --
24 stated that they would not trust LILCO at all, correct?

25 A That is correct.

1 Q So you would agree then that under both columns
2 LILCO faired the worst in respect to the relative rank order-
3 ing of believability?

4 A Yes, if you look at those two columns.

5 Q Now, on page 12, you present data regarding --
6 I guess this is from the Yankelovich, Skelly and White
7 survey -- the percentage of people who would rate as
8 highly believable statements about nuclear power issues by
9 the people listed below.

10 Do you see that?

11 A Yes.

12 Q And the figures -- let me ask you this: Is it
13 your understanding that this particular question in the
14 YSW survey asked people to rank the various sources of
15 information on a six-point scale?

16 A Yes, that is my understanding.

17 Q With the number six being the highest and
18 number one being the lowest?

19 A In terms of believability, yes.

20 Q And the data you present here is from adding
21 up those who ranked these various sources of information as
22 either a five or six, correct?

23 A That's correct.

24 Q Why did you choose, in presenting this information,
25 Mr. Weismantle, not to present data for those who ranked

1 these sources of information as either a one or a two
2 that would be on the very other end of the believability
3 scale?

4 A Well, these two answers and questions that
5 are sponsored by Dr. Cordaro and myself simply provide
6 information which was interpreted by Dr. Sorensen in the
7 development of the testimony. It was done in conjunction
8 with Dr. Sorensen and Dr. Mileti, for that matter.
9 Dr. Mileti also sponsored answers in interpreting this.

10 So we didn't particularly make a decision --
11 I didn't personally make a decision on why to only include
12 five and six.

13 It seems logical to me as a layman, but in terms
14 of the appropriateness of it, I would have to defer to
15 Drs. Sorensen and Mileti.

16 Q Dr. Sorensen, let me ask you, do you think that
17 it is misleading to present only two data points out of
18 a possible six in this testimony?

19 A (Witness Sorensen) What do you mean by
20 "misleading"?

21 Q Don't you think it would be important to know
22 not only the percentage who would rate LILCO as highly
23 believable but also those who would rank LILCO as low in
24 the believability category?

25 A That would depend on what you are interested in

1 getting out of the data.

2 Q If you are attempting to get out of the data
3 the full range of people's responses to the question,
4 don't you think it is important to know how people responded
5 to the question and said that LILCO had very low
6 believability?

7 MR. CHRISTMAN: I will object. The entire
8 documents are in evidence. Indeed, I think some of them
9 are already in evidence twice. There is no purpose
10 to repeating the whole studies again. That is the
11 reason for not putting the whole study in now.

12 They already in in "Shadow Phenomenon," as the
13 answer suggests.

14 JUDGE LAURENSEN: The objection is overruled.

15 WITNESS SORENSEN: I guess if I was putting
16 these tables in, I would make them consistent -- in other
17 words, include all the data in both of them or only
18 the one category in both of them.

19 BY MR. MC MURRAY:

20 Q Do you know what the data is for all the
21 responses to this question?

22 A I know where to find it, but I don't have it at
23 hand.

24 Q That would be the tab runs for this YSW survey?

25 A I guess it would be the report produced.

1 Q Do you believe that the report produced has
2 that information in it?

3 A I don't know.

4 A (Witness Cordaro) I don't know how including
5 that additional data is going to change the way we used
6 these particular studies and in the sense we used them in
7 this particular testimony.

8 The bottom line here is that there are
9 credibility problems and a number of people and organizations
10 have credibility problems.

11 We believe both studies confirm that, even if
12 there are differences in the study. And the whole purpose
13 of this is to suggest that you have got to design a plan
14 to take this into account, that there are credibility
15 problems.

16 So if we included that data, it wouldn't make
17 any difference in how we have utilized this in this testimony.

18 Q Dr. Cordaro, your testimony here says that the
19 Suffolk County Executive and LILCO have almost identical
20 credibility, according to the YSW survey, correct?

21 A According to those numbers presented there, yes.

22 Q And according to those numbers, which are only
23 a sample of the actual data that was collected, correct?

24 A Yes.

25 Q Now, if you looked at all of the responses to

1 that question -- that is, including people who ranked
2 LILCO and the Suffolk County Executive at the lower end
3 of the scale -- are you aware of whether you would be able
4 to draw the same conclusion?

5 A I don't recall the exact numbers. I believe they
6 are different, but that wouldn't change the way we used
7 this particular study in this testimony and the point that
8 we are making here.

9 Q So you would agree then that the credibility,
10 if one looks at all the data for the YSW survey, that
11 the credibility of the Suffolk County Executive and LILCO
12 would not be the same, correct?

13 A Based on the data and the numbers in those
14 studies, that may be the case. But it wouldn't change the
15 problem of credibility and change the fact that there are
16 credibility problems associated with a number of organizations
17 and a number of individuals.

18 Q Dr. Sorensen, the question asked in the YSW survey
19 related to how one would believe information on nuclear
20 power in general, correct?

21 A (Witness Sorensen) That is what I would infer
22 from that header to that particular table.

23 Q So that would mean, for instance, questions on
24 how a nuclear plant operates, what the fuel cycle is,
25 questions like that as well as questions regarding emergency

1 planning, correct?

2 A I assume it would be variable in terms of how
3 individuals interpreted what nuclear power issues mean to
4 them.

5 Q And you would agree, would you not, that people
6 would not restrict their answer to that question to their
7 perceptions of how credible that source of information
8 would be during an emergency, correct?

9 A It would not be restricted to that.

10 Q With respect to the types of questions like how
11 a boiling water reactor operated, things like that, and
12 other technical questions about how a nuclear plant
13 operates, do you expect that many people would go to
14 politicians like the governor for that kind of information?

15 A I am not sure what you are asking.

16 Q Well, the question is, with respect to that kind
17 of technical information, doesn't it seem likely that people,
18 respondents to the question would not rank a politician
19 with no nuclear experience as a highly credible source of
20 information on that kind of technical question?

21 MR. CHRISTMAN: Objection. We seem to be calling
22 for speculation.

23 MR. MC MURRAY: It goes with --

24 JUDGE LAURENSEN: Overruled.

25 WITNESS SORENSEN: I think that the specificity of

1 the issue in the question, be it general versus specific,
2 such as nuclear power issues, such as emergency planning
3 or nuclear power issues versus the one you raised, something
4 to do with -- what was it? Was it the fuel cycle?

5 BY MR. MC MURRAY:

6 Q Technical questions about how the plant
7 operates.

8 A -- technology, is one possible source of
9 variation in the way people would respond to the questions.

10 We have no evidence to suggest in these cases
11 here whether those highly co-vary or whether they
12 wouldn't.

13 Q As somebody with survey experience, would you
14 expect that people would say that they would generally
15 go to the governor for information about how a boiling
16 water reactor works as opposed to going to a nuclear
17 scientist?

18 A My experience would say that people in general
19 wouldn't go to either source. I mean, people don't usually
20 actively seek this kind of information.

21 Q If they were to seek that information.

22 A Where would they go?

23 Q That's right.

24 A I have really no way of answering that question.

25 Q You say on page 13 that -- on page 13 you are

1 drawing a comparison between the questions asked in
2 the county's survey and the questions in the Yankelovich
3 survey.

4 You say, "In the first case" -- there you are
5 talking about the county survey -- "individuals' feelings
6 are tapped, while in the second case, perceptions of
7 information are measured."

8 I am not sure I understand the distinction you are
9 drawing there.

10 A Well, what I was trying to point out is that in
11 one question it focuses really on trusting officials. And
12 trust has an element of feelings involved, whether you
13 like or dislike, what your images of that person or
14 organization, in generally a more effective component to it.

15 And in the second question it says -- it is
16 asking them not about the organizations, as I recall, but
17 believable statements, statements as information, and it is
18 how they perceive whether those are believable or not.

19 So there are some subtle differences in the way
20 those questions are posed that might affect the way people
21 respond.

22 Q Dr. Cordaro, with respect to our previous
23 discussion about the YSW survey data that is set out here
24 on page 12, if you had the opportunity -- strike that.

25 I think you agreed with me that if one looks at

1 all the data, in fact, it would show that the rank
2 ordering -- I am sorry -- that the relative credibility
3 of the Suffolk County Executive and LILCO is not
4 identical; is that correct?

5 A (Witness Cordaro) Yes, I believe so. It may
6 change.

END 6

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2 Q So that would change the testimony in here,
3 would it not, that the Yankelovitch survey showed that,
4 in fact, the relative credibility was similar?

5 A (Witness Cordaro) No. I don't believe so.
6 I think the argument here is to place less stress on the
7 numbers per se. Social scientists can criticize each of
8 these surveys and whether they were complete enough or
9 whether they generated information that was accurate enough
10 to measure trust and things like that.

11 But in my mind, I don't think that's as important
12 as the general observations you make from these opinion
13 polls. I think it implies too much accuracy in these things
14 which is not there. They indicate trends, they indicate
15 problems. They indicate perceptions that people have. They
16 may change in time.

17 Years ago, popular opinion measured by polls and
18 things such as that was very high in favor of nuclear power
19 on Long Island. Now, today they are obviously different as
20 reported in Newsday and other polls. Five years from now,
21 they may be entirely different, depending on what external
22 events occur.

23 I just can't get too concerned about the specifics
24 of the numbers. I think we just have to make a general
25 observation as the trends noted, credibility problems noted,
and take account of that in the planning process to compensate

#7-2-SueT

1 for that.

2 Both studies show that there are problems with
3 all organizations and certain individuals associated with
4 organizations.

5 Q And LILCO has the worse problems, correct?

6 A Well, as measured by particular numbers in a
7 study, that's true. If we measured it ten years ago LILCO
8 might have had the least problems; and, measured five years
9 from now LILCO may come out to be the most credible source.

10 Q That's your speculation, correct?

11 A Well, yes. And it's a valid speculation based
12 on historically what has happened.

13 Q Dr. Sorensen, are you aware of certain surveys
14 conducted by an individual named Bill Johnson for LILCO?

15 A (Witness Sorensen) I'm aware he conducted
16 surveys, yes. I'm not familiar with all of the details,
17 or many of the details of those surveys.

18 Q Are you aware of whether they confirmed the
19 results in the other surveys we have been discussing; that
20 is, that LILCO has low credibility?

21 A I can't recall the specific numbers from his
22 survey.

23 Q Do you recall whether or not they were roughly
24 similar to the results of the surveys we have been discussing?

25 A No, I don't recall. But it's not unreasonable to

#7-3-SueT 1 assume that they probably came up with similar results on
2 this question.

3 Q Do you recall, Mr. Weismantle?

4 A (Witness Weismantle) No, I don't.

5 Q Are you aware of a study conducted by LILCO,
6 Mr. Weismantle, by Social Systems Analysts?

7 A I don't think so. That does not strike a bell.

8 Q You aren't aware of a study conducted by Dr.
9 Barnett in 1979 for LILCO?

10 A Dr. Barnett is associated with Planmetrics.
11 Whether he was associated with the name of the firm you
12 just gave, I'm not sure.

13 Q You are familiar with that study, right, Mrs.
14 Robinson?

15 A (Witness Robinson) To a limited extent, yes.
16 That was in previous employment of Dr. Barnett's, and he
17 did some work for the Long Island Lighting Company.

18 Q And you would agree, would you not, that that
19 study concluded in 1979 that LILCO had a serious credibility
20 problem?

21 A No. I don't think I would characterize the
22 result that way. I would characterize it as a -- let's
23 put it this way. I would put it different, since I think
24 that the study pointed out several areas in which work had
25 to be done. It pointed out certainly -- certainly credibility

#7-4-SueT

1 was one of them, although I would not say that it was done
2 to determine credibility level. It was much more a work
3 which was done to guide future information programs and
4 information directions.

5 I think it certainly pointed out credibility
6 as a problem, but I would not characterize it the way you
7 did.

8 Q Wouldn't you agree that the survey found that
9 customers do not perceive LILCO as inherently trustworthy
10 or as a benign rational authority?

11 A Well, when you say not inherently trustworthy,
12 that does not mean to me that you cannot produce trust-
13 worthy information.

14 What it does is say that you cannot just assume
15 because you are LILCO people are going to believe what you
16 say, that you have to design your information and support
17 it. You can't just assume that it will be credible.

18 Q You don't deny that that was one of the con-
19 clusions drawn by Dr. Barnett?

20 MR. CHRISTMAN: Objection. We went over this
21 study last week when Dr. Barnett was here, and if there
22 were additional questions on it they should have been asked
23 then, not now.

24 JUDGE LAURENSEN: He is just asking Mrs.
25 Robinson whether she disagrees with the conclusions that he

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1 is citing here. That is, I think, permissible in terms of
2 comparing it with her testimony.

3 MR. CHRISTMAN: Well, if he is asking her to
4 agree with a document he ought to give her a copy of the
5 document and show her what he is talking about.

6 JUDGE LAURENSEN: If she is not familiar with
7 the specific language of the conclusion, then I think she
8 can say so and can determine exactly what it says.

9 The objection is overruled.

10 WITNESS ROBINSON: I don't remember the exact
11 statement, although certainly the word about inherent
12 trustworthy does ring familiar to me.

13 What I am disagreeing with is your interpreta-
14 tion of that statement, not whether or not it existed.

15 BY MR. MC MURRAY: (Continuing)

16 Q Wouldn't you -- do you recall Dr. Barnett's
17 conclusion that many customers actively distrust rather
18 than trust any LILCO communication?

19 A I don't remember that statement. I would have
20 to see the --

21 Q Would that change your previous answer if you
22 did recall that?

23 A No, it would not, because what I'm saying is
24 that just because somebody questions, is skeptical, does
25 not mean that you cannot communicate with that person. It

#7-6-SueT

1 means that you have to be prepared to support, document,
2 confirm the information that you are giving. It's a very --
3 I think it's universally good practice in communications
4 to assume that you are going to have to do those things.

5 However, there are individuals who think that by
6 the basis of their position that anything they say should
7 be inherently believable. I don't agree with that, to begin
8 with. And, therefore, I would not be disturbed by those
9 statements.

10 Again, I don't remember the second one. But it
11 would not change my opinion.

12 Q You would agree with me, wouldn't you, that those
13 factors mean it's going to be a lot harder for LILCO to
14 convey reliable information to the public?

15 A Harder than --

16 MR. CHRISTMAN: Objection. Vague. What
17 factors?

18 MR. MC MURRAY: Than if they were trustworthy.

19 MR. CHRISTMAN: Those factors sounds vague to
20 me.

21 JUDGE LAURENSEN: The objection is sustained.

22 BY MR. MC MURRAY: (Continuing)

23 Q You would agree with me, wouldn't you, that
24 if, in fact, customers trusted rather than actively dis-
25 trusted LILCO communications, then -- strike that.

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1 You would agree with me, wouldn't you, that
2 if it's true that LILCO customers actually actively dis-
3 trust rather than trust any LILCO communication, that it's
4 going to make it a lot harder for LILCO to convey reliable
5 information to the public?

6 A Than --

7 Q Than if they were trusted --

8 A Harder is --

9 Q Rather than trusted.

10 COURT REPORTER: I'm sorry, Mr. McMurray. Would
11 you repeat that again?

12 MR. MC MURRAY: Okay.

13 BY MR. MC MURRAY: (Continuing)

14 Q You would agree with me, wouldn't you, Mrs.
15 Robinson, that if many customers actively distrust rather
16 than trust any LILCO communication, it's going to make it
17 a lot harder for LILCO to offer reliable information to the
18 public?

19 A I agree with Dr. Mileti that you should assume
20 that level and design a program that can stand on its own.
21 We do not have any single component, any single factor,
22 that can overwhelm the effectiveness of the program.

23 I don't think that --

24 Q Mrs. Robinson, you are not answering my question.
25 Isn't it going to make it harder to convey reliable information

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1 if customers actively distrust rather than trust a LILCO
2 communication?

3 A No. The program is what is in question. And
4 I don't think that that's --

5 Q So, you don't think that whether or not LILCO
6 is trusted or distrusted has any effect on whether or not
7 people perceive the information they get from LILCO as
8 being reliable?

9 MR. CHRISTMAN: Objection. It's argumentative.
10 He completely changed the focus of his question.

11 JUDGE LAURENSEN: Sustained.

12 Do you want to take our morning recess now, or
13 do you want to follow-up in this area?

14 MR. MC MURRAY: I think I would like to try and
15 tie things up, Judge Laurenson.

16 (Pause.)

17 I guess this would be a good time for the break.

18 JUDGE LAURENSEN: We will take our morning
19 recess now.

20 (Whereupon, the hearing is recessed at 10:42 a.m.,
21 to reconvene at 11 o'clock a.m., this same day.)

22 JUDGE LAURENSEN: Mr. McMurray.

23 BY MR. MC MURRAY: (Continuing)

24 Q Let's go to Page 33 of your testimony. You
25 state -- Dr. Sorensen, in the middle of Page 33, you state

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1 that in your earthquake prediction study, the most significant
2 determinate of credibility was the scientific reputation of
3 the person or organization making the predictions.

4 Do you see that?

5 A (Witness Sorensen) Yes, I do.

6 Q Mr. Weismantle, who are the scientists, nuclear
7 engineers, that LILCO will be consulting with and who are refer-
8 red to in LILCO's EBS messages?

9 MR. CHRISTMAN: Objection. I'm virtually certain
10 this was covered in the shadow phenomenon testimony.

11 JUDGE LAURENSEN: It may very well have been.
12 But I think it's also relevant here, so we will allow a
13 limited inquiry.

14 The objection is overruled.

15 WITNESS WEISMANTLE: I think as I indicated in
16 the cross-examination on shadow phenomenon, they come from
17 several sources. First of all, there are scientists in the
18 LERO organization, the most notably would be the Radiation
19 Health Coordinator, all of which who have health physics'
20 background and experience, education and experience, and
21 members of the DOE RAP team who have similar such experience.

22 In addition to that, there are scientists on
23 the on-site team, particularly health physics' experience,
24 people who develop dose assessment and radiological field
25 data as part of the input for protective action recommendation.

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1 In addition, once the federal response was
2 cranked up, which would be somewhat after the activation of
3 LERO, but not necessarily after a release that might call
4 for protective actions, depending on the sequence of the
5 accident and the speed in which it develops, you have got
6 a multitude of agencies that have scientists which would be
7 involved from the NRC, through DOE, EPA, et cetera. So,
8 those are the primary scientists we are talking about.

9 And, of course, there are engineers who are also
10 mentioned in that, in the messages, I believe on-site
11 organization and LERO and in these other outside agencies.

12 BY MR. MC MURRAY. (Continuing)

13 Q Would you say that the public is generally aware
14 of the scientific reputations of these individuals?

15 A Do you mean by name?

16 Q Scientific reputations of these individuals?

17 A I'm not so sure what you mean when you say is
18 the public aware. I think the public has a general awareness
19 of the scientific community as such and is aware that
20 nuclear power is a technology and there are lots of
21 scientists and engineers who are knowledgeable about that
22 technology.

23 Q But I take it you would agree that the public
24 is not generally aware of the reputations of the particular
25 individuals that LILCO intends to rely upon for its EBS

#7-11-SueT

1 messages?

2 A Well, I'm sure there are certain members of the
3 public that might --

4 Q The public in general.

5 A -- know about the reputations of certain of the
6 individuals who are consulted that we named in the messages.

7 But on the other hand, would provide their
8 affiliations and I think there is a greater awareness of
9 the affiliations of these people and the recognition of
10 the scientific and engineering expertise that is associated
11 with these affiliations.

12 Q Other than their affiliation, you would agree,
13 wouldn't you, that the public probably would not have a
14 knowledge of the specific reputations of these individuals
15 other than their affiliation?

16 A It would depend on the individuals. And I don't
17 think I can respond to that question.

18 Q Can you think of any individual that LILCO
19 intends to rely on that is a household word in Long
20 Island?

21 A Well, I couldn't really judge who is a household
22 word and who wasn't. I don't think that's the point.

23 (Witness Cordaro) The purpose of --

24 Q Can you --

25 A -- including reference to scientists --

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1 Q Excuse me, Dr. Cordaro. I'm asking Mr.
2 Weismantle a follow-up question.

3 A I'm answering that particular question.

4 Q You can answer as soon as I'm done with Mr.
5 Weismantle.

6 MR. CHRISTMAN: Well, the witness is allowed to
7 come in at the end of Mr. Weismantle's answer to that
8 question before another question is asked I believe.

9 MR. MC MURRAY: I believe the rules are that I'm
10 permitted a clarifying question.

11 JUDGE LAURENSEN: I think Mr. McMurray is right,
12 and we will allow Dr. Cordaro to supplement the answer
13 later.

14 BY MR. MC MURRAY: (Continuing)

15 Q Can you think of any -- you said your answer
16 depended on the particular individual. Can you think of
17 any individual that LILCO intends to rely upon whose
18 scientific reputation is generally known to the population
19 of Long Island?

20 A (Witness Weismantle) Well, I don't think
21 that's the point in the context of the EBS messages and
22 the context of this particular contention. The public
23 has awareness of --

24 Q My question is, can you think of somebody.

25 A -- scientists in relation to the nuclear industry

#7-13-SueT

1 and is aware that they have special expertise pertaining
2 to radiation, the effect of radiation and recommendations
3 that relate to the health and safety of the public. I
4 think that is what is pertinent --

5 Q Well, I'm --

6 A -- rather than a particular reputation an
7 individual scientist might have.

8 Q What you think is pertinent does not answer my
9 question, Mr. Weismantle. Maybe we are not communicating.

10 Do you know -- maybe we should back up a little
11 bit. Do you know the names of the people who LILCO expects
12 to consult with with respect to its EBS messages?

13 A I mean, there is a whole group of people who,
14 depending on whether they were at that particular instant
15 part of the team who would be consulted with.

16 Q Do you have some specific people --

17 A (Witness Cordaro) Could I add --

18 Q No. I'm following up with Mr. Weismantle. You
19 will get your turn.

20 end #7

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25

1 With respect to the specific individuals that
2 you have in mind -- you do have specific individuals in
3 mind, correct?

4 A Yes.

5 Q With respect to these specific individuals, can
6 you name any whose scientific reputation is generally known
7 to the public at large, on Long Island?

8 Now, I am not just talking about their
9 affiliation. I am talking about their reputation.

10 A My responses -- the reputation of scientists
11 as a whole in the industry associated with Brookhaven
12 National Laboratory, and so forth, and the NRC. That
13 is pertinent.

14 Q Let me ask my question again, Mr. Weismantle.
15 Will the public know the reputations of these specific
16 individuals. Yes or no?

17 A I suspect that most of the public for a given
18 individual would not have a basis to make a judgment as
19 to their particular reputation as an individual as opposed
20 to their making a judgment as to the reputation of the
21 group they belong to.

22 Q Thank you.

23 A (Witness Cordaro) The purpose of mentioning
24 in the message, or referencing scientists is not necessarily
25 to associate any particular name or individual with what

1 is taking place. It is to alert the public that consultation
2 is going on with qualified individuals who have a high
3 degree of expertise in the fields in question.

4 The -- I can't think of anyone we could include
5 on the team with the appropriate scientific credentials
6 who would be immediately recognizable to the general public.

7 He would be possibly recognizable to me, to
8 people who are members of the American Physical Society,
9 American Nuclear Society, but not the general public at
10 large.

11 I think we accomplish this by referring to the
12 affiliations as Mr. Weismantle pointed out, of these
13 organizations that they come from professional organizations
14 who retain people with this kind of expertise.

15 Brookhaven Laboratory, Department of Energy,
16 other institutions or corporations who specialize in the
17 fields in question.

18 A (Witness Mileti) To a large extent, what is
19 being reported on here in reference to this sample 35
20 organizations, in reference to scientific reputation, was
21 the degree to which someone was a scientist. As we chatted
22 about this morning, one of the variables was going from
23 the degree to which someone was a scientist. From a
24 fortune teller all the way up to a seismologist at Cal Tech,
25 as the degree to which someone could be a scientist.

1 And scientific reputation, therefore, would be lower
2 for a fortune teller than it would be for a Cal Tech
3 scientist.

4 In addition to that, in reference to earthquake
5 prediction, if someone had made a prediction, and the
6 earthquake hadn't happened -- for example, like Witcolm
7 did out of Cal Tech, and then made a mistake again in
8 issuing a prediction, and then again in issuing a prediction,
9 that would affect the degree to which the public would
10 perceive that particular scientist as credible.

11 So, to a large extent scientific reputation
12 here is not being used as the reputation of an individual
13 person, but rather the reputation of the science, or the
14 role of a scientist, or being a scientist.

15 Q Your testimony says here, on page 33, does it
16 not, Dr. Mileti, that the significant determinant of
17 credibility was the scientific reputation of the person
18 or organization making the prediction, correct?

19 A Yes, the degree to which they were scientists,
20 or the degree to which they botched up their predictions
21 in the past, which would affect that person's reputation.

22 A (Witness Sorensen) Could I clarify this for
23 you? I think an example that might be appropriate here
24 is if you consider what we said here -- science reputation
25 and an organization -- we think the former is the most

1 important.

2 For example, if the head of the earthquake
3 prediction program for the USGS announced there was going
4 to be an earthquake, and he was a very well known scientific
5 name in California, it would carry more credibility than
6 if a high school science teacher, who also may have some
7 credibility as a scientist, issued a prediction. That
8 is an assumption.

9 Now, say what if a janitor in the USGS issued
10 an earthquake prediction on the basis of saying that he
11 found stuff in wastebaskets that said that there was
12 going to be an earthquake.

13 Well, he would not have a scientific reputation,
14 yet he does have an organizational affiliation. If the
15 janitor in the high school did the same thing, he would
16 likely have no credibility.

17 So, both factors contribute. Some of the things
18 that contribute to scientific reputation may be the name
19 of the scientist. It may be the fact that the person has
20 academic credentials such as Ph. D, or it may be that he
21 occupies a role in some type of organization that has that
22 kind of credibility associated with it.

23 For example, it could be the head of the
24 earthquake engineering research center.

25 Q If I hear you correctly, Dr. Sorensen, you are

1 saying that both personal scientific reputation and
2 organizational reputation are determinants of credibility?

3 A And role within an organization.

4 Q And role within an organization. Okay, we
5 are clear. And Dr. Cordaro, let me just get back to you
6 just to clarify. You don't have any quantitative data
7 regarding the credibility of Brookhaven National Laboratory.
8 Personnel, correct?

9 A (Witness Cordaro) I don't know of a social
10 survey or an opinion poll that has been taken regarding
11 Brookhaven Laboratory and numbers produced to suggest that,
12 however I believe it is pretty common knowledge from what
13 I have read in the newspapers, and my discussions with
14 people, -- I have even worked as a research associate
15 at the Lab, and I think I enjoyed greater credibility and
16 acceptance from members of the public than I do as an
17 Executive of LILCO, so I have some personal experience
18 in that regard.

19 Q Your finding, Dr. Sorensen, that the most
20 significant determinant of credibility was the scientific
21 reputation of the person or organization making the
22 prediction, that was based on your sample of 35 organizations,
23 correct?

24 A (Witness Sorensen) That is the one reported
25 here. This is also a finding that would come from some of

1 the other parts of the study in question that were described
2 earlier in the day.

3 Q Isn't it true, Dr. Sorensen, that members of a
4 particular organization who were interviewed might have
5 a much greater knowledge about the reputation of an
6 organization or a particular scientist than the public
7 at large?

8 A It is possible that that is true.

9 A (Witness Miletic). This finding also rests on
10 interviews that we did with public, both in the east and
11 in the west.

12 Q And that is reported in your monograph on
13 earthquake prediction?

14 A Those publics are certainly identified. I
15 don't know if those particular findings are scribed in the
16 monograph under quake prediction. They may be in another
17 publication. They may not be written up yet, but I do
18 know for example that when we were studying a random
19 sample of residents in North Carolina, that we measured
20 credibility -- we tried to assess why it was that people
21 were taking Clarisa Burnhardt's study seriously. We
22 went to study it because seven major national insurance
23 companies stopped selling earthquake insurance in North
24 Carolina, which suggested that somebody was taking it
25 seriously.

1 And the whole affair became credible for some
2 members of the public because the seismologist from the
3 University of North Carolina at Chapel Hill, started
4 going around, as I said earlier, sponsoring her prediction
5 saying that it was in line with some of his scientific
6 studies -- and by the way, he ended up losing his job,
7 even though -- I don't know if he had tenure or not, but
8 he was fired from the university because of the whole
9 affair, and his scientific role lent credibility to her
10 prediction, which she has made dozens before that and
11 dozens after that, but it has never been taken seriously.

12 That is an example of one of the other public
13 that we appriased this issue in. There were others as
14 well, and I don't recall who wrote that up in the monograph,
15 or if it is in the papers from Paris, or if it is in any
16 of the other publications from there, but I do know that
17 that was the finding. I still have the data to show that.
18 I didn't write it down on this page, though. Quantitative
19 data.

20 Q You say, Dr. Sorensen, that the second most
21 important factor was confirmation of the prediction by other
22 knowledgeable parties.

23 Do you see that?

24 A (Witness Sorensen) Yes, I do.

25

1 Q Mr. Weismantle, in the LILCO Plan, there is
2 no provision for confirmation of the accident by any
3 source other than the EBS messages, is there?

4 A (Witness Weismantle) Well, you know, again
5 referring back to the Federal Master Plan. What happens
6 in a nuclear power plant emergency --

7 Q I am talking about in the LILCO Plan, is there
8 any provision for confirmation of the information provided
9 in the EBS messages?

10 A Well, again, there would be a response consistent
11 with the Federal Master Plan on that level, and one of the
12 purposes of that response is to confirm and provide
13 assistance to both the local government and the utility
14 involved. Local agency involved.

15 In addition to that, the State and County would,
16 over the REX line, get notified when everybody else did,
17 and should they so chose, be able to confirm the information
18 they were given.

19 In addition to that, through the emergency
20 news center, I think I would say that confirmation -- but
21 perhaps Ms. Clawson can elaborate on that.

22 Q Let me just follow up. Your response relies
23 on the Federal Master Plan, and not on what is in the
24 LILCO Plan, correct?

25 A That is part of the LILCO Plan. That is part

1 of any local plan.

2 Q The Master Plan is part of the LILCO Plan?

3 A It is -- I call them an adjunct to it. It
4 is given. If a nuclear facility is licensed, then the
5 Federal Government will respond in the event of an accident.
6 And the -- provisions are made for that response in our
7 Plan and every other plan.

8 And the Federal Government has a massive ability
9 to respond. That was demonstrated most recently in Florida
10 at St. Lucie Power Plant in March, and the continued to work
11 on refining that response, and supporting documents, for
12 instance, for Region I, the NRC Region I, has a very thick
13 supporting document that outlines there response, and
14 other agencies do as well, like DOE and EPA, I believe.

15 We mention it in our testimony later on,
16 provisions for the NRC response, both onsite and offsite,
17 in the ENC, in the EOC and other facilities.

18 Q And how long does it take the NRC to get up to
19 the EOC once it has been notified of an emergency?

20 A It would depend on the time of day and the day
21 of the week and weather conditions, and that sort of thing.

22 Q You would agree then that the --

23 A -- and --

24 JUDGE LAURENSEN: Allow him to answer the
25 question, Mr. McMurray.

1 WITNESS WEISMANTLE: For instance, the NRC
2 Resident Inspector is onsite, so I assume his response would
3 be the quickest. I don't know we have made a particular
4 time estimate, or the NRC has made a particular time estimate
5 under different assumptions as to the speed of their
6 response, but they are notified immediately, and depending
7 on the nature of the accident and the severity of it, they
8 would respond with an appropriate level of response just
9 like any local plan has a phased response, depending on
10 the level.

11 A (Witness Cordaro) I --

12 MR. McMURRAY: A follow up question first,
13 Doctor Cordaro.

14 JUDGE LAURENSEN: I think we are going to have
15 to set some new rules here. This just can't go on.
16 Continually interrupting the witnesses, and now allowing
17 them to finish, and then trying to cut off somebody who
18 is trying to supplement the answer. I mean, we are going
19 to really either have to come up with some new ground rules
20 here, or we are going to have to have a different style
21 of cross examination, because we are just getting too much
22 conflict on the record for no apparent purpose that I can
23 see.

24 MR. McMURRAY: It is certainly not my intention
25 to cause any conflict, Judge Laurenson. The witnesses,

1 especially Doctor Cordaro, was very anxious to jump in
2 and supplement.

3 On the other hand, I have the right to follow up
4 with Mr. Weismantle.

5 JUDGE LAURENSEN: On the other hand, we haven't
6 had situations where supplemental testimony has been striken
7 or anything else. I think we are dealing with this area
8 of credibility. I think you have six witnesses on the
9 panel. They may have different information than the person
10 who is answering the question. In order to complete the
11 answer, I think we should give them the opportunity to
12 add this information, unless you can demonstrate that it
13 is unreliable or subject to Motions to Strike. That
14 is another matter.

15 MR. McMURRAY: I am not trying to strike anybody's
16 testimony. If you recall, I offered Dr. Cordaro the
17 opportunity to give the information that he obviously
18 was anxious to give, after I had finished with Mr.
19 Weismantle. And I thought that worked out quite well. I
20 have one question I want to follow up with on Mr. Weismantle,
21 and I have no intention of attempting to cut off Dr.
22 Cordaro. He is entitled to supplement Mr. Weismantle's
23 response, assuming that he is giving a relevant answer.

24 But, if we just let all the witnesses begin
25 supplementing the response, and I have a question -- a

1 follow up question for Mr. Weismantle, then the record
2 is going to be very confusing because I am going to have
3 to be going back through about five or six various state-
4 ments to get back to the point I was making with Mr.
5 Weismantle.

6 JUDGE LAURENSEN: The problem this morning is
7 that I think you have been cutting off a lot of the answers
8 from the witnesses, and that has caused some problems, too.

9 I am not setting any new rules at this point.
10 I guess it is just a precautionary warning here that I
11 think you should allow them the opportunity to complete
12 their answer so long as they are responding to the question
13 that you have asked, and unless it is for some reason a
14 case that requires an immediate follow up by you, we should
15 allow the witnesses to supplement another witness' answer.

16 Let's try that for a while.

17 MR. CHRISTMAN: Mr. Weismantle was in the
18 middle of an answer. Ms. Clawson was in line to supplement.
19 Dr. Cordaro was in line after her to supplement.

20 MR. McMURRAY: And here we have the problem.

21 MR. CHRISTMAN: The problem was caused by
22 counsel across the aisle.

23 MR. McMURRAY: I think the best way to handle
24 this, Judge Laurenson, would be to let Mr. Weismantle
25 finish his response. I apologize for interrupting him, and

1 then I would like to follow up with him and then let the
2 rest of the queue go forward.

3 JUDGE LAURENSEN: Do you remember what the
4 question or the answer was.

5 WITNESS WEISMANTLE: I don't think it is worth
6 going back to the transcript and asking him to re-read it.
7 I think I was finished, and was ready to turn it over to
8 Dr. Cordaro.

9 WITNESS CORDARO: All I was going to add was
10 the fact that there are data links to the NRC, and hopefully
11 to the State. We were in a situation where the exact
12 extent of the information to automatically on a timely
13 basis forward it to the State was being determined before
14 this whole Shoreham controversy and disagreement erupted
15 and the State took the position that they weren't
16 participating in the emergency planning. But these data
17 links will transmit real time emergency data to these
18 agencies, so they will actually be able to see the same
19 type of information that we are seeing in the EOF over
20 this display screens, as will be seen at the EOC, I
21 believe, and as is being monitored in the technical
22 support center at the plant and in the control room.

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1 A (Witness Clawson) Retrogressing some, when
2 we were talking about the confirmation of this information
3 at the beginning of your question, one of the primary means
4 of confirming the information is the continued repetition of
5 the EPS messages. And in the messages they are designed
6 to be repeated initially after the first message within
7 five minutes and then every 15 minutes thereafter.

8 And this is considered a confirmation of the
9 information. Not to mention the other devices that have
10 come up during the course of the testimony, including
11 independent sources at the news center and the identical
12 information going over the REX line to the county, if
13 they choose to pick up the phone, the state, if they choose
14 to pick up the phone.

15 And this is our means of confirming the
16 information.

17 Q The -- Mrs. Clawson, the statement made in
18 the testimony on page 33 is that the confirmation of the
19 prediction -- here we are talking about an accident, though
20 -- should be by other knowledgeable parties, correct?

21 A Yes, that is what it says on page 33.

22 Q So with respect to your response about the
23 repetition of the EBS messages, that is not confirmation
24 by other knowledgeable parties, correct?

25 A That is not the primary means. That is correct.

1 Q That is not confirmation by other knowledgeable
2 parties, correct?

3 A That is correct.

4 A (Witness Mileti) I'd like --

5 Q I still haven't gotten my follow-up question with
6 Mr. Weismantle.

7 A (Witness Mileti) I was going to add something
8 to what Mrs. Clawson said.

9 JUDGE LAURENSEN: I thought you were following up
10 with Mrs. Clawson.

11 MR. MC MURRAY: Then I wanted to go back to follow
12 up with Mr. Weismantle. I really liked the old rules
13 better.

14 MR. CHRISTMAN: We still were using the old rules.

15 JUDGE LAURENSEN: I didn't think we changed the
16 rules.

17 BY MR. MC MURRAY:

18 Q Mr. Weismantle --

19 MR. CHRISTMAN: I object to having Dr. Mileti
20 interrupted in the middle of supplementing Mrs. Clawson's
21 answer. I think we ought to get Dr. Mileti's answer and
22 then go back to pick up where we were, where we are going.

23 MR. MC MURRAY: This is getting very confused.
24 I still have follow-up questions for Mr. Weismantle based
25 on statements he made earlier.

1 Dr. Cordaro was given his opportunity to jump
2 in. Mrs. Clawson was given her opportunity to jump in.

3 MR. CHRISTMAN: You know, it is possible --

4 MR. MC MURRAY: And I had a clarifying question
5 for Mrs. Clawson. Now I want to go back to Mr. Weismantle.

6 MR. CHRISTMAN: It is quite possible that these
7 follow-up -- that the follow-up answers may change the
8 follow-up questions that follow, and cutting them off and
9 bringing them in later may be inefficient.

10 JUDGE LAURENSEN: I think maybe that is right.
11 Maybe we will just change the rules.

12 From now on there will be no follow-up until
13 every witness who wants to answer the question that was
14 asked has given their supplemental answer, and then you
15 can go on to the follow-up. That will cut through this.

16 We have got a new rule now, and everyone understands
17 what it will be.

18 BY MR. MC MURRAY:

19 Q Mr. Weismantle --

20 A (Witness Miletic) Does that mean I can go ahead?

21 JUDGE LAURENSEN: It means you can -- if you
22 have a follow-up on the question -- a follow-up answer,
23 a supplemental answer on the question that Mr. McMurray last
24 asked to Mrs. Clawson concerning the confirmation by
25 repetition of the messages, you may do so.

1 WITNESS MILETI: Yes, I certainly do. Particularly
2 because the notion that confirmation by repetition of
3 messages is important largely stems from my research and
4 that the testimony we were talking about was my testimony.

5 And all I wanted to say was simply that in the
6 earthquake prediction study, we were studying the confirmation
7 process which the literature has pointed out for decades
8 as being central to understanding how it is people come
9 to believe and then act in an emergency warning setting.

10 And frequency and repetition is extremely important
11 to that.

12 But we were studying confirmation of the very
13 first time in this nation's history that a damaging
14 earthquake was being predicted; people had not experienced
15 that before. Many people in the nation didn't know that
16 earthquakes could be predicted.

17 And so the confirmation process, as it articulated
18 and manifested itself in reference to this particular
19 hazard, it was very important to hear from other
20 seismologists. But that is just a -- the particular
21 manifestation of the confirmation process that is applicable
22 in all emergencies.

23 At a nuclear power plant it would indeed include
24 hearing from other people as well as hearing over and over
25 again the same information coming from EBS stations of

1 different sorts, et cetera.

2 BY MR. MC MURRAY:

3 Q Mr. Weismantle, you would agree, wouldn't you,
4 that the NRC would not necessarily be present at the EOC
5 when the first EBS message is broadcast?

6 A (Witness Weismantle) No, they wouldn't
7 necessarily have a representative there. It would -- no.

8 Q And there is no agreement with the county or
9 with the state to undertake the confirmatory functions that
10 you described earlier, correct?

11 MR. CHRISTMAN: Objection, I think that is
12 obvious.

13 JUDGE LAURENSEN: Overruled.

14 WITNESS WEISMANTLE: Obviously there is no
15 written agreement at the current time. But as we have
16 said before in different contentions, we fully expect them
17 to respond. And part of their response would, to the
18 degree they think necessary, involve confirmation, I suppose.

19 WITNESS CORDARO: If the county would like to
20 enter into such agreement, we would be willing to agree to
21 it.

22 BY MR. MC MURRAY:

23 Q That is your speculation that the state and county
24 will, in fact, participate; isn't that correct?

25 A (Witness Weismantle) I wouldn't call it pure

1 speculation because I think, as we have testified -- certain
2 members of this panel particularly testified over and over,
3 in a real emergency, the response of a particular agency
4 would be to try to protect the health and safety of those
5 people that are affected by or potentially at risk.

6 In fact, I think, as we indicated in this testimony,
7 even Governor Cuomo has indicated he would respond in a
8 real emergency if, in fact, the plant was licensed and
9 that situation arose, even though he is apparently against
10 licensing the plant.

11 Q You would agree also, wouldn't you, Mr. Weismantle,
12 that it is not necessarily true that upon activation of the
13 EPS system that a member of DOE would be at the EOC or
14 a representative of DOE?

15 A No. It is not necessarily true that a member of
16 LERO would be at the EOC either. The system could be
17 activated prior to activation of the EOC by procedure.

18 Q So you would agree then, wouldn't you, that it
19 could be a matter of some time before an individual
20 seeking confirmation from the NRC or DOE could obtain that
21 confirmation?

22 A Well, surely it would take some time. I point
23 out that the DOE, again, depending on the time of the
24 accident and so forth, the DOE representative at the EOC
25 might be coming from Brookhaven National Laboratory which

1 is relatively close to Brentwood. So they might tend to
2 arrive faster than most LERO members who happen to be
3 LILCO employees.

4 A (Witness Robinson) In addition to -- it would
5 not be necessary for a representative of the NRC or
6 any other agency to be physically located at the DOE.
7 As soon as the EBS messages are activated in part of the
8 public domain, I would assume that reporters would start
9 making telephone calls. They could call the NRC directly
10 to their headquarters, to their public affairs office or
11 whatever other contacts they have and begin the confirmatory
12 process.

13 And since the NRC would be notified and there
14 is a resident inspector, I think this confirmatory process
15 could start very quickly and not -- there is no need for
16 it to be centered in any specific facility.

17 Q The initial source of the information to DOE
18 or the NRC would be LILCO, correct?

19 A That's right. And then a reporter could call
20 the NRC and say, We have just heard that there has been
21 an accident at Shoreham; what do you people know about it.

22 Q And they would know, We have been told by LILCO,
23 correct?

24 A Well, that is the beginning of a confirmatory
25

1 process. Again, I am very carefully using the word "process"
2 because that is exactly what it is.

3 A (Witness Weismantle) It would be the same for
4 any utility, any plant, the utility would always make the
5 first notification that an accident had occurred.

6 Q Dr. Sorensen, you -- let's refer to the third
7 factor that you reference on page 33, the certainty of
8 the threat. The last clause there says, "Scientific
9 recognition and verification are important determinants
10 of credibility."

11 It follows from that statement, does it not,
12 that conflicting statements about the accident from
13 scientists would, in fact, detract from the credibility of
14 the information?

15 A (Witness Sorensen) Yes. I think that would be
16 consistent with our testimony on the Shadow Phenomenon.

17 Q Turn to page 37.

18 Dr. Sorensen, here we talk about the Ginna
19 accident, correct?

20 A That's correct.

21 Q What data do you have on the utility's
22 credibility at Ginna just prior to the accident?

23 A I don't have any data.

24 Q For all you know, the credibility could have been
25 high, correct?

1 A I don't know.

2 Q Apparently the utility, Rochester Gas and Electric,
3 used two independent experts at their information center?

4 A Yes. That is my testimony.

5 Q What do you mean by independent?

6 A Independent in that I believe, to the best of
7 my knowledge, they were at a local university and were not
8 necessarily working -- did not have a role in the on-site
9 emergency response function.

10 A (Witness Clawson) If I could supplement that,
11 I believe the independent scientists were from a local
12 university, Rensselaer Polytechnical Institute. And I have
13 been at a drill at Ginna where the university scientists
14 did participate and did interact with the media there
15 in terms of supplementing or confirming or commenting
16 upon the information that was given to the media by the
17 utility.

18 Q So "independent" here, Dr. Sorensen, refers to
19 the fact that these experts didn't have any role in the
20 on-site plan or the off-site plan? That is one determination
21 of independence?

22 A (Witness Sorensen) I am not sure -- they were
23 not part of the utility organization that had roles in the
24 on-site plan. I don't know if they had a responsibility in
25 the off-site plan.

1 Their use might be discussed in the emergency plan,
2 yet they are not employees of the utility.

3 Q What was the importance of the fact that these
4 independent experts were not part of the on-site or off-site
5 organization?

6 A Well, I believe the importance is that they
7 functioned as to confirm or refute information and acted as
8 agents of a source that wasn't associated -- from an
9 organization different than the utility.

10 Q It was important also that their affiliation --
11 their organizational affiliation was with an organization
12 not itself affiliated with the utility, correct?

13 A Yes. It is both important that they were
14 scientists and from a local university.

15 Q Mrs. Robinson, we have established that
16 members of Brookhaven from Brookhaven Laboratory are going
17 to participate in the off-site response; isn't that correct?

18 A (Witness Robinson) These are two individuals,
19 currently just the two individuals who have agreed to be
20 present in the emergency news center and be available.

21 Q Personnel from Brookhaven Laboratories also
22 have roles in the off-site plan, isn't that correct?

23 A The DOE RAP teams is part of the LERO response;
24 that is correct.

25 Q And they are from Brookhaven Labs, correct?

1 A , Some of them are employed at Brookhaven Labs.
2 I believe others are DOE employees.

3 Perhaps Mr. Weismantle could be more specific.

4 Q Located at Brookhaven Labs, correct?

5 Mr. Weismantle is shaking his head yes.

6 A The DOE Brookhaven area office is physically
7 located on the property of Brookhaven National Laboratory
8 which is operated by Associated Universities.

9 They share a physical location; they do not
10 share an administration.

11 Q You would agree also that people from Brookhaven
12 Labs have a role in the on-site organization, don't they?

13 Maybe that is better directed to Dr. Cordaro.

14 A (Witness Cordaro) Not that I am aware.

15 Q Maybe I am just thinking of the dose assessment
16 function.

17 A Well, the dose assessment function for the on-site
18 group is carried out by LILCO employees, LILCO personnel.

19 Q Not by the Brookhaven people?

20 A No.

21 Q Okay. Thank you.

22 Dr. Sorensen, do you have any data regarding the
23 public's perception of the credibility of these various
24 experts at Ginna?

25 A (Witness Sorensen) No. I don't believe we have

1 that level of data.

2 Q The two independent experts provided were to
3 provide verification or refutation of RG&E information
4 for the media, correct?

5 A Yes, that is correct.

6 Q Are you aware of any time that they refuted
7 RG&E's information?

8 A No, I am not aware of the details of how they
9 operated within that context. I know they supplied this
10 service.

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#10-1-SueT

1 Q Let's go to Page 38 in your testimony. You
2 state there, Mr. Weismantle, that if we were to rely solely
3 on the Suffolk County and Yankelovitch polls, it would be
4 a matter of indifference whether LILCO, Suffolk County or
5 the Governor of New York were in charge of an emergency re-
6 sponse since according to the polls substantial numbers of
7 people mistrust each of the three; correct?

8 A (Witness Weismantle) Yes.

9 Q We know that Suffolk County and New York State
10 are not participating, right?

11 MR. CHRISTMAN: Objection. Clarification. I
12 take it, you would mean in the plan rather than in the
13 response at the time of an accident.

14 MR. MC MURRAY: We know that the statements --
15 well, I'm just going to ask whether that question is
16 correct.

17 MR. CHRISTMAN: Same objection. I don't know
18 whether he is talking about today, the planning, in that
19 case the answer is obvious; or at the time of an accident,
20 in which case it has been asked and answered.

21 JUDGE LAURENSEN: The objection is overruled.

22 WITNESS WEISMANTLE: Yeah, we know they are
23 not participating in the development of the plan; that's
24 correct, if that's the intent of your question.

25 BY MR. MC MURRAY: (Continuing)

#10-2-SueT 1 Q Then, I'm wondering what the relevance of this
2 response is, since only LILCO is going to be implementing
3 this plan.

4 A Well --

5 Q Isn't it true that we are focusing here on LILCO's
6 credibility?

7 MR. CHRISTMAN: I object to counsel continually
8 asking the witness what the relevance of their testimony
9 is. Obviously we all think that the -- the witnesses think
10 that it is relevant to the issue. If counsel thought it
11 was irrelevant, he should have moved to strike, or he can
12 argue in his findings if it's irrelevant.

13 JUDGE LAURENSEN: The objection is overruled.

14 WITNESS WEISMANTLE: Could you repeat that
15 question, because there was a premise in it that I don't
16 think I agreed with.

17 BY MR. MC MURRAY: (Continuing)

18 Q The LILCO plan, as presently written, provides
19 for implementation of that plan solely by LILCO, correct?

20 A No.

21 Q LILCO is in the position of command and control
22 of that plan, isn't that correct?

23 A That's right. But the plan also indicates that
24 should the State and/or County choose to respond there are
25 provisions to incorporate them into the on-site -- the

#10-3-SueT

1 Local Emergency Response Organization.

2 Q And assuming they do not choose to respond, then
3 the plan calls for LILCO to implement the plan itself,
4 correct?

5 A No. It calls for LERO to implement the plan
6 which is primarily LILCO employees but also DOE, the Coast
7 Guard, Red Cross, et cetera, all has been discussed many
8 times before.

9 Q Also, on Page 38 in your testimony you state
10 that if the NRC is credible it is reasonable to believe that
11 DOE is also.

12 What's the basis for that statement, Mr.
13 Weismantle?

14 A Well, I think there are a couple of bases at
15 least. One, DOE is another federal agency that has expertise
16 in the field of nuclear energy, energy in general and nuclear
17 energy. Another is, as has been discussed with Dr. Barnett
18 in terms of the particular expertise he brings to this panel,
19 and I guess to the extent that people associate National
20 Laboratories with Independent Laboratories on Table 4 and 5,
21 that lends support to this statement.

22 Q So that the DOE in Brookhaven, in response to
23 that question, you are sort of lumping together, correct?

24 A Yeah. I would say so, in our particular case.

25 Q Do you believe that it is reasonable to assume

#10-4-SueT 1 that DOE has high credibility among the public on Long
2 Island despite the fact that the head of the DOE has
3 taken an active role in attempting to license the Shoreham
4 plant?

5 A Well, I don't know if he has taken an active
6 role in attempting to license the Shoreham plant.

7 Q You know who Mr. O'Dell is, right?

8 A Yes. He has expressed some opinions about it,
9 but it might be nice if he took a more active role from
10 our viewpoint.

11 Q Well, he has met with Mr. Catacosinos,
12 has he not?

13 A I believe so. The press has reported that.

14 Q And offered his help in attempting to implement
15 an emergency plan, although he later sort of backed off on
16 that, correct?

17 A No. I wouldn't characterize what was said to
18 Mr. Catacosinos. I have no direct knowledge of that.

19 Q Mr. O'Dell's contacts with LILCO have been report-
20 ed in the local press, particularly Newsday, correct?

21 MR. CHRISTMAN: Objection. I don't think these
22 questions about the Secretary of the Department of Energy
23 are probative or helpful to the Poard.

24 JUDGE LAURENSEN: I believe they have some bear-
25 ing on the question of the credibility of DOE, which is

#10-5-SueT1

raised in the testimony.

2

The objection is overruled.

3

WITNESS WEISMANTLE: There have been reports in the press about meetings and I guess certain statements or positions that were attributed to Mr. O'Dell.

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WITNESS CORDARO: I don't think those reports in the newspaper would seriously affect the general public's view of the credibility of the Department of Energy.

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The Department of Energy is a massive agency. It has got a lot of responsibility. One of those is in the nuclear area, but they are also in charge of weapons and a lot of energy programs. And they are a large agency and they are entrusted with responsibility for the energy program or energy policy matters regarding the United States in general. And as a large federal agency, I believe they enjoy credibility nationwide as well as on Long Island, regardless of what the negative press accounts were.

(Witness Weismantle) Plus, in this context we are talking about scientists from these agencies, not necessarily -- not the management of the agency, to the extent they might be perceived differently by the public.

BY MR. MC MURRAY: (Continuing)

Q You mean to the extent they might not be perceived as affiliated with DOE?

A No. I guess what I'm saying is -- and I have to

#10-6-SueT

1 rely on Dr. Sorensen and Mileti, as was indicated in the
2 case of utilities there was a difference in the response
3 in a particular survey as to the believability of utility
4 management versus the believability of scientists or
5 engineers from that utility.

6 It's not unreasonable to believe a similar
7 perception might occur for other organizations.

8 Q Dr. Cordaro, what data do you have that DOE has
9 nationwide credibility?

10 A (Witness Cordaro) I don't have a formal social
11 survey or opinion survey to suggest that that's the case.
12 I read the national news, I read the publications of that
13 agency. I do know it is a federal agency. It's a very,
14 very large federal agency, employs a lot of people, has a
15 huge budget, is involved in a lot of areas other than just
16 nuclear. Its relationship to nuclear power plants is a
17 small fraction of the function of that agency.

18 Discussions with staff and members of Congress
19 indicate that that agency has a considerable amount of
20 importance and credibility in their mind. Those are the
21 things that I rely on. I, not being a social scientist,
22 don't believe you need an opinion survey or a formal survey
23 in every case to determine something which can be made
24 on the basis of a general observation.

25 Q Mr. Weismantle, you say that according to these

#10-7-SueT 1

2 polls -- and you are referring to the Suffolk County and
3 the Yankelovitch polls -- it is the NRC that has the highest
4 level of credibility with the public.

4 Do you see that?

5 A (Witness Weismantle) Yes.

6 Q Are you aware of any data that show that the
7 credibility of the NRC has fallen?

8 A No, I'm not aware of any data that relates to
9 that issue. I assume you mean more recent data. No.

10 (Witness Mileti) It shouldn't be surprising
11 that the credibility of any organization or group could
12 change over time. If something is going down today it
13 might start going up tomorrow, or it might stay the same.
14 That's one of the characteristics of how the public per-
15 ceives credibility of different people and organizations.

16 The only wrong assumption would be to suspect
17 that anything would stay the same in terms of how the public
18 perceives credibility.

19 Q Well, Mr. Weismantle, you say in your testimony
20 on Page 40 that we believe that as the public becomes more
21 familiar with the quality of the LILCO planning effort,
22 our credibility will rise.

23 Do you see that?

24 A (Witness Weismantle) That's right.

25 Q Are you aware of any data or testimony from other

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2 experts on this issue that would lead you to question
3 that statement?

4 A No, I don't think I'm familiar with any
5 testimony that specifically goes to the question of the
6 quality of LILCO's planning effort, effecting LILCO
7 credibility.

8 Q Is there any data that you know of which would
9 lead you to change your statement that LILCO's credibility
10 could rise?

11 A No. Again, it's linked to familiarity with the
12 quality of our planning effort, which we believe, as we
13 state in the previous question, is exemplary and has no
14 match elsewhere.

15 Q Well, are you aware of any studies done that
16 have concluded that it would be -- that there is almost
17 nothing LILCO can do to raise its credibility?

18 A No, I'm not aware of studies that address that
19 issue one way or the other.

20 (Witness Mileti) It would be strange if there
21 were a study that concluded that there was nothing an
22 organization could do that might alter its credibility.
23 There are many things organizations might have to do, or do,
24 that would alter their credibility.

25 (Witness Cordaro) Probably one of the most
significant factors effecting the credibility of LILCO in

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1 the public's eye is the cost of electricity and the rates
2 that are charged. I'm sure if we gave the electricity
3 away for free, it would have a significant impact on our
4 credibility. In fact, we do have statistics which show
5 that most customer complaints and letters complaining about
6 issues effecting the Company in a variety of situations
7 occur during periods when we have high bills.

8 For instance, after the Arab oil embargo, we
9 received a tremendous number of complaints to the Company,
10 not necessarily involving the cost of electricity but
11 general matters effecting utility operations. When that
12 subsided and the cost of electricity went down, you chart
13 these, you see that the complaints and the communications
14 from the public dropped dramatically.

15 But even in those periods where the public mis-
16 trusted the Company principally because of the cost of
17 electricity, the public still heavily relied on LILCO to
18 provide services. In an electrical emergency, they came
19 to the Company and relied on the Company to solve the
20 problems associated with that emergency. If you chart the
21 fortunes of the Company in the newspapers, looking and
22 trying to glean a general idea of what the public per-
23 ception was of the credibility of the Company over time,
24 regardless of the highs and lows of those observations,
25 in a gas emergency no one ever questioned the LILCO employee

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1 who went to the door, he knocked on the door, as to whether
2 he was trustworthy or didn't believe that he had an
3 important message to convey. If he went to the door and
4 indicated that there was an emergency regarding the gas
5 service, these people immediately complied.

6 (Witness Mileti) There are also unforeseen
7 events that can alter credibility overnight. For example,
8 look what happened to Governor Brown's credibility in
9 California because of the Mediterranean Fruit Fly. It
10 changed dramatically, and it changed overnight. I can't
11 imagine that there could be a study producing any kind of
12 data that would claim there is nothing that could be done
13 that might change or alter credibility.

14 Q Would you agree that a study could conclude that
15 it would be very difficult for LILCO to alter its
16 credibility?

17 A I believe that it's possible for a study to
18 conclude anything the study wants to conclude, that the
19 author of the study wants to conclude.

20 Q LILCO has been sending out information to the
21 population within the EPZ regarding the emergency planning
22 efforts that LILCO has been going through; isn't that
23 correct, Mrs. Clawson?

24 A (Witness Clawson) Yes, that's correct.

25 Q Keeping Current has been sent out since about

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January, 1983, correct?

2 A Yes. It was a monthly from about January
3 through probably September of '83. I would say in 1983
4 we sent out ten issues. And it's now a quarterly publica-
5 tion.

6 Q And in various issues of that publication,
7 you have been describing LILCO's planning efforts; correct?

8 A Some aspects of LILCO's emergency planning
9 efforts have been described in the publication.

10 Q And you've also been sending out other informa-
11 tion to the people in the EPZ regarding LILCO's emergency
12 planning efforts; correct, other than Keeping Current?

13 A I know that last August we sent out a letter
14 to all residents in the EPZ that included a post card
15 seeking registration of the handicapped and indications of
16 Spanish-speaking population.

17 Q And these hearings --

18 A (Witness Robinson) Excuse me. I just wanted
19 to add something -- I'm sorry, it's another publication if
20 you --

21 Q Fine.

22 A We have communicated with the public regarding
23 the installation and the testing of the sirens for the
24 prompt notification system.

25 Q And these hearings have been covered in the press,

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to some extent, have they not, Mrs. Clawson?

2

A (Witness Clawson) Are you referencing these hearings on emergency?

3

4

Q These emergency planning hearings.

5

A I would say probably to a very limited extent.

6

7

Q Do you have any data to show that LILCO's credibility has improved since LILCO began informing the public about its emergency planning efforts?

8

9

I'm talking about quantitative data.

10

A I don't think we ever sought to measure that.

11

12

Q In fact, wouldn't you agree that despite LILCO's attempt to inform the public about its emergency planning efforts that over the last month or year and a half or so, or two years, polls have shown that LILCO's credibility has fallen?

13

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Wouldn't you agree with that?

17

18

A Fallen referencing what other period of time? If you are referencing our credibility today versus our credibility ten or fifteen years ago --

19

20

21

Q I'm talking about over the last -- since LILCO started sending out its information informing the public about its emergency planning efforts, hasn't LILCO's credibility, in fact, fallen between the time it started and now?

22

23

24

end #10 25

A I --

Joe flws

1 Q Aren't there polls that show --

2 A I am really trying to determine, because I am
3 not familiar with any polls that tract what you are
4 specifically referencing, to see whether any other panel
5 members have any information about any polls that track
6 specifically what you are referencing.

7 You are referencing, I assume, our newsletter,
8 Keeping Current.

9 Q What I am talking about is LILCO's credibility,
10 and polls relating to LILCO's credibility.

11 A That is right, and what I think you asked me
12 is how our emergency planning information, through the
13 newsleter Keeping Current, has affected our credibility.

14 Q What I am asking you about -- that is right,
15 that is the issue, Ms. Clawson. And since January of
16 1983, or whenever Keeping Current started going out and
17 LILCO began its program to inform the public about its
18 emergency planning effort, over that time isn't it true
19 that polls measuring LILCO's credibility have shown
20 LILCO's credibility to be falling? Isn't that true?

21 A I am trying to see if we have any data that
22 tracks that as it relates to our educational efforts on
23 emergency planning.

24 Q And the data I am referring to is data regarding
25 LILCO's credibility.

1 A Apparently we need to clarify whether you are
2 referring to polls of people solely in the EPZ, or
3 whether you are referring to polls of people throughout
4 Long Island, because you must keep in mind the information
5 in Keeping Current, the newsletter Keeping Current was
6 mailed exclusively to people in the EPZ.

7 And I am not aware of any polls of those people
8 that have exclusively received that information that would
9 lead me to conclude what you have concluded.

10 Q Do you have any data -- you were not aware, then,
11 of any polls that have broken down the information provided
12 about LILCO's credibility according to whether or not they
13 lived inside or outside the EPZ?

14 A I know that the Yankelovitch Survey did break
15 down people that were in the EPZ in one group, or had the
16 ability to do that as opposed to people throughout -- I
17 don't remember if it was throughout Suffolk County or
18 throughout Long Island.

19 Q So that particular poll did, in fact, break down
20 the data according to whether or not people were in the EPZ
21 or outside the EPZ, correct?

22 A I know it had the capability of doing that.
23 Yes, I think that is correct.

24 Q Now, do you have any data to show that since
25 LILCO began its public information program, telling people

1 about its emergency planning process that LILCO' credibility
2 has risen?

3 Q What I am trying to say in this regard, Mr.
4 McMurray, is that I don't think we ever sought to measure
5 that, and I don't think it is a fair judgment to point to the
6 Yankelovitch results in an effort to measure the effectiveness
7 of our education program. One reason for that is that I
8 believe the Yankelovitch poll was done in the Spring of
9 1983. The -- I think it was, perhaps, March or April of
10 1983.

11 And at that point in time, we probably had only
12 sent out maybe two issues of -- two, possibly three issues
13 of Keeping Current. The initial issues did not always go
14 into great depth about our emergency planning procedures,
15 so I think it is a very unfair comparison to make.

16 Q But you would agree then, wouldn't you, with
17 my question, which was that you have no quantitative data
18 to show that since you began telling the people about your
19 emergency planning efforts that LILCO's credibility has
20 risen.

21 A That is correct. We have not done any studies
22 in that regard.

23 Q Are you aware that the Yankelovitch Survey
24 showed that within the ten mile EPZ LILCO's credibility
25 was even lower than for the general population?

1 A I am trying to confirm some of this. I have
2 not seen the Yankelovitch Study in over a year, the results
3 of it, quite frankly.

4 A (Witness Weismantle) If I could just add
5 something. Yes, the Yankelovitch Study was done before
6 LILCO announced that it was submitting, and did submit
7 in May, LILCO Transition Plan. So, I don't see the
8 relevance of trying to use that to prove a point about
9 credibility of the LERO organization and/or the transition
10 plan.

11 Q Isn't it true, Mr. Weismantle, that the Yankelovitch
12 Survey showed that LILCO had lower credibility within the
13 ten mile EPZ than for the general public?

14 A I don't recall the details. That was presented
15 in testimony on shadow effect. I believe at least a
16 summary report of that survey, and I believe it was reported,
17 to most of the questions, the responses were reported in
18 terms of where a person lived, inside or outside the EPZ.

19 So, that could be referenced in the record.

20 Q Since LILCO has conducted its emergency planning
21 efforts, though, and since June -- January 1983, Mr.
22 Weismantle, you would agree, would you not, that polls have
23 shown that on Long Island LILCO's credibility has fallen?

24 A LILCO hasn't conducted such polls. There may
25 be other polls. I have a vague recollection of seeing some

1 polls in the newspaper, but I -- so I can't comment unless
2 another panel member can recall these other polls. I
3 don't think the panel can comment.

4 Q You are not aware of polls that have shown a
5 continual decline in LILCO's credibility since January 1983?

6 A I am not personally aware of those polls, and
7 what they show.

8 Q Are you, Ms. Robinson?

9 A (Witness Robinson) Without seeing some records,
10 I really could not track numbers.

11 Q Do you read Newsday?

12 A Yes, I do.

13 Q Have you seen polls relating to LILCO in that
14 publication?

15 A To be very honest I try to avoid reading those.
16 It is not good for my digestion, but I -- really, I just
17 do not remember any exact numbers, and I really could not
18 track them.

19 Q Mrs. Robinson, other than the Yankelovitch
20 Survey, is it your testimony that LILCO has sponsored no
21 polls which might provide data on LILCO's credibility?

22 A Subsequent to the Yankelovitch Study, I
23 personally do not know of any poll that would reflect on
24 that, even indirectly, sponsored by the Long Island Lightin
25 Company.

1 Q Dr. Mileti?

2 A (Witness Mileti)

3 Q Let's go to page 41 of your testimony.

4 A I am there.

5 Q You state there that you have testified in
6 the Diablo Canyon case that notification and instruction
7 work best if they come from credible sources, correct?

8 A Yes, and I gave that testimony in the context
9 of talking about Diablo Canyon's low credibility.

10 Q And you would agree, then, that where the source
11 of the information is not credible, then notification and
12 instruction do not work as well?

13 A That is a pretty broad question, because you
14 just asked me if the source of information is not credible,
15 then things don't work as well, and I don't know what
16 you mean by, 'work as well.'

17 If you have a utility that has low credibility,
18 for whatever reason, it makes emergency planning more
19 difficult. It doesn't make emergency planning impossible.
20 In reference to implementing the plan, what is relevant
21 is that you have believable emergency information for the
22 public, and that belief is affected by many more things
23 than credibility, and therefore, it is more troublesome
24 because one needs to take into account all the factors
25 that you need to take into account when you are assuming

1 the utility might have low credibility, which as I have
2 said in my testimony, you should do whether the utility
3 has high credibility or not, or a county if they are
4 participating has low or high credibility, because all
5 that stuff can change over time. And it doesn't make
6 a hill of beans worth of difference whether you have a
7 poll showing -- going up or going down.

8 Q Notification and instruction will not work
9 best, though, if the source is not credible, correct?

10 A No, that is not necessarily true.

11 Q Are you denying the testimony that you gave
12 at Diablo Canyon?

13 A No. I think I am denying your characterization
14 of it.

15 Q Well, you say that notification and instructions
16 work best if they come from credible sources, right? Are
17 you now saying it is irrelevant whether information comes
18 from credible sources?

19 A In the best of all possible worlds in implementing
20 emergency plan, or drafting a plan for it, it would be
21 nice if there were credible sources, because that would
22 help make your life easier.

23 It doesn't make your goal impossible to achieve.

24 Q So, notification and instruction do not work
25 best if they come from non-credible sources?

1 A Low credibility can't help, but you can
2 take steps to overcome it.

3 In fact, you have to in reference to emergency
4 planning, and that is true for emergency planning for more
5 than nuclear power plant emergencies.

6 It is true for emergency plannings across the
7 board.

8 Q It is your opinion, Dr. Mileti, that LILCO's
9 credibility could increase substantially in the near future?

10 A Given a hypothetical example, like the one Dr.
11 Cordaro gave, if they gave away free electricity I suspect
12 could increase substantially over night.

13 I would suspect, however, if you are asking me
14 actually to predict the future, that they are not likely
15 to do that, and I would be real surprised if it increased
16 substantially overnight, nor would I expect their credibility
17 to increase in a time when they are involved in legal
18 proceedings when the State and the County are opposing them.

19 By virtue of the fact, regardless of the issue,
20 that fact would keep their credibility low.

21 Q Wouldn't you say that their credibility would
22 remain low while there are questions going on in other
23 forums about LILCO mismanagement?

24 A It would depend on what those other forums are,
25 and what those questions are, and the degree of publicity

1 associated with them, and I am not familiar with those
2 sorts of things.

3 Q You are not familiar with the degree of publicity
4 regarding claims of LILCO mismanagement?

5 A Not the degree of it, no.

6 Q You are not aware of press accounts regarding
7 LILCO' diesel generators?

8 A I remember hearing something about diesel
9 generators. That there is a problem with them. I don't
10 know much about them, and I haven't paid attention to
11 that.

12 Q Are you aware of the prede coverage of that
13 issue?

14 A No. The only press I have seen are the newspapers
15 I happened to have seen laying around on tables in rooms
16 where I went to have a cup of coffee or something like
17 that. I live in Denver.

18 Q Are you aware of the press coverage regarding
19 various polls that have been taken by various sources
20 in Suffolk County?

21 A Well, I have seen some newspaper stories, because
22 they were photocopied and mailed to me, but that was a long
23 time ago, and certainly not on a systematic basis.

24 So, I have seen some. I have been exposed to
25 some of the media stuff here, but I would hardly characterize

1 it as enough of an exposure to appraise the degree of
2 newspaper coverage.

3 Q So, you would agree that in general you are
4 not really familiar with media coverage of the -- of issues
5 relating to Shoreham and LILCO.

6 A Not the particular ones, but I know that it
7 has been going on. I also know there is a controversy over
8 Shoreham. You wouldn't have to ask me to do a study of
9 radio coverage either to know that it probably is out there
10 on the radio, too, which is why I wouldn't expect their
11 credibility to be high in a time when they are involved in
12 this kind of litigation, with a public entity like a County
13 and a public entity like the State.

14 Q How do you define, 'controversy?' Only legal
15 proceedings?

16 A Differences of opinion.

17 Q Do you see that there is going to be a significant
18 difference of opinion regarding the Shoreham in the near
19 future?

20 A I am not attempting to predict it. I am simply
21 describing what is happening right here, and that the public
22 knows about it. I think it is safe to say that there is
23 a difference of opinion between the County and the State,
24 and LILCO.

25 Q And there is a different -- a sharp difference

1 of opinion among the public, correct?

2 A I would hypothetize that there is. People in
3 the public with different opinions, yes. And I wouldn't
4 need to do a poll to know that public has different opinions
5 on controversial issues.

6 Q Do you have any reason to believe that the
7 Shoreham controversy, or the Shoreham issue, will not
8 remain controversial for a long time?

9 A I have no way of knowing that. I think that
10 is a legal question, and goes into areas that I don't even
11 know about.

12 Q You state that a good emergency plan should
13 take steps to ensure that it will work, even if those with
14 high credibility at the time a plan is written happen to
15 have low credibility when, and if, an emergency occurs.

16 Do you see that?

17 A Not immediately.

18 Q In the middle of the page --

19 A I see it.

20 Q Okay. You would agree, wouldn't you, Dr. Mileti,
21 that that is not the case here. That, in fact, the writer
22 of the plan has low credibility?

23 A I don't know what you mean by the writer of the
24 plan. I think there have been many writers of the plan.

25 Q The organization developing the plan; that is,

1 LILCO, has low credibility?

2 A I would agree that LILCO has low credibility.
3 I don't know about the credibility of LERO. I could guess
4 if you would like me to.

5 Q What you are saying then is you would agree --

6 MR. CHRISTMAN: He is interrupting the witness,
7 and I wish we could stop that.

8 MR. McMURRAY: We started at the same time.
9 I have a question.

10 JUDGE LAURENSEN: Let me just ask Dr. Mileti.
11 Have you finished your answer?

12 WITNESS MILETI: I was going to add something.

13 JUDGE LAURENSEN: Please proceed.

14 WITNESS MILETI: What I was going to say, the
15 real danger in all of this concern about credibility is
16 if the County and the State of New York and Long Island
17 Light Company really got along real well, and everybody
18 on Long Island trusted all of them, and said in opinion
19 polls that they had high credibility, because then there
20 may not be people devoting as much attention to ensuring
21 that emergency information is credible, if and when an
22 emergency happens, and if that happens two weeks after
23 New York and Long Island gets is med fly, then there could
24 be a problem of public safety.

25 In the planning process, it is almost better to

1 take steps to ensure that the emergency information the
2 public receives during an emergency, that emergency
3 information will be believable, despite the fact that
4 some of the participants might or might not have the
5 day of the emergency low pre-emergency credibility
6 configurations as measured on polls.

7 MR. McMURRAY: Judge Laurenson, I would like
8 to move to strike Dr. Mileti's statement. My question
9 was whether or not LILCO has low credibility. Dr. Mileti
10 went into an explanation that was not relevant to that
11 particular question, and I think it should be stricken.

12 JUDGE LAURENSEN: Motion to strike is denied.

13 End 11
14 Reb fols.

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1 BY MR. MC MURRAY:

2 Q Also on page 41, Dr. Mileti, you are stating
3 that, "In other words, emergency planners should assume,
4 for the purposes of planning, that information givers have
5 low credibility with the public."

6 Correct?

7 A I certainly believe that, and I have been telling
8 everybody I can to do that.

9 Q And the assumption should be that during the
10 planning process the information givers have low credibility?

11 A No. What you should be assuming is that no one
12 group that will participate in implementing a plan will
13 have high credibility the day the emergency occurs. And
14 what is important to address in the plan is taking steps
15 to guarantee, despite what those pre-emergency credibility
16 configurations might be the day the emergency begins, that
17 the public, despite that, will get information that it can
18 come to believe, make good decisions upon, and respond in
19 a way that protects and maximizes their health and safety.

20 We are lucky in this regard that more things
21 beyond credibility affect emergency warning information
22 belief and response because that enables us to take this
23 into account, despite low pre-emergency credibility
24 configurations.

25 Q On page 43 you say, "Assuming low credibility for

1 LILCO, a good emergency response can still be implemented
2 if plans and preparedness are sound and take the presumption
3 of low credibility into account.'

4 And that is consistent with what you just said,
5 correct?

6 A I am sorry. Was that 43?

7 Q Top of page 43.

8 A Yes.

9 Q Now, by taking the assumption of -- presumption
10 of low credibility into account, I take it that you are
11 stating that good emergency information -- and I want a
12 yes or no answer to this question, Dr. Mileti -- that good
13 emergency information will overcome low credibility?

14 A I can't answer that yes or no.

15 Q You can't answer that yes or no. Thank you.

16 You say you hold this opinion for two reasons.
17 First, the presumed sequence of cause and effect made by
18 the Intervenors -- strike that. I'm sorry.

19 You say in the last sentence on that paragraph,
20 "The presumed sequence of cause and effect postulated by
21 Intervenors -- that is, credibility to belief to response --
22 can be managed in emergency planning."

23 Correct?

24 A I'm sorry. I don't see that last sentence on
25 the paragraph on page 43.

1 Q This is in the last paragraph, the first sentence.

2 A I'm sorry. I thought you said the last sentence.

3 I see the first one, of course. Yes.

4 Q And by the statement "can be managed" you mean
5 by good emergency information, correct?

6 A What I mean by that is, taking steps into account
7 in an emergency plan, which certainly does address emergency
8 information, to help people come to believe the emergency
9 information and respond well the day the emergency occurs.

10 The emergency information is extremely important
11 to that during the actual emergency.

12 Q When you say that the low credibility can be
13 managed you are relying primarily on good emergency
14 information; is that not correct?

15 A I think so, but let me say it in my own words.
16 It may be the same thing that you are saying; I'm just
17 not sure. That is, emergency information during the
18 emergency takes several things into account. It can
19 elicit belief in that emergency information by as many people
20 as is possible and can maximize appropriate response to
21 the extent that can be achieved.

22 I think that is what you just said.

23 Q Other than good information, what other factors
24 are you referring here to that can manage low credibility?

25 MR. CHRISTMAN: Objection. We have discussed those

1 factors about emergency planning information in detail in
2 the shadow phenomenon testimony. We listed them all and it
3 was discussed for days, I believe. So it has already
4 been explored.

5 MR. MC MURRAY: My question is, besides good
6 emergency information.

7 JUDGE LAURENSEN: The objection is overruled.

8 WITNESS MILETI: It would really depend on what
9 you consider emergency information to be. I think I
10 have listed on page 54 of my testimony factors about
11 internal consistency, accuracy, clarity, certainty,
12 frequency, and confirmation, the source, multiplicity of
13 channels.

14 I would call all of those things emergency
15 information, part of the warning system.

16 So if you would agree that they are, then I
17 think we agree.

18 BY MR. MC MURRAY:

19 Q If all of those things are emergency information
20 and factors affecting emergency information, what other
21 factors are you referring to, if you are referring to any
22 other than good emergency information, which includes all
23 those things, that can be used to manage the effects of
24 low credibility?

25 A The factors that you would need to splice into

1 a plan that would then get implemented to insure that those
2 factors occurred during the emergency.

3 Q What are they?

4 A Well, I am sure I couldn't remember all the
5 specifics. But it is designing the flow of information
6 within an emergency response organization, deciding how
7 frequently the emergency broadcast system messages would
8 be issued, setting up a place where reporters could come
9 to get information so that there could be confirmatory
10 information going out, making sure that there was going
11 to be more than one radio station that broadcast emergency
12 information, getting together with different people so
13 that one could, in giving information out, report that
14 scientists and others were talked with in terms of what
15 is being said on the EBS station.

16 Q Dr. Mileti, it seems to me that you are basically
17 going over again the factors that go into good information.
18 I am trying to get other factors besides those that you
19 have already named and I agree we have gone into in great
20 detail.

21 A I am sorry. I don't understand. I was talking
22 about social organizational factors that were different
23 from the actual information factors that would lead to the
24 information factors.

25 But all the ones I would come up with would be

1 related to emergency public information.

2 Q Would be related to public information.

3 So it is your opinion then that good
4 emergency information and factors related to good emergency
5 information can overcome low credibility, correct?

6 A Well, it depends on what you mean by low
7 credibility.

8 What I mean by overcome low credibility is have
9 the public come to believe and then respond well in an
10 emergency. And if that means overcoming the fact that
11 an organization like LILCO has low credibility, yes.

12 Q And is --

13 A That there are factors that interact with
14 pre-emergency credibility configurations that can help
15 people come to make good decisions in an emergency.

16 I am glad we know them.

17 Q And is it your opinion that in all cases where
18 there is good information, low credibility will be overcome?

19 A I would have to agree with that, yes, if the
20 plan is implemented well and if there really is, given
21 the criteria that I would measure information, adequate and
22 good information.

23 Q Just to get this clear, there is no case in
24 your mind where credibility could be so low that the other
25 factors you have laid out in your testimony could not

1 overcome that low credibility?

2 A Not within the realm of human possibility as I
3 know it, no.

4 I am sure we could conjure up a hypothetical
5 example.

6 Q You state on page 44 of your testimony that
7 "Credibility has co-varied with belief in prior emergencies."

8 Correct?

9 A Oh, yes. There are just reams of studies that
10 show that, as well as any number of things.

11 Q You say, "However, it is quite possible to
12 elicit belief even when credibility is low."

13 A Yes. That is what we just finished talking about.

14 Q Now, I would like you to list, please, those
15 emergencies in which good response has been elicited or
16 where belief has been elicited even though credibility of
17 the source of information has been low.

18 A Well, the problem with doing that is that in most
19 emergencies that have been studied where there is
20 quantitative data by social scientists, that looks as if
21 polls were done, the information that people got came
22 from different sources. And some of the sources had or
23 would have had low pre-emergency credibility, and some of
24 the sources would have had high pre-emergency credibility,
25 as would probably be the case if there were ever an

1 emergency at Shoreham.

2 So there is no one study that I can point to
3 that had low pre-emergency credibility that was very, very
4 low and things went real well.

5 However, in almost any emergency people got
6 information from sources that might have had low pre-emergency
7 credibility as well as sources that might have had high
8 pre-emergency credibility, and people have sought to see
9 how that co-varied with the response of that person.

10 Q What -- are you done?

11 A No. I was going to say that I can point to
12 emergencies that have occurred where by and large in
13 just the descriptive sense, not in this analytical sense
14 that would lead us to make conclusions about how variables
15 relate to one another in the social sciences. but in the
16 descriptive sense I can point to studies where information
17 was bad, where credibility of that information was low and
18 response was extremely poor. And I can point to studies
19 where response for almost everybody in a community was
20 very good and the information that went out was very good,
21 including being credible.

22 Q But you cannot point to any particular emergency,
23 can you, where the source of information had low credibility
24 and yet belief was elicited?

25 A I believe I said that's because there has never

1 been an emergency nor will there ever be an emergency where
2 every source of information has had low pre-emergency
3 credibility or high pre-emergency credibility.

4 There is always a mix, as there would be in an
5 emergency at Shoreham.

6 Q Therefore, you don't have any studies that
7 support your statement here that it is quite possible to
8 elicit belief even when the credibility of the source of
9 information is low?

10 A No. I think I have a ream of studies that support
11 that.

12 Q What are the studies of particular emergencies
13 that you are referring to?

14 A The literature on which that statement is based
15 I could have given you a long time ago, had you asked for it.

16 Q Well, I would like the particular emergencies
17 involved.

18 A Well, I believe that that statement is based on
19 many studies done and performed by social scientists, some
20 of which have even been cited by your expert consultants.

21 Q I would like the particular emergencies involved.

22 A Sure. Drabek's 1969 article referencing the
23 particular emergency that happened in Denver, Colorado
24 in 1965 where the city got flooded in which he studied
25 evacuation. And one of the significant factors that he

1 looked at was to look at emergency information. And one
2 of the factors important to emergency information that he
3 looked at was confirmation, et cetera, as that might be
4 relevant.

5 Later on a lot of the work done by Ron Perry and
6 his colleagues, when Ron was at Batelle in Seattle,
7 addressed how people respond. I believe the work that
8 Perry did on floods -- I am not particularly sure if it
9 is his emergency planning book or his coauthored work
10 -- in fact, I think it is his coauthored work with
11 Majorie Green and Mike Lindell -- supports this conclusion.

12 Q You are not giving me specific emergencies
13 though other than the Drabek article.

14 A You mean the disaster agent?

15 Q I am talking about what the emergency was.
16 In the case of Drabek, the 1969 article --

17 A It was a flood.

18 Q -- it was a flood.

19 Let's turn to that for a second. Who or what
20 individuals were the sources of information in that
21 particular study that you are relying on?

22 A Oh, I am sure they were varied. I don't remember
23 the details.

24 Q You don't know who the sources of information were?

25 A I don't remember them, but I am sure they were

1 varied because it was studied as a variable.

2 Q With respect to those sources of information, do
3 you recall how Drabek measured their credibility before
4 or during the emergency?

5 A No, I don't remember that.

6 Q How do you know then that those sources of
7 information had low credibility prior to or during the
8 emergency?

9 A Because I remember that that is one of the pieces
10 of research that was the basis for the statement that I
11 wrote.

12 Q And you don't know how Drabek came to that conclu-
13 sion that the source of information had low credibility
14 during the accident?

15 MR. CHRISTMAN: Objection. If counsel wants
16 information about a particular study, he should show
17 the witness a copy of it. No one can remember all those
18 details about anything.

19 JUDGE LAURENSEN: Overruled.

20 BY MR. MC MURRAY:

21 Q Do you remember the question?

22 A No, but I am sure my answer was I don't remember.
23 I don't remember the question. I am sure I don't remember
24 what it is you wanted me to answer.

25 I don't remember the particular measures that any

1 of my colleagues have used when they have done research.

2 I sometimes have a hard time remembering the
3 particular measuring instrument that I used.

4 Q It is your understanding though that the Drabek
5 article concluded and specifically stated that the
6 sources of information had low credibility at the time of
7 the accident?

8 A I don't remember that the Drabek article
9 specifically concluded in the section labeled conclusions
10 in the words that the county's attorney is using that, no.
11 I would suspect that a fair reading of the Drabek 1969
12 article would lead an unbiased, prudent scholar to reach
13 a conclusion that there was evidence in there to support
14 the statement I made in my testimony which is how I
15 remember it and how I used it.

16 Q Does the Drabek article specifically state
17 anywhere that the sources of information had low credibility
18 during the accident?

19 MR. CHRISTMAN: Objection. Asked and answered.

20 MR. MC MURRAY: Judge Laurenson, I don't think
21 we got a clear answer.

22 JUDGE LAURENSEN: Are you asking for a yes or
23 no answer?

24 MR. MC MURRAY: Sure. Yes, I would like a yes
25 or no answer.

1 JUDGE LAURENSEN: The objection is overruled.

2 WITNESS MILETI: How do you say "I don't remember"
3 in yes or no? I am sure it didn't because Drabek is a
4 sociologist. He would have studied it as a variable.
5 And that is, for some people, for some of the information
6 that they get, credibility was perceived to be low and
7 for other people it was high.

8 That is how you can establish the statistical
9 relationship.

10 If it was low across the board, then you couldn't
11 come up with the kind of quantitative data that would be
12 your next question, if I said that that is what Drabek
13 had.

14 Credibility affects belief, if you take it in
15 isolation all by itself and do correlations -- and there
16 are many, many studies that support that which is your
17 contention. Credibility affects belief. It does.

18 BY MR. MC MURRAY:

19 Q What was the response to the 1965 flood,
20 was it a poor response or a good response?

21 A No. As I remember, death wasn't very high in
22 Denver during that flood. So part of it was, I am sure
23 good, and part of it was, I am sure, bad.

24 Q But you don't really recall?

25 A The particulars of that disaster, no. That was

1 before I moved to Denver, and I don't remember the
2 particulars. I remember what happened in other floods
3 where credibility varied in the emergency information.

4 MR. MC MURRAY: Judge Laurenson, I think this
5 is a good time for the lunch break. If the Board wants
6 to break --

7 JUDGE KLINE: Before we do that, I don't think
8 I can wait for this till after lunch.

XXXXXX

9 BOARD EXAMINATION

10 BY JUDGE KLINE:

11 Q The distinction between credibility and belief
12 is very murky for me. And the reason is that credibility
13 has been spoken of all morning as if it were a property
14 possessed by LILCO when, in fact, I would have thought it
15 to be a property attributed. That is to say, a willingness
16 to believe.

17 So it sounds like a tautology to me, that
18 belief is belief or something like that.

19 And to continually say credibility affects belief
20 sounds circular to me. I would like you to first make the
21 distinction and then comment.

END 12

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#13-1-SueT 1

2 A I apologize but this isn't the first time
3 social scientists have been accused of speaking in
4 tautologies. But I don't think it is a tautology.

5 The variable that I believe is important is
6 whether or not people believe the information that they are
7 getting in an emergency, because that's what is important
8 in determining how and what they do. And that's very, very
9 different from if you ask someone in an opinion poll when
10 no emergency is going on, would you be willing to believe
11 this particular organization, or do you think they would lie,
12 or whatever and however you wanted to answer the question.

13 Now, I think the presumption by some is that if
14 today some members of the public said they didn't trust, or
15 weren't willing to believe, in the future a particular or-
16 ganization and whether they actually believe them in an
17 emergency, those things are not the same. And the pre-
18 sumption that they are the same is wrong.

19 And the reason it's wrong is whether you believe
20 the information in an emergency is determined, is effected,
21 is caused, in the sense that things cause each other in the
22 social world, by things beyond pre-emergency, perceptions
23 of willingness to believe.

24 Q Are you saying that as an analytical matter that
25 the public is making distinctions, then? That is, to say
that credibility is not a monolithic quantity; that is,

#13-2-SueT

1 would it be correct to say that a public response might be
2 given in a monolithic form, saying, no, this company lacks
3 credibility, nevertheless cutting out a specific portion
4 of the information they may give? As, for example, in
5 fixing power lines or gas lines or emergency response, that
6 they would be believed in this narrow area as opposed to --

7 A Well, I have to answer that question two ways.
8 Yes, it is possible to perceive that you are a member of
9 the public, credibility of an organization, on different
10 fronts in different ways. In an emergency, even if people
11 are not willing to believe, let's say, a utility about
12 emergency information, other informational factors will
13 help them come to believe the best available information
14 about what to do in that emergency beyond credibility.

15 Credibility and belief are not the same thing.

16 (Witness Cordaro) Just to add one thing to that.
17 From our own experience, in days of very, very high bills,
18 when you put information in with the bills to explain why
19 the bills are high, the tendency is for people not to
20 believe the reasons, for whatever reason they don't want to
21 believe it.

22 However, if you put in a bill stuffer informa-
23 tion about electrical safety, don't fly kites, don't take a
24 bath with electrical equipment nearby, and things like that,
25 it's generally highly accepted and believable by the public.

#13-3-SueT

1 At least, that has been our experience. We are viewed as
2 experts in that area of electrical safety, even though we
3 may be questioned or not trusted regarding the cost of the
4 bill or the cost of the electricity being consumed.

5 (Witness Mileti) If I might give an example and
6 speak in English rather than sociology --

7 Q That would be helpful.

8 (Laughter.)

9 A During the Iranian crisis, there were I'm sure
10 many people who came to believe the information they were
11 getting about what was happening to our prisoners in Iran.
12 And the source of information for some was not a credible
13 source. For some people, the federal government is not a
14 credible source of information, especially from the Presi-
15 dent's Office, for example.

16 However, that was the only source of information.
17 It was given to us consistently. It was given to us
18 frequently. It was given to us repetitively. It was given
19 to us on ABC, CBS, et cetera. And most people came to
20 believe what was happening with our hostages in Iran,
21 because other factors beyond the perception of credibility
22 affects whether you believe information or not.

23 And it's those things that an emergency plan
24 needs to jump on and make sure, because people need to
25 believe emergency information.

#13-4-SueT 1

JUDGE KLINE: Well, I think I can go to lunch
with less anxiety now.

(Laughter.)

JUDGE LAURENSEN: All right. We will take our
luncheon recess now.

(Whereupon, the hearing is recessed at 12:50 p.m.,
to reconvene at 2:05 p.m., this same day.)

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#13-5-SueT₁A F T E R N O O N S E S S I O N

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(2:07 p.m.)

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JUDGE LAURENSEN: Okay. We are back in session.

4

Mr. McMurray.

5

Whereupon,

6

CAROL A. CLAWSON,

7

MATTHEW C. CORDARO,

8

DENNIS S. MILETI,

9

ELAINE D. ROBINSON,

10

JOHN H. SORENSEN,

11

-and-

12

JOHN A. WEISMANTLE

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were called as witnesses by and on behalf of Long Island
Lighting Company and, previously having been duly sworn,
were further examined and testified as follows:

14

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CROSS EXAMINATION

17

BY MR. MC MURRAY:

18

Q Dr. Mileti, let's go to your testimony on Page
19 46.

19

20

A (Witness Mileti) I see it.

21

Q Okay. You say there that -- in your response to
22 Question 22, you say there that the major finding from
23 previous studies of the role that perceived credibility
24 plays in shaping response to a warning, et cetera.

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Is that when a warning is received from a source

#13-6-SueT 1 judged to have low credibility, people tend not to take
2 immediate actions.

3 Do you see that?

4 A Yes.

5 Q Okay. The previous studies that you are refer-
6 ring to are not studies dealing with a radiological emergency;
7 isn't that correct?

8 Yes or no.

9 A No. However --

10 Q Well, wait a second. Your no was that the
11 question I posed to you was correct; isn't that correct?

12 A Well, they include some studies on TMI.
13 But the bulk of them come from the natural emergencies that
14 have been investigated.

15 Q What TMI studies are you referring to?

16 A I would look at all of them if I wanted a judg-
17 ment about what happened at TMI.

18 Q Which studies are you referring to specifically
19 with respect to TMI?

20 A Studies of evacuation.

21 Q What studies are you referring to specifically?

22 A Well, I would look at, if I wanted a good
23 picture of evacuation at TMI, a list of them. The ones
24 that come to mind today are the Brunn, et al study, the
25 Bromet study, the Houts study, the Flynn study.

13-7-SueT

1 It's always a good idea when there are multiple
2 studies of an emergency to have a look at them all to
3 reach judgment about what occurred in the emergency.

4 Q And which one of those TMI studies concluded
5 that at the time of the emergency the source of information
6 had low credibility?

7 A I think -- I don't recall which specific one,
8 but it's generic knowledge that the utility lost credibility
9 in the process of giving information out to the people
10 during the Three Mile Island accident. I believe, for
11 example, the one piece of -- the one publication you
12 cited yesterday reached that conclusion. I've forgotten
13 whose it was, but it was the one in the aqua book, from
14 Westview Press in Boulder, Colorado.

15 Q Are you finished with your answer?

16 A Yes.

17 Q You spoke of generic knowledge, that as a result
18 of the accident the credibility of the utility fell;
19 isn't that correct?

20 A No. What I said was that in the process of
21 giving information out, the credibility of the utility
22 fell. And that's well documented, largely because of all
23 the botching up that the utility did during the Three Mile
24 Island accident. Information, as I recall, was presented
25 that appeared and was perceived by some as if information

#13-8-SueT

1 were being withheld. And that contributed to the utility's
2 losing credibility during the accident.

3 Q You say on Page 47 towards the top that
4 credibility gaps can be a cause of people not immediately
5 responding to a warning rather than actively doing some-
6 thing contrary to what they are told to do.

7 Do you see that?

8 A I sure do. Yes.

9 Q So, you would agree then that lack of -- yes or
10 no, that lack of credibility could result in a delayed
11 response?

12 A I can't answer that yes or no.

13 Q Dr. Miletic, wouldn't you say that if you are
14 told to evacuate but you go about your normal business,
15 that you would be actively doing something contrary to
16 what you were told to do?

17 A In answer to that hypothetical question, holding
18 all other factors in the world constant, yes, I would agree
19 with that statement.

20 Q Also, on Page 47 you say: We would expect
21 people who have perceptions of low credibility for every
22 warning/evacuation notification source to not do anything
23 out of the ordinary except to listen for more information.

24 Do you see that?

25 A Yes, I see that.

#13-9-SueT

1 Q The more information that they would seek would
2 be from the EBS messages, correct?

3 A That's one possibility.

4 Q And in that case, the additional messages would
5 be coming from LERO, correct?

6 A I think they would be coming from the radio
7 station.

8 Q The message would be attributed to the LERO
9 Director, correct?

10 A And others.

11 Q Who is the person identified as giving the
12 information?

13 A The Director of Local Response, who is the
14 person named in the message along with others.

15 Q The others are merely identified as people
16 with whom he has consulted, correct?

17 A Yes, and that's the way it is appropriate to
18 identify those other sorts.

19 Q And we've established already that those other
20 sources are not stated to ascribe to what the LERO Director
21 says, correct?

22 A I don't know that that has been established. I
23 think the LERO Director, in the EBS messages the statement
24 is made that after conferring with scientists and people
25 that know about accidents at nuclear power plants, et cetera.

#13-10-SueT 1

Q So, therefore, maybe we didn't make this clear.
2 There is no statement in there that those scientists or
3 consultants agree with what the LERO Director is telling
4 the people, correct?

5 A No, there is no statement in that. And I think
6 for the same reasons we talked about when we were talking
7 about the shadow phenomenon, when I described that I didn't
8 use a particular word that might have been "infer" or
9 something else that you were interpreting in a legal sense
10 and I was using in a much looser sense.

11 Q I believe in response to Judge Kline's question
12 you would -- strike that.

13 You would agree, would you not, that response
14 does depend, or is affected, by how a person perceives the
15 believability of a message?

16 A Response is affected by many things. Belief in
17 the message is one of them.

18 Q And you state, in fact, in your testimony on
19 Page 47, do you not, if further as well as previous in-
20 formation creates a believable warning people will likely
21 respond regardless of credibility, correct?

22 A Yes, warning, belief and response is a process,
23 and that phrase is trying to point out the process.

24 Q So that believability is an important factor?

25 A Believability is an important factor, and it is

#13-11-SueT 1 something that emerges through a social process. It is
2 not a static variable that does or doesn't exist. It is
3 something that changes over time which, by the way, is one
4 of the key findings from Drabek's study on the flood,
5 Denver in '65.

6 Q You say that -- towards the bottom of your
7 response to Question 22, the last sentence of that response:
8 The assumptions behind Contention 15 that low credibility
9 will lead to disobedience are simply not based on any
10 previous research findings or evidence of which we are aware.

11 Do you see that?

12 A I certainly do, yes.

13 Q Is it your understanding that Contention 15 --
14 strike that.

15 What do you mean by the term "disobedience?"

16 A Not following instructions.

17 Q Dr. Sorensen, Page 48, you say, sort of in the
18 top third of the page there, that probably the chief
19 reason is that evacuation or other recommendations are
20 usually not issued as strict and precise orders.

21 Do you see that?

22 A (Witness Sorensen) Yes, I do.

23 Q Are you saying then that LERO must attempt to
24 be strict with the public?

25 A All I'm saying there is that when warnings are

#13-12-SueT 1

2 typically issued for a large range of different types of
3 emergency situations, that they are not martial law, force-
4 ful type orders under some sort of penalty, but rather
5 allow an individual, in sort of keeping with I guess the
6 democratic principle that sort of runs throughout our way
7 of life, allow people some kind of decision-making, whether
8 they -- and going through the process that we have described
9 and discussed over and over about how people come to decide
10 about whether to execute a response in keeping with a
11 warning, evacuation or otherwise.

11 Q What did you mean by the term "strict?"

12 A To modify. What was it, modifying a strict
13 order?

14 Q What did you mean by the term "strict?"

15 A I meant, as I just previously said, a kind of
16 warning message that gave people no other room to think or
17 make decisions in the sense that they could be threatened
18 by some sort of penalty, forcefully required to act, that
19 would not -- for example, use the word, we recommend, it
20 says you will do this.

21 Q And is that the kind of order that LILCO or
22 LERO contemplates?

23 MR. CHRISTMAN: Objection. Asked and answered.
24 The kind of message that LERO contemplates is already in
25 the record, in the EBS sample messages.

#13-13-SueT 1

JUDGE LAURENSEN: Overruled.

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WITNESS SORENSEN: Based upon my reading and recollection of those messages that is not the kind of message that is reflected in the sample message, those that I've looked at.

BY MR. MC MURRAY: (Continuing)

Q Are you trying to say here in this passage that emergency warnings should be given in a strict and precise manner?

A No. I believe that they should allow some individual kind of decision-making to take place in most cases. I mean, there is obviously going to be cases where some greater degree of strictness would be required.

Q You say at the bottom of Page 48, going over to the top of Page 49, that in some instances, particularly when the threat is imminent more forcefully delivered advisements are given often door-to-door.

Do you see that?

A Yes, I do.

Q LILCO doesn't intend to go door-to-door to warn people, do they?

A To the best of my knowledge, I don't think they plan to systematically go door-to-door to every household.

end #13 25

Joe flws

1 Q Is it your understanding that -- strike that.
2 Dr. Mileti?

3 A (Witness Mileti) Yes.

4 Q What other emergencies can you cite for me
5 which support your statement that good response without
6 belief has, and will occur in all sorts of emergencies.
7 Again, I am asking for specific emergencies.

8 A I am sorry. I don't remember talking about
9 that before.

10 Q The question -- when we were talking about the
11 Drabek article, it was in response to my question about
12 what emergencies you could name that supported this statement
13 at the bottom of page 44, and you cited for me one example,
14 the flood that Drabek studied.

15 A I am happy to talk about that. It is just that
16 I recall that our conversation before lunch was talking
17 about how it is that belief could be elicited when
18 credibility was low.

19 I would be mighty happy to talk about that.

20 Q The question is: What other emergencies can you
21 point to that support your statement that good response
22 without belief has, and will occur, in all sorts of emergencies
23 as you say at the bottom of page 44?

24 A Well, there are examples, descriptive as well as
25 analytical examples where people have responded in

1 emergencies in ways that we outside judges might consider
2 well, when they themselves did not believe the warnings
3 or believe that the emergency was going to happen or
4 believe what they were being told.

5 For example, there are many cases of this. Of
6 individuals or families in many different emergencies, and
7 I can list some of them for you. Ones that come to mind
8 right now, for example, in Rapid City I recall a family
9 of about ten people who were living in a home, and the
10 husband and wife -- this was an Indian family -- didn't
11 believe that the flood was going to happen. Didn't believe
12 that floods that big happen in Rapid City. Did not want
13 to leave, et cetera.

14 And they convinced most of their children that
15 floods like that don't happen in Rapid City, don't happen
16 to Indians, and a bunch of other folklore came into affecting
17 how they interpreted the information that they got.

18 They had one teenage daughter, however, for
19 whatever reason did believe it, and despite the fact that
20 her brothers and sisters didn't believe that the flood was
21 going to happen, she pulled them literally out of the house,
22 one in each hand, and those three children are alive today;
23 the rest of the family is dead.

24 There are other examples where people who don't
25

1 believe emergency warnings come to behave in an appropriate
2 way in an emergency.

3 For example, in many of the studies that have
4 been done that have analyzed the behavior of older people
5 in response to emergency warnings, and I believe there
6 was a paper written on this by Hutton and Trainor. I
7 don't recall where it was published, and it looked at
8 specifically how it is old people deal with emergency
9 information.

10 And the aged are, for some reason that has
11 not really been well defined yet, to the best of my
12 knowledge, very reluctant to get up out of their houses
13 and do something like evacuate. And there are always
14 accounts of how it is that when they do evacuate it is
15 because, despite the fact they didn't believe things, that
16 their children or others came and took them.

17 There are many case examples of where people
18 in emergencies have come to behave in a way we would judge
19 as well, but even though they didn't believe things.

20 However, that is something we shouldn't count
21 on in emergency planning.

22 Q So far you have only cited one particular
23 emergency, which is what my question called for, and you
24 did give us an interesting antedote about the Indian family.
25 So, in Rapid City -- let me ask you this. What was the

1 source of information that the Indian family found to be
2 -- to have low credibility?

3 A The emergency warnings that they got.

4 Q You know that the Indian family did not respond
5 appropriately, correct?

6 A Part of it didn't. Part of it would -- did,
7 in my judgment.

8 Q And the part that did respond appropriately
9 responded because the particular individual involved
10 believed and found credible the source of emergency
11 information, correct?

12 A One of that sub-group did, and the other two
13 didn't.

14 Q That is right. The other two didn't, and
15 were forcefully pulled out by the one who did, correct?

16 A Yes.

17 Q Thank you. The two that were pulled out were
18 children?

19 A They were younger than the one who pulled
20 them out.

21 Q Now, do you have any other examples of specific
22 emergencies -- specific emergencies where good response
23 was elicited without belief. I am talking about specific
24 emergencies.

25 A Well, again, belief in emergency information

1 is a process. So there are other examples where belief
2 did not exist when the emergency began, but as the process
3 of emergency warning progressed, people came to behave
4 in appropriate ways, and came to believe what was about
5 to happen and, therefore, decided to leave.

6 Q And what specific emergency are you referring
7 to?

8 A Well, again the 1965 flood in Denver is a nice
9 documented case by Tom Drabek.

10 Q We have gone through that. Any others?

11 A Sure. Where belief initially was low, and then
12 gradually came into being as a process, that process I
13 would imagine characterizes any emergency that has been
14 studied by social scientists who investigated how it is
15 people came to respond to warnings, because that is the
16 process that characterizes how people decide to respond.

17 For example --

18 Q Dr. Mileti, why won't you give me a specific
19 emergency that you are referring to other than the Rapid
20 City flood and the Drabek article. All I am asking for
21 is a simple response, which is name a specific emergency?

22 A I was about to. I said, 'for example,' and
23 you cut me off before I got to the examples.

24 Q Please give me a specific example.

25 A Another one that comes to mind is an old

1 National Academy of Science Study. It was done by
2 Danzig, et al, and I believe it was studying how people came
3 to interpret information regarding, I believe, a rabies
4 epidemic.

5 Another one that comes to mind is another
6 set of flood emergencies studied by Perry, Lindell and
7 Green, and I remember saying that this morning, too. That
8 was a 1981 or so -- maybe 1980 publication. It was one
9 of the Reports that came out of the Battelle Memorial
10 Research Institute in Seattle before Ron moved to Arizona
11 State.

12 Q What emergency did that deal with?

13 A I don't remember the particular flood.

14 Q With respect to the Danzig article which dealt
15 with the rabies epidemic, what was the source or sources
16 of information that was studied?

17 A As is the case in most emergencies, there were
18 many sources of information. There were official sources
19 of information. There were less official sources of
20 information.

21 There was information from the media; there
22 was information from peers; there was information from
23 family, et cetera.

24 Q And which sources did Danzig find, specifically
25 find to have low credibility?

1 A As is the case in most emergencies, as I recall
2 to the best of my knowledge, low credibility and believability
3 was low regardless of source and then changed in the process
4 of communication, and as people confirmed information and
5 formed perceptions about what was going on, and then made
6 decisions.

7 Q What data did Danzig have to confirm that, in
8 fact, the sources of information had low credibility?

9 A I don't recall the data that he had. I just
10 remember what his conclusions were.

11 It really has been at least a dozen years since
12 I have read that.

13 Q Dr. Mileti, do you recall specifically whether
14 Danzig stated in his article that the sources of information
15 uniformly had low credibility prior to the rabies epidemic,
16 and increased during the course of the rabies epidemic?

17 A I don't recall if he said that explicitly.
18 I do recall that that is the conclusion one would reach
19 if you sat down and read it. That is what I remember his
20 findings were.

21 I don't remember what his words were.

22 Q Rapid City was not an example in your mind of
23 a good emergency response for the general public was it,
24 Dr. Mileti?

25 A That is very much a value judgment. There was

1 good emergency response for some people, and there was
2 poor emergency response for other people. That is why
3 some people got to safe ground very early on in the
4 emergency, and other people are dead today, because they
5 didn't.

6 Q Haven't you previously characterized the
7 Rapid City flood as an example of a case where there was
8 not good response for the general public?

9 A Because 232 drowned, yes, in general. But
10 that didn't mean there weren't good responders there as
11 well.

12 Q There were some, correct?

13 A Yes.

14 Q That means some people didn't die, right?

15 A Yes.

16 Q With respect to the Perry, Lindell and Green
17 article that you are referring to, that was a flood?

18 A Yes.

19 Q You don't recall where the flood was?

20 A I believe I already said that I didn't.

21 Q Who were the specific sources of information
22 whose credibility Perry, Lindell and Green were measuring?

23 A I am sure that they would have measured the
24 factors related to anybody that contributed emergency
25 information, but I don't remember specifically.

1 Q Do you know for sure that they, in fact, did
2 measure credibility during the accident. That is,
3 perceptions of credibility, or are you just speculating
4 that they would have, you think?

5 A I remember that they documented the confirmation
6 process and how it affects belief, and that the confirmation
7 process, by virtue of its existence, begins with low belief
8 and evolves into higher belief, and then human action.

9 And to document that process, which I do recall,
10 one would have to look at the kinds of information that
11 people get in an emergency, and that information comes
12 always in emergencies from multiple sources.

13 Q You are saying that the confirmation process
14 only occurs when there is low credibility?

15 A No, sir. I said it always occurs.

16 Q It always occurs. Regardless of whether there
17 is low credibility or high credibility, correct?

18 A Well, it can be different for different people.
19 Sometimes if -- the confirmation goes on until someone
20 forms a perception or belief, and then acts on it, or
21 doesn't come to act on it.

22 Q Do you recall what sources of information Perry,
23 Lindell and Green found to have low credibility during the
24 course of the emergency?

25 A As I said before, for different members of the

1 public; for different members of the people they must
2 have been studying, credibility would have to have varied,
3 and it would have to have been diffeent and come from
4 multiple sources.

5 I don't remember any specific agencies that I
6 can name.

7 Q And do you recall whether with respect to particular
8 agencies who were perceived as having low credibility, the
9 perception of credibility rose for those particular
10 agencies during the course of the emergency?

11 A No, I don't remember that, but I wouldn't need
12 to. What matters is that belief emerged, and you act on
13 the basis of the information and take protective action.

14 Q Was the Perry, Lindell and Green flood an example
15 of a good response, or a not so good response?

16 A I wouldn't know how to judge it. I don't
17 remember.

18 Q So you don't -- go ahead, I am sorry.

19 A As I have said twice already, and maybe I
20 shouldn't say it again, I remember the analytical finding
21 from it.

22 Q So you don't really recall then whether or not
23 this was an example of good response without belief?

24 A I remember that it is illustrative of the
25 confirmation process. The confirmation process by virtue

1 of the fact that it went on, is illustrative of how people
2 come to believe things and then respond.

3 Q And you have already said, though, that the
4 confirmation process takes place whether there is low
5 credibility or high credibility, correct?

6 A That is right. And there are examples of
7 emergencies where people have been -- or have come to
8 behave, even though they have low belief. And I have
9 also said that we shouldn't count on that in emergencies,
10 it shouldn't be part of emergency planning.

11 Q Well, then, what are some other examples of
12 specific emergencies where people did come to believe
13 and have a good response despite the initial low credibility
14 of the source of information.

15 A Well, let's see. I have talked about Perry,
16 Lindell and Green, and Drabek's work, and Rapid City as
17 an example. Danzig. Those are the only ones that come
18 to mind right now.

19 Q Thank you. Dr. Mileti, emergency information
20 affects the perception of risk, correct?

21 A Situational risk perception, yes.

22 Q And other factors affect situational risk
23 perception, correct?

24 A Other factors can have an effect on situational
25 risk perception, yes.

1 Q On page 52 of your testimony, Dr. Sorensen,
2 you are talking about TMI in response to Question 24.
3 You say: It is true that more people evacuated at TMI
4 than was suggested by the instructions in the Governor's
5 advisory. This behavior is understandable based on our
6 knowledge of how people respond to warnings.

7 Do you see that passage?

8 A (Witness Sorensen) Yes.

9 Q The one factor you will agree at TMI was
10 confused information coming from various spokesmen, correct?

11 A Yes, I think that was a major contributor.

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1 Q And also part of the problem was the perceived
2 lack of credibility on the part of certain spokesmen and
3 particularly one for the utility, correct?

4 A I think that credibility issues contributed to
5 the problem there. Exactly how, I am less sure of than the
6 confusing information. But I would -- my opinion would
7 be that perceptions of poor credibility of the information
8 source could have contributed to the behavior of people,
9 although we don't have any evidence to suggest whether it
10 caused them not to evacuate or whether to evacuate.

11 A (Witness Mileti) It is suspected that the
12 confusing, conflicting information led to low perceptions
13 of credibility of the emergency information that people
14 were getting.

15 Q But there is no way for you to tell, is there,
16 Dr. Mileti, whether or not the low credibility resulted
17 solely from confusing and conflicting information or
18 whether other factors may have contributed to the lack of
19 credibility, correct?

20 A There may have been other factors that contributed
21 to it. Given what is known about how people come to believe
22 or not believe emergency information, that there was
23 inconsistency, that it was botched up. And I could grade
24 it in terms of the factors that I talked about.

25 I would have to say that there is no question

1 that conflicting information contributed to low perceptions
2 of belief in the emergency information. And others have
3 reached that conclusion, too.

4 The extent to which other factors affected that
5 is more unclear.

6 Q If it is unclear, Dr. Mileti, how other factors
7 affect credibility, then on what do you base your statement
8 and conclusion that good information alone can overcome
9 low credibility and elicit a good response?

10 A I beg your pardon, but I was talking about
11 Three Mile Island when I said it is unclear what the
12 relationships were between any of the variables that we
13 might want to plot, that we have no data on, and
14 credibility perceptions of the emergency information which
15 we know was low.

16 Q We have agreed that other factors could have had
17 an effect on credibility.

18 A Well, it depends on what you mean by credibility.
19 I am talking about perceptions of belief in the emergency
20 information. Is that what you are talking about, or are
21 you talking about perceptions of credibility as might
22 occur in the nation when you take a poll and there is no
23 emergency going on?

24 Q When you said that other factors affect credibility,
25 what were you referring to?

1 A I was referring to perceptions of belief in the
2 emergency information.

3 Q And with respect to my last question then,
4 given that statement that other factors can affect
5 perceptions of belief in emergency information, how can you
6 say that good information alone, if implemented properly,
7 will overcome low credibility?

8 A Because I understand the characteristics of
9 how it is that people come to believe something in an
10 emergency.

11 For example, other factors affect perceptions
12 of belief of the emergency information that someone is
13 getting.

14 Let me give you an example. Sex, for example.
15 Females -- and this has been documented in some studies, and
16 I am sure I don't remember what the disaster agent was --
17 tend to more readily believe the emergency information
18 that issued than men. That is another factor.

19 That doesn't mean you can't have an emergency
20 in a community where there are men because they believe
21 it less. What it means is that the emergency information
22 needs to work harder to have men come to believe the
23 emergency information than it has to work to get women
24 to believe the emergency information.

25 How do you take that into account and how do you

1 design a system that can save both female lives and male
2 lives? Well, you do what is necessary to save the men, and
3 in the process you also get the women.

4 It is also much harder to convince old people
5 that an emergency is about to happen. For some reason --
6 and I am not a psychologist; I don't know that I understand
7 this in terms of how a psychologist might -- older people
8 probably don't want to get up and leave their living room.
9 They are much less likely to really believe that something
10 bad is going to happen to their home and that they need to
11 leave it.

12 So they need to hear the information more. So
13 you design a system that gives what we know eventually
14 elicits belief, is confirmation, a system that gives, for
15 example, EBS messages that come out every 15 minutes, that
16 enhances the number of times that they believe it because
17 we know the number of times people hear emergency information,
18 the probability of belief increases.

19 And that happens independent of the initial
20 credibility of participants or nonparticipants in the
21 emergency information system.

22 And then we not only get to save men and women,
23 we get to save old ones, too. And we could go right down
24 the list of other kinds of factors that people in studies have
25 found that co-vary with how people process emergency

1 information, take those sorts of factors into account,
2 and design emergency warning systems that maximize the
3 odds that we can save lives when emergencies occur.

4 Now, because I don't have data or statistics
5 on a flood, I can't remember who was the person or did it
6 or what have you, doesn't change that process.

7 Q The other factors that affect credibility, they
8 are not limited to just sex or age, correct?

9 A Absolutely not.

10 Q There is a whole list of such factors, correct?

11 A When we prefiled our shadow phenomenon testimony,
12 and when we were cross-examined on that, we had dozens
13 of pages that outlined those other factors. And when we
14 filed our surrebuttal testimony on the Path model, we
15 referenced -- when we were accused of assuming that
16 human beings were a tabula rasa -- that we had outlined
17 what all those other factors were that affect how people
18 process emergency information.

19 And as I recall, they were divided into five or
20 six categories, and we gave some examples of things within
21 each category. And you cross-examined both me, Dr. Sorensen,
22 and Dr. Dynes on little bits and pieces of all of them.

23 Would you like me to try to recall what I can
24 today?

25 Q Dr. Miletic, it is your testimony then that

1 information will control every single one of the other
2 factors contributing to low credibility?

3 A I wouldn't use those words at all.

4 What I would say is that information, if well
5 designed and well used and well implemented in an
6 emergency, can be used to help overcome the prevailing
7 constraints that we know exist that keep people from making
8 good decisions about what to do.

9 Now, if you want to call that control, you can
10 call it control. I don't choose to call it control.
11 I choose to call it helping.

12 Q In your list of factors that help form good
13 emergency information, wasn't one of the listed factors
14 the credibility of the source?

15 A One of the factors that we know affects how
16 people perceive emergency information is, indeed, the
17 credibility of the source. It is obvious. And you don't
18 need statistics to know this. That if somebody you don't
19 believe tells you something, you are less likely to believe
20 it than if it comes from somebody that you love, adore,
21 and believe. That is absolutely the case.

22 But independent of that, that means that we need
23 to work harder than just assuming that we will be believed
24 when we are giving emergency information to help people
25 come to believe the recommendations that are being made

1 are the ones that they should decide to follow.

2 Q But you are just assuming, aren't you, that the
3 other factors will help compensate for low credibility.

4 A No, I am not just assuming that. I know that.

5 Q You know that, Dr. Mileti, but it is based on what?
6 What studies have actually looked at what degree of low
7 credibility can be overcome by the remaining factors that
8 you have listed in your testimony?

9 A Well --

10 MP. CHRISTMAN: I object to this question. We
11 testified in the shadow phenomenon phase at length about
12 the various studies. We have talked about the studies
13 again today. I think this is repetitive.

14 JUDGE LAURENSEN: I think this question has been
15 asked numerous times.

16 MR. MC MURRAY: Judge Laurenson, what we are
17 trying to get at here is that Dr. Mileti is referring to
18 these various factors which determine whether or not
19 information is good.

20 One of those factors, it turns out, is the
21 credibility of the source. Now let's take away that factor.
22 We have seven or eight left. Those are supposed to
23 overcome the factor we have taken out.

24 What is the evidence? What is the data that show
25 that those other seven factors can overcome the fact that

1 you take away the credibility factor which Dr. Mileti
2 has previously stated is an important factor in determining
3 whether or not information is good?

4 JUDGE LAURENSEN: The objection is overruled.

5 WITNESS MILETI: I need to preface this with a
6 small explanation again.

7 There are no studies that have the title Everything
8 Suffolk County Wanted to Know About the Following Contentions.
9 The social sciences do research to explore and further
10 knowledge in the social sciences. The process of how people
11 come to respond to emergency warnings has been investigated
12 for decades.

13 One of the factors that we know we need to look
14 at in helping to understand, explain, and in your words,
15 control -- I would rather call it help -- people respond
16 well in an emergency is whether they believe the information
17 that they are given during the emergency.

18 Credibility, credibility of the source of the
19 information is one of the factors that affects their
20 situational perceptions of that information.

21 Now, there usually, thank God, are not many cases
22 or examples where credibility started out very low and
23 stayed low throughout the whole course of the emergency
24 such that everybody that was subjected to risk died.

25 What usually happens is that people perceive that

1 one source of information has low credibility, another
2 source of information has medium credibility, another
3 source of information has high credibility. And that is how
4 they enter the emergency. And those pre-emergency
5 perceptions of credibility have their effect, in terms
6 of how they might understand or perceive the first
7 warning message that they get, but then a process begins.

8 The social process that begins is not immediately
9 evacuating, but as I have said over and over again, seeking
10 out more information which is people's natural tendency
11 in an emergency when they get their first warning message.

12 That is not to say that there aren't cases where
13 people don't respond on the basis of their first warning.
14 Sometimes they do. And belief in the emergency information
15 changes, and it changes as a result of a process, and it
16 is affected by a whole slew and raft of situationally-
17 determined factors. And then people decide what they are
18 going to do and then they go and do it.

19 So there aren't emergencies that I can really
20 speak to where everybody in the community died because
21 pre-emergency configurations of credibility was low and it
22 didn't change.

23 Q Is everybody dying your definition of bad
24 response?

25 A That certainly would be included in it.

1 Q But it is not your definition of a bad response,
2 correct?

3 A No. A poor response would be one in which
4 many people or a significant number of people made wrong
5 decisions, and they made those wrong decisions and as
6 a consequence experienced some physical or economic or
7 some other sort of psychological, et cetera, loss that could
8 have been avoided.

9 Q You mean then that response is linked to what
10 happened to them? Couldn't response -- couldn't they be
11 bad responders but just be lucky and not be hurt?

12 A I am sorry. I don't understand.

13 Q You don't understand that?

14 A Bad response is a value judgment, and I was
15 defining it as people deciding to do something that did
16 not minimize what it was that was lost in the emergency.

17 Q Did not minimize their risk?

18 A Did not minimize what they lost.

19 Q So in other words, in order for a response to
20 be bad, for you to judge that a response is poor, somebody
21 has to be hurt or has to have lost something?

22 A Yes. For example, if somebody made the decision
23 to evacuate a flood plain and the emergency information or
24 they didn't think of or whatever happened, they didn't
25 decide to take their car with them. Let's say they walked

1 out of the flood plain and they had two hours to do it.
2 If they could have taken their car with them, they could
3 have minimized what was lost.

4 Q Well, let me give you this example. If somebody
5 was warned that a tornado was coming, an entire trailer
6 park was evacuated except for one person in the middle of
7 the trailer park, the tornado didn't happen to hit that
8 particular trailer but did hit the trailer park, the person
9 inside wasn't hurt, that person, under your definition, it seems
10 to me, would not have had a poor response.

11 Is that correct?

12 A No. I think it would have been unfortunate if
13 that person stayed behind because they were maximizing their
14 risk to the tornado in that particular example.

15 Q So their response would have been poor, correct?

16 A In some people's terms and values, yes; in
17 others, I assume, no.

18 I would have preferred seeing that anybody that
19 was at risk did what was appropriate for them to do,
20 maximizing the number of people that did that.

21 Q And you have used the term "poor response." You
22 would say that is a poor response, wouldn't you?

23 A It was the wrong decision, and there are always
24 examples of people who make wrong decision in emergencies.

25 Q Let me refer you to the factors set out on page 54.

1 This is basically a re-statement of the factors that affect
2 good information that was in your shadow phenomenon
3 testimony, correct?

4 A No. What this is is a partial list of the
5 factors that were in the shadow phenomenon testimony, and
6 this list was limited to those and only those factors that
7 we believe there is evidence to suggest affect belief in
8 emergency information. We excluded some factors that
9 evidence suggests do not or does not have an effect on
10 belief but, rather, on other factors important to the
11 other aspects of response.

12 Q One of the factors in your shadow phenomenon
13 testimony was credibility of the source, correct?

14 A Yes.

15 Q And that has been left out of this list, correct?

16 A No, it hasn't.

17 (Pause.)

18 Q Which factor do you --

19 A No. 6. I guess it is worded a little differently
20 here. It says, "the emergency information should come
21 from a mix of people -- e.g., officials, scientists, and
22 so forth -- because no one source is credible for all
23 people."

24 I didn't try to make the list equivalent to
25 the list that we used in the shadow phenomenon because this

1 was for a different reason.

2 Q Let's look at the second factor, which is
3 accuracy.

4 A Yes, I see it.

5 Q You say that the information should be accurate?

6 A Yes.

7 Q When a person hears the information, how is
8 that person going to know that the information is accurate?

9 A What they need to do is perceive that the
10 information that they are getting is accurate. And what
11 means is that it should not be presented in such a way
12 that would lead people to conclude that something is being
13 withheld or being covered up, et cetera.

14 Even if nothing is being withheld and nothing
15 is being covered up, that perception would be a poor one
16 for eliciting belief.

17 And so, therefore, careful attention needs to be
18 made to being open about presenting information, being
19 forthright about presenting information.

20 That is one of the lessons from Three Mile Island.

21 Q So you could paraphrase this factor by saying
22 the emergency information should be given in a forthright
23 manner?

24 A Well, given in a manner reflected and manifested
25 as it has in the example EBS messages.

1 For example, one of the first things when I
2 started talking to the people at LERO in terms of the kinds
3 of public information that they should give out if there
4 ever were an emergency was to be quite frank, open,
5 aboveboard about exactly what was going on. And a few
6 people thought that, wouldn't the public panic.
7 And I said, no. And we started talking about it.
8 And this is one of the things you need to do. It actually
9 helps for public response; not hurts it.

10 Q If people don't believe that the source of
11 information is credible, why would they believe the
12 information was accurate?

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#16-1-SueT1

1 A (Witness Mileti) Because your presumption that
2 people don't perceive that the pre-emergency credibility
3 configuration of, let's say, LILCO, they are not the only
4 people from whom the emergency information is stemming.
5 There is a passage in the EBS messages that Director of
6 Emergency Response has talked to people that know about
7 accidents at nuclear power plants, that know about radia-
8 tion, the scientific component, et cetera. And it's not
9 just coming from LERO.

10 In addition to that, the EBS messages were
11 worded in such a way to present to the public actual
12 assessments or projections -- and I know I'm using the
13 wrong word -- in terms of how much radiation is where. And
14 I think that is about as aboveboard and open as you can be
15 with the public in terms of a nuclear power plant accident.

16 And, to be honest with you, I don't know of
17 another utility that is on the record for saying they are
18 going to say how much radiation is where, at what distance
19 from the plant. And I think that is about as honest as you
20 can possibly get.

21 Now --

22 Q But -- go ahead. Sorry.

23 A Now, how does that affect perceptions of accuracy.
24 You can't force people to believe that you are telling the
25 truth by wording a message in such a way. But their

#16-2-SueT 1 perceptions would be effected by a whole host of other
2 things. Frequencies listed down here. And I think some
3 of the factors that are here are going to interact as people
4 hear a message over and over and over again from different
5 sources, because there are other scientists at the news
6 center, et cetera. Information will get to other people
7 who seek information and present it to the public. That
8 will enhance perceptions of accuracy.

9 It will enhance consistency. And consistency
10 will affect belief as well.

11 Q You say that the mix of sources will help to
12 increase the perception of accuracy. The mix of people
13 includes scientists, engineers and certain public officials;
14 correct?

15 A Yeah, and it's also going to come from dif-
16 ferent sources as the process of warning goes on, dif-
17 ferent EBS stations. If it's a two-day warning, the new-
18 papers, et cetera.

19 Q With respect to the EBS messages, you would
20 agree, wouldn't you, that nobody -- or, you couldn't say
21 that everybody would find each one of the individuals on
22 that panel credible, correct?

23 A No. One thing we do know is that no one person,
24 group, organization, role, however you want -- different
25 ways we call people, nobody perceives that one person --

#16-3-SueT 1

there is no one totally credible human being, not even Gods
are totally credible. We each have different religions.

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Q And isn't it true that even when you put all
the people together on the panel that you still may not
have a panel where people will perceive one person on that
panel as being a credible source of information?

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A You are absolutely right. And we are stuck with
that no matter what emergency we are planning for, in what
state, for what reason. It is absolutely something that
happens.

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And that's why it's important to also address
all the other factors that affect belief. The only reason
that perceptions of credibility in scientists of LILCO and
nuclear engineers is relevant, the only reason is the extent
to which that can detract from belief in the emergency in-
formation. And that's why we need to not just give a
catalogue of who has conferred or consulted or signed legal
agreements with whom, however you want to splice it, or
call it, and say: Well, now we've got a little bit of
credibility here for everybody.

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You also have to address belief by looking at
frequency and the other kinds of things that I have listed
here, because source alone will not elicit belief in
everybody.

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Q If you do not find the source of information,

#16-4-SueT 1 even from a panel, to be from a credible source -- strike
2 that.

3 If you do not find the source of the informa-
4 tion, even from a panel, to be credible, merely having
5 that same source repeat the information over and over will
6 not increase credibility alone; correct?

7 A The purpose of doing it isn't to increase
8 credibility. The purpose of doing it is to increase
9 believability in the emergency information.

10 Q Will saying it over and over and over from the
11 same source, which is not perceived to be credible, in-
12 crease believability?

13 A Oh, yes. And there are many other things that
14 are going to increase believability.

15 Q So, if I told you something and you found me
16 not to be a credible source of information, and I told you
17 that again and again and again, you would eventually come
18 to believe what I had told you?

19 A Yeah. Do you want me to tell you why?

20 Q No, I just --

21 A I didn't think so.

22 Q What data or studies do you have which show
23 that saying something over and over and over again will
24 increase the believability of what is said?

25 A Well, there are several studies-- I'm sure I

#16-5-SueT 1 won't be able to remember them all -- that show that the
2 frequency with which people receive information enhances
3 belief.

4 Why not start with Drabek's 1969 article that
5 was talking about the Rapid City flood? That was one of
6 his key findings -- the Denver flood. I'm sorry. I
7 guess my Rapid City for me is like fifteen is for you.

8 And then a piece of work I did myself, published
9 in the journal of Communication Research, '74 or '75. It
10 was by Dennis Mileti and E. M. Beck. Some of your consul-
11 tants have even cited it themselves in their testimony,
12 although they have left my name off and acted as if Beck was
13 the only author. The key finding of that -- one of the key
14 findings of that was that frequency of receipt of warning
15 information has a dramatic effect on believability.

16 And then in addition to that, one of the founding
17 fathers of -- although he hasn't been doing as much re-
18 search as Quarantelli (phonetic) and Dynes of emergency
19 research -- a sociologist named Ralph Turner. He and some
20 other sociologists, Denise Paus (phonetic) and Barbara
21 Young, and another gal, I've forgotten her name. She is at
22 Arizona State working with Ron Perry right now -- Joanne
23 Nig (phonetic), yes, did a study for several years, a
24 National Science Foundation grant, actually exploring and
25 looking at how a random sample of people from Southern

#16-6-SueT

1 California came to believe or not believe and do things or
2 not do things in reference to an actual earthquake pre-
3 diction that was issued for that megalopolis of ten million
4 people.

5 I'm sure there are others, because that's some-
6 thing that has been documented well. But those three I'm
7 sure will give you the other references on this as well as
8 illustrate the phenomenon.

9 JUDGE SHON: You know, Mr. McMurray, there is
10 a passage somewhere in Lewis Carroll's works that says:
11 What I tell you three times is so.

12 (Laughter)

13 MR. MC MURRAY: Yes. I have a feeling sometimes
14 we are in Alice in Wonderland.

15 BY MR. MC MURRAY: (Continuing)

16 Q Let's see. Getting back to these studies. In
17 any of these studies that you have cited, were the other
18 factors that you have listed for good emergency information
19 controlled for and just frequency looked at?

20 A That question is inconsistent with itself. I
21 don't think I can answer it.

22 Q Did these particular studies look at the same
23 type of event where everything was similar except for the
24 frequency of the information?

25 A Do you mean, did they try to assess the effect

#16-7-SueT1

2 of frequency while eliminating the effect of all the other
3 factors that have an influence in some statistical or
4 methodological way?

5 Q Not eliminating, but controlling force?

6 A That's the same thing. Yes. Some of them did.
7 Now, I don't know if Turner -- in fact, I suspect Turner
8 didn't use Path analysis. They must have done about twenty
9 different studies, and their report looks like the Encyclo-
10 pedia Brittanica. And I don't know the means by which they
11 did it, but I believe that they did.

12 I, however, in the publication I referenced did
13 use Path analysis, without talking about the Path model --
14 which is weight of these squares, not indirect, ordinary of
15 these squares. Through that technique I was able to do
16 that. And those kinds of researches as well as others,
17 eliminating the effect of other things, I think they are
18 sound evidence that frequency, in and of itself, has an
19 effect on belief.

20 I don't remember the particulars.

21 Q Was the unit of analysis in these studies the
22 emergency or the individuals in the emergency?

23 A Emergencies don't behave. People do. This
24 unit of analysis was people.

25 Q So, the unit of analysis was individuals,
correct?

#16-8-SueT

1 A Yes, people.

2 Q People in a particular -- people in one
3 emergency, correct?4 A People at risk in an emergency. Yes.
5 What they believed, what they did. There are different
6 kinds of emergencies.7 Q Then, how can you determine the effect of the
8 differential of repeating information if in one emergency
9 everybody had the same frequency of information?10 A Because in one emergency, everybody doesn't
11 have the same frequency of information. Some people get
12 one message and decide to do something. Some people never
13 get a message until someone comes and wakes them up. Some
14 people hear a message twenty times.15 So, in any one emergency -- let me just give you
16 an example. I recall in Rapid City, there was a descriptive
17 account of what happened. And what I looked at was the
18 number of warnings that people got. Everybody got a
19 different number of warnings. And the frequency for some
20 people was one; the frequency for other people was eight.
21 And I kept studying what was going on until they decided
22 to do a response.23 And this response I was studying, it was very
24 complicated. I won't bother -- I was citing what they did.

25 Q The studies that you have looked at here that

#16-9-SueT 1

2 we have been discussing, did they try to determine the
3 number of times particular individuals in the emergency
4 received information and how that differed from other
5 people in the same emergency?

6 A Yes. That's the way frequency of warning was
7 received, because it was different for different people.

8 Q So, these studies specifically asked people how
9 many times they had received the particular emergency warn-
10 ing?

11 A How many times they had received emergency in-
12 formation, not only looked at the emergency warnings that
13 came from the radio station, or from police in their cars,
14 but also from telephone calls from mothers or from neighbors
15 knocking on their doors, how many things they considered
16 information transmittals.

17 And it tried to look at all that. And in that
18 is the frequency of warnings that they received from
19 official sources, the frequency of warnings from unofficial
20 sources, who those sources were.

21 Q How do you know that the people who received
22 information frequently had low credibility?

23 A I didn't say people who received information
24 frequently have low credibility. We were talking about the
25 relationship between frequency and belief.

Q Well, how do you know that the people who had

#16-10-SueT1

low belief initially were effected by the frequency?

2 A Do you mean in Rapid City in my study?

3 Q I'm talking about these studies that you stated
4 here.

5 A Well, what I did, and one of them was based on
6 Rapid City, the Miletic and Beck thing -- that's one of the
7 publications from that, but in that general study what I
8 did was go in and say with some interviewers, talking to
9 three different sub-populations of people: When did you
10 first find out about the emergency. They told me.

11 And then I asked them: What did you hear. They
12 told me.

13 Then I said: Who did you hear it from. And
14 they told me.

15 And, in addition, I wasn't just asking them open-
16 ended questions like that. I was trying to measure variance
17 on factors like who the source was, their perceptions of
18 credibility, the degree to which they believed, or they
19 thought they believed the warning that they got, what they
20 did after it, and a bunch of other things, in the way that
21 social scientists try to make stories into numbers, dif-
22 ferent scales and what have you.

23 And I said: Well, that's nice. Now, what was
24 the next thing you heard. And they told me.

25 And then I asked all those same questions over

#16-11-SueT

1 again. And you begin building a data set. And what you
2 have is variance for each warning on factors like per-
3 ceived credibility, believability, et cetera. And, in
4 addition to that, by counting the number of warnings that
5 people have, you have a measure of frequency, how many
6 warnings people got and who they were from and what have
7 you.

8 And then the way we sociologists love statistics,
9 you can throw it all into a computer and a control for this
10 and a control for that, and make judgments about how things
11 effect each other. And then you try to publish, then you
12 get tired of it, and go on to another piece of research.

13 Q And you didn't find, did you, that frequency
14 guarantees believability?

15 A Frequency -- nothing guarantees anything in
16 sociology. There are no guarantees. There is only the
17 best we can do.

18 Q On Page 56, you state at the top of the page that --
19 I think it's you. Yes. Confirmation is achieved if
20 frequency and channel multiplicity are planned for in the
21 public information system.

22 Do you see that?

23 A Yes, I do.

24 Q Okay. Would one of the items under the heading
25 "channel multiplicity" be t.v. and radio reports from

#16-12-SueT

1 reporters?

2 A That could be, yes. But not limited to that.

3 Q Mrs. Clawson, I believe that you are the one
4 that is familiar with the media and how it will be re-
5 sponding according to LILCO's plan; correct?

6 A (Witness Clawson) That's correct.

7 Q There is no guarantee, is there, that the media
8 will report information the way that LERO wants it to report
9 it, is there?10 A There is never that guarantee. But I think we
11 can pretty well guarantee that the media will report on
12 an accident at Shoreham and that much of the way that they
13 report on that accident at Shoreham will be determined by
14 the types of information, the quality and the quantity of
15 information, that is given to them by LERO.16 Q LERO can't control whether or not the media
17 goes to other sources of information besides LILCO, can
18 it?19 A Absolutely not, nor is LERO attempting to do
20 that.21 Q And LERO can't control whether or not a scientist
22 might give information that conflicts with LILCO's own
23 information, can it?24 A Well, LERO can't control that. But if you take
25 a look at the types of information that we would be

#16-13-SueT 1 providing in terms of the emergency broadcast messages
2 and in terms of the information that the LERO public
3 information people need to provide into the message ,
4 what we are talking about, as Dr. Mileti mentioned, is
5 telling the people out in the ten mile zone exactly what
6 is out there. And those numbers come from our sources which,
7 in this case, involve the DOE RAP team from Brookhaven.

8 Those numbers can be confirmed or by other
9 people who have access to that information. And so that
10 I would assume that a reporter who received that informa-
11 tion from the Local Emergency Response Organization and
12 then would go out to Albuquerque, New Mexico and ask some-
13 body there, or somebody who has not had access to that
14 information, whether that information is right, if that is
15 a responsible person -- I think many reporters can assess
16 a responsible person and his access to information -- he
17 would not comment on whether that information is correct
18 or not.

19 And if he does so comment, I think a responsible
20 reporter -- I think I can say we are blessed in this area
21 with a lot of relatively responsible reporters -- would be
22 able to assess that he has no business commenting on that.
23 And that his information that he is providing is not
24 accurate.

end #16 25

1 Q Why do you assume that LILCO has the monopoly
2 on what information is accurate, and what information is
3 not?

4 A I am not assuming that LILCO has a monopoly
5 on what information is accurate and what information is
6 not, nor do I think we are trying to set ourselves up
7 as the only ones that do have that information.

8 As I mentioned, that basic information is
9 coming in terms of the amount of radiation that is out
10 there, and generally, as I understand it, that is one of
11 the major factors that will lead our local emergency
12 response organization to make a protective action
13 recommendation.

14 Those numbers come from the DOE, a Federal
15 Government RAP team, radiological assesement program
16 team.

17 Now, concurrently, our people -- the Brookhaven
18 people -- excuse me -- the Brookhaven people at the news
19 center would have access to that information too, as would
20 -- if they make sources available to news people in the
21 news center, any reporter in the news center could
22 potentially have direct access to that same information,
23 and I have no reason to believe that that would not occur.

24 Q Is it your testimony that a responsible scientist
25 could not draw conclusions from the information that LILCO

17-2-Wal

1 provides that are different and conflict with the conclusions
2 that LILCO would draw?

3 A No, I am not saying that at all.

4 Q So that could happen?

5 A I could hardly suggest that two scientists, given
6 the same set of information, would always come to the same
7 conclusions, which does not mean that the conclusions which
8 we draw from the information that we have would not be
9 credible, if explained well enough, and if we explain
10 ourselves well enough in terms of what we are doing, and
11 why we are doing it.

12 Q Do you --

13 A Excuse me. That is part of the public information
14 program that we are endeavoring to set up for the LERO
15 organization.

16 Q You agree that the conflicting information
17 would not constitute confirmation of LILCO's emergency
18 information, correct?

19 A Not necessarily. And let me give you an
20 example. If based on the numbers in terms of the radiation
21 that is measured at the various levels, at two miles, five
22 miles and ten miles, as we take a look at the emergency
23 broadcast message, we give a place for our LERO public
24 information people to fill in those numbers, and then we
25 would tell the public what the Environmental Protection

1 Agency guidelines are for sheltering and for evacuation.

2 Now, I think it is definitely conceivable
3 that our LERO organization may, indeed, adopt a more
4 conservative protective action recommendation than the
5 Environmental Protection Agency may recommend, or that
6 another scientist may recommend.

7 And, there is no reason to believe that one
8 is right and one is wrong. If explained well enough in
9 terms of why we have adopted that protective action
10 recommendation, I see no reason to think that the public
11 would question the credibility of it.

12 Q Well, if LILCO said, or released information
13 that 'X' amount of radiation had been released, for
14 instance. LILCO's protective action recommendation was
15 that people shelter. Are you saying that is out of the
16 question that a responsible scientist could take the
17 position that 'X' amount of radiation is sufficiently
18 dangerous that everybody should evacuate?

19 A I think you had better repeat that. I am
20 not sure I understand what you are driving at.

21 Q If LILCO released information that 'X' amount
22 of radiation had come out of its plant, and people should
23 all shelter --

24 A Well, it is a poor premise to begin with, because
25 LILCO doesn't make that kind of recommendation to the

17-4-Wal

1 public. It is the LERO organization that does.

2 Q And assuming that -- are you saying that no
3 responsible scientist could say: Well, 'X' amount of
4 radiation is sufficiently dangerous for me that I would
5 recommend evacuation?

6 A No, I am not saying that that is not going to
7 happen. But what I am saying is we are telling them what
8 is out there. We are telling them what the Federal
9 Protective Action Guidelines are in that regard, and I am
10 sure that there are scientists across the nation that
11 don't agree with the EPA protective action guidelines,
12 the same way I am sure that there are scientists across
13 the nation that don't agree with every Nuclear Regulatory
14 Commission regulation.

15 And I am sure that in any instance of any
16 emergency across the nation, you will get somebody to come
17 up and say that what responsible officials are telling you
18 is a crock. It happens all the time. It happens when
19 credibility is high, and it happens when credibility is
20 low, and journalists definitely tend to go after that.

21 I am not disputing that.

22 Q Well, then, how can you say that people will
23 believe you, LERO, which is affiliated with an organization
24 with low credibility, rather than the scientist?

25 A Well, I am saying that because we are giving

1 them the information that they need to make their own
2 independent judgment, and that is exactly what is out
3 there, coupled with -- for what it is worth -- what the
4 government regulations are and protective action guidelines
5 are, in relation to what is out there.

6 Q So you are giving people the information that
7 you feel they need. They are also getting conflicting
8 information from other sources. I ask you again, why
9 do you feel -- what assurances can you give that people
10 will choose LERO's information over the information of
11 other sources, which might be more credible?

12 MR. CHRISTMAN: Objection. The witness is
13 here to testify about facts, not to give assurances to
14 Mr. McMurray.

15 JUDGE LAURENSEN: Objection sustained as to the
16 form of the question.

17 BY MR.MC MURRAY: (Continuing)

18 Q Ms. Clawson, let's assume that there are the
19 two conflicting sources of information that we have just
20 been discussing. In your opinion, why will a person
21 confronted with those conflicting sources of information
22 believe that LILCO is right, or LERO is right, and that
23 the other source of information is wrong?

24 A I suspect that it depends upon whether you are
25 talking to me as a member of the public, or whether you

1 are talking to me as a reporter who must initially weigh
2 that information and then present it to the public.

3 So, if you can tell me how you want me to
4 characterize it, I might be able to answer it a little bit
5 better.

6 Q In my hypothesis, the media has reported that
7 another scientist has said that 'X' amount of radiation
8 is dangerous, and I think people should evacuate.

9 A Once again, I think it is somewhat important
10 to determine exactly how that is characterized. Whether
11 it is the last paragraph in a hundred paragraph story.
12 Whether it is the lead in the newspaper, and how that
13 information is presented by the media before one can
14 determine what one might think the public response might
15 be in terms of credibility of it, and believability of
16 it.

17 Q And under some circumstances you would agree
18 that people would choose to believe the information of
19 the source that conflicts with LILCO's -- LERO's, correct?

20 A I am sure that in a population of 144,000 that
21 there will be some people that would choose to believe
22 information that would conflict with LERO.

23 I am sure that is the case in any sampling of
24 population.

25 Q What if the person giving the conflicting

1 information is an eminent scientist who is interviewed on
2 TV, so the public is getting the information firsthand.

3 Wouldn't that have an effect on whether or
4 not they chose the information that LERO wanted them to
5 choose rather than the other conflicting information?

6 A Once again, I would have to determine -- I think
7 one would have to determine exactly the context that it is
8 presented in, would have to determine what the situation
9 was at the time, what the protective action recommendation
10 was, and a whole mess of other circumstances that you just
11 can't pull out of the air.

12 A (Witness Mileti) I can add a little something
13 to clarify this a bit further, and that is in any emergency
14 even where the best plans are in place, there is always
15 conflicting information. During the shadow phenomenon
16 I referred to this as the information suit that you all
17 didn't like.

18 At any rate, -- an example of this is what
19 California is doing, because part of what we found out
20 when we were investigating earthquake prediction was that
21 the media would willfully seek out scientists that had
22 different opinions from the U. S. Geological Survey, or
23 Cal Tech about an impending earthquake, and willfully put
24 them in front of the public. Because they are supposed to

25

1 present news on both sides of the coin.

2 That shouldn't be alarmful. That is a character-
3 istic of living in America where you get to hear all sides,
4 and the net benefit to the American society it is better
5 to have that go on.

6 But in an emergency, what needs to happen is
7 people need the best chance to come to believe the best
8 available information , on the assumption that the people
9 who know, or in, or have looked at the nuclear power plant
10 would have that information I presume better than someone
11 who hadn't been there, or measured things; one of the wants
12 to enhance the believability of that information is to
13 address factors like consistency, frequency, et cetera.

14 One could take in an emergency situation and
15 hypothesize that there are a hundred little messages
16 floating around at any one point in time, and the message
17 that comes out every fifteen minutes, through multiple
18 sources, through formalized and normalized channels of
19 communication, news conferences, news centers, et cetera,
20 will represent the majority of the voices that are speaking.
21 Be the ones -- the messages that are reinforced and confirmed
22 for people as they turn to different places, and including
23 their neighbors, and that will be the information that
24 most people tend to believe than the information from one
25 source versus another source versus somebody else saying

1 somebody else saying something else, versus their neighbor
2 who may know nothing and say something totally different.

3 That happens in all emergencies.

4 A (Witness Cordaro) There is also a question of
5 the responsibility of the organizations involved. LILCO
6 may have credibility problems, but I think it is generally
7 perceived as a responsible organization.

8 If someone was presented conflicting information
9 or viewed a scientist on TV from Santa Barbara, California they
10 never heard about before, regardless of what his scientific
11 credentials are, as contrasted to a LERO message or
12 instructions to the public, I think they would think --
13 doubt quite seriously whether taking the instructions of
14 some remote or unfamiliar scientist over that of LERO.
15 In view of the fact that the LERO organization is here
16 on Long Island, and has a degree of responsibility associated
17 with the recommendations it is making, it is going to have
18 to defend those recommendations. It is not going to
19 evaporate after the accident.

20 Q Doctor Cordaro, what data do you have that
21 LILCO is viewed as a responsible organization on nuclear
22 matters?

23 A My experience on a day-to-day basis representing
24 the Company. I don't think anyone has ever challenged
25 our sincerity in the public view. Our expertise in nuclear

1 related matters, and although they have disagreed with
2 some of the decisions we have made.

3 Q No one has ever challenged LILCO's expertise
4 on nuclear matters?

5 A I think -- if I said it that way, I didn't mean
6 to exactly use those words. I am not sure I said that.
7 I said no one has ever challenged our sincerity is how
8 I introduced it, and regardless of people differing
9 on opinions, we do have a considerable expertise in nuclear
10 matters, and that is evaluated by the Nuclear Regulatory
11 Commission in their granting of a license for the facility.

12 We wouldn't receive a license to operate that
13 facility if we didn't have the necessary expertise to operate
14 that facility.

15 Q In fact, the NRC found that LILCO didn't have
16 enough experience to operate its plant, isn't that correct?

17 A The NRC made some comments about operating
18 experience for the facility, and in response to those
19 comments we did seek to correct those problems, and indeed,
20 have done so. And we wouldn't receive -- the bottom line
21 is we wouldn't receive a license unless we had the
22 experience.

23 MR. McMURRAY: Judge Laurenson, this looks
24 like a good time for the first break of the afternoon.

25 JUDGE LAURENSEN: We will take a ten minute
recess.

1 BY MR. MC MURRAY:

2 Q Dr. Mileti, you say on page 57 that contention
3 15 alleges that presumed heightened fears and anxiety
4 would make the credibility problem worse.

5 Do you see that?

6 A (Witness Mileti) I don't believe that I say that.
7 I think that is a part of a question.

8 Q Well, you say, "It is alleged that presumed
9 heightened fears and anxiety would make the credibility
10 problem worse."

11 A Yes, I see that.

12 Q Let me refer you to contention 15 and ask you
13 where that allegation is made?

14 A It will take me a minute to find it. Hold on.

15 Q Maybe I can make it easier by saying the
16 part that refers to traffic guides is contention 15.D which
17 starts at the bottom of page 8 and goes to 9.

18 I believe that is the section you were referring
19 to.

20 (Pause.)

21 A A quick reading right now of the entire contention
22 doesn't reveal to me where the contention says anything
23 about fears and anxiety.

24 I will have to look at it in more detail.

25 MR. MC MURRAY: Judge Laurensen, I would like to

1 move to strike Dr. Mileti's response to question 28.
2 He cannot find and, in fact, I don't think he will be able
3 to find the allegation that the question presumes.
4 And I think that leaving this in will just clutter the
5 record, the response to question 28.

6 MR. CHRISTMAN: I oppose the motion for the
7 following reasons: A, it is untimely, he could have moved
8 to strike before and he didn't; B, in the county's
9 witnesses' testimony there is reference to panicked or
10 panicky -- I don't remember which word exactly -- people.

11 And so whether or not the precise words are
12 in this contention, it would appear to me that the county
13 has raised it in one form or another.

14 For what it is worth, I wrote the question, and
15 I sure thought it was in the contention at the time.
16 I would have to read it more carefully to reconstruct
17 why I thought so.

18 JUDGE LAURENSEN: Procedurally, I just don't
19 think it is going to be profitable to continually be
20 taking up motions to strike. I mean, we set a deadline.
21 We considered all the written motions to strike. If we
22 have to review with each question that we go through
23 on cross-examination the possibility that it might be
24 subject to a motion to strike, I just don't think that that
25 is going to be profitable.

1 MR. MC MURRAY: Judge Laurenson, I believe this
2 is the first time I have made a motion to strike in the
3 middle of my cross-examination, but it is well founded
4 based on the witness's testimony that the allegation
5 doesn't appear in the contention.

6 JUDGE LAURENSEN: Why didn't you know that at
7 the time you filed your motion to strike? It says
8 right here in the question that "The contention also
9 alleges that heightened fears and anxieties would make
10 the problem worse."

11 If it was your belief that the contention didn't
12 say that, I don't understand why the county did not
13 then assert that. You filed other motions to strike
14 this testimony.

15 MR. MC MURRAY: Judge Laurenson, it was our
16 belief that if the statement was made in the testimony
17 that there must have been some sort of basis for it,
18 and the cross-examination that I was going to conduct
19 was going to apply to whatever words Dr. Miletic pointed
20 to, which I assumed he would be able to find, that alleged
21 that there would be heightened fears and anxiety.

22 I thought that he was going to say, well, this
23 particular sentence occurred to me to mean that, but he
24 hasn't.

25 MR. CHRISTMAN: I will have to say, if the county

1 is taking the position that heightened fears and anxieties
2 don't have any effect or any impact and don't make things
3 worse, we are going to have to go back through their
4 testimony and make some motions to strike ourselves, I
5 believe. And I don't recommend that process.

6 I think we ought to just go ahead with the
7 testimony as it is.

8 MR. MC MURRAY: Well, then I will conduct
9 cross-examination on something that the witness cannot
10 find a basis for in the contention, but I am willing to
11 cross-examine on these two pages. That's fine.

12 (Pause.)

13 I will withdraw my motion to strike, Judge
14 Laurenson.

15 WITNESS MILETI: I have read more of the
16 contention now, and I think I have found a few words that
17 serve the basis for this.

18 MR. MC MURRAY: I am sure you have, but the
19 motion to strike is withdrawn.

20 MR. CHRISTMAN: But do you want the answer?
21 He is trying to answer the question. His original answer
22 was based on a very quick reading. And the contention is
23 excessively long, if you count the subparts.

24 He just offered to answer the question.

25 Do you withdraw the question as well as the motion

1 to strike?

2 BY MR. MC MURRAY:

3 Q Dr. Mileti, what are the words that you are pointing
4 to?

5 A Well, I found on page 9 of the prefiled testimony,
6 near the top, middle to top of the first big paragraph,
7 the words, "which will cause LILCO employees to be viewed with
8 hostility and suspicion and will increase the likelihood
9 that orders from LILCO employees will be ignored or disobeyed."

10 Q And in your mind that translates into presumed
11 heightened fears and anxiety?

12 A It could be related, yes.

13 Q Could be related.

14 (Pause.)

15 You state that the county's concern rests on the
16 presumption that low pre-emergency levels of credibility
17 would, by definition, lead to low levels of belief in
18 emergency information.

19 Do you see that?

20 A Yes.

21 Q Now, isn't it true that on page 44 of your
22 testimony you state, "Credibility and belief have co-varied"?

23 A Absolutely, but those two statements are not
24 inconsistent.

25 I have said before that credibility co-varies with

1 belief in emergencies. It is one of the factors that one
2 needs to take into account. And I tried to explain how
3 one goes about doing that.

4 Q So you would agree that when credibility goes
5 down, belief goes down?

6 A Not by definition, as I think is implied in the
7 county's contention. That is, because pre-emergency
8 credibility is low, therefore, it is a foregone conclusion
9 that belief in emergency information will be low and that
10 response would be poor.

11 Q You say also on page 57 that, "If belief of
12 emergency information were low, which I take as hypothetical
13 because how to make it believable is being addressed in
14 the plan, the notion that fear and anxiety would make it
15 worse is an interesting hypothesis."

16 Now, when you say that that is being addressed
17 in the plan, again you are referring to emergency information,
18 correct, and factors associated with emergency information?

19 A Yes, the emergency information in the plan when
20 it becomes implemented and the organizational factors
21 that one would install in LERO to -- in the plan to guarantee
22 that the emergency information would be of a certain
23 quality and sort.

24 Q But not to guarantee that it would be believed?

25 A I beg your pardon?

1 Q But not to guarantee that it would be believed,
2 correct?

3 A I wouldn't use the word "guarantee." I would
4 say to maximize the odds that it is believed by most
5 people.

6 Q On the bottom of page 57, you say, "In fact,
7 there are some who believe that states of fear, anxiety,
8 stress, or whatever other concepts are used to describe
9 motivation are necessary to elicit good warning response."

10 Do you see that?

11 A Yes.

12 Q Are you one of the people adhering to that
13 opinion?

14 A Yes, I am. There also are others.

15 For example, Janis' work -- and he has been
16 writing things on this for quite a long time -- suggests
17 that this is necessary to get people to respond to
18 warnings in emergencies.

19 Q And you are assuming that through emergency
20 information you will be able to manage or control that
21 there is just the right amount of fear and anxiety on the
22 part of the public, correct?

23 A No. I don't believe that social scientists
24 can control anything. If we could, we would control
25 the stock market for a couple of years and retire after we

1 learned the skills.

2 Q You do believe that emergency information can be
3 used to develop or elicit just the right amount of fear
4 and anxiety though, correct?

5 A Yes. But let me point out that the notion of
6 "just the right amount" isn't as precise as that phrase
7 implies.

8 Q Let's go to page 59 of your testimony.

9 Let me ask you first, Dr. Mileti, isn't it
10 true -- and I would like a yes or no answer to this --
11 that a source of information can be perceived credible on
12 some issues but not credible on other issues?

13 A First let me say that page 59 is not my testimony.

14 Q This is a preliminary question. It is not
15 necessarily directed to page 59.

16 A In the general sense, if I had to answer a
17 general question covering all things -- may I please ask
18 you to repeat the question. I am sorry. I was thinking
19 that that wasn't my testimony.

20 Q Isn't it true that someone can be credible on
21 some issues and not credible on other issues?

22 A In a general sense and in answering that generally,
23 yes.

24 Q Now, here on page 59 of your testimony,
25 Mr. Weismantle, you say that "LILCO regularly warns people

1 during gas leaks and electrical line failures with no
2 evidence of lack of public credibility."

3 Do you see that?

4 A (Witness Weismantle) Yes.

5 Q Are you aware of any controversy over LILCO's
6 ability to deliver gas and fix gas leaks?

7 A Our ability to deliver gas --

8 Q To -- let's just say to fix gas leaks.

9 A You know, gas leaks are a common occurrence
10 which we handle routinely as does any company with a large
11 gas distribution system.

12 I am not --

13 Q And you are not aware of any --

14 A I am not aware of any particular controversy
15 in our ability to fix gas leaks.

16 Q So really LILCO's credibility with respect to
17 fixing gas leaks is not an issue at all, is it?

18 A I don't think so, in the context of gas leaks
19 that are large enough to require some sort of public warning.

20 Q Dr. Cordaro, with respect to the reference to
21 electrical line failures, are you aware of any controversy
22 over LILCO's ability to transmit power over its lines
23 safely?

24 MR. CHRISTMAN: Objection. Excessively vague.

25 JUDGE LAURENSEN: Overruled.

1 WITNESS CORDARO: I am not aware of any large
2 controversy associated with that. There are liability
3 cases which come up in the courts, and we from time to time
4 get sued as a result of contact situations or safety
5 problems associated with electric lines. But I don't
6 think it is a controversial situation, as far as our
7 ability to transmit power over electric lines and do so
8 safely.

9 BY MR. MC MURRAY:

10 Q There haven't really been any -- there hasn't
11 been any controversy in the public, has there, whether or
12 not LILCO has mismanaged its gas distribution or its
13 electrical distribution system, has there?

14 MR. CHRISTMAN: Objection. That is not
15 relevant to the testimony here.

16 MR. MC MURRAY: I don't understand Mr. Christman's
17 objection.

18 MR. CHRISTMAN: It is a relevancy objection. I
19 don't see the relevance.

20 JUDGE LAURENSEN: Overruled.

21 WITNESS CORDARO: Well, if you would come to some
22 of our rate cases, there are those that think we do
23 mismanage routine aspects of our operations and present
24 testimony to justify their position.

25 BY MR. MC MURRAY:

1 Q Would you say that is a general feeling among the
2 public in Long Island?

3 A I think when they get a high bill it becomes
4 a general feeling.

5 Q So you do think then that there is a general
6 feeling that LILCO has mismanaged its gas distribution
7 and electrical distribution systems?

8 A It depends on the time period you are talking
9 about. I think in periods of very, very high rates that
10 becomes a general-held proposition, or if there is
11 publicity surrounding a rate increase proposal.

12 Other periods, other points in time, it
13 isn't an issue and people accept our ability to manage
14 our gas and electric systems operations.

15 Q You say, "In addition, LILCO road crews must
16 often detour traffic from people's desired routes."

17 Here, Mr. Weismantle, are you referring to an
18 evacuation?

19 A (Witness Weismantle) No. We are referring to
20 here when we have a, say an electrical line down, across,
21 and it is laying across the street and our crew shows up
22 and determines, for the benefit of the safety of those
23 who were traveling down that road, that detour is appropriate.
24 So they set up cones or somebody goes out and waves people
25 around the area and so forth.

#19-1-SueT

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(Witness Cordaro) In gas emergency, it can mean that in a limited extent. If you are evacuating a block or two blocks, it may involve directing traffic, keeping traffic out of the area for a limited type of evacuation --

Q Well, would --

A -- assuming that the LILCO crew is the first on the site.

Q What would be the largest evacuation you are aware of that the -- a LILCO crew was involved in detouring the traffic?

A I don't recall. Mr. Kessler would have been an excellent individual to ask that, too. He is not here, of course.

But I don't recall. There have been a number of instances. But I don't recall the magnitudes.

Q Do you recall the magnitude of how many LILCO personnel were involved in detouring the traffic?

MR. CHRISTMAN: Objection. I don't think this goes to credibility.

MR. MC MURRAY: The statement is made here: LILCO road crews must often detour traffic from people's desired routes.

Now, if Mr. Christman doesn't think that particular statement is relevant, it should be stricken.

MR. CHRISTMAN: It isn't the statement that isn't

#19-2-SueT

1 relevant. It's your questions.

2 JUDGE LAURENSEN: The objection is overruled.

3 WITNESS CORDARO: I don't recall the exact
4 numbers.

5 BY MR. MC MURRAY: (Continuing)

6 Q Do you think the order of magnitude is in the
7 hundreds, or would it be on the order of five or ten?

8 A I don't know. I don't recall.

9 Q Mr. Weismantle, would you know that?

10 A (Witness Weismantle) You know, incidents, small
11 incidents, obviously happen more frequently than larger
12 incidents, and I just don't have the background in the
13 operating end of the business to know that information.

14 Q The LILCO educational program on gas and
15 electrical safety that you refer to on Page 59 does not
16 deal with questions about emergency planning for radiologi-
17 cal emergency; isn't that correct, Mr. Weismantle?

18 A That's right.

19 Q You say that LILCO is regarded as a knowledgeable
20 and therefore credible on -- strike that, I've misread it.

21 You state at the bottom of that paragraph on
22 Page 59 that LILCO is regarded as knowledgeable and therefore
23 credible on safety. And that is based on your testimony
24 here about the program on gas and electricity safety; correct?

25 A Yes, and the other factors that despite the

#19-3-SueT 1 fact they might view us as a causative agent and somebody
2 perceives a dangerous gas or electrical situation, they
3 call us. They don't call the County; they don't call the
4 State; they call LILCO.

5 Q For gas and electric failures?

6 A Right, which are systems that we are responsible
7 for installing and maintaining and operating.

8 Q And you would agree, wouldn't you, that LILCO
9 handles gas and electric failures on a pretty routine basis;
10 correct?

11 A Sure.

12 Q As a matter of fact, here on Page 60, suspected
13 gas leaks are over twenty-seven thousand in 1983, correct?

14 A That's right. That's the number of calls we
15 got.

16 Q All right. Do you expect that responding to a
17 radiological emergency would be a pretty routine event for
18 LERO?

19 A No.

20 (Witness Cordaro) It will be a routinely drilled
21 event, though. We would have routine drills and practice
22 sessions and refresher training each and every year.

23 Fortunately, radiological events are quite rare,
24 and we wouldn't have to exercise it in the real sense in
25 all probability for the life of the plant.

#19-4-SueT

1 Q Dr. Mileti, let's go to your testimony on Page
2 64. At the bottom, where it goes over to Page 65.

3 The question is, or your testimony is: Perhaps
4 one of the most familiar examples of where people follow
5 the instructions of those with low credibility occurs in
6 the work place.

7 And you talk about the credibility of bosses.
8 Do you see that?

9 A (Witness Mileti) Yes, I do.

10 Q What statistical evidence do you have on what
11 percentage of people find their bosses credible?

12 A I have none. It's all case study evidence.

13 Q And in this example, you would agree, wouldn't
14 you, that bosses are generally people who can influence
15 ones career?

16 A Yes. I think that's why they are called the
17 boss.

18 Q Therefore, it's possible, isn't it, that bosses
19 are obeyed because they have authority and the ability to
20 fire or punish one for disobedience, correct?

21 A That could be one of the reasons.

22 Q Does LILCO have that sort of control over the
23 public?

24 A I don't suspect that LILCO could fire the
25 public. No.

#19-5-SueT

1 Q Or punish the public?

2 A I don't suspect that they could punish the
3 public. No.4 Q You say: Another familiar example occurs when
5 adults go to a theatre or a concert and follow instructions
6 of ushers.

7 A Yes, I said that.

8 Q What evidence do you have that adults do not
9 feel that teenagers can guide them to their seats in a
10 theatre?11 A I've never done a poll or study on how people
12 perceive things as they are being ushered down the aisle
13 in a theatre.

14 Q Are you aware of studies about that?

15 A No, I'm not. It's again case study evidence.

16 Q What case study are you referring to where the
17 credibility of teenagers taking people to their seats was
18 at issue?19 A My personal experience in going to the theatre,
20 where I was a participant observer in this very process.21 Q Is it your opinion that teenagers who guide
22 you to their seats lack credibility to perform that
23 function?24 A I tend not to think of teenagers as credible
25 people. I remember when I was a teenager I didn't think

#19-6-SueT

1 adults were credible people.

2 Q With respect to the function of taking people
3 to their seats, do you feel that teenagers have low
4 credibility?

5 A They typically do for me. I usually end up
6 sitting in a seat I would rather not be in.

7 Q Other than your own personal experience, Dr.
8 Mileti, what studies or evidence do you have to support
9 this testimony?

10 A I've talked to people about this. In fact, one
11 of the persons that I've talked to about this phenomenon
12 is Jim Christman, the attorney for LILCO, about how he
13 perceives --

14 MR. CHRISTMAN: And I agree with you.

15 (La

16 MC MURRAY: (Continuing)

17 Q And your discussions with Mr. Christman also
18 formed part of the factual basis for this testimony; is
19 that correct?

20 A His accounts of his perceptions when he goes to
21 the theatre and is ushered by teenagers, yes.

22 MR. CHRISTMAN: It was Disney World in particular.

23 BY MR. MC MURRAY: (Continuing)

24 Q And other than your discussions with Mr. Christman
25 and your own personal opinion, do you have any other evidence

#19-7-SueT 1

to back this up?

2

A No. But, again, I would like to say my personal opinion stems from observing my own perceptions as a professional sociologist.

3

4

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Q Have you recorded those perceptions anywhere?

6

A Only in my mind.

7

8

9

Q You say that there are many adults who generically do not view teenagers as credible. What statistical evidence do you have for that?

10

11

A No statistical evidence, just interacting and talking with adults on occasion.

12

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Q The third example that you refer to regarding following instructions is a County fair. Now, you state that when people drive to a large event like a County fair and are instructed to follow the directions of parking guides about where to park their cars, most people can recall wondering why they followed instructions.

18

Do you see that?

19

A Yes.

20

21

22

Q Do you have any statistical data regarding how people perceive parking guides who are showing people where to park their cars?

23

24

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MR. CHRISTMAN: Objection. Relevance. A question about the statistical basis of what is not a study but merely an example is simply not probative, not

#19-8-SueT 1

helpful to the decision-making process here.

2

MR. MC MURRAY: Judge Laurenson, Dr. Mileti

3

has chosen to put an example in his testimony to support

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his statements about people following instructions, even

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though those instructions come from non-credible sources.

6

I'm entitled to probe into how much weight this

7

particular example should be given.

8

JUDGE LAURENSEN: The objection is overruled.

9

WITNESS MILETI: I have no statistical data to

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support this example. However, haven't you ever parked

11

somewhere that was further away from the entrance to a place

12

like a fair than you wanted to because that's where they

13

told you to?

14

BY MR. MC MURRAY: (Continuing)

15

Q Dr. Mileti, is that what you are referring to,

16

your own personal experience here?

17

A Yes. And just to give an example.

18

Q Would you say, Dr. Mileti, that the issue of

19

where to park one's car at a County fair presents one with

20

questions of how following those instructions will affect

21

one's health?

22

A No. And I don't think I meant to make that

23

implication.

24

Q You say: In general, the sorts of people who

25

take jobs guiding cars in parking lots are not a credible

#19-9-SueT

1 group.

2 What sorts of people are you talking about?

3 A The people who have those jobs that I've seen
4 in my personal experience.

5 Q What sorts of people are they?

6 A Generally young people.

7 Q Do you have a thing about young people, Dr.
8 Mileti?

9 (Laughter)

10 MR. CHRISTMAN: Objection. Argumentative.

11 JUDGE LAURENSEN: Sustained.

12 MR. CHRISTMAN: I think they are Mouses at
13 Disney World. I don't find them credible either. But
14 I do what they tell me.

15 BY MR. MC MURRAY: (Continuing)

16 Q So, generally the basis for your statement is
17 that you have a feeling that young people are generically
18 not credible, correct?

19 A No. I didn't say that.

20 Q Well, the sorts of people that you are referring
21 to, though, are generally young people?

22 A At County fairs?

23 Q The sorts of people who park cars, parking
24 guides, at County fairs?

25 A No. They needn't be young people. Sometimes

#19-10-SueT 1

they are.

2

Q What other sorts of people are there that you are referring to in this testimony?

3

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A People who might not have a college education.

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JUDGE LAURENSEN: I'm constrained to observe at this point, Mr. McMurray, I think we have stretched this about as far as you can legitimately take up everybody's time in this room concerning this testimony. It's obvious that there are some examples, illustrations, chosen by Dr. Mileti.

10

11

But there are a lot more important things I think to get on with than to pursue these individual illustrations to the most minute detail.

12

13

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MR. MC MURRAY: Judge Laurenson, as I said before, I think I'm entitled to probe the weight that these particular examples have.

15

16

17

I will just state that I think it's clear that I've shown that they have very little weight.

18

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BY MR. MC MURRAY: (Continuing)

20

21

Q Now, with respect to emergencies themselves, Dr. Mileti, on Page 66 you say that there are many Americans who simply do not think of government as trustworthy or politicians as credible; correct?

22

23

24

A Yes.

25

Q You say history is full of examples where

#19-11-SueT₁

1 emergency instructions from government and politicians
2 have been followed despite credibility configurations.

3 A Yes.

4 Q As examples of those emergencies, would you cite
5 the emergencies that we have previously discussed? For
6 instance, the Drabek article and the Harry Mundel, Danzel,
7 or Danzig (phonetic) study?

8 A For the people who came to behave in an
9 emergency, sure.

10 Q Well, other than those studies that we have
11 already discussed, what other examples can you give -- and
12 I'm talking about specific emergencies -- where instructions
13 from government and politicians have been followed despite
14 credibility configurations?

15 A Well, the point I was making here is that we
16 know that not every American trusts government. And you
17 have a political scientist as a consultant that I'm sure
18 could tell you that, too.

19 And in terms of specific studies to document
20 that, I'm sure there are some. I don't know of any off-
21 hand. I accept that as general knowledge.

22 Yet, in emergencies, most emergencies, politicians
23 of one sort or another can get involved in giving emergency
24 information. And sometimes those directives are followed.

25 Now, an example would be -- in fact, a good one

#19-12-SueT 1 is the 1972 Tropical Storm Agnes, because the Tropical
2 Storm Agnes impacted not just the community but several
3 states in the northeast, most of New England, in fact.

4 And I would suspect that in 1972 in the New
5 England states there had to have been -- public response,
6 by the way, was ver; good. There were ver;, very few
7 injuries or loss of life in that monstrous storm. I
8 would suspect that somewhere in New England there were a
9 few people who don't trust government, but yet came and
10 made good decisions on the basis of the warning informa-
11 tion that was being issued through the normative channels
12 there, local community leaders, the politicians who gave
13 out information.

14 That's one example.

15 Q Have you done any studies of Agnes?

16 A No. I didn't go to Agnes and collect any data.
17 No.

18 Q And what studies can you point to where the
19 conclusion was drawn that people in New England who saw
20 their sources of information as having low credibility
21 nevertheless responded appropriately?

22 A I can't point to any studies. However, I can
23 point to something that I think is better, and that is the
24 record recorded by NOAA, the National Weather Service's
25 account of the warnings that were issued, who issued them,

#19-13-SueT1

1 when they were issued, and how the public responded, and
2 the track record in terms of low losses in that particular
3 storm.

4 Q But you aren't able to point to any particular
5 individuals or group of people who responded appropriately
6 despite their -- the low believability of politicians,
7 correct?

8 A Nothing more than my supposition that somewhere
9 in the New England states there must have been -- given
10 how we Americans are -- people who don't trust politicians.

11 Q Page 60 and going over to 61 of your testimony,
12 Dr. Mileti, you talk about emergency preparedness in Japan
13 for earthquakes.

14 Do you see that?

15 A Oh, yes.

16 Q What evidence do you have regarding the
17 credibility of the private sector entities that you are
18 referring to in Japan?

19 A I have no data or evidence about the credibility
20 of the private sector entities I'm describing in Japan.

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1 Q When you refer to the department stores, the
2 responsibility of those department stores is restricted
3 to an emergency response within their building, correct?

4 A (Witness Mileti) Of the department stores, yes.

5 Q Do they have the equivalent of PBS messages in
6 Japan? Something along that line?

7 A Yes.

8 Q Those are generally issued by the Government?

9 A Yes.

10 Q The example of a bank in Brazil and a hotel in
11 Las Vegas -- strike that. The requirement that owners of
12 high rise buildings develop fire plans is, in all the
13 examples you cite, imposed by law, isn't that correct?

14 A Yes.

15 Q And in the State of California, that is true,
16 correct?

17 A Yes. In fact, I participated in having that
18 law passed.

19 Q Do you have any data regarding the credibility
20 of hotel owners?

21 A All hotel owners?

22 Q Well, you have not been reluctant to give data
23 regarding the credibility of other groups, like scientists.
24 Do you have any data for the credibility of hotel owners,
25 whether in the State of California or anywhere?

1 A No statistical data, no.

2 Q Now, with respect to emergency planning for the
3 great Southern California earthquake, you say that the
4 Government would not be able to help in any appreciable
5 way for three days.

6 At least, that is one of the assumptions the
7 plan is built on, correct?

8 A It is much more than an assumption, sir.

9 Q What is it based on?

10 A It is based on an extensive study by the Federal
11 Emergency Management Agency.

12 Q And the Federal Emergency Management Agency said
13 that the planning should be based on an assumption that
14 the Government would not be able to help in any appreciable
15 way for three days, correct?

16 A No, that is incorrect.

17 Q How is that incorrect?

18 A President Jimmy Carter when he was flying over
19 Mt. St. Helen's, said: Boy, isn't this some disaster;
20 and he said it to a fellow who knows things about
21 seismology, and said: If you think this is something,
22 wait until you see Southern California after the next great
23 Southern California earthquake.

24 Carter was surprised, and he started a
25 presidential effort to find out exactly what was going to

1 happen in Southern California.

2 Governor Brown got jealous that the Federal
3 Government was doing something about what was going to
4 happen in his State, so he started an effort in California
5 -- the Governor's Task Force, -- and pulling into the
6 task force people like the state geologist, et cetera,
7 cooperation evolved and an elaborate series of specific
8 estimates about the known, hundred percent probability
9 of a great Southern California earthquake occurring in
10 the lifetime of any human being forty years of age or
11 younger, if they live, according to life tables, was
12 -- became known, and there is a fifty percent chance that
13 earthquake will happen before the turn of the century.

14 The task force, the Seismic Safety Commission
15 and other organizations and people in California labored
16 long and hard for several years to try to prophesize
17 exactly what damage would occur.

18 Seismologists estimated what portions of the
19 fault were going to slide. That information was then
20 taken and the state geologist spliced on top of that
21 knowledge about local geology throughout Southern
22 California, and was able to estimate, given knowledge about
23 local geological structures, exactly what kind of shaking
24 intensities would occur throughout the five county region.

25 Knowing about what kind of shaking intensities

1 would occur where, one could overlay on top of that maps
2 of roads, maps of airports, maps of pipelines, critical
3 facilities, et cetera, and know and expect with reasonable
4 assurance, although not perfect assurance, exactly what
5 kind of damage would occur where.

6 The conclusion of that entire effort is that
7 Southern California area, parts of it, will be secluded
8 and not able to get help from Government for up to seventy-
9 two hours.

10 COURT REPORTER: Would you please slow down
11 just a bit.

12 WITNESS MILETI: I will be happy to, I beg your
13 pardon.

14 My role in that planning effort, I might add,
15 was to prophesize what human beings would be doing, to
16 help splice into that planning effort.

17 BY MR. McMURRAY: (Continuing)

18 Q So you were the prophet that they used?

19 A (Witness Mileti) I wouldn't call myself the
20 prophet. I would call myself sociologist on an inter-
21 disciplinary team.

22 Q I think we have gotten off the track here.
23 Dr. Mileti, the statement is made that Government will not
24 be able to help in any appreciable way for three days.

25 A Yes.

1 Q Are you referring to the Federal Government?

2 A Federal Government, State Government, and
3 Local Government.

4 Q That is the local government in the area that
5 is hit?

6 A In some areas, yes.

7 Q And that no government would be able to respond
8 in any way in three days?

9 A There would largely be no government response.

10 Q Now, with respect to the private entities that
11 are expected to respond, do you have any data regarding
12 their credibility with the public?

13 A Not statistical data, no. However, all
14 components of the private sector are being sought to bring
15 into the planning effort.

16 Therefore, if there are any low credibility
17 private sector organizations in Southern California, they
18 are trying to be brought into the effort.

19 Q Are any of these particular private entities
20 expected to disseminate emergency information to the public?

21 A Some of them are, some of them aren't.

22 Q With respect to those particular entities, do
23 you have data regarding their credibility?

24 A Well, maybe I do and maybe I don't. I am not
25 sure. I know Southern California Gas and Electric is one

1 of the planning entities, and I know that Pacific Gas and
2 Electric is one of the planning entities, because the
3 counterpart of this is going on in Northern California,
4 and as I recall from hearing those who were talking about
5 polls and surveys and impressions up and around Diablo
6 Canyon, I suspect PG&E has low credibility.

7 I don't know about Southern California Gas and
8 Electric.

9 Q Is PG&E the only entity -- let me ask you this.
10 When you say that PG&E would disseminate emergency
11 information to the public, are you talking about with
12 respect to supplying energy, or with respect to the overall
13 emergency response?

14 A Respect to what? People -- some of the things
15 that people should and shouldn't do. For example, to not
16 shut off their gas lines.

17 Q Are other private entities expected to disseminate
18 emergency information directly to the public?

19 A Yes.

20 Q And PG&E's information would be going directly
21 to the public from PG&E?

22 A I assume through some electronic medium.

23 Q But given that -- in other words, it would not
24 go through a public agency first?

25 A I don't know if it will or not.

1 Q Is the private sector expected, or any entity
2 in the private sector expected to take over the overall
3 command and control of the emergency response during the
4 three days that the government is expected not to be
5 available?

6 A There won't be anyone in overall control --
7 command and control. That is the problem.

8 Q On page 64 of your testimony, in response to
9 Question 30, second sentence, you state that several
10 examples of this follow. These examples illustrate
11 that other factors beyond credibility operate to determine
12 if instructions are followed, et cetera.

13 The other factors, again, that you are referring
14 to are related to emergency information -- good emergency
15 information correct?

16 A You mean the examples I was giving about the
17 teenagers in the theater --

18 Q I am talking about the other factors. When you
19 say other factors beyond credibility operate to determine
20 if instructions are followed; when you say, 'other factors,'
21 you are referring to information, correct?

22 A Some of them could be information, some of them
23 could be other sorts of factors. But for example, if a
24 person were led down an aisle in a theater by a teenager
25 they didn't view as credible, obviously something other

1 than credibility was influencing their willingness to be
2 led by the teenager, which may well be that that was the
3 source of information about where the seat was.

4 Q Do you draw a distinction between whether a
5 teenager is credible generally, and whether a teenager
6 is credible for the purpose of showing one to one's seat?

7 A I am sure that would depend on who was being
8 led down the aisle.

9 Q Mr. Weismantle, let's go to your testimony
10 which starts on page 66. Going over to the top of page 67,
11 you state that if people evacuated when asked to shelter,
12 it would not affect those who did shelter.

13 Do you see that?

14 A (Witness Weismantle) That is right, yes.

15 Q You would agree, wouldn't you, that it would
16 affect those who evacuated?

17 A Sure.

18 Q You say in response to Question 32, that if
19 some people decided to evacuate or to shelter instead, no
20 harm would be done. Would you explain what you mean by
21 no harm would be done?

22 A Well, we are talking about a situation which
23 by the premise in the -- in that sentence, the beginning
24 of the sentence, rather, the appropriate response would be
25 that they go about their ordinary business.

1 So, in other words, that the consequences of
2 whatever incident occurred at the plant were not such
3 that any protective action would be required. So, it
4 really wouldn't make any difference if some people who
5 were told about an incident and told that there was no
6 need to take any protective action decided on their own
7 to shelter or evacuate.

8 It is not going to hurt them, and it is not
9 going to hurt anybody else.

10 Q You state that if LERO were to advise evacuation,
11 and people instead were to shelter, or go about their
12 normal business, then those people who declined to follow
13 LERO's recommendation might receive higher radiation doses
14 than if they complied.

15 Do you see that?

16 A That is right, yes.

17 Q That failure to follow instructions might
18 harm them, correct?

19 MR. CHRISTMAN: Objection. These questions
20 are obvious. It is stated in the testimony. They are
21 pointless and repetitive.

22 MR. McMURRAY : The question is whether or
23 not he agrees that would harm them.

24 JUDGE LAURENSEN: Overruled.

25 WITNESS WEISMANTLE: Well, as the sentence says,

1 they might receive higher radiation doses.

2 BY MR. McMURRAY: (Continuing)

3 Q And that could be harmful, correct?

4 A (Witness Weismantle) It could be harmful. You
5 are talking about a matter of degree. The objective is
6 to minimize the radiation dose.

7 MR. CHRISTMAN: We will concede that the object
8 of emergency planning is to keep doses as low as you
9 reasonably can. I don't see the point in these questions.
10 There is no question, so I have no objection.

11 BY MR. McMURRAY: Page 68, you state that
12 if LERO recommended that people shelter, and they evacuated
13 instead, then they would receive higher doses only in those
14 cases where sheltering was recommended, because it would
15 produce lower doses than if people were in their cars
16 evacuating.

17 A (Witness Weismantle) Yes.

18 Q Do you see that?

19 A Yes.

20 Q Isn't it true that in every case where sheltering
21 is recommended, it is because sheltering would produce
22 lower doses than if the people evacuated?

23 A No, that is not necessarily true.

24 Q That is not true? In some cases people might
25 be advised to shelter, even though evacuation would produce

1 lower doses?

2 A That is right. An example would be if you had
3 plant conditions that triggered a recommendation of
4 sheltering, even though there was no release, and some
5 people disobeyed that. They evacuated. And it turned out
6 that the accident was brought under control. There would
7 be no difference in dose, because there would be no dose
8 in the first place.

9 Q You are not talking about dose projection then,
10 you are talking about what actually happens?

11 A Yeah.

12 Q Okay.

13 A We are talking about actually producing lower
14 doses.

15 Q But you would agree, then, where the release
16 actually occurred, then that the people evacuating could
17 be harmed?

18 A Well, they could receive a higher dose. I
19 guess I could imagine another case where you have a release
20 projected or an actual release that you calculate would
21 have an impact, or maximum impact of less than a rem, you
22 have the latitude to make some recommendations there to
23 shelter even though it is not necessary.

24 I think this was all gone into in the protective
25 action recommendation testimony. And you might weigh factors

1 that would lead you to recommend sheltering rather than
2 evacuation, and you might have a case where actually
3 evacuation in theory might have produced the lower dose,
4 but -- because the low level of the doses to begin with,
5 you might have decided to shelter. But that is another
6 example. We actually have a release.

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Reb fols.

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1 Q On page 69 of your testimony, Mrs. Clawson,
2 you refer to Keeping Current and the fact that it has
3 been sent out since January of 1983.

4 Do you see that?

5 A (Witness Clawson) Yes, I do.

6 Q You may have said this before, but how many
7 mailings have gone out since 1983?

8 A I would say during 1983 we probably sent out
9 ten or eleven issues of Keeping Current, and we have
10 sent out one issue in 1984 and should be sending out
11 another issue during the month of July 1984.

12 So it would be a total of probably 12 or 13.

13 Q And each time a mailing goes out, how many
14 households are provided with Keeping Current?

15 A Well, it varies, but I can give you a figure
16 of approximately 42,000.

17 Q Which roughly covers the number of households
18 in the EPZ?

19 A Roughly, yes. And, of course, it varies. As
20 electric service is turned on, it will be a little bit
21 higher in the summertime and a little bit lower in the
22 wintertime.

23 Q Each time Keeping Current has been sent out,
24 has there been a postcard included in it?

25 A No. I think we just did that for about the first

1 six or seven months of the publication.

2 Q And it went out on a monthly basis?

3 A During that period it went out -- as a matter of
4 fact, it went out on a monthly basis and there was an
5 additional issue that was sent out without a postcard
6 when we announced the formation of the local emergency
7 response organization. And that was, in effect, a one-page
8 special edition that went out describing our reasons
9 for forming the local emergency response organization, what
10 its purpose was, and some of the functions that we anti-
11 cipated would be performed.

12 Q You say that you received approximately 2,000
13 postcards?

14 A That's correct.

15 Q That is not each time you sent out the mailing;
16 that is the total, correct?

17 A That's right. That's the total.

18 Q Are you aware of how many of those postcards
19 merely expressed people's displeasure with the Shoreham
20 plant?

21 A I sure am. I read every single one of those
22 postcards, and I can say that certainly percentagewise,
23 96 percent of them had bonafide questions.

24 Of course, there were postcards where people
25 expressed their displeasure with the Shoreham plant,

1 expressed their displeasure with LILCO, expressed their
2 displeasure with nuclear power, as well as being a
3 significant number of postcards with people saying they
4 thought the Shoreham plant should be opened, they thought
5 nuclear power was safe. Why were we fooling around with
6 all this dispute with the county. Why didn't we just
7 open it.

8 So we had a broad range of postcards.

9 Q And in what percentage of these 2,000 received
10 were people seeking information about what they should
11 do in an emergency?

12 A I'll tell you, it was a very interesting thing
13 to track, and I don't have all the information in front
14 of me, but we began this project in January of 1983. And
15 that was just prior to the Suffolk County hearings on
16 emergency planning and just prior to the Suffolk County
17 Executive announcing that he was no longer participating
18 in emergency planning.

19 It happened to be during a period of time where
20 there was extensive, extensive coverage of the Suffolk
21 County legislature's hearings on emergency planning, of
22 their suggestion that there be a 20-mile EPZ in lieu of
23 a ten-mile EPZ.

24 And as each week progressed, with different
25 and varied headlines relating to different issues -- it also

1 happened to be a time, as a matter of fact, where Indian
2 Point was in the news. And we had a lot of questions about
3 Indian Point.

4 So if you go back and track the headlines each
5 week or each month and what was prevalent in the news,
6 that is what we found to be prevalent on our postcards.

7 And so as emergency planning grew into an
8 issue, and it was not an issue of any great size when this
9 project was begun, as it received additional media
10 coverage as a result of the Suffolk County legislature's
11 hearings and as a result of the Suffolk County Executive's
12 pronouncements relating to emergency planning, we got
13 more and more and more questions about emergency planning.

14 So a lot of them were; probably more than 50
15 percent.

16 Q So you would say probably more than 50 percent
17 asked for information about what they should do in an
18 emergency?

19 A That's right. What they should do, what they
20 should do with their pets, what they should do about a
21 relative who may be hearing impaired, what they should do
22 with their tomato garden, what they should do if they are
23 out on the sound fishing, what the wife should do if the
24 husband is out on the sound fishing.

25 You name is; we got it. And to tell you the

1 truth, it really helped us, it helped me, in emergency
2 planning to receive this input from the public.

3 Q Do you know what proportion -- strike that.

4 You say that there are 42,000, approximately,
5 roughly 42,000 households in the EPZ, correct?

6 A That is an approximate figure. I can get an
7 exact mailing label figure, if that is necessary. That
8 is approximate -- 42, 43, in that range.

9 Q So these, of about approximately 50 percent
10 of the 2,000 postcards you received asked about emergency
11 planning, in fact, the postcards you received would show
12 that about 1,000 out of 42,000 households had expressed
13 an interest in what they should do in the event of an
14 emergency, correct?

15 A Well, it is probably more than that. I think
16 I said it was in excess of 50 percent. And of course
17 we had multiple questions. If you are asking me --
18 on each postcard there wasn't just one question. There
19 could have been one question on a postcard.

20 In some instances, instead of the postcards
21 coming back, we got letters. We got ten-page letters
22 with ten pages of questions on a variety of subjects.

23 So if you are asking me, in terms of the
24 number of questions that were asked, what percent related,
25 had any relationship to emergency planning, I would say

1 well in excess of 50 percent did.

2 Q By well in excess, what do you mean?

3 A Well, maybe 75 percent, 80 percent.

4 Q Even if it was 100 percent, wouldn't you agree
5 that in fact you received comments from only about 5 percent
6 of the households in the EPZ?

7 MR. CHRISTMAN: Objection. That is a mathematical
8 operation that you don't have to ask the witness about.
9 It can be done in findings.

10 JUDGE LAURENSEN: Sustained.

11 BY MR. MC MURRAY:

12 Q Did any of the postcards come from the same
13 household?

14 A Are you asking whether the same household sent
15 a postcard in January and another one in February and
16 another one in March?

17 Q Whether in the figure of 2,000 postcards some of
18 those came from the same household.

19 A In some instances people kept writing in to us
20 with additional questions after we had answered their
21 original questions. Many of the questions related to what
22 was written in a particular issue of Keeping Current, when
23 people sought additional information from us relating to
24 some of the information we had already given them.

25 And, yes, in that regard we did have multiple

1 postcards from the same household.

2 Q What percentage of those households from whom
3 you received postcards do you believe found LILCO to be
4 a credible source of information?

5 A I just have to presume that they would not have
6 written to us seeking the answers to questions if they
7 weren't going to believe what we told them. So my own
8 assumption has got to be about 100 percent found us to be
9 a credible source.

10 Q So you have no evidence or data on which you
11 can conclude that any of the postcards you were sent were
12 sent by people who found LILCO not to be a credible source
13 of information?

14 A Can you repeat that, please?

15 Q You have no data or evidence to show that the
16 households from whom you received those postcards, in fact,
17 did not believe LILCO was a credible source of information?

18 A No. As I say, I think -- it is my assumption
19 that those that took the time to write out these letters
20 and these postcards wrote to us believing that we were a
21 credible source, otherwise they wouldn't have asked us a
22 question.

23 Q So the fact that these postcards were received
24 does not support the proposition that people who don't
25 believe LILCO is credible will instead turn to LILCO, will

1 in any event turn to LILCO for information?

2 A I have no way of knowing that one way or the
3 other because I didn't do any in-depth research on the
4 people that wrote us and asked us questions from the
5 postcards.

6 Q How many households approximately did you received
7 multiple postcards from?

8 MR. CHRISTMAN: Objection. Further questioning
9 at this level of minutiae is not going to produce anything
10 probative of a material issue in this proceeding. So it is
11 a relevance argument.

12 JUDGE LAURENSEN: Let me just inquire of
13 Mrs. Clawson, if you received more than one postcard or
14 letter from a family, would that be reflected in the 2,000
15 number, or did you only count it once?

16 WITNESS CLAWSON: No, that would be reflected
17 in the 2,000 number.

18 JUDGE LAURENSEN: The objection is overruled.

19 WITNESS CLAWSON: I am trying to recollect
20 because it has been over a year since I have done this.

21 You are asking what percent or what number --

22 BY MR. MC MURRAY:

23 Q I am asking --

24 A -- did we get multiple postcards from; is that
25 right?

1 Q That's right.

2 A I would say that it could be somewhere between
3 100 and 200. Again, if I could -- again, there were
4 some people that wrote, out of the six months of the
5 project, there were some people that wrote four or five
6 times. There are some people that wrote every month.

7 But those that I would call repeaters, I
8 would say between 100 and 200.

9 MR. MC MURRAY: Judge Laurenson, I think this
10 is a good time for the second break.

11 JUDGE LAURENSON: All right. We will take
12 another ten-minute recess.

13 (Recess.)

14 JUDGE LAURENSON: Before we resume the questioning
15 of the panel, I just wanted to indicate that we will
16 discontinue the cross-examination about ten minutes to
17 6:00 to allow a few moments for the scheduling discussion
18 that we talked about earlier.

19 Mr. McMurray?

20 BY MR. MURRAY:

21 Q Let's go to page 105 of your testimony, please.
22 That part of your testimony concerns rumor
23 control, isn't that right, Mrs. Clawson?

24 A Yes, that is correct.

25 Q In response to the question, How is rumor control

1 handled under the LILCO transition plan, you respond that
2 people call in to the LILCO district offices.

3 You are assuming, correct, that people will
4 call in to the LILCO district offices because they believe
5 LILCO will offer credible information, correct?

6 A Well, I believe that they will call in to the
7 LILCO district offices as well as to our call boards,
8 which is another aspect of our rumor control operation,
9 because the accident or emergency involves LILCO and
10 they will believe that they could get the kind of
11 information they may need from these sources.

12 Q And the people who don't believe they can
13 get the kind of information they need from LILCO won't
14 call your rumor control numbers, correct?

15 A I don't know whether they will or they won't.
16 I think we have presented other testimony in here indicating
17 the number of phone calls that our district offices and
18 call boards get during both emergencies and just during
19 the normal course of business, and it happens to be a flood
20 of calls on all different areas, in all different areas.
21 So we are going along on the assumption that, yes, people
22 will call us and seek information about the accident at
23 Shoreham.

24 Q My question though was that people who don't
25 think LILCO could give them believable information will not

1 call your rumor control points, correct?

2 A I have no way of knowing that. I don't know
3 if that is correct or not.

4 Q You assumed earlier that people who sent you
5 postcards did so because they found LILCO to be a
6 credible source of information, correct?

7 A Yes. I would assume that a large number of
8 those that sent us postcards sought information from us
9 as a credible source. But I have no evidence of among the
10 2,000 postcards that every one of the 2,000 postcards
11 came from somebody that thought we were a credible source.

12 Q You say on page 106, "We must anticipate
13 that when a person hears a rumor that involves LILCO, he
14 may reach for his phone and call whatever LILCO phone
15 number is available to him."

16 Do you see that?

17 A Yes, I see that.

18 Q Why is this necessarily true, Mrs. Clawson?

19 A Well, from a planning point of view, we want
20 to work on that assumption and prepared and train our
21 people to be able to deal with the phone calls that may
22 come in.

23 And from a planning point of view, we have used
24 this basic assumption.

25 Q Well, wouldn't it be fair to say that a person

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who hears a rumor involving LILCO might call the police
or might call a newspaper or might call a radio station?

#22-1-SueT

1 A (Witness Clawson) Yes. I think that's also
2 true. And as a part of our rumor control operation, we
3 have people that will be providing information to local
4 governments and to any other government entity that re-
5 quires the information.

6 Q No other government entity has agreed to parti-
7 cipate in rumor control, though, have they?

8 A (Witness Cordaro) I just wanted to add very
9 quickly to the previous question that Mrs. Clawson answered,
10 LILCO receives a lot of phone calls in anything that
11 remotely, on a routine basis, that remotely might involve
12 or not even involve the Company. We even get odor com-
13 plaints.

14 And I think the reason for that is our numbers
15 are accessible. We have a number of district offices.
16 It's easy for the public to get in touch with us. And we
17 are a ready source of information.

18 And I think the same sort of thing might carry
19 over into a nuclear emergency.

20 Q Mrs. Clawson, do you recall my question to you?

21 A (Witness Clawson) No. I think you had better
22 repeat it.

23 Q No governmental entities have agreed to participate
24 in your rumor control function; correct?

25 A We haven't sought any kind of agreements with

#22-2-SueT

1 local governments related to this. But as the planning
2 process is ongoing and as we have done this kind of plan-
3 ning, we have a similar kind of liaison with local govern-
4 ments during storms, for example, and are quite used to
5 dealing with local governments in storm restoration. And
6 much of the rumor control operation comes out of, and has
7 evolved from, our storm restoration program.

8 (Witness Robinson) There are a couple of things
9 that I would like to add. One is that while we have not
10 sought any of the agreements which you've mentioned, we
11 have installed tone-alert radios in both the homes and
12 offices of the supervisors of the Towns of Brookhaven and
13 Riverhead, who would be the most immediately effected.

14 So, they will be immediately notified of an
15 emergency and will be getting at least the EBS message
16 information.

17 But, in addition, in setting up the rumor control
18 procedure, one of the things that we did was investigate
19 how other utilities handled this function, whether in other
20 plants it was handled either by the utility alone, jointly
21 with local government, or by government agencies. And what
22 we found was that by far the most common method of handling
23 rumor control was that it was handled by the utility, using
24 utility personnel and supervised by utility persons and using
25 utility telephones, because you need a large number of

#22-3-SueT

1 phones with well known telephone numbers that are available
2 very quickly. And if you've ever tried to set one up,
3 it's hard to get a phone bank any place else.

4 So that it's a natural thing to use district
5 offices or call boards of the utility. And it's the most
6 common way of doing it.

7 Q Mrs. Robinson, I will ask you this because I
8 didn't get a clear answer from Mrs. Clawson.

9 No government organization has agreed to parti-
10 cipate in LILCO's rumor control functions, correct?

11 MR. CHRISTMAN: Objection. Asked and answered.

12 JUDGE LAURENSEN: Sustained.

13 BY MR. MC MURRAY: (Continuing)

14 Q With respect to the survey that you were just
15 referring to, is this the WTM Management Corporation
16 survey which you refer to on Page 109 of your testimony?

17 A (Witness Robinson) That's correct.

18 Q You say there that WTM reports that thirty-
19 five utilities report that they handle rumor control
20 themselves.

21 Is it your statement that there is no govern-
22 mental participation in that rumor control function?

23 A It is my statement that in those cases, the
24 rumor control procedures are staffed by utility personnel,
25 using utility offices or facilities, and the supervision

#22-4-SueT

1 is from the utility.

2 Q It sounds like you were reading from something.
3 Was there a specific question asked of the utilities?

4 A Yes. The question was -- Question Number One
5 was: Who staffs the rumor control operation. Question
6 Number Two: Do they use utility district office telephones
7 or any other utility telephones. And Question Number Three:
8 Who provides supervision of operation.

9 Q Was that the direct supervision or --

10 A That is the question. I just read it to you
11 from the questionnaire that was used.

12 Q So the survey did not attempt to determine
13 whether or not government personnel were involved in the
14 rumor control functions for those thirty-five utilities,
15 correct?

16 A I'm not sure I understand the question.

17 Q The survey did not attempt to determine whether
18 or not government personnel were involved in the rumor
19 control function of those thirty-five utilities, correct?

20 A Are you asking me whether there were any
21 government people ever present or overseeing a total
22 operation?

23 Q Involved in the rumor control procedure
24 that you were asking each utility about.

25 A That was not a question. It was who staffs,

#22-5-SueT 1

what equipment and who supervises.

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Q So, it did not ask, for instance, whether or not certain rumor control related services might be provided by governments?

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A Well, obviously if people are calling government offices, as I firmly believe that they will, at the same time that people are calling LILCO district offices or call boards and newspapers and radio stations -- and this is, I will tell you right now, not based on any statistical evidence but based on experience of working with the public for years, they will call anybody they can think of who might conceivably have information.

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And people generally -- I believe that they've called before, and that includes Town Halls. And that is why we have set up the procedures Dr. Cordaro mentioned before, analogous to our procedure in storm restoration, to make information available to Town Halls, Village Halls, and the various entities.

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We maintain within the Company on a regular basis, not just Shoreham-related, an up-to-date governmental directory in order to perform just this function whenever there is anything that brings out telephone callers.

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Q Mrs. Clawson, on Page 111 of your testimony, you state that reporters are going to ask LILCO to do certain things, including permission to film and witness the

#22-6-SueT 1

work of traffic guides.

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Do you see that? Sort of down towards the bottom

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of Page 111?

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A (Witness Clawson) Yes, do.

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Q Do you really expect that LILCO or LERO is

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going to be able to assert enough authority over reporters

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that they are going to be asking LILCO or LERO for

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permission to do things like film traffic guides?

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A No, that's not the intent of this. What I am

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trying to explain to you is that a reporter will come to

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LERO, or to LILCO, and ask where the best place to go to

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film these things would be. In some cases, there are

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instances I would expect when reporters, especially those

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from out of town, would come in and ask if it's all right

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if they went out and did that. Yes, I do expect that to

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occur.

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Local reporters that may be more familiar with

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the area I expect could come to the LERO public information

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people and ask where they ought to go in order to get the

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best kind of film, or in order to get the best kind of

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story, because we are talking about a ten mile zone and

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they are not going to go running around the ten mile zone

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if they can get direct information as to where the best

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film would be.

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Q So, the intent of this was that reporters not

#22-7-SueT 1

2 familiar with the area may come to LILCO or LERO for
3 information about where the best place to shoot is?

4 MR. CHRISTMAN: Objection. Asked and answered.

5 MR. MC MURRAY: I'm just trying to get a clarifi-
6 cation of what the intent of this passage is.

7 JUDGE LAURENSEN: I think she just said that.
8 Sustained.

9 BY MR. MC MURRAY: (Continuing)

10 (On Page 116 of your testimony, Mrs. Clawson,
11 you say: Moreover, we have plans to integrate them --
12 that is County and State personnel -- into the decision-
13 making at the EOC if they show up.

14 Those plans are not in the LILCO plan, are
15 they?

16 A Not in the LILCO --

17 (Witness Weismantle) Yeah, they are in the
18 LILCO transition plan.

19 Q Plans for integrating County and State personnel
20 at the EOF and the ENC?

21 A (Witness Clawson) Oh, yes. We have --

22 (Witness Weismantle) Oh, all right.

23 (Witness Clawson) We have space, and we have
24 procedures.

25 Q I'm talking about plans in the LILCO plan.

A The on-site plan is what you are talking about?

#22-8-SueT

1 The LILCO plan is -- what we call the LILCO plan, the on-site
2 plan. We call the LERO plan the off-site plan.

3 (Witness Weismantle) This covers both. The
4 first sentence refers to the on-site plan; the second
5 sentence refers to the EOC, which is part of the Local
6 Emergency Response Plan.

7 I thought your original question went to the
8 second sentence.

9 Q You clarified that for me. With respect to the
10 second sentence, does the LILCO plan contain plans to
11 integrate the County and State personnel into the decision-
12 making at the EOC?

13 A Yes. It indicates they would be integrated into
14 the decision-making. There is no long procedure, because
15 it would be impossible to write at this time, without having
16 more detail.

17 But as the plan indicates, I think in several
18 places, we would attempt to integrate the County Executive
19 or his representative, for instance, into the EOC.

20 Q So, when you say we have plans, that means you
21 have intention?

22 A Yes. It indicates it's our intention and our
23 plan explicitly says that. It also talks about policemen,
24 for instance, who might show up and how they would be
25 handled.

#22-9-SueT

1 How they would be integrated into the traffic
2 plan.

3 Q Let's go to Page 118. This is Dr. Mileti. You
4 state there that pre-emergency education serves as the
5 function of priming the public for a future emergency.

6 Do you see that?

7 A (Witness Mileti) Yes, I do.

8 Q You state on Page 117 that the accumulated
9 evidence in the social sciences on the function of pre-
10 emergency education and other pre-emergency education
11 efforts is clear, although most would call it inconclusive.
12 You then go on to say that these studies have been unable
13 to document that pre-emergency education efforts for
14 rare community emergencies make any real or statistical
15 difference in terms of how the public responds in an actual
16 emergency once it occurs.

17 Do you see that?

18 A Yes, I do.

19 Q Is it your understanding that the accumulated
20 social science evidence says that pre-emergency education
21 is effective in serving the function of priming the public
22 for a future emergency?

23 A I think I'm the only one that uses the word
24 "prime" so I wouldn't suspect that any of the publications
25 on this topic would say that in the way you phrased it.

#22-10-SueT 1

2 Q Would you say that the accumulated social
science evidence supports that statement?

3 A Yes. Otherwise, I wouldn't have made the
4 statement.

5 Q Isn't it true that the accumulated social
6 science evidence shows that the effect of pre-emergency
7 education is almost negligible on how people will respond
8 in a radiological emergency?

9 A It depends on what you mean by negligible. It's
10 my conclusion that pre-emergency education doesn't alter
11 in a statistical sense how people behave in an emergency
12 in terms of how they go about seeking safety. That's
13 largely determined by the emergency information they get
14 during the emergency.

15 Q You say that, on Page 19, you see no reason
16 to suspect that the alleged lack of credibility of LILCO
17 would detract from the primary function that a brochure
18 could provide.

19 Well, wouldn't -- it's true, Dr. Mileti,
20 isn't it, that the lack of credibility would affect pre-
21 emergency education if as a result of the lack of credibility
22 the brochure wasn't read or was thrown away or was disre-
23 garded?

24 A If someone didn't read the brochure, then the
25 brochure couldn't influence them. That's true.

#22-11-SueT 1

Q And isn't it possible that people who find LILCO has a low credibility on nuclear matters, or matters related to Shoreham, would not read, or would disregard, information in the brochure?

A I don't know that that's the case. It's an interesting hypothesis. It seems to me if I were doing a study to explore that, I would hypothesize that people who were extremely anti-LILCO and people who were extremely pro-LILCO would be the people most likely to read that brochure if they got it to see what the Company was saying, for different reasons.

Q And what proportion of people in the EPZ, do you understand, are extremely pro-LILCO or pro-Shoreham?

A I don't recall. That's a hypothesis that I would have.

Q So that people in the middle, according to your hypothesis, would be the least likely to read the brochure, correct?

A In terms of my hypothesis, which doesn't necessarily mean they wouldn't read it. I would imagine that anybody that lives in the ten mile EPZ on Long Island and got that brochure, after all the public hoopla about Shoreham, would read every word.

Q Well, have you read any other studies for -- with respect to other nuclear power plants regarding how

#22-12-SueT 1 many of the people read the emergency information brochure
2 for those power plants?

3 A No, I haven't.

4 Q Do you know whether such studies exist?

5 A No, I don't.

6 Q Do you think it would be important to know if
7 you were trying to answer the question of what percentage
8 of the people would read the brochure?

9 A Not necessarily, no. If I were doing a study,
10 I certainly would go and look at all of them.

11 Q Well, in answering the question as to whether
12 or not people would read the brochure, don't you think
13 that that would be an important piece of information to
14 have?

15 A It would be an interesting piece of information
16 to have. I don't know how important it would be.

17 Q Are you saying it would not be important?

18 A From a scientific point of view, that's an
19 empirical question that has, in my mind, yet to be answered.

20 I think what I said was that I thought that
21 everybody in the ten mile EPZ would read that brochure to
22 see what this Company and LERO was saying about that nuclear
23 power plant.

24 Q And what studies can you point to regarding
25 emergency information brochures that would support that

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conclusion?

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A For nuclear power plants?

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Q That's right.

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A I told you I hadn't read any.

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1 To the best of my knowledge, I don't know
2 that there are any. That doesn't mean there might not
3 be one.

4 Q You said that. Let's go to page 81 of your
5 testimony. Mr. Weismantle, you state in the bottom paragraph
6 that the -- we are getting feedback here.

7 You say that the allegation makes very little
8 sense regarding a protective action of evacuation if
9 certain non-LERO groups do not participate.

10 Do you see that?

11 A (Witness Weismantle) That is right.

12 Q Isn't it true that if ambulance and ambulette
13 drivers didn't obey LILCO's instructions, it would mean
14 that people in nursing homes and in special facilities
15 would not be evacuated as set forth in the LILCO Plan?

16 MR . CHRISTMAN: Objection. This is covered
17 in the special facilities testimony, and has already been
18 questioned on.

19 JUDGE LAURENSEN: Overruled.

20 WITNESS WEISMANTLE: Obviously the extent to
21 which ambulettes and ambulance companies and/or drivers
22 responded would influence the speed in which you could
23 evacuate those persons who needed that service.

24 BY MR. McMURRAY: (Continuing)

25 Q Also, whether or not those people eventually

1 are evacuated, they wouldn't be evacuated in the manner
2 set forth in the LILCO Plan, correct? Which assumes that
3 ambulance and ambulette drivers follow instructions?

4 A (Witness Weismantle) Yeah, again it would
5 depend on how many did follow instructions in terms of how
6 fast the evacuation could take place.

7 A (Witness Cordaro) I think this has to be
8 clarified somewhat, because the paragraph above the
9 paragraph we are referring to in the testimony, the only
10 reference to ambulance, as far as the Contention is
11 concerned in this regard, is Community Ambulances.

12 MR. McMURRAY: (Continuing)

13 Q The reference on that page is to Community
14 ambulances -- not to the ones that LILCO has contracts with?

15 A (Witness Weismantle) No, the answer doesn't
16 cover that. I thought you were asking me a general
17 question on ambulance and ambulette companies and drivers.

18 Q Isn't it true that one of the non-LERO
19 organizations with whom LILCO has contracts to perform
20 functions under the plan are certain private ambulance
21 companies?

22 MR. CHRISTMAN: Objection. This was covered
23 in the agreements, Issue 24.

24 MR. McMURRAY: I am just trying to clear up
25 what I think is a little bit of confusion on the record

1 here, Judge Laurenson.

2 JUDGE LAURENSEN: I don't see that this bears
3 on the issue of -- in Contention 15.

4 MR. McMURRAY: Well, Contention 15 deals with
5 ambulance companies, including private ambulance companies,
6 although this particular answer may just have referred to
7 Community Ambulance companies. I just want to make clear
8 that Mr. Weismantle's response to my question was referring
9 to private ambulance companies.

10 JUDGE LAURENSEN: Overruled as to that question.

11 MR. McMURRAY: Mr. Weismantle?

12 WITNESS WEISMANTLE: I understood your original
13 question to relate to private ambulance companies.

14 BY MR. McMURRAY: (Continuing)

15 Q Excuse me, Judge Laurenson, I am just checking
16 my notes.

17 MR. McMURRAY: I have no further questions.

18 JUDGE LAURENSEN: Mr. Zahnleuter?

19 MR. McMURRAY: Judge Laurenson, I think it might
20 be a good time now to break and do the procedural matters
21 that we have.

22 JUDGE LAURENSEN: Let's try to get a start
23 on this. Unless Mr. Zahnleuter has objection to that.

24 MR. ZAHNLEUTER: No.

25

1 CROSS EXAMINATION

2 BY MR. ZAHNLEUTER:

3 Q I only have two questions concerning page 38
4 of your testimony. Mr. Weismantle, you rated the credibility
5 of LERO in an emergency as quite well.

6 Is your rating contingent upon the continuing
7 perception, according to the polls, that the NRC has
8 a high level of credibility?

9 A (Witness Weismantle) I am sorry. I don't know
10 if I understand your question.

11 Q Okay. Do you see on page 38 your answer, 'quite
12 well?'

13 A Oh, yes, okay.

14 Q And that response to Question 38, which involves
15 a rating of the likely credibility of LERO in an emergency,
16 and on page 38, the second paragraph, you speak of the
17 NRC's credibility?

18 A Yes.

19 Q So my question is: Is your rating of, 'quite
20 well,' contingent upon the continuing perception according
21 to the polls, that the NRC has a high level of credibility?

22 A No, I think from everything we have said in
23 this testimony, the question of a particular rating of an
24 agency or an individual or whatever in a particular poll
25 at one point in time isn't the crucial one.

1 Obviously it helps the original credibility,
2 or the pre-conceived credibility at the time of an accident.
3 It is good for an agency, but as this question goes on,
4 we list the ways where -- not alternatives, but various
5 agencies besides LILCO are involved in the LERO response,
6 and would reinforce the believability of LERO at the time
7 of the accident.

8 Q If the level of credibility of the NRC were to
9 decrease, would your answer concerning the likely credibility
10 of LERO in an emergency also change?

11 A No, I don't think it would change.

12 Q Does that mean that your relationship to the
13 NRC would not be that significant?

14 A No, it is more than just a rating in a poll at
15 any given point in time for one of these agencies.

16 Q I think I understand. Do you mean that the
17 NRC's rating is just one type of factor that enters into
18 your determination?

19 A That is right.

20 Q In the middle of the page, there is a statement
21 that says: In addition, the NRC will provide a State
22 Liaison Coordinator.

23 Wouldn't it be more accurate to call that
24 person a LERO Liaison Coordinator?

25 A Well, I think that is why we put it in quotes.

1 The words, State Liaison Coordinator are from, I believe,
2 the NRC's Region I plan, which is a document for Region 1,
3 the region that has jurisdiction over Long Island and
4 Shoreham covers the response of that region to an emergency.

5 So, it is written for the general case whereby
6 Government participation exists.

7 Q So it is for the general case, and not the
8 specific case of Shoreham?

9 A That is right.

10 MR. ZAHNLEUTER: I have no other questions.

11 JUDGE LAURENSEN: Mr. Bordenick, do you have
12 any questions. I don't mean to take up a lot of time if
13 you do have questions. We can carry that over until
14 tomorrow.

15 MR. BORDENICK: I have a few questions. I
16 don't think it will take very long. My suggestion would
17 be to see how long my questions take, and if they go until
18 about six, we take up the scheduling matter first thing
19 in the morning.

20 MR. CHRISTMAN: I agree. I only have a handful
21 of questions myself. We could finish this panel and let
22 some of them go home tonight, I think.

23 JUDGE LAURENSEN: Is there an objection to that?

24 MR. McMURRAY: Yes. I think if we go to six
25 we should stop for the evening, take up scheduling matters

1 tomorrow. Whenever we discuss scheduling matters, it
2 always seem to take longer than we anticipate, and I think
3 we ought to take them up tomorrow morning.

4 MR. CHRISTMAN: That is why we should do it
5 after six o'clock, because there is an incentive to be
6 brief.

7 JUDGE LAURENSEN: The problem is if we only
8 have a few questions left for these witnesses, I can't see
9 the point of bringing them all back tomorrow morning for
10 only a few moments of questioning. That just doesn't
11 seem fair to them, or to accommodate good scheduling.

12 MR. McMURRAY: That is fine, as long as we
13 do the scheduling tomorrow morning, that is my point.

14 JUDGE LAURENSEN: I see. Let's see how far
15 we go with the witnesses tonight.

16 Mr. Bordenick?

17 CROSS EXAMINATION

18 BY MR. BORDENICK:

19 Q Mrs. Robinson, in responding to questions from
20 Mr. McMurray concerning the new testimony, that is the
21 third item on the Errata, an update sheet regarding the
22 agreement of two scientists from the Brookhaven Lab to be
23 present in the emergency news center, did you indicate
24 what particular division or department, or whatever
25 terminology they use, that these people were affiliated

1 with at Brookhaven?

2 A (Witness Robinson) I don't know that I did.
3 I believe it is the medical department. Let me just
4 check. I have their resumes in front of me.

5 It is the Medical Department, Division of
6 Nuclear Medicine, Brookhaven National Laboratory for
7 Doctor Brill, and I believe it is the same for Doctor
8 Bender.

9 Yes, Medical Department for both of these
10 gentlemen.

11 Q Do you, or any other member of the panel happen
12 to know who heads that particular department at Brookhaven?

13 A I think I have the information in the office.
14 I don't know it off the top of my head.

15 Q Are you -- let me rephrase that. Has -- this
16 is to Mrs. Robinson or any other LILCO member of the panel,
17 has LILCO or LERO discussed serving -- has anyone from
18 LERO contacted Doctor Leonard Hamilton at Brookhaven?

19 A I have not.

20 A (Witness Cordaro) We have talked to him
21 a number of times in the past, and in fact, he has served
22 as a consultant to this Company on Shoreham-related matters.

23 Q He has served as a consultant?

24 A Yes.

25 Q Then I take it you would not want to use him in

1 a similar capacity to the other two doctors that Mrs.
2 Robinson has testified about?

3 A Yes. He also is recognized as a proponent of
4 the Shoreham plant from past testimony and association,
5 which says nothing about his expertise.

6 He is quite expert in his field.

7 A (Witness Robinson) I would hasten to add that
8 both of these gentlemen will be acting as individuals and
9 not as official representatives of the lab. They will be
10 acting on their own professional status and qualifications.

11 Q I understand. Thank you. Mrs. Clawson, I
12 believe in response -- also in response to questions from
13 Mr. McMurray concerning the discussion in the testimony
14 about the accident at Ginna, and the testimony indicated
15 there were two independent experts, I believe you said
16 that one of those experts was from Rensselaer Polytechnic
17 Institute, is that correct?

18 A (Witness Clawson) Yes, that is correct.

19 Q Do you happen to know where Rensselaer is
20 located?

21 A It is in Troy, New York.

22 Q That is not near Ginna, is it?

23 A It is not the backyard of Ginna, but I would have
24 to consult a map to determine how far it is.

25 Q Well, I guess my question is that if this

1 particular expert is from Rensselaer, and that is in Troy,
2 -- I am not that familiar with New York State -- but I know
3 it is at least several hours drive. How did it happen that
4 he was at Ginna? Was it just coincidence?

5 A Let me explain. I was up to Ginna last summer
6 to observe their FEMA-graded exercise, and at that time
7 they had the two gentlemen that I described to interact
8 with the press.

9 I had discussed their emergency planning,
10 public information program, and with some of the officials
11 from Rochester Gas, and they indicated that they did have
12 these gentlemen at their prior exercises, and they also
13 were available during the course of the Ginna accident.

14 Now, my fellow panel members tell me that it
15 could be, perhaps, a three hour drive from Troy to
16 Rochester, but I see no reason to think that these people
17 couldn't be brought in by airplane or by helicopter or
18 by some faster mode of transportation if the need arose,
19 and I think that is probably, though I have no absolute
20 knowledge of it, that is probably what occurred in the
21 event of an accident, or when they had their accident
22 at Ginna.

23 Q In any event, you have no doubt that this
24 particular expert was, in fact, present at Ginna during
25 the time of the emergency in question?

1 A I was not present at Ginna during the accident
2 in question, but those that were present during that time
3 have indicated to me that there were two individuals from
4 universities; one of whom I met and recollect was from
5 Rensselaer, and I don't know if the other gentleman was
6 or was from an associated university.

7 I do know they were two university people.

8 Q So that statement in the testimony is based on
9 information you obtained from others rather than your
10 personal knowledge, is that correct?

11 A Yes. As I say, I was not up at Rochester
12 during the course of their accident in 1982.

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1 Q Dr. Cordaro and Mr. Weismantle, would you look
2 at page 40 of the testimony, the answer to question 18.

3 It states, "We believe that as the public
4 becomes more familiar with the quality of the LILCO
5 planning effort, our credibility will rise."

6 I wonder if you could tell me in a little more
7 detail what you had in mind when you made that statement?
8 Specifically, is there anything over and above what is
9 already in your testimony?

10 A (Witness Cordaro) Well, I think it is a general
11 comment. Because of the nature of the controversy and
12 the way it has been reported in the press, I don't think
13 the public has had a fair opportunity to know the details
14 of the plan and the work that has gone into the plan and
15 the quality of the plan in general.

16 I think as we move into the latter phases
17 associated with the plan, such as the FEMA graded exercise,
18 the ultimate decision to come from this Board, which
19 we optimistically like to consider as being a favorable
20 one, that the public will become more in tune or aware
21 of the quality of the plant, at least as it is judged by
22 others -- by FEMA, by the NRC.

23 And hopefully when the plant gets a license,
24 I think the realization that the plant is an operating
25 facility and the fact that it will affect their daily lives,

1 that they will become more in tune or more informed about
2 the details of the plan and the quality associated with it.

3 MR. BORDENICK: Thank you. I have no further
4 questions.

5 JUDGE LAURENSEN: Mr. Christman, any redirect
6 examination?

7 MR. CHRISTMAN: Just a few.

XXXXXXXXXX

8 REDIRECT EXAMINATION

9 BY MR. CHRISTMAN:

10 Q Does anyone on the panel have an opinion as
11 to whether it is necessary that your EBS messages state
12 that scientists confirm the LERO recommendation for
13 protective action?

14 A (Witness Mileti) Yes, I have an opinion about
15 that, and the answer is that I don't think it is
16 necessary that it state confirm. What is important is
17 that the person giving out the information state that
18 they interacted with people who would know about nuclear
19 power, the science of what is going on, engineers who
20 know about the structures, et cetera.

21 Q Anyone else want to add to that?

22 A (Witness Clawson) In terms of the timeliness of
23 putting out the message, I think it would be a very
24 difficult undertaking to try to ascertain that or to try
25 to get an agreement from everybody that might have had

1 input into the decision that this be done.

2 In other words, I think it is enough and I
3 think it is more important to be able to get the message
4 out in a timely fashion and to indicate the people that
5 the director of local response has consulted with rather
6 than to try to backtrack and see what everybody else's
7 opinion was in this and so report in an emergency broadcast
8 message.

9 Q Mrs. Robinson, just for completeness, I guess,
10 would you very briefly tell what Project ISABELLE was?

11 A (Witness Robinson) Project ISABELLE was a
12 particle accelerator which had been -- was under construction
13 at the Brookhaven National Laboratory. It was an
14 advanced scientific project. It was under construction,
15 when the funding for it was reduced in the federal budget.

16 And at that time the administration of BNL
17 appealed to the business, educational community, labor
18 unions, and various other groups for support in getting
19 continued funding from the Federal Government for ISABELLE.
20 And we formed a task force that put on a full-fledged
21 campaign for the project that culminated in a rally
22 at the Electricians' Hall in Melville which was attended
23 by virtually every political figure on Long Island.
24 And, in fact, it was during the gubernatorial election,
25 and the republican candidate, Lehrman, was there.

1 There was a representative of now-Governor
2 Cuomo. County Executive Cohalan (phonetic) spoke at that
3 rally, as did, as I say, virtually every congressmen or
4 his representative. And there was also action taken in
5 Albany. The assembly passed a resolution supporting
6 Project ISABELLE. And I don't remember whether the senate
7 passed a resolution or just issued a statement on it.

8 But I would say that of everything that has
9 happened on Long Island in the last few years, that
10 showed the greatest unanimity.

11 Q Do you need to spell Project ISABELLE for the
12 court reporter?

13 A It is all capital letters. It is I-S-A-B-E-L-L-E.

14 Q Dr. Mileti, counsel for the county asked you
15 to assume that he was not a credible source for you and
16 that to assume that he would tell you something over and over
17 and asked whether either you would believe him or
18 whether your level of belief would go up. And you answered
19 yes, it would, and you asked did anybody want you to
20 explain why.

21 I would like you to explain why.

22 A (Witness Mileti) Well, in general and in an
23 emergency, when people are listening and seeking out --
24 listening for information and seeking out additional
25 information, if one set of information is heard over and over

1 and over again, something else that is saying something
2 to the contrary is heard only once, the information
3 that is heard over and over again is confirmed. And
4 that technique of enhancing frequency in an emergency
5 is one way to enhance believability in the most credible
6 emergency information.

7 In addition to that, I might add, that is an
8 aggressive technique to abate the effect of rumors in
9 emergencies. So it accomplishes several objectives.

10 Q Mrs. Clawson, I think you were the one who
11 was asked the most about LIICO's ability to, the word
12 "control" how the media report information.

13 Assume that state and local government officials
14 were involved in this or any other emergency plan, could
15 they control how the media reports information?

16 A (Witness Clawson) No. There is essentially
17 no way to control how the media reports information.
18 The best that any source can hope to do is to be as
19 knowledgeable and as honest and as forthright and as
20 accurate as possible. And with those qualities, as
21 a former reporter, I can tell you, as well as an information
22 source, that a reporter tends to gravitate towards that
23 type of person and accept that kind of information.

24 And if you want to call that control of
25 information, you can. But there is nothing that prevents a

1 reporter from talking to anyone that he wants to talk to
2 that also wants to talk to him.

3 MR. CHRISTMAN: Thank you.

4 Judge, that is all I have.

5 JUDGE LAURENSEN: Any other questions for the
6 panel?

7 MR. MC MURRAY: One moment, Judge Laurenson,
8 please.

9 (Pause.)

XXXXXXX

10 RE-CROSS-EXAMINATION

11 BY MR. MC MURRAY:

12 Q Dr. Mileti, I believe you stated in response
13 to a question by Mr. Christman that you believed that
14 the frequency of the message enhances credibility, correct?

15 A (Witness Mileti) I believe I said the
16 frequency of -- we were talking about how frequency
17 enhances believability.

18 Q Okay. Believability.

19 A Which is why credibility is important. Believability
20 is the objective.

21 Q Is it your testimony that the fact that a message
22 is repeated frequently necessarily will overcome low
23 credibility?

24 A That is one of the factors that will contribute
25 to being able to overcome credibility.

1 Q Would that factor alone overcome credibility?

2 A I would not want to put my eggs in any basket
3 based on just one factor. I would want to address all
4 the factors that I know affect believability.

5 Q All of the factors --

6 A Listed in my testimony.

7 Q -- dealing with emergency information?

8 A Yes.

9 MR. MC MURRAY: I have no further questions,
10 Judge Laurensen.

11 JUDGE LAURENSEN: Anything else for the panel?

12 (No response.)

13 JUDGE LAURENSEN: All right. The panel is
14 excused.

15 (The panel stood down.)

16 JUDGE LAURENSEN: We will continue the
17 discussion of the scheduling until tomorrow morning.

18 Let me just -- off the record.

19 (Discussion off the record.)

20 JUDGE LAURENSEN: We will be back at 9:00
21 tomorrow.

22 (Thereupon, at 6:10 p.m., the hearing was recessed,
23 to reconvene at 9:00 a.m., Friday, June 8, 1984.)

24
25
END 24

CERTIFICATE OF PROCEEDINGS

This is to certify that the attached proceedings before the
NRC COMMISSION

In the matter of: Long Island Lighting Company

Date of Proceeding: Thursday, June 7, 1984

Place of Proceeding: Hauppauge, New York

were held as herein appears, and that this is the original
transcript for the file of the Commission.

Rebecca Eyster

Official Reporter - Typed

Rebecca Eyster

Official Reporter - Signature

Myrtle Traylor

Official Reporter - Typed

Myrtle Traylor

Official Reporter - Signature

Garrett Walsh

Official Reporter - Typed

Garrett J. Walsh

Official Reporter - Signature