

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: 14,241-14,503

Date: Wednesday, August 15, 1984

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3 BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

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

12 Wednesday, August 15, 1984

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15 The hearing in the above-entitled matter
16 convened, pursuant to recess, at 9: a.m.

17 BEFORE:

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

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

22 DR. FREDERICK SHON, Member
Atomic Safety and Licensing Board
23 Nuclear Regulatory Commission
Washington, D. C. 20555
24
25

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APPEARANCES:

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On Behalf of LILCO:

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Nuclear Regulatory Commission

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Federal Emergency Management Agency

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New York, New York 10278

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C O N T E N T S

WITNESSES

DIRECT CROSS REDIRECT RECROSS BOARD

Thomas E. Baldwin)		
Roger B. Kowieski)		
Philip McIntire)		
Joseph H. Keller)	14,244	14,339

E X H I B I T S

IDENTIFIED

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Suffolk County EP-92	14,383	14,502
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L A Y - I N S

Testimony Substitution of
Thomas E. Baldwin, Roger B.
Kowieski, Philip McIntire,
and Joseph H. Keller

Page 14,292

#1-1-SueT1

P R O C E E D I N G S

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(9:00 a.m.)

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JUDGE LAURENSEN: Let the record show the hearing is now resumed. Back on the record.

4

Mr. McMurray.

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MR. MC MURRAY: Thank you, Judge Laurenson.

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Before we begin, let me just report that the parties discussed the scheduling for the procedural issues that are to be heard this week and decided that, in our opinion, the procedural issues should be heard after the FEMA witnesses are cross-examined.

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8

JUDGE LAURENSEN: Okay.

9

Whereupon,

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THOMAS E. BALDWIN,

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ROGER B. KOWIESKI,

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PHILIP McINTIRE

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and

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JOSEPH H. KELLER

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resumed the stand as witnesses by and on behalf of FEMA and, having previously been sworn, were further examined and testified as follows:

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CROSS EXAMINATION

17

BY MR. MC MURRAY:

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Q Gentlemen, let me refer you to Page 86 of your

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testimony on Contention 81. This deals with the ingestion

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pathway.

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Mr. Kowieski, could you just briefly explain why there is a fifty mile EPZ for radiological emergency planning purposes?

A (Witness Kowieski) Mr. Keller will explain.

(Witness Keller) The concept of two emergency planning zones, the so-called ten mile emergency planning zone and the so-called fifty mile emergency planning zone, were first promulgated by a document, 0396. The idea involved is that in the smaller zone, the likelihood of an exposure pathway to the public would be via the plume.

The larger zone, which runs from zero to fifty miles approximately, would involve potential exposure to the public via foods, perhaps water, things that would be ingested. Generally speaking, the time frame of concern is somewhat down the road a little later than the protective actions which are required in the plume exposure zone.

Q Could you elaborate on that a little bit about the time frame being a little bit more down the road?

A Okay. If you have people in the ten mile EPZ, or the plume exposure zone, the -- one of the predominant means of exposure is by inhalation, breathing the plume as it passes. If the people are in that zone, they are going to breathe. Ingestion of food and other ingestible types of items involves first the harvest of this food, the distribution

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2 of the food and then finally the consumption of the food.
3 This is not an instantaneous process, as in breathing. So,
4 there is a somewhat longer time frame of concern.

5 Secondly, the risk is -- decreases with distance
6 from the plant site. In a serious accident, the presumption
7 I think is that there would be protective actions of the
8 public within the ten mile EPZ or at least some portion of
9 the ten mile EPZ. If you evacuate people, there is no one
10 there to harvest the food to get it into the food chains
11 so that people can consume contaminated feed. Okay.

12 So that the planning, while it is extensive, is
13 not generally assumed to be as critical in terms of time
14 frame. The implementation of these ingestion protective
15 actions come after the implementation of protective actions
16 for the plume exposure.

17 Q Would that include monitoring of areas and food-
18 stuffs outside of the ten mile EPZ but within the fifty mile
19 EPZ? Does that also begin within a longer time frame?

20 A Yes. Your critical concern is the exposure of the
21 populace who are living there who, as I say, have the poten-
22 tial to breathe or to be exposed by the passing plume. That's
23 your first concern.

24 A second concern is the ingestion of materials.

25 Q And if I can sort of restate what you said, the
problem is how you interdict these consumables so that they

#1-4-SueT 1

won't be ingested, right?

2 A That's certainly one of the problems, yes, sir.

3 Q Therefore, there has to be monitoring of food-
4 stuffs and water, other consumables within the fifty mile
5 EPZ, correct?6 A You certainly must plan for this eventuality.
7 Probably the most reasonable protective action would be to
8 embargo. You know, appropriate officials would embargo the
9 use of these foods, et cetera until the monitoring had
10 proven that they were acceptable.11 Q By embargo, you mean assert some authority in
12 order to prevent the distribution of these consumables?13 A I think that if responsible officials announce
14 that there is the potential that the food produced in this
15 area is contaminated, and they advise the population against
16 eating of the food produced in this area, that that would
17 in itself be a sufficient embargo. Effective embargo, maybe.18 Q You don't believe, or you don't think, do you,
19 that the public is going to be aware of which food is pro-
20 duced in the fifty mile EPZ?21 A That has been a problem. I know that the Hershey
22 Company outside Three Mile Island was quite concerned about
23 the public acceptance of their product post-Three Mile Island
24 accident, since they were associated with that geographic
25 area, even though the material that went into the production

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1 of their product wasn't necessarily raised within the area
2 of concern of the accident.

3 Q So, I take it then that merely telling the public
4 not to eat food that has been -- that was processed or grown
5 in the fifty mile EPZ is necessarily going to prevent them
6 from eating food that was processed or grown within the
7 fifty mile EPZ because they won't know in all cases whether
8 it has been, correct?

9 A I think that, if we've learned anything, that
10 buyer resistance will take care of the fact that they won't
11 eat the food perhaps from a much larger area than the fifty
12 mile EPZ. And it's going to take a considerable effort by
13 the authorities to convince people that it's all right to
14 eat this food.

15 Q You are saying then that people won't eat
16 food?

17 A I'm saying that there will be buyer resistance.
18 If the public is informed that there is a potential for
19 contamination of food around the Shoreham site, I would
20 expect that there would be a reluctance for people to buy
21 food grown anywhere in this part of the State, and probably
22 for a much larger area than just the fifty mile EPZ, since
23 they don't know where it came from.

24 Q A reluctance or that they absolutely would not
25 consume that food?

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2 A Well, the public perception is a very difficult
3 thing to put your finger on. I think that the -- what we
4 have seen in the one accident that we've had, one significant
5 accident that we've had, is that there was some buyer reti-
6 cence to drink milk, for example, that was produced in that
7 part of the State. As I said, Hershey was quite concerned
8 about their products.

9 The primary concern is fresh fruits and vegetables
10 and fresh products. Cans which have been on the shelf of
11 the store, for example, even in the fifty mile EPZ were
12 obviously harvested well ahead of an accident. That type of
13 food is perfectly safe to consume. There is no question
14 about it. There shouldn't be any question about it.

15 It's the fresh kinds of things that get into the --
16 that are in a very short time from point of production to the
17 point of consumption.

18 end #1
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1 Q In your testimony you state that there is no
2 list of facilities in the EPZ -- I'm sorry, no list of
3 facilities in the LILCO plan which are outside the 50-mile
4 EPZ, but which process food from within the 50-mile EPZ.

5 A That is correct.

6 Q Is that a deficiency in the plan?

7 A In the RAC review we suggested that such a list
8 should be compiled.

9 Q To your knowledge, is such a list being compiled?

10 A Again we have -- at least I have just begun the
11 review of Revision 4, and I have not completed it.

12 It is my recollection that in the beginnings of
13 that I saw some information which would indicate that such
14 a list had been included in the Revision 4.

15 Q But you will need to review the Revision 4 more
16 completely --

17 A That is correct.

18 Q -- before you can say that --

19 A Whether it is there or not there, that's correct.

20 Q The 50-mile EPZ -- or plans for a 50-mile EPZ
21 are normally implemented by state governments, correct?

22 A Yes.

23 In general, depending on how the state law is
24 organized and how the political subdivisions are given
25 authority, you can say that one of the primary responsibilities

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1 of the local government is the 10-mile EPZ. And that
2 generically the 50-mile EPZ is generally a state function.

3 Q And that is because the state has wider
4 jurisdiction?

5 A In most cases the 50-mile EPZ will cover more
6 than one county. And therefore, you go to the next
7 highest jurisdiction, which has some authority over multiple
8 counties. It is not done by the state alone. Even in
9 New York State and other sites, the ingestion pathway
10 protective actions et cetera, are primarily the state
11 decision, but the implementation is through county resources.

12 Q With respect to Contention 81A, could you explain
13 for me briefly, your understanding of how LILCO intends to
14 interdict milk from going into the food chain?

15 A It is primarily through notification of the
16 food chain establishment.

17 My recollection of the plan is that in the event
18 that protective action recommendations for ingestion
19 pathway are decided upon by the decisionmaker, that LILCO
20 will contact both the State of New York and the State of
21 Connecticut to inform them of these protective action
22 recommendations and to ask whether or not the state or
23 states are able to implement protective action recommendations.

24 If the states say that they cannot or will not
25 implement these protective action recommendations, there are

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1 provisions for LILCO to call, for example, the farmers, and
2 tell them by phone -- and tell them of these protective
3 action recommendations. As part of this call they are
4 going to inform the food chain establishment that
5 unsalvageable food will be paid for by LILCO to try to,
6 I guess, convince the farmer that he is not going to lose
7 money by taking this protective action.

8 Q Do you think the farmers will be convinced?

9 A As I say, I happen to believe that in the real
10 situation the farmer is going to have a hard time selling
11 his food anyway, and if somebody else tells him that they
12 will pay for it, yes.

13 Q Now within the 50-mile EPZ, there may have to
14 be monitoring activities of farms for milk or produce,
15 there may have to be monitoring of farm stands, correct?

16 A That's correct.

17 Q There may have to be monitoring of the food
18 within food processing plants, correct?

19 A That's correct.

20 Q There may have to be monitoring of wells or
21 other water sources.

22 A That's correct.

23 Q Do you know how many monitoring teams are
24 available to LERO under the LILCO plan?

25 A Almost an infinite number.

1 Q Why do you say almost an infinite number?

2 A Because I would project that any LILCO plan
3 provides for the fact that at this point since we are now
4 in a secondary role, that the federal response would be
5 called in and that once the FERP has been invoked, DOE can
6 draw on all of the national laboratories to provide support
7 to Brookhaven Labs, which is the initial response. And, EPA
8 will also send in their monitoring teams as part of FERP.

9 And I guess in terms of how many teams can the
10 federal government mobilize if it decides it has to, was
11 the -- I said almost infinite, that is probably a little
12 large, but they can mobilize a lot of teams.

13 Q Is this in the LILCO plan, or is this your
14 assumption of what will happen?

15 A The LILCO plan very clearly states that the
16 Brookhaven team are the first responders for the plume
17 exposure pathway. And that the LILCO's team captain, RAC
18 team captain, has the authority to request additional
19 resources if needed.

20 This mobilization effort is rather large. If you
21 had an accident which might require monitoring of the plume
22 exposure pathway, and it was a small accident, it was a
23 relatively small release of activity, you would not have
24 to augment the Brookhaven teams which would respond immediately
25 with anywhere near the number of teams that you might have to

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augment it with if you had a large accident.

A (Witness McIntire) In all the discussions I have had with various people in our Washington office and others, there has certainly been no indication that there would be any reluctance on the federal government's part to provide whatever resources are necessary to respond to an accident in a nuclear power plant.

end T2
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1 Q Let me refer you to your testimony on page 87.

2 In the second sentence, Mr. Keller, you say that the K period
3 for shortlived radio isotopes is handled by standard methods
4 which involve the half life of the nuclide, the initial
5 contamination level, and the response level for a particular
6 protective action.

7 What do you mean by that?

8 A (Witness Keller) Well, the Food and Drug
9 Administration has published derived protective action response
10 levels. In other words, a contamination level of, for example,
11 .12 microcuries per square meter, would correspond -- this
12 is on pasture forage would correspond to a dose rate in milk
13 of one point five rem to the thyroid, which is the preventive
14 PAG level for food.

15 This is from the nuclide iodine 131, which has
16 an 8.05 day half life. For every four days -- every eight
17 days, sorry -- the concentration level by decay will drop
18 by a factor of two. That is the half life part, okay?

19 If the initial concentration were .24, for example,
20 microcuries per square meter, in eight days the concentration
21 by decay would be .12. In another eight days, it would be
22 .06. So that the concentration on the forage would decrease
23 with the half life of the nuclide of concern.

24 Once the concentration that you started from
25 initially had gotten down to below a level which would result

1 in a dose above the PAG -- I am sorry, below the PAG -- it
2 would be all right to use that particular commodity.

3 There are three things that are involved: How
4 much you started with, how long it lasts, and what the level
5 of concern is, and those are the three things that are listed
6 in the testimony.

7 Q So, you are saying that food that was formally
8 contaminated or considered contaminated after going through
9 this decay process could be returned to the food chain?

10 A It is possible, yes.

11 Q Is it advisable?

12 A The Federal guidance from the Food and Drug
13 Administration suggests, yes, that is one way that contaminated
14 food with short lived radio nuclides can be handled. And
15 our testimony reflects that.

16 Q I am asking you whether you think it is advisable.

17 A I don't have any problem with it, no. From a
18 technical basis it is perfectly acceptable.

19 Q You say it is acceptable from a technical basis?

20 A That is correct.

21 Q There are other bases from which you think it
22 would be inadvisable?

23 A No, not inadvisable. Perhaps unacceptable, as
24 I tried to indicate earlier. Buyer resistance, I think, is
25 going to be a real phenomenon, and it has nothing to do with

1 technical basis. You may decide that it is perfectly
2 acceptable from a technical basis to allow a food into the
3 food chain, right. into the marketing, but if people won't
4 buy it, it didn't do any good to put it back into the system.

5 Q Let me just ask you, you referred to buyer
6 resistance several times. Do you think it is appropriate
7 to rely solely on buyer resistance to make sure that food is
8 not -- contaminated food does not pass into the food chain?

9 A No, I don't believe it is, and I also don't believe
10 that is what I said that this system is concerned with.
11 There are provisions to contact the food chain establishment
12 to inform these organizations and people of the protective
13 action recommendations.

14 Q In your opinion, can food or other consumables,
15 can there be assurance of interdiction of food products and
16 fresh food solely by these voluntary methods that is
17 established, contacting food chains and buyer resistance?

18 A Assurance is my problem. I believe that the
19 buyer resistance is going to be the biggest single factor,
20 and I also believe the fact that the plan very clearly
21 states that LILCO is going to tell these food chain operators
22 that food that is not salvageable they will pay for. I
23 think that is a very strong, positive point.

24 Q Can there be assurance?

25 A Yeah, I think -- I am reasonably assured that

1 the system will work, yes.

2 Q And why is that?

3 A For the reasons that we have stated. I believe
4 that when the producer is told that if he has unsalvageable
5 food, right, that LILCO will pay for it. That will induce
6 at least some confidence that he is not going to lose money,
7 okay, he is not going to lose his livelihood, all right?
8 Secondly, I think he is going to have a hard time selling
9 his product anyway.

10 Thirdly, at least insofar as interstate commerce
11 is concerned, the Federal agencies will do inspections as
12 they do now. From what we gather, the State may or may not
13 continue to inspect food. But at least insofar as interstate
14 commerce is concerned, the Federal agencies will continue
15 their food inspection program.

16 A (Witness McIntire) And I think we have had some
17 practical experience out here in the Long Island area on
18 somewhat similar, and that is when on usually at least on
19 one or two occasions a year, there are warnings put out
20 not to eat shell fish from here for various reasons of
21 pollution, red tide, or something like that, and you know,
22 that process seems to work generally successfully.

23 Q Mr. Keller, in the LILCO Plan did you see any
24 procedures describing how the compensation process would
25 be carried out?

1 A (Witness Keller) You mean specifically how
2 farmer "X" will get his money?

3 Q Anything other than a statement that people would
4 be compensated?

5 A No.

6 Q Does that statement give you assurance that
7 adequate procedures would be developed in the future?

8 A I would suspect, at least in my own opinion, that
9 if the plan which has been filed with FEMA and other agencies
10 has a statement in it that unsalvageable food will be
11 compensated for by LILCO, that if LILCO after the fact resisted
12 the payment for this food, that the legal system would somehow
13 or other find for the farmer that he would be paid.

14 Since the plan very clearly states that they will
15 pay for unsalvageable food; if they balked at paying for it,
16 I would think that the attorneys would have a pretty good
17 case to say: Look, you said you were going to, now do it.

18 A (Witness McIntire) And I think there is somewhat
19 of a precedent for that, too, in the blackouts in New York
20 City, that I know that merchants and some individuals were
21 compensated because of the blackout when they lost food as
22 a result of electricity going off for hours.

23 Q How is salvageability determined under the LILCO
24 plan, Mr. Keller?

25 A (Witness Keller) It is not specific insofar as

1 what is salvageable and what is not salvageable.

2 The notification to the food chain organizations
3 is based on a protective action recommendation. For example,
4 don't sell your food. It may be contaminated. We will have
5 to monitor to establish whether or not the food is contaminated.

6 At that point, the -- a responsible, let's say
7 farmer who is growing produce -- is told that if your food
8 is not salvageable, we will pay for it. If he does not, in
9 fact, sell his food, his produce, he has a stack of produce
10 sitting there that he harvested that day, if he didn't sell
11 it and it spoils, that is not salvageable.

12 I can envision, at least, the potential that
13 a particular farmer may not be monitoring it on a timely
14 basis to establish whether his food was contaminated or not.
15 I would also think that LILCO would be required to pay for
16 that food, even though it was not contaminated. If it had
17 spoiled because he had been told via this protective action
18 recommendation not to sell his food until it was established
19 that it was saleable, if they don't establish that in time
20 to allow the farmer to sell it, I think that that would
21 come under the terminology of salvageable or not salvageable.

22 Q As you say, the plan doesn't specify, correct?

23 A Not to my recollection.

24 Q One problem, one issue related to the fifty
25 mile EPZ, is also how you dispose of contaminated foodstuffs

1 and water and things like that, correct?

2 A I am not sure what you mean by problem or issue.

3 Q Well, let me refer you to your testimony on page
4 87, where you talk about -- the fourth sentence down, you
5 say the methods which allow for decay of short lived radio
6 nuclides consists of prolonged storage after pasteurization
7 of milk, or diversion of fluid milk to other products which
8 will not reach the public until after an appropriate decay
9 period.

10 Then you say: These methods cannot be implemented
11 if storage or product diversion capability do not currently
12 exist.

13 A I see that, yes.

14 Q Let me talk about those passages. Do you know
15 whether or not adequate storage and product diversion
16 capability exists with respect to the fifty mile EPZ?

17 A Do not.

18 Q So, there is a problem if such capacity doesn't
19 exist, correct?

20 A There is a problem with using the means of
21 withholding these particular products from public consumption
22 as we discussed, if these capabilities do not exist currently
23 or prior to the accident. What we are trying to say here is
24 that it is not reasonable or feasible that at the time of
25 the accident you develop these kind of things.

1 If they exist you use them; if they do not
2 exist, your other avenue is to condemn the food and not
3 let it get into the food chain.

4 Q When you say condemn the food, you are talking
5 in legal terms?

6 A That is one way to do it, yeah. Or the farmer
7 can dump it.

8 Q If long lived radio isotopes are involved, is
9 dumping -- private dumping by a farmer or by a food processor
10 the safe way to proceed?

11 A I think you have to consider the whole picture.
12 What we are talking about here is a field which is growing
13 crop, or whatever. That field is contaminated. That is
14 how the food became contaminated.

15 End 3.
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2 Once the food is harvested and you establish
3 the fact that the food is contaminated, he just dumps it
4 back in the field. Nothing is changed.

5 Q You are saying that if -- let's say milk is
6 found to be contaminated with long-lived radioisotopes --

7 A Right.

8 Q -- that that milk can just be dumped any old
9 place?

10 A Presumably the farmer, if there is an embargo,
11 the farmer milks his cows and the milk is in his tanks now,
12 but is on his farm. All right. If that milk is contaminat-
13 ed, he dumps it back in the field where the forage came from
14 that the cows ate to contaminate the milk in the first place.
15 You haven't changed anything.

16 Q So, as long as the field is contaminated for a
17 long period of time, I guess what you are saying is that
18 you can go back and dump the milk there and there is no
19 problem?

20 A Part of the cleanup effort, okay, which is going
21 to have to be implemented in the event of a release of long-
22 lived activities, okay, is the cleaning up of these fields
23 or whatever. And the fact that you took some of the contamina-
24 tion off of the forage, pass it through the cow, produce milk
25 and put it back on the field, you've still got a cleanup
 effort to that field.

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2 Q Are there any provisions that you know of in
3 the plan to handle the case where the farmer or food proces-
sor does not have adequate storage or diversion capability?

4 Doesn't the plan assume that such capabilities
5 exist?

6 A I don't believe it does.

7 Q What provisions in the plan are there for handling
8 the case where there isn't enough storage capacity?

9 A What we were talking about in the testimony on
10 Page 87 that you referred this -- what we started with, was
11 specifically for milk products. Milk. And specifically
12 the Food and Drug Administration has published recommenda-
13 tions, Federal recommendations, in this area because cows
14 must be milked on a regular basis. You can't stop and say:
15 Stop producing milk, cow, we've got a problem here. You
16 have got to milk that cow. Then, you've got to do something
17 with that milk.

18 So, this -- it's a very regimented and timely
19 kind of thing. They have dealt with this problem first and
20 in more detail. For example, while driving around we've
21 seen a fair amount of corn growing. A couple of days delay
22 in harvesting the corn crop may affect the price somewhat,
23 but it's not a disaster as it is with milking cows.

24 So that the diversion or delay of the milk that
25 was discussed in the testimony has been detailed in some --

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has been explained in some detail in the Federal guidance.

2 Q My question is, does the LILCO plan discuss how
3 one proceeds if one does not have adequate storage or di-
4 version capabilities?

5 A Not specifically.

6 Q You mention on top of Page 88 that the OPIP 3.6.6
7 contains a listing of farms and processing plants within
8 the EPZ, and I guess farm stands as well.

9 Do you see that?

10 A Yes.

11 Q You have no way of knowing whether those lists
12 are accurate, correct?

13 A That is correct.

14 Q Does LILCO intend -- does FEMA intend in the
15 future to determine whether or not those lists are
16 accurate?

17 A (Witness McIntire) We have no plans past review-
18 ing Revision 4 now. So, anything that we would say on that
19 would be pure speculation.

20 Q Mr. McIntire, for other plans does FEMA look into
21 whether or not similar lists are accurate or not ?

22 A (Witness Kowieski) We have not verified the
23 accuracy of the listing provided to us in the plan. If we,
24 during the exercise, test or verify one of these facilities,
25 obviously this would be self-verification. But there is no

#4-4-SueT 1

effort to verify every single facility listed in the plan.

2 Q Have you exercised in the past food processing
3 facilities?

4 A (Witness Keller) In other exercises, both in
5 New York State and in New Jersey, which is the other state
6 in this region, there have been exercises which involved the
7 taking of samples at food processing facilities.

8 Q Has there been any inquiry during these exercises
9 as to whether or not adequate storage or food product diver-
10 sion capabilities exist?

11 A Not to my knowledge.

12 Q Mr. McIntire, you discussed earlier your opinion
13 that FERP would respond in the event of an emergency at
14 Shoreham.

15 A (Witness McIntire) I believe I testified that
16 there was no hesitation, to my knowledge, of Federal response
17 to an accident, including FERP.

18 Q And that is based on -- your opinion is based on
19 what?

20 A It's based on the fact that the FERP was exercised
21 last Spring down in Florida, and that a continuing updating
22 of the plan has occurred, my discussions with various
23 people within FEMA, within other Federal agencies.

24 And also on the Federal response effort at the
25 Ginna incident.

#5-SueT

2 Q Were the people you were speaking to in other
3 agencies speaking for their agencies?

4 A It's my understanding they were reflecting their
5 agency's policies, yes.

6 Q The exercise done at St. Lucie -- well, let me
7 refer you to the St. Lucie plan, a fifty mile EPZ there,
8 the State -- there is a State plan for implementing pro-
9 tective actions for the St. Lucie plant ingestive pathway
10 EPZ, correct?

11 A I think I will let Mr. Keller answer that question,
12 because he is the only member of the panel who actually
13 participated in the St. Lucie exercise.

14 (Witness Keller) Yes, that's correct. There is
15 a State plan for the fifty mile EPZ.

16 Q At St. Lucie?

17 A At St. Lucie.

18 Q And the same with Ginna, correct?

19 A That's correct.

20 Q Let me refer you to your testimony on Page 85
21 about Contention 77. Mr. Keller, I will refer my questions
22 to you since I think this is your area. Anybody else can
23 pipe in if they want.

24 Mr. Keller, are you familiar with the RM-14?

25 A Yes.

Q What's the range of the RM-14 scale?

#4-6-SueT1

2 A There are several ranges on the RM-14. As in
3 most cap-rate meters there is a switch in the front of the
4 meter which allows you to select different ranges.

5 Q In the LILCO plan, the meter would be set for
6 what scale?

7 A I can't specifically remember.

8 Q If I said it would be zero to five hundred,
9 would you agree with that?

10 A That sounds reasonable.

11 Q What's the response time of an RM-14 meter?

12 A I believe that is -- well, I believe that is also
13 settable. I believe it's a fast and a slow switch on the
14 RM-14.

15 Q For the purposes of thyroid monitoring, the LILCO
16 plan -- does the plan specify whether or not response time
17 will be set at fast or slow?

18 A It is my recollection that it does not.

19 Q Should it?

20 A No. It's not necessary. The difference between
21 a fast and a slow response time setting on these cap-rate
22 meters influences the variation in the meter reading. If
23 you have it on a fast response setting, there is a great
24 deal more fluctuation in the meter face, the meter reading.
25 The needle tends to fluctuate a great deal more than it does
if you have it on the slow response setting, because of the

#4-7-SueT₁

2 statistical nature of the count rates which come into the
3 probe.

4 If you have it on a fast response, an uneven
5 number of events tends to perturb the needle a great deal
6 more than it does on the slow response.

7 Q So, let me just follow up on that. You would
8 agree, would you, that with the fast reading it's a little
9 harder to determine because of that fluctuation exactly what
10 the correct reading is?

11 A I would say that that's reasonable.

12 Q Now, doesn't it make a difference though in the
13 fast -- between the fast and slow in how much time you spend
14 running the probe over the area you are measuring?

15 A If you have the meter on a -- well, the meter must
16 be allowed to come to an equilibrium reading no matter which
17 position you have the response time setting. In a slow
18 response mode it takes longer to come to the equilibrium
19 reading than it does the fast response mode.

20 One thing that should be pointed out, if you use
21 earphones or if you use the audible signal from any of these
22 count rate meters, that is independent of the response time
23 selector switch on the meter face, that the audible signal
24 reproduces each event that occurs in the tube, and what you
25 are talking about is the meter reading coming to equilibrium
with the fast or slow response.

#4-8-SueT1

2 Q Let me approach it this way. What does the
3 LILCO plan or the procedure say about how long the thyroid
4 is going to be probed?

5 A There is a time, and I can't recall the exact
6 time right now. I could look it up if you like.

7 Q Does five seconds ring a bell?

8 A I think that may be the correct number.

9 Q If the meter is set on the slow response, will
10 you reach equilibrium by that time?

11 A The meter face will not, but the audible signal
12 should indicate that there is the presence of a greater
13 number of events occurring.

14 Q If one is relying on the scale and is not using
15 the headphones, you would not get an accurate reading if
16 you only probed for five seconds but the meter was on the
17 slow response setting, correct?

18 A That is correct. However, the procedures indicate
19 that while scanning for contamination that if you hear or
20 you see the meter, you know, even though you are told to
21 scan at a certain rate, if there is an indication that there
22 is contamination present you should stop and establish
23 whether it is there or not. If the contamination is there
24 or not.

25 Q The -- what I'm asking you is if you probed for
five seconds but you are on the slow response time, you are

#4-9-SueT₁

not going to get an accurate reading, correct?

A That would not be sufficient time for the meter to come to equilibrium, that's correct.

Q Let's now assume that the FM-14 is set on the fast setting and you are getting fluctuation --

A Yes, sir.

Q -- when one looks at the meter, how do you determine what the reading is?

A There are several ways to do that. I personally like to go to a higher scale. For example -- and I'm sorry, I don't recall what the meter settings are, but if you said it's five hundred count per minute, full scale, at the lowest setting I would assume that the next scale would be five thousand counts a minute.

Q Okay.

A If you go to the next higher scale reading, since the scale has been basically compressed, the magnitude of the fluctuations decreases, and you can go ahead and use the fast response time and the meter looks steadier, the needle looks steadier, because of the fact that the scale has basically been compressed.

Q Do you know whether or not the LILCO procedure calls for you to go to the higher scale or --

A No, it does not.

end #5
MM flws

T5 MM/mml

1 Q Do you know whether or not -- you looked at
2 training materials, correct?

3 A Correct.

4 Q Do you know if the training materials tell the
5 person who is monitoring to go to the higher scale?

6 A They do not.

7 This is a technique that I have developed, or
8 what I use because it is easier. Normally -- and I would expect
9 the people who don't do this every day would read on the
10 lower scales and kind of average the readings with a
11 larger fluctuation. The meter will bounce, so to speak.
12 And it may bounce to 190, and it may bounce as low as 120.
13 You kind of take the range of the bounce, average it and that
14 is the reading.

15 Q What is the margin of error for reading on the
16 RM-14.

17 A I don't think that can be answered on "margin
18 of error for reading." That depends on the individual
19 doing the reading.

20 Q How about the level of uncertainty?

21 A There is an accuracy that the instrument has.

22 Q Okay. What is that?

23 A I think it is 2 percent full scale, but I would
24 not -- that's my recollection, but that may be wrong.

25 Q You are guessing at that, right?

1 A Well, that is a typical kind of accuracy with
2 these types of meters, that the meters are accurate within
3 2 percent of full scale reading.

4 Q That is assuming you have averaged --

5 A Right. That is what I just got back to. But
6 I can't give you what the accuracy of reading is.

7 I can tell you what, from what the manufacturer
8 claims, is the accuracy of the instrument.

9 Q So then there is a question of the accuracy of
10 the instrument which may be on the order of percent.

11 There is also the issue of the accuracy of
12 reading a fluctuating needle, correct?

13 A Yes, absolutely.

14 Q Is there a ballpark figure that you could give
15 for the level of certainty from a reading?

16 A It depends on the individual who is doing the
17 reading. This is one of the reasons that this type of
18 instrumentation are sometimes called "survey" instruments.
19 They just can give you a survey of what is out there.
20 They don't actually give you what is there because of this
21 problem of ascertaining what is the exact count rate, if you
22 will.

23 Q Well, the LILCO plan calls for hospitalizing
24 somebody with thyroid contamination of 150 counts per
25 minute.

mm3

1 A I don't believe that is what the LILCO plan says.
2 It is not my understanding of what the LILCO plan says.

3 Q Why don't you point me to where in the LILCO
4 plan you think that is refuted?

5 A Okay.

6 What I believe the LILCO plan says, that if a
7 person is identified with a thyroid count of greater than
8 150 counts per minute, he will be sent to a hospital for
9 further treatment.

10 That does not say that the plan says he will
11 be hospitalized.

12 Q I will accept that. But there is a trigger
13 level of 150 counts per minute, correct?

14 A That's correct, above background.

15 Q So there is a level certain, according to the
16 LILCO plan, which triggers certain action, that is sending
17 somebody to the hospital, correct?

18 A That is correct.

19 Q Now if the level of uncertainty is on the order
20 of -- let's say somebody had a reading of 130 counts per
21 minute, isn't it possible that in fact that could be within
22 the level of uncertainty and that person should really be
23 sent to the hospital?

24 A I would think that if the individual doing
25 the monitoring, determined that an evacuee or emergency

1 worker had a thyroid count which was determined to be
2 approximately 130 counts per minute above background, that
3 this individual might be required to have further
4 treatment.

5 Q It would be a judgment call --

6 A Absolutely.

7 Q -- on the part of the person doing the monitoring?

8 A In any emergency, radiological emergency, there
9 are guidance. In this case it is 150 counts per minute, or
10 action levels. In other -- the New York State plan, for
11 example, there is a radiation reading which is defined as an
12 individual being contaminated. And the worker, whoever is
13 doing the monitoring, must ascertain whether or not this
14 particular individual exceeds this numbered trigger point.

15 And there is always some judgment as to whether
16 or not it is or it isn't.

17 Q Well, are there any guidelines that you see
18 developed in the plan, to help a worker, or to guide a
19 worker in judging whether or not the person being monitored
20 is within the range where he should be sent to the hospital?

21 A No.

22 Q You would agree, wouldn't you, that making those
23 sorts of judgments with respect to monitoring, requires a
24 degree of experience and training for the person doing the
25 monitoring, correct?

1 A No. There is a trigger point which is 150 counts
2 per minute. There is going to be, in all likelihood, some
3 uncertainty established with whatever contamination level,
4 whoever does the monitoring establishes.

5 The thing that should be considered is that the
6 PAGs, which have been developed by the EPA, Environmental
7 Protection Agency, give a range of thyroid exposure. And
8 that range is a factor of 5. It is from 5 to 25 rem thyroid
9 dose for the general population.

10 At the lower end of the range they recommend that
11 you, if possible, take some protective action to try to
12 mitigate this exposure.

13 At the upper end of the range they say that you
14 should certainly try to do something to mitigate this kind
15 of an exposure.

16 This dose range is a factor of 5, as I said.
17 This trigger point of 150 counts per minute, is equivalent
18 to something well below the 5 rem thyroid.

19 So, in order to exceed the guidance which has
20 been promulgated to exposure to the thyroid, you have to
21 be off by much greater than a factor of 5 since this trigger
22 point is below the lower end. In order to get above the 25
23 rem, you have got to be a long way off. You have got to
24 be -- we just take a factor of 5, the man has to miss it
25 from 150 counts a minute to 750 counts a minute, which would

1 require him, if your 500 counts a minute is a good number --
2 and I think it is -- he would have to change scales to get
3 that reading. And, it takes a pretty -- a poorly-trained
4 individual would recognize that he had to change scales to
5 get a reading.

6 Q You are saying the 150 counts per minute is
7 equivalent to less than 5 rems?

8 A Thyroid dose commitment.

9 Q Thyroid dose?

10 A That's correct.

11 Q Which is the lower end of the PAG?

12 A That's correct.

13 Q Isn't it true that the plan says background
14 should be kept below 50 cpm?

15 A In the version of the plan that we reviewed, it
16 says that in one place. In another place it says kept
17 below 50 mr per hour, which was obviously a mistake.

18 And we have informed LILCO and the RAC review
19 of this, and they said they would fix that.

20 But, no, I think the intent is that you maintain
21 a count rate in the area in which the scanning is to be
22 done. Below 50 counts per minute, that is correct.

23 Q Do you think that is a prudent thing to do?

24 A Yes.

25 Q And there would be a problem -- what would be the

mm7

1 problem if background -- if readings were taken in a higher
2 background?

3 A Okay. There is a natural statistical variation
4 in count rates. You have the background count rate, which
5 has a statistical variation in it; and then you would have
6 in this case the signal count rate, signal coming from the
7 thyroid.

8 The meter measures only the total, and that has
9 a statistical variation in it. As the numbers of total
10 counts get too high, either from the background being too
11 high or count rates being too high, the absolute magnitude
12 of the statistical variation -- not the percentage magnitude
13 but the absolute magnitude gets larger and larger.

14 A 10,000 count per minute count we know to X
15 percent, but that is a bigger number than 100 count per
16 minute which also know to the same percent.

17 So that the subtraction of the background from
18 the signal plus the background becomes more and more uncer-
19 tain in terms of an absolute number, this 150 counts, for
20 example, if the background count starts out too high.

21 Q So if background gets up to 300 or 350 cpm, you
22 really are risking an inaccurate reading, correct?

23 A That is correct. And the plan has provisions
24 that they have to move their monitoring location to an area
25 which is below the 50 counts per minute background.

mm8

1 Q If in an exercise you saw that they didn't move,
2 would you consider that a deficiency?

3 A That's correct.

4 Now, let's be perfectly clear, in an exercise
5 the background count will not exceed 50. We will have to
6 use free play or controller input messages to simulate the
7 fact that their background count had changed.

8 Typically, what you would do is the observer of
9 this particular function would be aware of these constraints
10 in the plan and the requirements in the plan. He would
11 evaluate the normal situation. And, since the background
12 is probably on the order of 20 to 30 counts a minute -- and
13 even with a victim coming through it will still be 20 to 30
14 counts a minute -- after you evaluate it, how the worker
15 is performing his particular function, you would insert a
16 message and say, "Okay, your background count is now 85
17 counts a minute. What do you do?"

18 Now, we very seldom -- in fact I don't think ever
19 that I can recall -- have required the emergency worker to
20 shut down this monitoring facility and to physical move it.

21 If he says I know that I have to do that, you
22 say, how would you do it.

23 Well, first I might try to decontaminate the
24 area. I mean, typically what you are concerned about in a
25 situation such as this is that people who are being monitored

mm9

1 would bring with them, track in contamination, which would
2 fall off or be dislodged.

3 And in the background area -- the background
4 count rate in the area that you were doing this monitoring
5 would elevate.

6 I think in the case of the thyroid monitoring
7 that we have been discussing here, this point may not be
8 a valid one, since the only people who get to the thyroid
9 monitoring station are people who have been proven to be
10 clean otherwise at an initial monitoring station.

11 I am not sure that it is viable -- it is a viable
12 possibility that the thyroid area could become contaminated
13 in excess -- background count rate would be elevated above
14 50 count per minute.

15 Q Let me ask you this: Is it your understanding
16 that there are going to be separate body and thyroid monitoring
17 areas under the LILCO plan?

18 A Yes.

19 Q Let's assume though, that there was the possibility
20 of a thyroid monitoring area becoming contaminated.

21 I take it from what you are saying that you don't
22 think it would be prudent to let background get much above
23 50 cpm?

24 A Yes. The 50 count per minute is a kind of
25 nominal level. And I don't have -- the establishment of what

1 the level of the background count has to be or should be
2 depends to some degree on what the trigger level is going to
3 be.

4 Q For a trigger level of 150 cpm?

5 A The trigger is perfectly reasonable.

6 Q Fine. But it wouldn't be fine if the trigger
7 level was 150 and the background trigger level was 150.

8 A That would not be wise.

9 Q The background is measured by the HP 270 probe
10 how, Mr. Keller? How is the background measured by the
11 HP 270 probe?

12 A I don't understand your question. When you say
13 "how," are you saying what are the physical things that
14 happen inside the probe?

15 Or, what are you --

16 Q That's a bad question. Let me rephrase it.

17 You will agree that the HP 270 probe, when used
18 to monitor background has its shield open, correct?

19 A Yes. If that is it, okay.

20 The HP 270 probe has the capability of making
21 a measurement for beta plus gamma radiation, and for gamma
22 only. And this is done by opening and closing a shield
23 around the external portion of the active part of the
24 probe.

25 In the plan the background count rate, this 50

mm11 1 count per minute that should not be exceeded, is defined as
2 being an open-window reading. That means beta plus gamma.

3 Q With the shield closed you are only getting
4 gamma?

5 A That is correct. These are all somewhat
6 approximation. A very high beta, a very high energetic beta
7 might get through this particular probe. But, in terms of
8 the kinds of nuclides that we expect to see in this type of
9 accident, yes, you are measuring primarily gamma radiation.

10 Q When the measurement is made of the thyroid, it is
11 made with the window closed, correct?

12 A That's correct.

13 Q So that you are only measuring gammas?

14 A That's correct.

15 Q Thyroid dose is determined by subtracting the
16 measured background level from the level measured when you
17 are monitoring the thyroid, correct?

18 A I don't believe the thyroid dose is determined
19 t his way in the plan.

20 Whether or not an individual is contaminated above
21 the trigger level is determined by subtracting the thyroid
22 count rate which is closed window, and subtracting from that
23 the open window background reading. Yes.

24 Q Would you say that betas are a significant
25 contributor to background?

mml2

1 A Yes. In a contamination kind of incident that
2 we are concerned about here.

3 Q Right.

4 Do you see -- do you have a concern about
5 measuring the trigger level by subtracting a value which is
6 based on betas and gammas from a value which is based only
7 on gammas?

8 A I have no concern with it, because this will be
9 a more conservative number.

10 Q Isn't it just the opposite, Mr. Keller?

11 A No.

12 Q In fact, aren't you subtracting out betas that
13 you have eliminated from the thyroid measurement?

14 A Because of the limited range of the beta, any
15 iodine which is lodged in the thyroid, the beta contribution
16 from that iodine would never reach the probe anyway. It would
17 be adsorbed in the body. It wouldn't come out through the
18 thyroid gland through the neck and be counted even in an
19 open-window reading.

20 The beta certainly does cause dose to the
21 thyroid. But, by using the open-window 50-count-per-minute
22 background cut point, had the plan called for a closed
23 window, that number would have to be reduced to something
24 like 20 or 30.

25 Q I don't understand what you are saying,

mml3

1 Mr. Keller.

2 Let's say that you have a measurement of beta and
3 gamma, and you are subtracting from that -- you are
4 subtracting that from a number, X, which is just gamma,
5 okay? Let's say that -- if, in fact, you were to subtract
6 only the gamma, wouldn't you, in fact -- that is, if in
7 fact you are only subtracting the gamma reading from the
8 background, okay, wouldn't you get a higher thyroid level --

9 A I'm sorry, you have lost me.

10 I tried to follow, but --. I think I know where
11 you are trying to get to, but let me try it this way.

12 Q Let me just focus your answer here.

13 That you said that if you subtracted out -- that
14 under the present LILCO procedure, what you get is a more
15 conservative reading. And, I don't agree with that and I
16 want to know why you say that.

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end T5
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1 A If you had used a closed window, okay, background
2 reading, okay, the trigger level for determining whether
3 or not you had contamination in your region -- in your
4 monitoring area -- would have to be lower than the 50 count
5 per minute, okay? Because the fact that if the contamination
6 is present to cause this elevated background, it would be
7 composed of both beta and gamma sources, so that the gamma
8 only reading would be lower than the 50 count per minute.
9 Let's say 30 would be a reasonable number, all right?

10 So, that number would have to decrease, so that
11 the establishment of the 150 count per minute as the trigger
12 level would also have to change.

13 I think what you are trying to get at is if
14 you leave the numbers where they are, you don't change the
15 fifty and you don't change the one hundred and fifty, and you
16 perform the procedure in a way different than is called for,
17 right, what that would do to the dose, and if that is what
18 you are saying, then I would agree with your characterization.

19 But what I was trying to say was that properly
20 designed, if you do the procedure in a different way, in a
21 way different than is written, you have to change both the
22 50 count per minute trigger level for establishing whether
23 you have contamination in the area, and you would have to change
24 the 150 count per minute to establish, if you maintain the
25 same dose commitment, in the thyroid.

1 Q Let's just take a couple of sample numbers. Why
2 don't you write them down, Mr. Keller. Let's say the background
3 is 50 CPM, and it is divided evenly between betas and gammas.

4 A Okay.

5 Q Let's say thyroid is 150, and because of the way
6 it is measured, it is almost entirely gammas.

7 Now, if you subtract the background reading in
8 its entirety from the thyroid reading, you get an actual
9 thyroid reading of 100, correct?

10 A That is correct.

11 Q Now, if in fact you subtracted out only the
12 gammas --

13 A The gamma component of the background.

14 Q Then you would get a reading of 125.

15 A That is correct.

16 Q Wouldn't that reading of 125 be the more
17 conservative reading?

18 A It depends on how the dose rate, the projected
19 dose, and the number -- this trigger number, were calculated.
20 If the number were calculated in an accurate fashion, this
21 is taken care of -- what appears to be an anomaly or
22 whatever you want to call it, is taken care of in the
23 establishment of the 150 count per minute. And you can define
24 your procedure of how you are going to perform a certain
25 procedure and then back calculate what these trigger levels

1 have to be.

2 Q You are assuming that the 150 trigger level was
3 calculated properly.

4 A That is correct. But as I pointed out, since
5 the PAG has this factor of five in it, the approximately
6 twenty percent potential error, even if it were not done
7 properly, even if it should have been done as a gamma only
8 subtraction, is relatively insignificant in terms of the
9 factor of five in the PAG.

10 JUDGE SHON: Mr. Keller?

11 WITNESS KELLER: Yes, sir.

12 JUDGE SHON: I am over here. I am hiding.

13 I now do not understand how what you just said could possibly
14 be correct. You said that the 150 trigger level, which is
15 the level after background has been subtracted?

16 WITNESS KELLER: Yes, sir.

17 JUDGE SHON: Would have to be calculated in a
18 special way that would take account of whether the background
19 included betas or not. That seems to make no sense whatever,
20 because the background has been subtracted out. The 150 is
21 just what is coming from the thyroid. How it gets out there,
22 gamma, whatever, has -- it seems to me that Mr. McMurray is
23 much more nearly correct when he points out that if what you
24 are trying to measure is what is coming from the thyroid, then
25 if you subtract out a beta or gamma background from your

1 reading, aren't you going to say there is less coming from
2 the thyroid and less to be feared? Is this not correct?

3 WITNESS KELLER: I think what I was trying to
4 say was if you know that you are going to subtract an open
5 window reading, right, from the closed window reading, okay?
6 You know that your procedure calls for subtracting an open
7 window reading, which is beta, plus gamma, plus these other
8 things, and you know you are going to do that, right? You
9 would set your trigger level at a lower value than you would
10 -- if done properly -- than if you were going to subtract
11 a gamma only reading.

12 JUDGE SHON: Yet, it seems on the face of it
13 that one could not possibly know what the mixture of gamma
14 and beta was going to be, so you couldn't possibly account
15 for that to begin with.

16 WITNESS KELLER: With any great degree of
17 accuracy, I agree a hundred percent.

18 JUDGE SHON: It is going about it the wrong
19 way, I think.

20 WITNESS KELLER: Okay.

21 BY MR. McMURRAY: (Continuing)

22 Q Gentlemen, let me refer you to your testimony
23 on Contention 92. Mr. Kowieski, let me refer you to the
24 last sentence of your testimony on -- I guess it is on page
25 93. You say: The States of New York and Connecticut are

1 also included in the plan in connection with implementation
2 of protective action recommendations in the ingestion pathway
3 EPZ.

4 Do you see that?

5 A (Witness Kowieski) Yes, sir.

6 Q What did you mean when you said the States of --
7 well, let me refer just to the State of New York. What do
8 you mean when you say the State of New York is included
9 in the plan?

10 A Procedure CPIP 3.6.6, states that New York State
11 will be notified.

12 Q And that is what you meant by that sentence?

13 A Yes, sir.

14 A (Witness Keller) I think just the fact they will
15 be notified. In addition, the plan states that New York State,
16 when notified, will be asked if they are capable of, or willing
17 to implement the protective action recommendations.

18 If the state replies in the affirmative, that yes,
19 they are capable and they will implement the protective
20 action recommendations, then the plan has provisions for
21 LERO to cease and desist any further actions. If the State
22 says no, that they will not or cannot implement protective
23 actions, then the plan provides provisions for LERO to begin
24 these calls to the food chain establishments.

25 Q And the RAC has not reviewed any New York State

1 plan for Shoreham, correct, Mr. Kowieski?

2 A (Witness Kowieski) That is correct.

3 Q Let's go to your testimony on Contention 49.

4 I think this is in your supplemental piece of testimony.

5 Mr. Keller, again I will direct this to you, since this

6 is your area again. This deals with thyroid dose nomogram.

7 You state in the second sentence that, in one of the

8 corrections made for the nomogram, certain assumptions are

9 made for the factor which is applied to correct for fission

10 products other than radio iodine on the particulate filter.

11 Do you see that?

12 A (Witness Keller) This is Contention 49?

13 Q Yes. Page 45. I am reading the third sentence
14 of your answer to Question 57.

15 A I don't seem to see that here, but I remember,
16 yeah. Go ahead.

17 Q Do you have a different version of your testimony
18 than I do?

19 A Would you read -- you are reading the third
20 sentence in our answer to Question --

21 Q In one of these corrections, certain assumptions
22 are made for the factor which is applied to correct for fission
23 products other than radioiodine on the particulate filter.

24 A I remember writing that statement, but I don't
25 see it on this page here.

1 MS. McCLESKEY: Mr. McMurray, are you reading
2 from what you think is the FEMA testimony?

3 MR. McMURRAY: Yeah.

4 MS. McCLESKEY: Okay. Because my Contention 49,
5 page 45 of FEMA, doesn't seem to have that sentence on there
6 either.

7 WITNESS KELLER: I remember that statement, go
8 ahead.

9 MR. McMURRAY: I want to make sure everybody
10 is dealing with the same thing.

11 (Mr. Glass hands document to Mr. McMurray)

12 MR. McMURRAY: Okay. I have been handed a
13 revised version of your Contention 49, which I am sure I
14 got yesterday, but it appears that the statement I just
15 read was not included in your revised testimony. Can you
16 tell me why?

17 WITNESS KELLER: No.

18 BY MR. McMURRAY: (Continuing)

19 Q And it wasn't mentioned yesterday in the changes
20 that were made to this testimony. Do you know why?

21 (Panel confers with FEMA counsel, Mr. Glass)

22 MR. McMURRAY: Judge Laurenson, this might be
23 a good point --

24 JUDGE LAURENSEN: At this point, we will take
25 our morning recess, while FEMA straightens out the testimony

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1 on this. We will be back in fifteen minutes.

2 (Short recess taken)

3 JUDGE LAURENSEN: Apparently, there was one
4 page of the FEMA testimony that was submitted inadvertently,
5 and the corrected page, which had been distributed to all
6 counsel previously, should have been inserted in the
7 record.

8 So, to clarify things, I hope, page 45 of the
9 FEMA testimony, which was received in evidence and bound
10 in the record yesterday will be withdrawn, and the new
11 page -- I am not going to use that word -- the corrected
12 page 45 will be substituted for that, and that was the
13 page that was originally circulated to all counsel, and
14 more accurately reflects the state of the record at this
15 time.

16 Is this procedure agreed to by FEMA?

17 MR. GLASS: Yes, it is.

18 JUDGE LAURENSEN: Any by all other parties?

19 MR. McMURRAY: Yes, Judge Laurenson.

20 MS. McCLESKEY: Yes, sir.

21 JUDGE LAURENSEN: All right. We will then
22 order this correction, and FEMA will supply copies of the
23 corrected page 45 to be inserted in the record following
24 this page of the transcript.

25 (Corrected page 45 follows)

Q.57. 49-Is there reasonable assurance that calculations of the thyroid-dose can be made so that reliable data will be available for decision makers? Specifically, is the nomogram used in OPIP 3.5.2 realistic?

A. The nomogram (OPIP 3.5.2 Attachment 11) is used in the calculation of the thyroid dose commitment by the manual method. Several corrections are applied to the measured data in this nomogram. In one of these corrections, certain assumptions are made for the factor which is applied to correct for fission products other than radioiodine on the particulate filter. In so far as the assumptions concerning release fractions of particulate materials are different than the accident being analyzed, there will be a bias in the calculated thyroid dose commitment.

The primary responsibility for field monitoring and for the interpretation of the data obtained from this monitoring is assigned to the DOE-RAP response personnel. The plan states that the DOE response resources may not use the referenced procedures and may use technically equivalent methods. The nomogram in question is used in only one of the calculational methods in the procedure and the DOE-RAP teams may well use other methods. In an exercise, it would be verified as to whether the correct procedures are used (DOE or LERO procedures). If it were confirmed during an exercise that correct procedures are used, there is reasonable assurance, that reliable data would be available for decision makers.

1 JUDGE LAURENSEN: Now, resume the cross examination
2 concerning corrected page 45 by Mr. McMurray.

3 MR. McMURRAY: Just to make sure we are
4 referring to the same document, Mr. Keller, I will be referring
5 to page 45, which starts with the question, Question 57, which
6 says: Is there reasonable assurance that calculations of the
7 thyroid-dose can be made so that reliable data will be available
8 for decision makers?

9 Is that the document you have in front of you?

10 WITNESS KELLER: That is correct.

11 BY MR. McMURRAY: (Continuing)

12 Q That is the one we will be talking about. And
13 I only have a few questions.

14 You say there on the third sentence of the answer
15 that in one of these corrections, that is, to the nomogram,
16 certain assumptions are made for the factor which is applied
17 to correct for fission products other than radioiodine on the
18 particulate filter.

19 Do you see that?

20 A (Witness Keller) Yes, sir.

21 Q What are the assumptions that you are talking
22 about?

23 A This is a commercially prepared and purchased
24 system, and in reading the documentation which went into
25 the development of this particular sampling device which was

1 done originally under an NRC contract at Brookhaven, and was
2 published in a NUREG document, and then was later converted
3 to commercial applications. The assumptions that were
4 used, to my recollection, that the probabilities that had
5 been reported in WASH 1400 for the various types of reactor
6 accidents, in these different accidents different fission
7 products, both in terms of the nature of the fission product
8 and the amount of the particular fission products, are
9 postulated to be released.

10 The writer of this procedure did an analysis of
11 the most probable reactor accident, both for PWR and for BWR-
12 type of accident, and used the assumptions -- projections
13 in WASH 1400 to derive which fission products would then be
14 released from this most probable accident, and that that
15 portion of the nomogram which is involved with the correction
16 for fission products other than iodine is based on that
17 type of calculation.

18 Q So the assumptions deal with the amount and the
19 mix of the fission products?

20 A That is correct.

21 Q And those assumptions are valid only if you are
22 referring to that particular accident, which you referred to
23 as the most probable, correct?

24 A I think as we have stated in the testimony, that
25 if your assumption as to what is on the particulate filter

1 doesn't correspond to the accident that you are dealing with,
2 there is going to be a bias introduced into the numbers that
3 you arrive at.

4 Q By, 'bias,' you mean those numbers won't be
5 accurate?

6 A That is correct.

7 End 6.
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2 Q On the bottom of the page, you say: If it were
3 confirmed during an exercise that correct procedures are
4 used, there is reasonable assurance that reliable data
5 would be available for decision-makers.

6 Do you see that?

7 A (Witness Keller) Yes, sir.

8 Q Now, with respect to the nomogram and the use of
9 the nomogram, I take it then that its use would be a correct
10 procedure only where the accident, or the accident being
11 simulated, is the one that is the same as the assumptions
12 were based on?

13 A That is correct, with the addition that, as we
14 have stated in the testimony, this is only one of the ways
15 that you can arrive at a calculational procedure to arrive
16 at the thyroid dose projection. And we are not sure whether
17 the DOE RAP teams who are going to be doing these -- making
18 these measurements will use this particular nomogram.

19 There are other ways to arrive at the thyroid dose
20 projection. And that was the genesis of that statement,
21 that if they use other ways which are correct, right, there
22 is no problem.

23 The other issue which should be addressed is
24 this particular nomogram was developed for use with a par-
25 ticular sampling system, with a particular counting device.
Okay. The sampling system can be used and a different

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2 counting device which alleviates some of the problems which
3 are associated with this mix of radionuclides on the
4 particulate filter.

5 When we get to an exercise, we will have to see
6 how they are going to do it.

7 Q You are talking about the TCS canister?

8 A Well, the canister is the adsorbent which has the
9 particulate filter wrapped around the outside. The counting
10 probe is what I was talking about, that you can count the
11 canister with a difference other than the probe which is
12 specified in the commercial.

13 Q Do you recall what the specific probe is that
14 is used to measure the --

15 A It's a 6306 probe, Victoreen 6306 probe, which
16 has been -- a special shield has been constructed to encase
17 this probe. The vendor has a name for it but I don't recall
18 the name. But the active component is a Victoreen 6306
19 probe.

20 Q And if this particular probe were not used,
21 then the results from the nomogram would not be accurate,
22 correct?

23 A That's correct. Well --

24 Q I assume also that the probe and the method of
25 using the TCS canister has a certain margin of error in
it, too, or level of uncertainty?

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1 A Every system that I know has some uncertainty,
2 yes.

3 Q Are you aware of the other methods described
4 in the LERO plan for determining thyroid dose other than
5 the nomogram?

6 A There is a computer program discussed.

7 Q Anything other than the computer program that
8 you know about?

9 A I think that's the -- my recollection is, there
10 is a computer methodology and there is a nomogram methodology.

11 Q The computer methodology also relies on measure-
12 ments from the canister using the probe we have talked
13 about, correct?

14 A The computer methodology, if it is going to be
15 based on measurement, must factor into it the count rates
16 which are determined by some probe, yes.

17 Q In particular, it's the canister that we've been
18 discussing, the canister and the probe you were just discuss-
19 ing?

20 A Yes, that's correct.

21 Q Let me refer you gentlemen to the last page of
22 your testimony.

23 MS. MC CLESKEY: Excuse me, Mr. McMurray. Could
24 you tell me what page that is? My last page is now 111
25 which involves training.

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MR. MC MURRAY: Oh, I'm sorry. Yeah. This is

2 Page 99.

3 BY MR. MC MURRAY: (Continuing)

4 Q This is Page 99 of your testimony which originally
5 was the last page but is now supplemented. Anyway, go to
6 Page 99.

7 A (The witnesses are complying.)

8 Q Do you have that, Mr. Keller?

9 A Yes.

10 Q Mr. Kowieski, you state in the last sentence on
11 Page 99 that a power failure during an evacuation would
12 have significant initial effects brought about by traffic
13 signals and gas pumps not functioning.

14 Do you see that?

15 A (Witness Kowieski) Yes, I do.

16 (Witness McIntire) Yes, I do.

17 Q What would be the effects that you are referring
18 to?19 A Initially, if the traffic lights were not function-
20 ing at intersections, the bottleneck and traffic jamming
21 effect would probably occur.22 Q Which would -- could lead to increased evacuation
23 times?24 A Which would certainly impede any evacuation,
25 yes.

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2 Q Could a power failure have consequences other
3 than signal lights or gas pumps not functioning which would
4 have an effect or impede a response to an emergency?

5 A If the power failure occurred at night and there
6 was an evacuation in progress, street lights would not be
7 on, and that also could have an effect on slowing down an
8 evacuation.

9 Q To your knowledge, does the LILCO plan account
10 for, or make provisions for, attempting to mitigate the
11 effects of a power failure during an evacuation?

12 A (Witness Kowieski) No, it does not.

13 MR. MC MURRAY: Excuse me, Judge Laurenson, I'm
14 just making sure I've covered my territory here.

15 (Pause.)

16 I have no further questions of the FEMA witnesses.
17 Mr. Miller will wrap up the questioning of the FEMA witness-
18 es.

19 JUDGE LAURENSEN: Mr. Miller.

20 CROSS-EXAMINATION

21 BY MR. MILLER:

22 Q Gentlemen, let's go to Contention 33, which is
23 on Page 37 of your testimony. And we have two versions of
24 Contention 33. I don't know if anyone has had a chance to
25 compare them.

But, to my knowledge, the answers to both versions

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are the same; is that correct?

2 A (Witness Keller) That appears to be the case,
3 yes, sir.

4 Q Is there a preference in your minds as to which
5 version of the contention we use in terms of the question
6 that is being asked?

7 MS. MC CLESKEY: Excuse me, Mr. Miller. For
8 clarification, you mean the FEMA testimony on the contention,
9 right, not the contention itself?

10 MR. MILLER: I mean the testimony.

11 MS. MC CLESKEY: Just so the record is clear.

12 BY MR. MILLER: (Continuing)

13 Q Let me just ask it this way. One version is a
14 two-part question; the other version is the simple question,
15 does the plan provide, or discuss how communications between
16 the field monitoring teams and the EOC will be effected.

17 Is there a preference as to which version we are
18 dealing with here? Which do you intend to use or rely on?

19 A I would say that I would like a moment to look at
20 the contention, but I think from what we just learned on the
21 previous contention, we would have to check to see if the
22 contention was modified. What we have with us is the -- are
23 the original contention. And I don't have any preference one
24 way or the other.

25 Q Let me try it this way, Mr. Keller. Looking at

#7-7-SueT1

2 the version with the two-part question, the second question
3 is: Are provisions for communications with the field teams
4 adequate to ensure offsite accident dose assessment functions.

5 Correct?

6 A Yes, that's correct.

7 Q Now, is it fair to say that your response to
8 that question is that at this time you haven't made the
9 determination, you would make such a determination during
10 a FEMA-graded exercise?

11 A That's correct.

12 Q And the rest of the testimony really addresses
13 the first portion of the question regarding does the plan
14 describe how there will be communications between the DOE
15 RAP teams and the EOC, correct?

16 A That's correct.

17 Q The first sentence in the answer, Mr. Keller, I
18 will keep asking you until you defer, it says that the
19 primary means of communication with the RAC teams, field
20 teams, is by radio.

21 What's the basis for that statement?

22 A The plan.

23 Q In Revision 3 of the plan, there is a statement
24 that says that there will be radio communications with the
25 field teams?

A Between the field teams, as the next statement says,

#7-8-SueT1

1 the field teams and the Brookhaven area office of DOE,
2 followed by contact with the local EOC by use of a dedicated
3 phone line.

4 The field teams, the DOE field teams, talk to
5 their -- over radios, their own radios, with the DOE Brook-
6 haven area office. And a dedicated phone line from that
7 office to the EOC.

8 Q When it is said, Mr. Keller, then that the
9 primary means of communication with the field teams is by
10 radio, you are referring then to communications between the
11 Brookhaven area office and the field teams?

12 A That's correct.

13 Q And in the next sentence where it says the
14 normal channel would involve radio contact, I was a little
15 confused by the word "channel" there.

16 Is that really meaning means of communications?

17 A Not a radio channel.

18 Q So, it would be the normal means of communications?

19 A Yes, that's fine.

20 Q And when you say that such means of communications
21 would involve radio contact with the Brookhaven area office,
22 again then you are talking about radio contact between the
23 field teams and the Brookhaven office?

24 A That's correct.

25 Q Going to the third sentence, there is the statement

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2 regarding the RAC captain reporting to the EOC and the fact
3 that he would have a hand-held radio and the same frequency
4 as the field teams.

5 Do you see that comment?

6 A Yes, sir.

7 Q Where does this information come from?

8 A This came from a discussion that I had with Mr.
9 Schweller of the DOE Brookhaven area office.

10 Q Mr. Schweller?

11 A Schweller, I believe that's the correct name.
12 He is the Administrator.

13 Q How do you spell his name? Do you know?

14 S-c-h-i-l-l-e-r?

15 MS. MC CLESKEY: I will proffer that it's
16 S-c-h-w-e-l-l-e-r.

17 WITNESS KELLER: That's the one that I remember.

18 BY MR. MILLER: (Continuing)

19 Q And what's his position, Mr. Keller?

20 A I believe he is the Area Office Manager.

21 Q When was this discussion?

22 A Prior to our writing this testimony. This question
23 was raised -- I contacted Mr. Herbert Fish of the DOE RAC
24 member, RAC member, and asked if he knew. He suggested we
25 have a conference call. The conference call was made.

I should add that this is based on Revision 3 of

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2 the plan, all of this testimony. Based on my limited review,
3 practically without evaluation, Revision 4 does not follow
4 this system.

5 Q Well, let me ask. Just keeping on Revision 3
6 for the moment, in Revision 3 does the plan provide for
7 the RAC captain reporting to the EOC with a hand-held radio
8 and the same frequency as the field teams?

9 A The plan does not -- the plan in Revision 3 states
10 that the RAP team will report to the EOC.

11 Q And so the information regarding the radio and
12 using the same frequency as the field teams is based purely
13 upon your discussion with Mr. Schweller?

14 A Yes, that is correct.

15 Q And you are saying now that it is your under-
16 standing this format will not be followed by LILCO?

17 A That is correct. My recollection of the plan,
18 Revision 3, and the RAP team captain, the environmental sur-
19 vey function, and a team communicator I believe from DOE
20 were all to report to the EOC. It is now -- and I hesitate
21 because I have -- I have only preliminarily looked at the
22 plan, it is now my understanding that these functions will
23 be carried out at the Brookhaven area office and a liaison
24 will be sent to the EOC.

25 And I may be mistaken on that, but that's my
recollection.

#7-11-SueT1

Q Mr. Keller, did you or anyone else on this witness panel ever make inquiries to LILCO regarding whether this format requiring the RAC captain to report to the EOC would be followed by LILCO?

A The plan, in Revision 3, makes several statements in several places. In the meeting that the RAC had with LILCO on May the 11th, this area of discussion was raised. And at that time, I believe LILCO said that there were going to be revisions.

In fact, since the package came in and I have begun the review I believe that the revisions that were discussed, that is that the RAC captain and this environmental survey function, et cetera, would not report to the EOC.

Q Are you saying you were aware of that as of May 11th when you met with LILCO?

A Well, we had been informed that that change was going to be forthcoming.

Q Why is it that you did not revise this testimony, then, Mr. Keller, to reflect the facts?

A I believe this testimony was filed on May the 8th.

Q Yes. And you didn't think it necessary to revise it in any way?

A Well, we have not done the review of the plan. The fact that somebody says: We are going to change it,

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that doesn't mean that it has been changed.

2 Q Yes, sir. But this comment in your testimony
3 was based upon a discussion with someone or something out-
4 side the plan, correct?

5 A That's right. But that was done well before
6 May the 8th. If Mr. Glass -- it's my understanding that
7 Mr. Glass filed this testimony on May the 8th. If I was
8 told on May the 11th that they were going to change it,
9 there are lots of things that we were told were going to be
10 changed in Revision 4 of the plan.

11 We have not had the opportunity to evaluate all
12 of those changes, and we have not changed any of our
13 testimony based on what is in Revision 4.

14 Q Yes, sir. I'm not referring to Revision 4. I
15 was referring to the fact that you were made aware of a
16 change in facts apparently as of May 11th and yet you did
17 not revise the testimony.

18 MR. GLASS: I have an objection. I mean, this
19 is becoming a little argumentative. The witnesses have
20 stated very clearly that what they are dealing with is
21 Revision 3, and at the May 11th meeting there were a number
22 of items that LILCO indicated they were going to change in
23 Revision 4.

24 But it would be inappropriate for these witnesses
25 to be making statements based on supposition that certain

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changes are to be carried out.

2 MR. MILLER: Judge Laurenson, ordinarily I
3 would have no complaint with that, but in this case we
4 have a statement in the testimony based on the discussion
5 that Mr. Keller had with someone at the Brookhaven area
6 office, a discussion not set forth in Revision 3 of the
7 plan.

8 I'm merely now inquiring as to why, when FEMA
9 became aware of other facts through other discussions, they
10 didn't change their testimony.

11 MR. GLASS: But the discussion that took place
12 was trying to confirm something or get a clearer understand-
13 ing of something that was within Revision 3.

14 JUDGE LAURENSEN: I think this has been
15 thoroughly aired at this time, as to how this came about
16 and what the circumstances were. I think that we have --
17 the ground rules at this point are that the testimony will
18 be evaluated on the basis of Revision 3 and not Revision 4,
19 since that has not been subjected to the complete FEMA RAC
20 review.

21 So, let's move on to other matters.

22 BY MR. MILLER: (Continuing)

23 Q Mr. Keller, in any event, at this time would you
24 agree with me that there is no provision in the LILCO plan
25 for direct communications between the field monitoring teams

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and the EOC?

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A I know of no written statement in the LILCO plan at this time which provides for direct communication between the EOC and the field monitoring teams.

Q And you are aware of no other information of any kind that would imply there will be such direct communications; isn't that correct?

A Since I have not made a second call to the Brookhaven area office, I was informed that the procedure that the Brookhaven people would use would be that the RAC captain would take a radio.

Based on my limited review of Revision 4, the RAC captain will now not be going to the EOC. It will be a liaison. I do not know whether the liaison will take a radio or not.

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2 Q Mr. Keller, this last statement in the first
3 paragraph of the answer, "the ability to directly communicate
4 with the field teams will be evaluated in an exercise," I
5 suppose we should eliminate the word "directly," and just
6 say, "the ability to communicate between the EOC and the
7 field team will be evaluated in an exercise," is that
8 correct?

9 A Both.

10 Q Okay. How would you do that during an exercise?

11 A There would be members of the Federal Evaluation
12 Team with the DOE field teams, and there would be members
13 of the Federal Evaluation Team in the EOC. And we will
14 observe both ends of the conversation.

15 Q Looking at the second paragraph, Mr. Keller, you
16 call it "second wave of DOE responders," is this the FERPs
17 that was referred to earlier?

18 A This is a portion of FERP, yes, sir. That is
19 correct.

20 Q And it is your understanding that among other
21 functions, the second wave of DOE responders could, if
22 necessary, carry out field monitoring duties?

23 A Yes. This contention was, we thought, limited to
24 communications issue. So that the portions of the discussion
25 of what we call the second wave of responders that we
included here, which comes out of the plan, are those

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1 communications capabilities. And we did not include at this
2 juncture, portions of the plan which covered other
3 capabilities.

4 Q Well, Mr. Keller, when would the second wave
5 respond? Upon request of LILCO?

6 A No, upon request of the RAP team captain or the
7 Brookhaven area office that the situation was sufficiently
8 severe that they needed more help.

9 Q And can you tell me how long it would take for
10 this second wave of responders to respond?

11 MS. MC CLESKEY: Objection. This is outside the
12 scope of the contention.

13 MR. MILLER: It is within the scope of the
14 testimony, Judge Laurenson. It is here in the testimony,
15 which is why I am asking about it.

16 MS. MC CLESKEY: It is outside of the scope of
17 Contention 33, which discusses whether there is direct
18 communication between RAP monitoring teams and the EOC.

19 MR. MILLER: The standard in this proceeding
20 has been testimony is relevant and can be inquired into
21 when it is presented by a panel of witnesses such as these,
22 witnesses are presenting here, whether or not it is outside
23 the scope of the contention.

24 If it is in the testimony being presented by
25 FEMA, we can inquire into it. I have a limited inquiry here.

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1 But there is testimony regarding the second wave of responders.

2 MS. MC CLESKEY: Judge Laurenson, Mr. Keller
3 himself said that the testimony he filed goes to the communica-
4 tions aspect of the second wave of responders, and not
5 other aspects.

6 JUDGE LAURENSEN: The objection is overruled.

7 WITNESS KELLER: The response by the DOE will vary
8 in time. The DOE response comes from a number of other DOE
9 laboratories, and/or their contractors.

10 It is estimated that a full response, complete
11 capability, hundreds of people literally, in something like
12 twelve hours.

13 BY MR. MILLER:

14 Q Something like twelve hours?

15 A (Witness Keller) Yes. It is -- there are
16 provisions within the DOE response to bring these responders
17 in by air. And typically, the DOE FRMAP -- which is the
18 Federal Radiation -- the monitoring center control point
19 for the federal teams -- is set up at an airport, so that
20 they do have access to transportation capabilities.

21 The response would be incremental in nature. The
22 communications system, all of this relatively sophisticated
23 system that we have discussed here in our testimony, is
24 based at one of two locations. There is duplicate equipment
25 either at Andrews Air Force Base outside of Washington D.C.,

1 or at Nellis in Las Vegas.

2 I would assume that they would respond to an
3 incident at Shoreham from the Andrews Air Force Base.

4 Q I don't really want to get into this area,
5 Mr. Keller, but is it fair to say that in your opinion there
6 would be some response within twelve hours, perhaps sooner
7 in an incremental fashion, and you are unable to tell me the
8 numbers of response sooner than twelve hours?

9 MS. MC CLESKEY: Objection. The question is
10 outside the scope of Contention 33, which deals with
11 direct communications between monitoring teams and the EOC.

12 The question goes to the time and extent of
13 response of second wave of monitoring teams.

14 MR. MILLER: I think it is the same objection
15 you just raised, and were overruled on, Ms. McCleskey.

16 JUDGE LAURENSEN: Unless you can point to some
17 part of this testimony on page 37, the exception we made
18 was where you can show that this was relevant to the direct
19 testimony. And I think we have probably pretty much exhausted
20 that subject matter.

21 I do agree with the LILCO objection that it is
22 beyond the scope of the contention. Objection is sustained.

23 BY MR. MILLER:

24 Q Mr. Keller, would you look at page 26 of the RAC
25 Report. This would deal with element H.11.

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2 There is a statement at the bottom of that page
3 which says: "Communications equipment on page 4.1-4 should
4 include radio links between the field teams and EOC."

5 Do you see that statement?

6 A (Witness Keller) That's correct.

7 Q To your knowledge there are no radio links between
8 the field teams and the EOC provided for in the LILCO plan,
9 correct?

10 A That is correct.

11 Q Also, Mr. Keller, if you will look at element
12 F.L.D, I'm not quite sure of the page. It is on page 18 or
13 19.

14 A Both.

15 Q And it says -- actually at page 19, right at
16 the top: "Communication with the radiological field
17 monitoring team is maintained via radio link."

18 Do you see that?

19 A That's correct.

20 Q To your knowledge, with respect to Revision 3 of
21 the plan, that statement is incorrect, isn't it?

22 A Insofar as the EOC talks directly with the field
23 teams via radio, that statement is misleading. There is
24 certainly a radio link involved in the communication between
25 the field teams and the EOC as stated in the plan.

There is also a telephone link as a portion of the

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1 communication between the EOC and the field teams as the
2 plan currently states it.

3 Q The statement on page 19 certainly could be better
4 worded, couldn't it?

5 A Most assuredly.

6 JUDGE LAURENSEN: Excuse me for interrupting. Let
7 me just clarify an answer to a prior question by Mr. Keller.

8 Turning back to page 26 of the RAC Report,
9 under item H.11, Mr. Miller just asked you about that
10 statement on the bottom three lines that communications
11 equipment should include radio links between the field teams
12 and the EOC. And yet the rating of that item under the
13 plan was "A," which I guess we established means adequate.

14 Could you explain how FEMA interprets these
15 comments of a deficiency when they have rated a particular
16 item to be adequate. What weight would be given to these
17 various comments?

18 WITNESS KELLER: This is one of the hybrid "adequates,"
19 which I think we discussed last time we were here. This is
20 one of the provisionally "adequates."

21 There is a statement, the second segment, "The
22 plan is adequate provided the modifications below are
23 incorporated in the plan."

24 Okay, there is one paragraph which talks about
25 the modification. This is a recommendation I would term

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1 this, this last statement that Mr. Miller inquired about,
2 to be a recommendation.

3 The communication of field data to the individual
4 who is going to be making use of this data is, in almost
5 all cases I can think of, a review. We felt it would be
6 preferable that if there were a direct review link between
7 the people making the measurements and the people who are
8 planning to do the interpretation of these measurements,
9 and hence that is the genesis of the last statement on page
10 26.

11 BY MR. MILLER:

12 Q Mr. Keller, let me follow up on that.

13 Are you saying that -- well, let me back up.

14 The RAC Report says that the plan is adequate provided that
15 among other things there would be radio links between the
16 field teams and the EOC, correct?

17 A (Witness Keller) That's correct.

18 Q Are you now saying that even if LILCO would not
19 have such radio links between the field teams and the EOC,
20 that the rating would still remain as adequate?

21 A What we are saying is, that based on the review
22 of the plan as it stood when we reviewed the plan, the
23 individuals who were going to make use of the field data
24 were going to be in the EOC.

25 We felt that it would be more appropriate and

1 a better situation if there were a radio link between the
2 people making the measurements in the field and the people
3 using the measurements in the EOC.

4 It is my understanding now that the people who
5 are going to interpret the data in the field will not be
6 in the EOC. And therefore, the need for a radio link between
7 the field teams and the EOC is not necessarily a requirement
8 now.

9 Q Mr. Keller, the information from the field regarding
10 dose assessment is used in making protective action decisions,
11 correct?

12 A That's part of it, yes.

13 Q And protective action decisions under the LILCO
14 plan are going to be made at the EOC, correct?

15 A That is correct.

16 Q So there is a need to transmit information from
17 the field teams to the EOC, correct?

18 A The decisionmaker who makes the protective
19 action decisions, will not use the raw data from the field
20 teams. This data will be interpreted, converted from raw
21 counting data to doses and to dose projections.

22 This is going to be done by a function which in
23 plan -- in Revision 3 of the plan -- was to be carried out
24 in the EOC. Then the decisions, or the recommendations
25 based on this synthesis of data and interpretation of the raw

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1 data would be given to the decisionmaker who was in the EOC.

2 It is now my understanding of the plan that part
3 of this function will not occur in the EOC, it will occur
4 at the Brookhaven area office. And that the recommendations
5 of the dose assessment people will be transmitted to the EOC
6 presumably by the dedicated phone line to the liaison who
7 will now be in the EOC.

8 The liaison will transmit this recommendation to
9 the decisionmaker.

10 Q Let me just make sure I understand what all this
11 is based on, Mr. Keller.

12 Is it based upon the information presented by
13 LILCO at the May 11 meeting?

14 A Partially, partially.

15 Q What else?

16 A I have begun the review of Revision 4 of the
17 plan. I have not completed my review.

18 Q Have you confirmed it in your mind that the
19 process to be used by LILCO regarding field monitoring
20 teams and the transmission of information from the field, is
21 as you now understand it under Revision 4 of the plan?

22 A I would say I am 90 percent sure. The litany I
23 just went through, the sequence of events is what is in
24 Revision 4 of the plan.

25 Q Have you talked to the Brookhaven office about it?

1 A I have not.

2 Q Do you intend to?

3 A If I have any questions I will.

4 Q Mr. Kowieski, I would like to -- go ahead.

5 A (Witness Kowieski) I would like to have a
6 conference on this.

7 (Witnesses conferring)

8 A I would like to add what already was said by
9 Mr. Keller, about the question of communication between field
10 monitoring teams and EOC; and the question was, why haven't
11 you people considered this as a deficiency.

12 Well, the plan is specific. There is communication
13 between field monitoring teams and EOC through Brookhaven.
14 We felt, and we recommended that there be direct
15 communication between field monitoring teams and EOC.

16 We have a similar system in the State of New
17 Jersey. There is no direct communication between the field
18 monitoring team and the EOC. It is being communicated
19 between forward command posts. We evaluated it at least
20 on four different occasions, and we didn't find any major
21 problems with this system.

22 Q Mr. Kowieski, I would like to ask a general
23 question about the RAC Report based on what I am being told
24 now.

25 Where in the RAC Report you have this "adequate,

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1 provided that" clause, followed by recommendations as
2 Mr. Keller says, if LILCO does not implement the recommenda-
3 tions you are making, or you have made in the RAC Report,
4 would then an item previously rated adequate change to
5 inadequate?

6 A It could, sure.

7 Q And you are saying that it also could not?

8 A Again, it depends. It depends how plans -- it is
9 quite possible that LILCO will implement other compensating
10 measures which will take care of the problem.

11 Q But if they implement other compensating measures,
12 I assume that FEMA and the RAC would review those measures
13 to determine their adequacy, is that correct?

14 A (Witness Keller) That's correct.

15 I think maybe to get your answer, if the plan is
16 not changed, there are no other changes made and LILCO does
17 not accommodate these recommendations, that element would
18 be rated as not adequate, as an "I."

19 However, there are other ways to keep this rating
20 of "A," other than what were recommended. I think that is
21 what Mr. Kowieski was saying. They can make other changes
22 which would have to be reviewed. And I think the statement
23 was made in the May 11th meeting that if other changes are
24 made in the plan we would have to review those and ~~other~~
25 elements might become -- the rating of other elements might

1 be changed to an "inadequate" rating.

2 Q Is it fair to say in the circumstance of these
3 radio communications with the field teams, you treat LILCO's
4 proposal as described by you, Mr. Keller, to have the RAP
5 captains stay at the Brookhaven area office and so forth,
6 as a compensating measure which would replace the
7 recommendation that you have made in the RAC report?

8 A That's correct.

9 Q Now, wouldn't the full RAC committee have to
10 review LILCO's proposal to determine whether that is an
11 adequate compensating measure?

12 A That's correct.

13 Q And that has not been done at this time, is that
14 correct?

15 A That's correct.

16 A (Witness McIntire) This is why Revision 4
17 review is currently being done.

18 Q Mr. Keller, you mentioned your discussion with
19 the gentleman at the Brookhaven area office. That was a
20 telephone discussion?

21 A (Witness Keller) That is correct.

22 Q And you did not actually then go to the Brookhaven
23 area office?

24 A I did not.

25 Q Have you ever met or had discussions with any

mml3 1 members of the Brookhaven field monitoring teams?

2 A Yes, I have.

3 Q In the context of the Shoreham plan?

4 A No.

5 Q The LILCO plan?

6 A No.

7 Q Do you believe, Mr. Keller -- and again, when I
8 address questions to Mr. Keller, obviously I am addressing
9 the panel -- that you are familiar and knowledgeable about
10 the communications equipment that will be used by the
11 Brookhaven area office in performing the field monitoring
12 functions under the LILCO plan?

13 A Not specifically. My only involvement is that
14 the area offices which are the DOE offices, which I work
15 at another site, I am reading by analogy the kind of equipment
16 I use, I would assume is the kind of equipment they use at
17 Brookhaven. I don't know that for a fact though.

18 Q I am obviously talking about communications
19 equipment.

20 A Yes, that's correct.

21 Q Do you believe you are familiar and knowledgeable
22 about the procedures that would be followed by the Brookhaven
23 area office with respect to performing the field monitoring
24 functions?

25 A I do not have any details of the procedures that

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1 the Brookhaven area office would use. No.

2 Q For example, do you know how the field monitoring
3 teams would be notified and dispatched in the event of an
4 emergency at the Shoreham plant?

5 A I know what the plan says will be done.

6 Q What the LILCO plan says?

7 A What the LILCO plan says, yes.

8 But I do not know for a fact that is what the
9 Brookhaven area office will do.

10 Basically, to summarize it rather quickly, I
11 think that the call or the notification goes to the
12 Brookhaven area office, and then they do -- they make all
13 the contacts.

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1 Q And you are unaware of the procedure that would
2 be followed by the Brookhaven area office after notification
3 by LILCO in dispatching its people.

4 MS. McCLESKEY: Objection. Did the Court
5 Reporter get the witness' answer.

6 MR. MILLER: I think he said that is correct.

7 MS. McCLESKEY: I was asking whether the
8 court reporter got it.

9 COURT REPORTER: No.

10 MS. McCLESKEY: In that case, I would like to
11 make my objection, and that is that we are getting far
12 afield of Contention 33.

13 MR. MILLER: All my questions, Judge Laurenson,
14 are limited to communications aspects of the field monitoring
15 teams.

16 JUDGE LAURENSON: I think this is beyond the
17 scope of the testimony and of the contention. The objection
18 is sustained.

19 BY MR. MILLER: (Continuing)

20 Q Let's go back to the communications equipment,
21 Mr. Keller, used by the Brookhaven area office and the DOE
22 RAP teams. You said that you are not specifically familiar
23 with the equipment, correct?

24 A (Witness Keller) That is correct.

25 A (Witness McIntire) Again, we will repeat that all

1 we have done is a review of Revision 3 of the plan. We have
2 not done any independent analysis of supporting elements to
3 the plan.

4 A (Witness Keller) I am aware that the Brookhaven
5 team responded at TMI with radios, and they were able to
6 communicate with themselves and with the necessary people
7 that they had to communicate with. I would assume that their
8 communication equipment is at least as good as it was at
9 TMI, and probably better.

10 The DOE rules require that the RAP team be
11 available to respond to radiological emergencies within this
12 region of the country -- the Brookhaven team -- and to be on
13 call to respond to emergencies in other regions of the country
14 if needed.

15 They are required to be staffed, trained, to
16 have the equipment, both radiological and communications
17 equipment that they need.

18 Q Yes, sir. Let's talk about the radios. Do you
19 know, for example, Mr. Keller, whether radios are portable
20 or mobile radios ?

21 MS. McCLESKEY: Objection. The Contention goes
22 to whether direct communications between the monitoring teams
23 in the EOC are necessary, not into the individual details
24 of what kind of communication equipment is being used by
25 these people, and I think we are outside the scope of the

1 contention.

2 MR. MILLER: We are talking about the issue of
3 communications. I think it is fully appropriate to talk
4 about the communications equipment, especially when the
5 issue before the Board, as raised and stated in the
6 Contention, is whether there are direct communications
7 between the field monitoring teams in the EOC.

8 We have testimony here, and it appears the
9 testimony has been modified, or will be modified, or has
10 changed, regarding whether there will be direct radio links
11 between the field teams in the EOC. Nevertheless, the issue
12 of communications, even if it is going to be relayed, involves
13 the radios, involves how the transmissions will be made from
14 the field teams to the Brookhaven area office, and from there
15 relayed to the EOC.

16 I have a limited line of inquiry here, Judge
17 Laurenson, but I think I am entitled to explore with these
18 witnesses what they know about that communications equipment.

19 JUDGE LAURENSEN: In our Order of April 20th,
20 ruling on the motions for summary disposition on this
21 Contention, among others, we restated the issue, and rewrote
22 Contention 33 as follows: Quote, "The LILCO Plan fails to
23 demonstate that there are any direct communications between
24 DOE RAP monitoring teams, and the EOC." Unquote.

25 We then stated on page 15 of that memorandum and

1 order that evidence heard on Contention 33 will be limited
2 to that which is pertinent to that question.

3 We find that the areas under interrogation now
4 are not pertinent to that question. The objection is
5 sustained.

6 BY MR. MILLER: (Continuing)

7 Q Mr. Keller, do you know if the radio equipment
8 used by the Brookhaven area office, the DOE Rap personnel,
9 has the capability of providing direct communications from
10 the field to the EOC, assuming the field means somewhere
11 within the EPZ?

12 A (Witness Keller) We have no direct knowledge
13 of the coverage of these radios. What we had said in our
14 testimony was that we would evaluate the ability, assuming
15 that the RAC captain goes to the EOC with a hand-held
16 radio. That in an exercise, we would evaluate whether or not
17 they had coverage. At this time, we do not know.

18 Q You do not know the range, correct?

19 A Correct.

20 Q You do not know the frequencies?

21 A That is correct.

22 Q You do not know the channels?

23 MS. McCLESKEY: Objection. The channels have
24 nothing to do with Contention 33.

25 JUDGE LAURENSEN: Sustained.

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1 BY MR. MILLER: (Continuing)

2 Q Do you know, Mr. Keller, if the frequencies or
3 channels utilized by the field monitoring teams would be
4 compatible with the radio frequencies, channels used by
5 LILCO?

6 MS. McCLESKEY: Objection. Outside the scope
7 of the Contention, and I think it is clear from previous
8 Board rulings that it was an outside the scope question.

9 MR. MILLER : I fail to see how that could be
10 outside the scope of the contention, if we are talking about
11 the possibility of direct communications.

12 Compatibility of frequencies and channels would
13 allow that possibility.

14 JUDGE LAURENSEN: It talks about communication
15 with the EOC, so that may be relevant. The objection is
16 overruled.

17 WITNESS KELLER: We have no knowledge at this
18 time of the compatibility of the DOE Brookhaven radios, and
19 the LILCO radios.

20 BY MR. MILLER: (Continuing)

21 Q Would you look at Contention 85, gentlemen,
22 which is page 91 of the testimony. The question posed,
23 Mr. Keller, and I am going to continue with you. I think
24 this might be your area, but I am not sure.

25 Does the LILCO plan contain acceptable plans for

1 recovery and re-entry. I take it that the answer to that
2 question is, no. Is that correct?

3 A (Witness Keller) The RAC review broke it down
4 into a little more detail. And as we stated in the testimony,
5 one element was rated as adequate, and two elements were
6 rated as being not adequate, and the M criteria element
7 in 0654 is the element which deals with recovery and re-entry.

8 Q Talking about element M-1, you say, Mr. Keller,
9 that that element was found inadequate because of the procedure,
10 and you are referring to OPIP 3.10.1, is based upon incomplete
11 considerations.

12 Do you see that statement?

13 A Yes, sir.

14 Q And you give as an example of incomplete
15 considerations the fact that recovery actions may be required
16 when only sheltering is recommended --

17 A That is correct.

18 Q And LILCO Plan, Revision 3, implied or stated
19 that recovery actions are only necessary when you have had
20 evacuation, is that correct?

21 A No. The LILCO plan calls for the assembly of a
22 recovery action committee, right? And the LILCO Plan,
23 Revision 3, stated that this committee would be assembled
24 only if an evacuation had occurred. And since this Committee
25 is the one which is charged with doing the recovery functions,

1 we felt that there might very well be the case that you might
2 have to recover, if you had not had an evacuation.

3 Q Would you tell me, Mr. Keller, some of the other
4 considerations that would be necessary, in your opinion, to
5 have compliance by the LILCO Plan with Element M-1?

6 A First of all, this procedure has to be changed.

7 Q You are referring to procedure 3.10.1?

8 A Yes. In the section which has as a prerequisite
9 that an evacuation has to be --has to have been called for
10 prior to the institution of -- convening of this recovery
11 action committee.

12 The plan in our review, RAC felt was not
13 sufficiently clear on the issues of plant status, and how
14 plant status both in recommendations to take protective
15 actions and also by analogy, the recommendations to downgrade
16 or to reduce protective action requirements, the plan did
17 not discuss in sufficient detail how plant status will be
18 factored into these decisions, and this was a deficiency
19 in several areas. So we would like to see a greater
20 reliance on what the condition of the plant is, and what
21 its prognosis of staying in a recovery stage or whatever,
22 before you begin recovery and re-entry procedures.

23 I think that those two are the major ones for
24 this particular element.

25 Q Mr. Keller, in determining whether -- lets go

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1 to recovery for a moment.

2 In determining whether recovery actions would be
3 appropriate and should be implemented, assuming there has
4 been an offsite release, of course, would you agree with me
5 that there are a number of factors which need to be considered
6 and those factors would include, for example, the decontami-
7 nation activities involved, including the disposal of radio-
8 active waste?

9 A Well, I don't agree with your initial hypothesis.
10 That if there is an incident at the plant, and if protective
11 action recommendations had been implemented, I don't agree
12 that necessarily there had to have been an offsite release.

13 Q Okay. Let's assume that there is an offsite
14 release.

15 A Okay.

16 Q And we are at the stage now where the question
17 is should we institute recovery actions. It is appropriate
18 to begin institution of recovery actions.

19 A Would you define, 'recovery actions?'

20 Q Preparing the surrounding area to allow re-entry
21 by the public. Is that a fair definition?

22 A That is a definition.

23 Q How would you define recovery actions?

24 A Well, it is first the determination of what area
25 you are concerned with. That is a recovery action. First,

1 you have to establish the area of concern.

2 Q And that would be any area that has been
3 contaminated?

4 A And also to identify those areas which have not
5 been contaminated, which is as critical, or perhaps even more
6 critical.

7 Q Could you just tell me, Mr. Keller, in your
8 opinion, the factors that you would want to, or you would
9 think would be necessary, to consider in carrying out recovery
10 actions? Assuming there has been the release, okay?

11 A Okay. First of all, before you begin to think
12 about a recovery action, there should be some assurance that
13 the plant were in a stable condition. It was not likely
14 that there would be an additional release of activity, either
15 planned or unplanned.

16 Once that assurance had been made, you would
17 have to evaluate the magnitude of the problem you had at hand,
18 and had you taken protective actions over the whole -- over
19 the land area of the ten mile EPZ, or only over a smaller area
20 than that, you have to obtain monitoring results to establish
21 what the levels of contamination were. After you had done
22 that, you would have to ascertain whether there were regions
23 that would be allowable for the public to re-enter, and
24 perhaps there might be regions which the public should not
25 be allowed to re-enter, unless other things were done.

1 If you had regions in which the presence of
2 contamination was sufficiently high so that the public
3 should not be allowed to re-enter, the decision would have
4 to be made: Is it possible to decontaminate these areas
5 to a level that would allow for public re-entry?

6 If so, what methods will we use to decontaminate
7 these areas, Along with that, what are you going to do
8 with the waste that would be generated from this decontam-
9 ination.

10 You would then have to remonitor to establish
11 whether or not you had reduced the levels of contamination
12 to an acceptable level. You might decide at that point
13 that it was not cost beneficial to continue to decontaminate.
14 You might want to decide that a certain zone was not going to
15 be inhabitable in the near future. You would have to make
16 arrangements to mark that zone.

17 After you have done all that, this is on the
18 presumption there had been a release, and there had been
19 an evacuation, and all these things had come to pass, which
20 would not have been done very quickly typically, you would
21 then, before you allow the people to come back in, you would
22 have to establish that essential services were available.
23 That food in stores and restaurants was consumable, had
24 not spoiled in the intervening time that you were not there.
25 This type of thing.

1 After you have done all of that, you could then
2 begin to re-enter. I may have missed a few steps in there.
3 It is a very long process.

4 Q Yes, sir. From your review of Revision 3 of
5 the plan, Mr. Keller, do you believe that the plan adequately
6 addresses, or addresses at all various kinds of issues that
7 you have just articulated?

8 A The plan addresses only in a very general way,
9 and that general way is if this recovery action committee
10 would be convened, and they would do some of these things,
11 I think you should recognize that if an accident of sufficient
12 severity were to occur, that this type of action would be
13 warranted, I believe that the federal agencies would be
14 present and would be more than willing to supply advice.

15 Q Yes, sir. But NUREG 0654 requires that there
16 be plans for recovery and re-entry, isn't that correct?

17 A General plans, yes. Specific plans, there is
18 not a requirement. It says general plans.

19 Q And procedures.

20 A And procedures, that is correct.

21 Q And do you find your review of the LILCO plan
22 adequate with respect to general plans and procedures as
23 required by NUREG 0654?

24 A As our testimony shows, the RAC review of
25 element M-1, was inadequate. And that is the element which

1 requires development of general plans and procedures.

2 Q Mr. Keller, the last two sentences of your
3 testimony, Contention 85, talks about the plans failure
4 to contain a method for periodically estimating total
5 population exposure.

6 Do you see that?

7 End 9.
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2 A (Witness Keller) That is correct. And this is
Element M.4.

3 Q Are you aware, Mr. Keller, of the fact that
4 LILCO now has proposed a method for calculating total
5 population exposure?

6 A I believe that Revision 4 of the plan does con-
7 tain a methodology. I have not had an opportunity to look
8 at that methodology.

9 Q Could you tell me the purpose of requiring a
10 way to periodically estimate total population exposure?

11 A The -- I cannot give you the background by which
12 the authors of NUREG 0654 arrived at these various and
13 sundry criteria elements.

14 Q Do you have any idea why there is such a
15 requirement in NUREG 0654?

16 A My conjecture would be to be able to establish
17 the magnitude of the insult to the population.

18 Q Do you think, Mr. Keller, that a method for
19 estimating total population exposure is useful with respect
20 to emergency planning?

21 A Yes, in --

22 MR. GLASS: I just have a question of where we
23 are going. Are these becoming direct challenges to the
24 regulations under which FEMA is operating, or are they
25 really leading to specific questions that are only germane

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to this particular plan?

2 MR. MILLER: I'm not challenging anything, Judge
3 Laurenson. I'm merely asking the witness about his opinion
4 regarding elements of the NUREG 0654 which are directly in
5 issue in Contention 85.

6 JUDGE LAURENSON: The fact that you are asking
7 the witness questions about his opinion as to particular
8 provisions of the regulations or the guidance in NUREG 0654,
9 if it's not a regulation, is on the borderline anyway.

10 MR. MILLER: I'm confused. Is there an objection,
11 and if there is did the Board rule?

12 JUDGE LAURENSON: I don't think there was any
13 question at this point.

14 MR. MILLER: I've asked the witness a question.
15 I'm not sure he finished his answer.

16 JUDGE LAURENSON: The answer was yes, as I
17 recall.

18 BY MR. MILLER: (Continuing)

19 Q Mr. Keller, let me go back to you. Had you
20 completed your answer?

21 A Yes.

22 Q Okay. And, could you tell me, Mr. Keller, the
23 usefulness of requiring a method to calculate or estimate
24 total population exposure?

25 MS. MC CLESKEY: Objection. That's a challenge

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to the regulation.

2 MR. MILLER: I don't understand why this is a
3 challenge to the regulation, Judge Laurenson.

4 What I'm asking, I'm trying to understand what
5 purpose is served by requiring a method to calculate total
6 population exposure. It must be some purpose, I assume,
7 because there is a regulation, there is a requirement in
8 NUREG 0654.

9 The RAC report points out that LILCO had no such
10 method and these witnesses, among others, and the RAC
11 Committee, found that to be a deficiency. I'm merely trying
12 to establish or understand the purpose of the requirement in
13 0654.

14 JUDGE LAURENSEN: The objection is overruled.

15 WITNESS KELLER: I don't know the purpose of why
16 it was included in 0654.

17 JUDGE LAURENSEN: The question, Mr. Keller, was
18 the usefulness of it.

19 WITNESS KELLER: Okay. I thought -- excuse me.
20 One of the things that you can use this kind of a population
21 dose, total population dose estimate, is to evaluate the
22 magnitude of the consequences of the accident, long-term
23 consequences of the accident.

24 BY MR. MILLER: (Continuing)

25 Q Can you think of any other uses, Mr. Keller?

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1 A Not offhand. I think that would be the major
2 radiological use of this.

3 Q Gentlemen, would you look at Contention 88 on
4 Page 92 of your testimony.

5 JUDGE LAURENSEN: Before we go to that, I just
6 had one area I would like to address to Mr. Kowieski.

BOARD EXAMINATION

BY JUDGE LAURENSEN:

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9 Q That is, the questioning on the last two elements
10 in the RAC report has brought out the difference in the
11 result reached by the FEMA RAC. And I know we discussed
12 the ratings that FEMA and the RAC attach to the various
13 NUREG 0654 provisions during the panel's prior testimony
14 in July.

15 But, I ask you to perhaps explain to me again,
16 if we did cover it last time, the difference between the
17 FEMA rating, for instance, of inadequate on Item M.1 on
18 Page 49 versus the provisional rating of adequate on Item
19 H.11 that we have previously discussed, Mr. Miller discussed
20 with you, on Page 26.

21 It seems that the review comments under each of
22 those are somewhat similar. And in one case, FEMA has just
23 indicated that the provision is inadequate, and in another
24 case you have said it's adequate but only if LILCO makes
25 certain corrections.

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2 And I would like to have an explanation on the
3 record as to what went into the FEMA RAC determination to
4 make this -- to establish this difference between the two
5 ratings.

6 A (Witness Kowieski) Usually NUREG 0654 planning
7 criteria requirement has several components. When we review
8 the plan, we measure the plan, if plan meets the require-
9 ment of the various components.

10 It was a collegial judgment in certain elements,
11 that certain components of the plan required by planning
12 criteria, let's say, H.4, on this case, M.1, the majority
13 of the components stipulated in the planning criteria were
14 met. The missing component, which would be nice to have,
15 desirable, but are not critical part of the plan.

16 So, we felt that -- again, it was agreed on that
17 the plan, way it's written, could operate. If we rated
18 adequate, could operate. However, it would be very helpful
19 if certain elements of the plan would be improved.

20 Q But it seems to me that the explanation was that
21 LILCO actually had to make these corrections before the
22 approval rating would stand.

23 So, that seems to me beyond what you have just
24 said as a recommendation. Am I incorrect?

25 A That's true. Again, the magnitude, the number of
corrections required, in certain cases it was very minor.

#10-6-SueT

2 I will give you a cross-reference we considered
3 some minor. The plan will operate and the plan will work
4 if the NUREG cross-reference is correct or not. However,
5 if the certain element of the plan was incorrect but it
6 wasn't major element of NUREG 0654 criteria, it was RAC
7 collegial judgment that, well, the element is adequate and
8 let's give an opportunity for LILCO to take care of in next
9 revision.

9 Q But in some of those cases, you made it just as
10 a recommendation but in others you said it absolutely had
11 to be done or they would lose the adequate rating.

12 Now, how did you distinguish between those two
13 categories?

14 A Again, I have to go to detail. If you allow me,
15 let's go to element, any given element and I will try to
16 recall the thought processes that went into it.

17 Q I just wondered, is there any general standard
18 that you would apply to each one of these, that would apply
19 across the Board to all of the elements, when you waive
20 the traces on each category?

21 A We -- again, we evaluated on case by case basis.
22 There is no standard that we would employ in this particular
23 case and say: Well, if number of elements would be met,
24 would be adequate. If out of ten, only one is met, inadequate.
25 If five is met, it's adequate provisional. We have not used

#10-7-SueT¹

2 such approach. Again, it was based on our expertise, RAC
3 expertise, said: Well, whatever is missing or incorrect
4 in plan, it's not critical. It's not critical to accomplish
5 the necessary mission in case of radiological emergency.

6 Q Now, if you made that determination, what rating
7 would you give it? Would it be provisional, adequate or
8 would it be an adequate with just a recommendation that
9 something be done?

10 A I would say it's provisional.

11 Q Even though it's not critical?

12 A That's right. But, again when we review the
13 plan, went by element by element, case by case approach.

14 Q I guess I'm still troubled with the three
15 categories that you seem to have. And I'm wondering why
16 you just don't have two categories called inadequate and
17 adequate and let it go at that.

18 What is the reason why you have established this
19 sort of middle ground?

20 A Well, I be honest with you why. We felt that
21 certain elements of the plan, there was no good reason --
22 there was no really reason to rate it inadequate. However,
23 if we would have rated it adequate and corrections adequate,
24 one can argue: Well, you rated it adequate with recommendation
25 We don't have to do anything about it.

So, this is another incentive to the utility to

#10-8-SueT1

make the correction.

2 JUDGE LAURENSEN: Now that I've muddied up the
3 waters here.

4 (Laughter.)

5 MR. MILLER: I would like to just ask a couple
6 of questions, Judge Laurenson, to follow up because I'm a
7 little confused.

8 BY MR. MILLER: (Continuing)

9 Q Mr. Kowieski, if I understood our discussion
10 earlier this -- today, when there is a rating of "adequate
11 provided that" if LILCO does nothing whatsoever to make any
12 changes to take into account the recommendations in the RAC
13 report, the rating of adequate would change to an inadequate;
14 isn't that correct?

15 A If there are no other compensating measure taken
16 would be rated -- would be changed inadequate. Again, we
17 would feel, the RAC would feel, then the utility is not
18 willing, is not willing, to comply with our recommendations,
19 ignoring our recommendation.

20 Q Okay. So, if no action whatsoever is taken the
21 rating changes adequate to inadequate. If there would be
22 some -- let's assume the other extreme, LILCO adopts exactly
23 what is recommended in the RAC report, then I assume the
24 rating would indeed stay adequate, correct?

25 That has got to be correct, I assume?

#10-9-SueT 1

A That's right.

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Q Now, the middle ground is where you make a recommendation in the RAC report, you make the rating adequate provided that LILCO does not adopt what you recommend but they come forth with some other compensating measure, and then that's an issue to be determined by the RAC review in its next review of the LILCO plan?

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A That's absolutely correct.

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Q Thank you.

10

A Mr. Baldwin would like to add.

11

(Witness Baldwin) Well, this is in response to the line of questions, and Judge Laurenson's question.

12

13

With respect to the difference between H.11 and what we are talking about in M.1 and M.4, the third paragraph of the RAC review is asking for a reconciliation of list of equipment, air sampling equipment, that the plan apparently doesn't coincide -- well, the plan does not coincide with what is defined in the procedure. We would expect that discrepancy to be reconciled. The RAC agrees that that's a relatively simple thing to do.

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They will either reconcile the plan with the procedure or the procedure with the plan. And that would have to be done or this would turn into an I.

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With respect to the last paragraph there, the comment about communications equipment on Page 414, should

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#10-10-SueT

1 include radio links between the field teams and the EOC,
2 they could take another option there such as this liaison
3 officer at the EOC who would be passing on information to
4 the actual decision-maker, which the RAC would have to
5 evaluate and consider.

6 And that may be adequate and it may not. It may
7 be one of the things that would keep -- it would turn this
8 from an A provisional to an I.

9 But this A provisional, as I read it, is really --
10 we are looking here, the critical factor is the third
11 paragraph. I think, my opinion is, that the plan would work
12 using the procedure that they've got without direct field
13 team communications with the EOC.

14 With respect to M.1 and M.4, however, the
15 regulations are rather specific about what is required,
16 the method for estimating total population exposure as
17 required by M.4 and M.1, requires that you have provisions
18 for determining when recovery and reentry actions have to
19 be taken.

20 (Witness McIntire) If I might supplement that
21 just a bit, emergency planning is not an exact science where
22 something is right or wrong. It becomes a matter of
23 professional judgment of which the RAC members meet together
24 to do. And, therefore, the RAC has decided that by having
25 this third area here gives a closer approximation of reality,

#10-11-SueT

2 where if the RAC only said adequate or inadequate there
3 would not be that ability to differentiate between the two
4 which we believe gives a more approximate review of the
5 current status of the affairs.

6 JUDGE LAURENSEN: Let me just follow up with
7 one question, Mr. McIntire.

8 What problem would there be if all of these
9 provisionally adequates were eliminated and they were all
10 rated inadequate?

11 How would that adversely affect FEMA's evaluation
12 of these plans?

13 WITNESS MC INTIRE: I don't think it would
14 adversely affect the evaluation of the plan. But we think
15 it is important to differentiate this middle ground where
16 these issues are basically at very much near the decision
17 point or there is an exact -- let me strike that.

18 There is an item that needs just a little bit
19 of consideration or a little bit more of supplemental.
20 As Mr. Baldwin said, depending upon the degree of specificity
21 in the individual elements. Some of the elements, as he
22 said, you know, are much more specific and they are basically
23 what you have to either right or wrong. Others are certainly
24 more in the area of expert judgment.

25 MR. MILLER: Judge Laurenson, I think we are
taking turns following up, but I would like to follow up on

#10-12-SueT

your question.

2 BY MR. MILLER: (Continuing)

3 Q Can anyone on the panel just refresh my memory
4 regarding the number of elements that were rated "adequate
5 provided that?"

6 A (Witness Kowieski) Seventeen.

7 Q And there were thirty-two elements rated
8 inadequate, Mr. Kowieski, correct?

9 A That's correct.

10 Q Now, Mr. McIntire, are you saying that -- let's
11 take Judge Laurenson's hypothetical, if all the "adequate
12 provided that" were changed to inadequate so that your
13 number of deficiencies went from thirty-two to forty-nine
14 of a total of a hundred and eight I think, that that would
15 have no effect on FEMA's evaluation of the LILCO plan?

16 A (Witness McIntire) I think a better way to put
17 it, it would not impact any more the requirements that
18 LILCO would have to change the plan as the RAC would like
19 to see it changed.

20 MR. MILLER: Okay. I understand. Thank you.

21 JUDGE LAURENSON: Before you start on the next
22 area, is this a good time to take our lunch break?

23 MR. MILLER: Judge Laurenson, I would -- I
24 think that Contention 88 will be very quick because it has
25 changed so much. And I think maybe we should just go ahead

#10-13-SueT

and do that. I predict a couple of minutes.

2

JUDGE LAURENSEN: I can't refuse an offer like

3

that.

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(Laughter.)

5

MR. MILLER: Okay. Then, we can come back from

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lunch with our favorite subject of training.

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BY MR. MILLER: (Continuing)

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Q Mr. Keller, are you aware of the fact that the

9

LILCO plan no longer sets forth acceptable contamination

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levels for reentry in disintegrations per minute?

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A (Witness Keller) No.

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1 Q Are you aware of the fact that LILCO no longer
2 intends to use cost-benefit analyses to make decisions
3 regarding temporary reentry?

4 A I am not.

5 Q If you would assume with me, Mr. Keller, that my
6 two questions are, in fact, true, that would pretty much
7 alleviate or eliminate the testimony that is presented here
8 on Contention 88, wouldn't it?

9 A That's correct.

10 Q And, if you take my questions as true, Mr. Keller,
11 I take it it would be fair to say that at this time neither
12 you, nor anyone in this panel would have opinions regarding
13 the adequacy of LILCO's proposals because in fact you are not
14 aware of those proposals, correct?

15 A That is correct for me.

16 Q No one else on the panel would disagree with
17 Mr. Keller on that point, would they?

18 A (Witness McIntire) That's correct.

19 MR. MILLER: Judge Laurenson, I don't really see
20 a reason to pursue questioning on this testimony, in light
21 of the developments of the last few weeks.

22 We could take our lunch break now and start up
23 with training.

24 JUDGE LAURENSEN: All right.

25 We will take our luncheon recess at this time,

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1 and reconvene at 1:45.

2 (Whereupon, at 12:20 p.m., the hearing was
3 recessed to resume at 1:45 p.m. this same day.)

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AFTERNOON SESSION

1:45 p.m.

1
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3 Whereupon,

4 THOMAS E. BALDWIN

5 ROGER B. KOWIESKI

6 PHILIP MC INTIRE

7 JOSEPH H. KELLER

8 resumed the stand, and having been previously duly sworn
9 were further examined and testified as follows:

10 JUDGE LAURENSEN: We are back on the record.

11 Mr. Miller?

12 CROSS-EXAMINATION (Resumed)

13 BY MR. MILLER:

14 Q Gentlemen, let me ask you briefly -- we are
15 going to start with the training contention -- if any
16 members of the panel have had any experience in training
17 individuals to perform any of the various tasks or skills --
18 the specific tasks and skills required by the LILCO plan?

19 A (Witness McIntire) I believe I have, particularly
20 in the management command and control functions.

21 Q Mr. McIntire, you say you think you have trained-
22 individuals in command and control functions, correct?

23 A That is correct.

24 Q Could you tell me just briefly the context under
25 which you provided that training?

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1 A It was back in the period of 1974 to 1979 when
2 I was Assistant Regional Director for Preparedness of the
3 Federal Disaster Assistance Administration. One of my
4 primary functions was the training program that the agency
5 had for federal, state and local personnel, as well as our
6 own people who are a reserve cadre that assisted us in
7 disaster relief operations.

8 Q Was that with respect to radiological response?

9 A No, these were natural disasters.

10 Q Primarily floods?

11 A Floods, hurricanes, earthquake.

12 Q Has any other member of the panel provided any
13 training regarding the specific tasks or skills required by
14 the LILCO plan?

15 A (Witness Kowieski) Not specific to the LILCO
16 plan. I conducted a seminar, or had a lecture presentation
17 before International Atomic Energy Agency on the role of
18 the state and local government, about the important components
19 of the plan, what would constitute effective response, what
20 is essential to have an effective response.

21 And also, before we go to an observed exercise, I
22 am the principal individual who would conduct the training of
23 the federal observers; how to evaluate how the plan
24 operates, and what is expected during the exercise.

25 Q Yes, Mr. Kowieski. My question goes to the kinds

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1 of tasks or skills required by the LILCO plan to be performed
2 by emergency response personnel. Have you provided any
3 training in that regard?

4 A Not to emergency workers.

5 A (Witness Keller) Again I have done training of
6 individuals who were required to monitor and to make
7 measurements, not necessarily for an emergency condition,
8 but for routine operations. But the performance of
9 a monitoring measurement or a measurement of radioactivity
10 with a survey instrument is pretty much unrelated to the
11 time in which you are going to use it.

12 Q Okay, so we have touched on the functions of
13 command and control, and I suppose Mr. Keller you are
14 referring now to the functions of dose assessment and field
15 monitoring?

16 A Yes -- well, not really. The field monitoring
17 people in the LILCO -- the training of field monitoring
18 people is not addressed in the LILCO plan, in that these
19 people are part of the Brookhaven DOE RAP team, and that
20 their training is conducted within the confines and
21 requirements and regulations of DOE in order to be able to
22 provide response.

23 What I was referring to is the training of the
24 people who will do the monitoring for contamination -- the
25 presence or absence of contamination and that type of thing,

1 which would be LILCO employees.

2 Q That would then be the on-site aspects,
3 Mr. Keller?

4 A No. No. The LILCO plan calls for the use of
5 LILCO employees, LERO people, at the relocation centers to
6 monitor evacuees. They also call for LILCO people to be at
7 the emergency worker center to monitor -- that type of
8 function.

9 Q I understand. The monitoring decontamination of
10 vehicles and evacuees.

11 A And also emergency workers, yes.

12 Q Anything else, Mr. Keller?

13 A Well, I had been involved with training people
14 for accident assessment. In fact, Monday, I gave a
15 session at the Accident Assessment course at Emmitsburg
16 for field monitoring. The Brookhaven people are not addressed
17 in the LILCO plan as such.

18 Q You have never trained, to your knowledge, any
19 of the DOE RAP personnel that would respond to an emergency
20 at Shoreham from Brookhaven?

21 A My recollection is we have not had those
22 people, that's correct.

23 Q Turning to your involvement, gentlemen, in the
24 LILCO training program, is it fair to say that your review
25 of LILCO's training program began sometime after July 13th

1 of this year?

2 A The actual review of the material, that is
3 correct.

4 A (Witness Kowieski) I would like to add that the
5 portion or portions of the plan that deal with the training
6 were reviewed by the Regional Assistance Committee.

7 Q Aspects of training that are stated in the LILCO
8 plan, including the LILCO procedures would have been
9 reviewed by the RAC, including yourselves, prior to July 13th,
10 correct?

11 A That's correct.

12 Q And there are some comments in the RAC Report
13 regarding LILCO's training program, and those would be
14 Elements N and O, correct?

15 A That's correct.

16 Q Now, turning to the LILCO training material
17 reviewed by you other than the LILCO plan and implementing
18 procedures, that review was conducted sometime after July
19 13th of this year, correct?

20 A (Witness Keller) That's correct.

21 Q And is it fair to say that the review that you
22 conducted of LILCO's training materials, was not complete
23 as of the time your testimony on the training contentions
24 was filed?

25 A I think Mr. Baldwin had not completed the review

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1 of certain portions of the workbook, and perhaps one video
2 tape. But, maybe Mr. Baldwin had better answer.

3 A (Witness Baldwin) That's correct. I was in the
4 process of completing my review of modules 6 and 13 which
5 were added to the list, which I picked up as a revision to
6 this.

7 I had begun that review, was in the process of
8 it when it was -- well, when I had read it, when I had
9 read the testimony for the first time.

10 A (Witness McIntire) I also viewed some of the
11 video tapes after we prefiled our testimony.

12 Q Mr. Kowieski, had you finished your review of
13 the LILCO training materials prior to the time the testimony
14 was submitted?

15 A (Witness Kowieski) No.

16 Q Mr. Keller, had you?

17 A (Witness Keller) Yes, I had.

18 Q I recall from the depositions, I believe, the
19 deposition that was taken on August 9, that Mr. Keller, you
20 estimated you spent approximately 48 working hours reviewing
21 the LILCO training material, correct?

22 A That's correct.

23 Q Mr. Baldwin, you estimated that you spent
24 approximately 40 hours of time reviewing the training
25 material, correct?

1 A (Witness Baldwin) That's correct.

2 Q I don't recall Mr. Kowieski if you were asked, or
3 what your answer was if you were.

4 A (Witness Kowieski) I spent approximately six
5 hours to review material itself. However, I spent a great
6 deal of time with Mr. Keller, Mr. Baldwin and Mr. McIntire
7 discussing the results of the review.

8 Q Mr. McIntire, what would be your estimate for
9 the time you spent reviewing the training materials?

10 A (Witness McIntire) About approximately six
11 hours reviewing the actual mateterials, and additional time
12 in the preparation of the testimony.

13 Q And, Mr. McIntire, is it fair to say that your
14 review consisted of a number of the LILCO video tapes?

15 A That was my review of the material, yes.

16 Q Mr. Kowieski, is it fair to say that your review
17 also was limited to some of the video tapes?

18 A (Witness Kowieski) That's correct.

19 Q Mr. Baldwin, you reviewed some of the video
20 tapes and some of the workbooks, correct?

21 A (Witness Baldwin) I reviewed all of the video
22 tapes that were available to us, and some of the workbooks
23 that were assigned to each of us. They were allocated to
24 each individual between, basically, Mr. Keller, Mr. Kowieski
25 and myself.

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1 Q Did you review any training materials other than
2 workbooks and video tapes?

3 A I reviewed the lesson plans and the scripts for
4 the video tapes.

5 Q You say you reviewed the lesson plans. Did you
6 review all lesson plans?

7 A No, just those for which I was responsible.

8 Q Could you give me a number of lesson plans you
9 reviewed?

10 A I've got a better record someplace. I have to lay
11 my hands on it.

12 Q It could just be an estimate, Mr. Baldwin.
13 Was it a half dozen?

14 A This is on -- we are speaking of training
15 chapters, video tapes or what, again?

16 Q I'm asking about the lesson plans you reviewed.

17 A Okay. An approximate number is on the order of
18 ten.

19 Q Mr. Baldwin, you say you reviewed all the video
20 tapes that were made available to you, correct?

21 A I reviewed all of the video tapes that were
22 made available to FEMA, yes, in FEMA Region II's office.

23 Q Do you know if all the video tapes used in the
24 LILCO training program were made available to FEMA by
25 LILCO?

1 A Video tape numbers -- for modules 5 and 6 were
2 missing. Those were assigned to me and I read the scripts.

3 Video tapes for module 12 was missing -- 12 and
4 13 were missing. I read those scripts.

5 I think I said in the deposition that the video
6 tape for 15 was -- I reviewed a tape which was an interview
7 with Dr. Dennis Mileti, which could be construed as the
8 module for 15. LILCO's attorney clarified that there is no
9 module of video tape for 15.

10 So, 5 and 6, 12 and 13 were missing, and I read
11 the scripts for those.

12 And with respect to a lesson plan here for module
13 4, I believe I reviewed that, too. But I can't ascertain
14 from my notes.

15 Q Mr. Baldwin, how do you define module when you are
16 using it?

17 A Well, the modules are set forth -- a list of the
18 modules is set forth in the plan and the procedures. It is
19 that list.

20 Q Do you understand modules is synonymous with
21 workbooks?

22 A No. Well, I understand modules as being
23 various components of the entire training program. It is
24 a package. A module consists of -- as I think of it in
25 doing this, that a module consists of a lesson plan, a

1 training chapter or from a workbook a script for a video tape
2 and a video tape.

3 Q Is that the way you understand LILCO uses the
4 term in its training program or do you know?

5 A I don't know how they use it in there. A module
6 appears to me to mean a module of the entire program, a
7 component of the entire training program.

8 Q Do you know, Mr. Baldwin, if you reviewed all of
9 the workbooks used by LILCO in its training program?

10 A No, I didn't review all of the workbooks used in
11 the training program. I reviewed the ones which were
12 assigned to me.

13 Q Assigned by Mr. Kowieski?

14 A Yes.

15 Q Mr. Keller, did you review all the workbooks?

16 A (Witness Keller) I did not.

17 Q Did you review all the video tapes?

18 A Let's clarify something. When we took on this
19 task of reviewing this material and preparing testimony on
20 these training contentions, we had a deadline by which time
21 we were to file our testimony.

22 As you brought out earlier, we began this review
23 sometime after the 13th of July. We had some rather serious
24 time constraints. The task as we saw it, to review this
25 amount of material was basically subdivided between

1 Mr. Baldwin, myself and primarily Mr. Kowieski.

2 We made an assignment that said, okay, Tom you
3 do certain sections, Joe you do certain sections, et cetera.
4 Within those constraints, yes, I reviewed all the workbooks
5 and the video tapes of those that were assigned.

6 Q You reviewed all the ones that were assigned to
7 you, is that what you are saying?

8 A Yes, right.

9 Q Do you know, Mr. Keller, if between yourself
10 and Mr. Baldwin and Mr. Kowieski, all workbooks used in the
11 LILCO training program were reviewed?

12 A It is my belief that we did among us, review
13 all of the workbooks that were used, at least at the time
14 that the material was produced, that we reviewed. Yes.

15 Q And with respect to the video tapes, with the
16 exception of the four video tapes which apparently were not
17 made available to FEMA by LILCO, to your knowledge did you,
18 Mr. Baldwin or Mr. Kowieski among yourselves, review all
19 video tapes?

20 A I'm not sure it was four. But I think we
21 reviewed all the video tapes, yes.

22 A (Witness Baldwin) Among us we definitely did,
23 yes.

24 A (Witness Kowieski) Yes.

25 Q Now other than lesson plans, video tapes, scripts

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1 of video tapes and workbooks, did you review anything else
2 in the course of preparing your testimony -- and Mr. Keller
3 I would like to put off the spot check on July 24th for the
4 moment --

5 A (Witness Keller) The plan.

6 A (Witness Kowieski) The plan itself.

7 A (Witness Baldwin) And the implementing procedures
8 as part of the plan, obviously.

9 Q Did you review any drill scenarios used by LILCO?

10 A (Witness Kowieski) We did not.

11 Q Did you review any exercise scenarios used by
12 LILCO?

13 A We did not.

14 Q Did you review any critiques or evaluation that
15 had been conducted by LILCO of training drills or exercises?

16 A (Witness Keller) We are still keeping the spot
17 checks separate?

18 Q I would like to for the time being.

19 A (Witness Kowieski) We did not, with the exception
20 that Mr. Glass provided me with Suffolk County testimony so
21 I went through it very quickly. But, not prior to our
22 filing of testimony which happened, I believe, two days
23 ago.

24
25
End T11

1 Q You were given the Suffolk County testimony two
2 days ago, is that what you said?

3 A Well, I reviewed the Suffolk County testimony
4 two days ago.

5 Q Has anyone else on the panel reviewed the
6 County's testimony on training?

7 A (Witness McIntire) I have.

8 Q Before the testimony was submitted, Mr. McIntire?

9 A After.

10 Q Were you provided both the prefiled direct testimony
11 and the supplemental testimony filed by the County?

12 A I believe there were two components. I am not
13 absolutely sure.

14 Q Have you seen LILCO's testimony on the training
15 issues?

16 A I believe so.

17 Q Mr. Kowieski, have you?

18 A (Witness Kowieski) Yes, I did.

19 Q Did you see LILCO's testimony before your
20 testimony was submitted?

21 A (Witness McIntire) I saw it after.

22 A (Witness Kowieski) I believe it was after we
23 submitted our testimony.

24 Q Could it have been before your testimony was
25 submitted, Mr. Kowieski?

1 A Again, I am not certain of it. I believe it was
2 after we submitted our testimony.

3 Q Now, Mr. Keller, I notice at the deposition
4 a statement by you that you believe the training materials
5 that have been reviewed by yourselves, or this panel, were
6 based on Revision 0 of the LILCO plan, is that correct?

7 A (Witness Keller) That is correct. That was
8 my belief. As we revised the testimony that was passed out
9 yesterday , we have added the sentence -- it was for an earlier
10 version. We think it was Revision 0, but we are not absolutely
11 sure, but certainly it was earlier than Revision 3.

12 Q I think I took this down correctly, you added at
13 end of the first page, page 101 of your testimony, I jotted
14 down, you added to your testimony: We believe that the
15 training material reviewed by us was prepared by LILCO from
16 an earlier version of the LILCO plan.

17 A For an earlier version of the LILCO transition
18 plan, that is correct, yes.

19 Q Would you expect, Mr. Keller, that as there are
20 revisions to the plan itself, there should be revisions to the
21 training materials used to train LERO workers?

22 A Yes. It would, of course, depend on what the
23 nature of the changes and the plans were. If it changed
24 procedures, or if it changed techniques. The training material
25 should correspond to the plan.

1 Q And the training provided to members of LERO
2 should, I assume, correspond to what is required by the plan?

3 A Yes.

4 Q Have you been able to make any determination
5 as to whether or not LILCO has provided training which
6 corresponds to the most -- let's say Revision 3 of the LILCO
7 plan?

8 A Now, we have to get into the area of the audit.
9 When I was in Hicksville, I saw a cabinet which contained
10 video tapes, which I believe were marked Revision 4, and I
11 believe I was told by one of the LILCO people that they were
12 for Revision 4 of the plan.

13 I have not seen those video tapes. I don't know
14 what they contain. No one suggested they were new workbooks
15 but I believe there at least has been some attempt to make
16 modifications in at least portions of the training program
17 to reflect changes.

18 I have no direct knowledge of what those changes
19 are.

20 Q Do you know if the video tapes that you saw at
21 the time of your spot check have, in fact, been shown to
22 LERO workers?

23 A I do not, no.

24 Q In the course of reviewing the LILCO training
25 material, gentlemen, and preparing your testimony, it is fair

1 to say, isn't it, that one of the factors in splitting up
2 the work was time availability?

3 A That is correct.

4 Q And it is fair to say, isn't it, that with
5 respect to some of the training materials you reviewed, you
6 had no real expertise with respect to subject areas. Let
7 me break that down and be more precise.

8 Mr. Keller, I believe in your deposition you
9 mentioned that you reviewed workbooks or video tapes concerning,
10 among other things, relocation centers and security, correct?

11 A That is correct.

12 Q And you do not consider yourself an expert in these
13 areas of relocation centers or security, isn't that correct?

14 A I certainly do not present myself as a security
15 expert. However, I did say that within the constraints of
16 what was in the workbooks, what was in the training modules
17 that I reviewed, that I didn't have any problem understanding
18 the material, being able, in my opinion, to evaluate whether
19 or not I felt that the individual who might or might not have
20 had any background in this area, could do the kind of things
21 they were trying to train him to do.

22 That does not make me a security expert, and I
23 don't pretend to be one.

24 Q Well, do you consider yourself as having expertise,
25 Mr. Keller, in the subject area of security, or relocation

1 centers.

2 A The term, 'security' and, 'relocation center' is
3 a very broad term. I work at a facility which is a highly
4 security facility. And I have expertise in egress and
5 getting in and getting out, and security matters with
6 classified information, which is considerably more detailed
7 than I saw in the training modules for the LILCO plan, but
8 I am certainly not a security expert.

9 Q Mr. Baldwin, you reviewed among other things
10 video tapes, workbooks, regarding notification of the public
11 and public information, correct?

12 A (Witness Baldwin) That is correct.

13 Q And you do not consider yourself an expert in
14 the subject areas of those two aspects of the LILCO plan, do
15 you?

16 A Well, with respect to my involvement as a plan
17 reviewer, and an observer at Federally observed exercises,
18 that is the basis of my expertise to review these training
19 materials. And I reviewed them much as what Mr. Keller
20 described. The correlation of these materials with what
21 was described in the plan, and the implementing procedures.

22 A (Witness McIntire) If I may supplement that,
23 I think, and I believe firmly in my own mind, that there is
24 a difference between being an expert in an area such as
25 security, and then having expertise in emergency planning

1 as that particular subject, such as security, relates to
2 emergency planning.

3 Q I want to go back to your statement, Mr. Baldwin.
4 Do you consider yourself as having sufficient expertise in
5 the areas of public notification and public information, as
6 would be implemented under the LILCO plan, to have reviewed
7 and made credible, viable judgments in those two areas?

8 A I consider myself qualified to review the
9 materials and determine whether they are understandable.
10 Whether they correlate with the plan and procedures, and
11 based on what I have observed at Federally observed exercises
12 to ascertain whether the people trained using these materials
13 could carry out their functions in such an exercise.

14 Q Are you saying, Mr. Baldwin, that your review
15 consisted primarily of determining readability of the
16 workbooks, understandability of the video tapes, and whether
17 or not the training materials corresponded to the provisions
18 of the LILCO Plan?

19 A Yes, I think that would be a fair characterization.
20 I do not claim myself to be an expert in public notification.
21 Alerting and notification, nor in reviewing the technical
22 readability, the grade level, et cetera, of a public
23 information brochure.

24 Q Mr. Kowieski, to make sure I understand, the video
25 tapes you reviewed had also been reviewed by either Mr. Keller

1 or Mr. Baldwin, correct?

2 A (Witness Kowieski) That is correct.

3 Q And you reviewed about six video tapes?

4 A That is correct.

5 Q And is it fair to say that your review was
6 primarily one to ascertain whether the video tapes were
7 understandable to the watcher and correspondent to the
8 provisions of the LILCO plan?

9 A That is a fair characterization.

10 Q And Mr. McIntire, you reviewed approximately
11 eleven video tapes?

12 A (Witness McIntire) Yes.

13 Q And was the scope of your review of those
14 video tapes essentially the same as Mr. Kowieski's?

15 A My principal purpose in reviewing them and
16 concern was the quality that they had in regards to training
17 as compared to previous training procedures, tapes, slides,
18 that I have seen over my career.

19 A (Witness Kowieski) And basically, if I may
20 supplement whatever already I said, in addition to see -- when
21 I reviewed the tapes, obviously, I compare in my own mind how
22 those tapes and training material corresponds with whatever
23 I saw at other sites, operating sites.

24 Q Mr. McIntire, I take it that the video tapes that
25 you reviewed had been previously reviewed by either Mr. Keller

1 or Mr. Baldwin, correct?

2 A (Witness McIntire) Or Mr. Kowieski.

3 Q Looking at your testimony, gentlemen, on page 101,
4 to your knowledge, were all the modules of the LILCO training
5 program reviewed by you?

6 A Are you saying the panel as a group?

7 Q Yes.

8 A (Witness Baldwin) With the exception of module
9 15, which is listed in the plan as the sociological aspects
10 of -- I believe it is the sociological aspects of an
11 evacuation -- which we do not know what that module actually
12 consists of, because the material submitted to us, we couldn't
13 find a lesson plan, chapter, script, and with the exception of
14 the video tape that I mentioned, the interview with Dr.
15 Mileti, we don't know what that is. That is the only exception
16 we have where we don't have materials.

17 Q Mr. Baldwin, it says in the answer that you
18 reviewed these twelve scripts. I take it those are all scripts
19 to the video tapes, correct?

20 A Yes.

21 Q Did you review -- you told me that you reviewed
22 some of the workbooks used by LILCO. Did you review any of
23 the initial drafts of workbooks, or just the final workbooks
24 which to your knowledge have been used in training LERO
25 members?

1 A I reviewed only one set. I reviewed no earlier
2 -- any drafts. I reviewed one set of materials.

3 A (Witness Kowieski) That was submitted by
4 LILCO to us.

5 Q When you say you reviewed one set, Mr. Baldwin,
6 I don't understand.

7 A (Witness Baldwin) Well, by set I mean we had
8 one version -- I will take an example of a workbook chapter.
9 I saw only one version of that chapter. I saw -- if there
10 were earlier versions of that chapter, I did not see them.

11 Q Mr. Baldwin, are you saying that you would look
12 -- when you would review a workbook, you would only review
13 a particular section of the workbook? When you say workbook
14 chapter.

15 A I don't understand your question. Perhaps you
16 could clarify it for me. I reviewed an entire chapter for
17 the module, for the entire module.

18 (Panel discussion ensues)

19 A I have been told by other members of the panel
20 there is only one workbook, and there are various chapters
21 of that workbook which represent each module. Did I
22 characterize that properly? I can testify as to what I
23 have seen. What I received in parceling out this work was
24 a xerox copy of a -- the training chapters for the modules
25 that I mentioned in the deposition.

1 I have not personally seen all those bound
2 together in one workbook.

3 Q Mr. Baldwin, I think I understand what you are
4 saying, but I would like to just make sure I understand.
5 I have proffered for the record, placed all the LILCO work-
6 books into a binder, and I have always thought of these as
7 different, distinct workbooks. Would you just glance --
8 they are all tabbed.

9 Did you consider each one of these different
10 tabbed modules to be different chapters of one large
11 workbook? Is that what you are saying?

12 A I can tell you what I did consider them to be.
13 They were a workbook chapter that related to a particular
14 -- to the particular modules.

15 I don't know how you got it put together here
16 in a binder represents how LILCO -- LERO is going to present
17 it to the recipients of the training or not.

18 A (Witness Kowieski) Let me just add --

19 MR. GLASS: I think we are dealing on a very
20 simple question here. I don't think it has any substance.
21 It has to do with basically how LILCO has bound the material.
22 Whether they have bound it as one volume, or whether they have
23 bound it as separate volumes; the fact that the individuals,
24 in order to be able to carry out their work, had to use xerox
25 copies does not change the quality of the work. If we can get

1 LILCO to stipulate exactly how it is bound, we can save a
2 lot of time that we are spending right now.

3 A (Witness Kowieski) To help you, I will give
4 you an example. Module 1. You have a lesson plan. You
5 have a training chapter and script. That is in one module.
6 If we review everything, the script or workbook, the answer
7 is, yes.

8 BY MR. MILLER: (Continuing)

9 Q Gentlemen --

10 MS. MONAGHAN: Judge Laurenson, LILCO would be
11 delighted to stipulate how those materials are presented
12 to the LERO workers, if that is the issue here.

13 JUDGE LAURENSON: We are spending a lot of time
14 finding out everything that these witnesses reviewed. Is
15 there some way we can expedite this, Mr. Miller, so we don't
16 have to take too much time on the preliminaries here, and we
17 can get on to the actual substance of the testimony?

18 MR. MILLER: I am ready to move on, Judge
19 Laurenson. I was trying to understand, and I thought it
20 would be helpful how the witnesses were using the term,
21 'module,' because as you recall from previous testimony
22 LILCO, I believe, used the term differently than these
23 witnesses, and I was trying to ascertain their definition
24 of the term, but I am willing to move on.

25 MS. MONAGHAN: I disagree that LILCO used the

1 term differently, but I think the witnesses have defined
2 adequately the way in which they are using the term, 'module,'
3 and I think we ought to proceed.

4 BY MR. MILLER: (Continuing)

5 Q Mr. Keller, let me talk to you for a few moments
6 about your spot check, which is mentioned in that first answer
7 on page 101.

8 This spot check you say of training logs and
9 workbooks was conducted on July 24 of this year, correct?

10 A (Witness Keller) That is correct.

11 Q And it was not a surprise audit or spot check
12 of any kind, was it?

13 A It was a spot check. It was an audit. It was not
14 a surprise.

15 Q LILCO knew in advance that you were coming to
16 do this?

17 A That is correct.

18 Q And is it fair to say, Mr. Keller, that FEMA's
19 request for you to review these training materials was
20 resisted by LILCO?

21 A No.

22 Q It is not fair to say that?

23 A No, I don't believe so. There was some
24 discussion between the legal counsel for LILCO and the
25 FEMA legal counsel concerning some issues I really don't

1 understand, I guess.

2 It is my understanding, and I suggested that
3 we do this initially to Mr. Kowieski; Mr. Kowieski and
4 Mr. McIntire discussed it. Mr. Glass, our counsel, was
5 on vacation. Mr. Kowieski discussed this issue with Mr.
6 Perry of the Headquarters Office. Mr. Perry suggested Mr.
7 Kowieski contact Mr. Irwin.

8 That was done. Mr. Irwin said he saw no
9 problem. He would check with the LILCO people, and I think
10 Mr. Kowieski said within five minutes LILCO called back and
11 said fine, let's do it.

12 Then later, the day we did it, there was some
13 procedural issues, the way I look at it, I don't know what
14 they were exactly, Mr. Glass, Mr. Irwin, and Mr. Perry
15 discussed which delayed for about four or five hours,
16 maybe six hours, our going out there.

17 But I think that the LILCO people agreed for
18 us to come out and do a spot check almost immediately when
19 we made the first contact.

20 Q There was, however, an extensive amount of time
21 the day that you were to go out to look at these materials,
22 where you had to wait until you got clearance from LILCO
23 to go in and look at the documents.

24 MR GLASS: I object to the question. It is
25 just trying to characterize the amount of time. Mr. Keller

1 has stated exactly the number of hours.

2 MS. MONAGHAN: I also object as to the relevance
3 of this whole line of questioning.

4 JUDGE LAURENSEN: I am going to inquire. What
5 is this relevant to?

6 MR. MILLER: I think it is relevant to the entire
7 issue that is before the Board. It is relevant to the training
8 matters. It is relevant to the testimony regarding this
9 spot check. It is relevant to, as I will get to, the
10 documents that were reviewed by Mr. Keller.

11 End 12.
12 Sue fols.

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2 JUDGE LAURENSEN: The amount of time that they
3 had to wait before they went out to see these documents
4 is relevant?

5 MR. MILLER: The issue is not the time, Judge
6 Laurenson. The issue is that there was some --

7 JUDGE LAURENSEN: That's the question.

8 MR. MILLER: -- resistance by LILCO to the
9 request by FEMA to look at these materials.

10 JUDGE LAURENSEN: If you can establish that.
11 He has explained his understanding of it.

12 Now, to the extent there is an objection to
13 this question, it is sustained.

14 BY MR. MILLER: (Continuing)

15 Q Mr. Keller, you were the FEMA representative,
16 if you will, that conducted this spot check, correct?

17 A (Witness Keller) That's correct.

18 Q Mr. Glass was with you but he did not conduct
19 the audit. It was you that did so, correct?

20 A Now, as we discussed in the deposition, when we
21 were beginning to select people to spot check, the indivi-
22 duals that we would -- whose workbooks we would look at,
23 okay, the actual selection of the individuals was done by
24 Mr. Glass. Okay. I did not do that.

25 So, in that regard, yes, he did do the spot
check. He selected the ones we would look at.

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2 Q Well, let me just ask, Mr. Keller, this is my
3 impression from the deposition, that when you went into
4 the room where the training materials were located the
5 materials were on the table and as you sat down to review
6 the documents, Mr. Glass basically would just pick up some-
7 thing and hand it to you. You did the review, however?

8 A That's -- yeah, that's mostly correct. The
9 documents were kept in a separate room. Most of the material
10 that we reviewed were in file cabinets, closed file cabinets.
11 There were some logs and summary type information on the
12 table in binders, something like that.

13 What we did was, after looking at a few summary
14 logs and looking at the number, a computer printout of the
15 numbers of people according to the LILCO records that had
16 been trained, we began to check, spot check, a number of
17 workbook answers. I think you are aware at the conclusion
18 of each of these workbooks there is kind of a questionnaire/
19 answer session that the participant is asked to fill out.

20 These were kept on file in this records room. We
21 looked at the attendance logs for a given training session
22 and selected an individual, okay. That selection was done
23 by Mr. Glass.

24 We then went to the file cabinets, the individuals'
25 quation/answer part of the workbook was removed, and I re-
viewed that.

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1 Q Can you tell me, Mr. Keller, why did FEMA conduct
2 this spot check of LILCO's training materials?

3 A It was twofold primarily. We had been requested
4 by the NRC to prepare testimony on these issues, and the
5 Board had asked when we were here previously in July that we
6 do this.

7 Q The Board had asked that you conduct a spot
8 check?

9 A No, to prepare the testimony on the training
10 issues. No.

11 In our previous appearance, we had answered a
12 number of your questions, the County's questions, with the
13 statement that all we had been able to do at that time was
14 to review the plan. And in order to try to give a more
15 complete record so that the Board can make a judgment, we
16 felt that it would be advantageous to be able to make some
17 statements at least about the training materials and the
18 degree of training which had been accomplished.

19 We did not spend a great deal of time, but we
20 did think it would be worthwhile to do kind of a spot audit.
21 And this was my suggestion to Mr. Kowieski, which he then
22 took to Mr. McIntire and up the chain. We then asked LILCO
23 if we could come, and they said we could.

24 Q I take it, Mr. Keller, from your remarks that
25 certainly in the case of the training contentions FEMA did

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2 more than the plan review which has been done on a number,
3 in most all the other contentions in this proceeding?

4 A I think it would be reasonable to say that we
5 probably could have written most of our responses to these
6 training contentions without the spot check, most, maybe
7 ninety, ninety-five percent. But we would have been in the
8 position of having to say, no, we don't know for sure about
9 some of these things.

10 This was more than a plan review, that is
11 correct.

12 Q And, as you just said I think, in your opinion
13 it helped to make a more complete record before this
14 Board?

15 A I hope it did. I might add that one of the
16 things which is generally done in an exercise is that some
17 emergency response functions are evaluated almost in their
18 entirety. In other words, if there is one man in command
19 and control, we will evaluate one man in command and
20 control. So that would be a function which is evaluated in
21 its entirety.

22 Other functions where there might be a hundred
23 people involved in a complete plan, we would see only a
24 small sampling of. Okay. Quite often, in the FEMA-evaluated
25 exercises, we will look at training logs, rosters, to
evaluate the availability of people who are not going to be

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2 at the exercise and compare this number with the numbers
3 which are called for in the plan.

4 This is another case where we felt by doing this
5 spot check type of thing we could more completely -- have
6 a more complete record. Since there is not going to be an
7 exercise that we know of in the near future, we would not
8 be able to do this.

9 So, some of the kinds of things that we did in
10 the spot check would be things which would be done in
11 almost every plan but they would be done at a different
12 point in time. They would be done in an exercise.

13 Because of this hearing, we did them now.

14 Q I appreciate your comments, Mr. Keller. And I
15 just want to make sure I understand this. Is it fair to
16 say that because of this spot check that you did conduct on
17 LILCO's training materials, in your opinion, the record
18 that is being presented now on these training contentions
19 is more complete than the record that was, or has been,
20 presented by FEMA on other contentions before this Board?

21 MR. GLASS: I object to that question, Your
22 Honor. FEMA has stated what its normal procedure is. FEMA
23 is providing material to the Board as it becomes available.

24 We are not completing our full, as we stated
25 before, process that we would normally go through if we were
setting a timetable. Members of the panel have tried to

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2 accommodate the Board by taking some steps earlier in
3 time, and I don't see the relevancy of questions about
4 relationships of the record at this point.

5 That is a conclusion for the Board to draw.

6 JUDGE LAURENSEN: I think he has asked the
7 witness to compare the testimony in this training area
8 with that in other areas and to come to a conclusion.

9 I think this is proper cross-examination. The
10 objection is overruled.

11 WITNESS MC INTIRE: I think --

12 BY MR. MILLER: (Continuing)

13 Q I think -- I would like to have Mr. Keller
14 answer my question unless, Mr. Keller, you --

15 A (Witness Keller) No. I think that we were
16 able, at least in some degree, to be able to file testimony
17 that we were confident of and we were willing to stand
18 behind that has more information than we had in some of
19 the other contentions, because the other contentions, our
20 testimony was based solely on a plan review without any kind
21 of verification whatsoever. This is minimal verification,
22 to be sure, but indeed it is some verification.

23 Many of the other things that we have testified
24 to previously, we said we would verify at a later date.

25 (Witness McIntire) This is the next logical
step in the process. As we have testified, the RAC review

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2 reviewed the plan in its entirety, including parts relating
3 to training. Now that we are presenting testimony on
4 specific training contentions, we were then provided with
5 training material on which to base this testimony beyond the
6 plan review.

7 We've also had the opportunity to go out and do
8 a spot audit again to hopefully supplement and make our
9 training contention testimony more complete than previous
10 testimony. But this is the logical progression.

11 Q Mr. Keller, I really do not want to spend much
12 more time on this spot check issue, but I've handed out
13 what Judge Laurenson informed me will be Suffolk County
14 Exhibit 92.

(The document referred to is marked as
Suffolk County EP-92 for identification.)

15 It's two pages. At the top of the first page,
16 it says, Log of Documents Examined by FEMA During LERO
17 Training Record Audit, July 24, 1984.

18 Do you have that?

19 A (Witness Keller) Yes, I do.

20 Q You have seen this document before, haven't you,
21 Mr. Keller?

22 A I have seen a document which appears to be very --
23 appears to be identical but I haven't had a chance to check
24 it.

25 There was a letter from Mr. Donald Irwin to the
Board and counsel for all parties which had two pages attached

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1 to it which looks very similar. And I think it's probably
2 identical but I haven't had a chance to compare it.

3 Q Feel free to compare it. I will represent for
4 the record that these two pages were the attachment to Mr.
5 Irwin's letter of July 25 of this year to the Board,
6 entitled "FEMA Audit of LERO Training Records."

7 MR. GLASS: We will accept that representation.

8 BY MR. MILLER: (Continuing)

9 Q And with that given, Mr. Keller, you've seen
10 this document before, correct?

11 A That's correct.

12 Q And you were, in fact, asked about this document
13 at your deposition, correct?

14 A That's correct.

15 Q And is it a fair representation, Mr. Keller,
16 the documents you did review on July 24th?

17 A That's correct.

18 Q Mr. Keller, you mentioned that this was not a
19 long audit process. How long did you spend looking at
20 these documents, a couple of hours?

21 A I believe it was three and a half hours.

22 Q Looking at this attachment, Mr. Keller, because
23 some of them do not necessarily, at least in my mind, tell
24 you what you are looking at when you see this description,
25 I would like just to go through them and have you verify for

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2 me what exactly is described in what has been marked as
3 Suffolk County Exhibit 92.

4 The first category, these are the LERO workers,
5 summary for training sessions, 1 through 11, that was a
6 computer printout, correct?

7 A That's correct.

8 Q And the same is true for that second item, the
9 training status of workers as of July 23?

10 A That's my recollection, yes.

11 Q The drill schedules, the calendar form, which
12 is referenced in Item 3, that basically depicted all the
13 drills that according to LILCO have been conducted since
14 last October, correct?

15 A That is -- it was a calendar. On that calendar
16 there were drills scheduled.

17 Q That calendar that you saw did not indicate,
18 for example, the number of persons that participated in the
19 drills?

20 A That's my recollection. That's right.

21 Q It merely showed dates?

22 A That's correct. That drills had been scheduled
23 and were scheduled. Yeah, had been scheduled. Yes, sir.

24 Q Item 4, the training summary report, dated June 5,
25 that again was another computer printout, correct?

A That's my recollection, yes.

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2 Q Now, that computer printout, Mr. Keller, showed
3 the number of employees, LILCO employees, that were
4 scheduled by LILCO to complete training sessions, and it
5 also indicated the number of employees who have not, or had
6 not as of the time of your review, conducted or completed
7 such training sessions, correct?

8 A If I could -- I'm sorry. If you would restate
9 the first part of it, because I don't think that characteriz-
10 es the way I recall it. So, if you would restate it,
11 please?

12 Q My understanding is that Item 4 in this exhibit
13 indicates, or indicated, the number of LILCO persons that
14 are assigned to a training area, a function under the LILCO
15 plan, the total number of persons, and also indicates the
16 number of persons within that group who had, as of the time
17 of your review on July 24th, completed that training.

18 A I think that's fair. I think in your initial
19 characterization you had said schedule.

20 What I recall of this listing, it was a listing,
21 a tabulation, a computer summary, of the people who had
22 been fully trained and those people who needed additional
23 training, and I think we ought to clarify this.

24 In the LILCO plan, all emergency workers take a
25 certain, as we call it, core of modules. And then depend-
ing on their specific function that they are assigned, they

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take additional modules. That's correct.

2 Q You are using modules to describe generally
3 the classroom sessions that are provided by LILCO for the
4 LERO trainees, correct?

5 A The module, as I use it, is the same as is used
6 in the plan. Now, it is primarily classroom sessions;
7 however, some of those classroom sessions have hands-on
8 practical experience with instrumentation, for example.

9 So, in that regard, it's not strictly classroom,
10 but there is a tabulation within the plan which says which
11 emergency workers will take, or will be given, instruction
12 in which modules.

13 And I use the term module in the same way the
14 plan uses it.

15 Q Mr. Keller, I've got a tabulation of some numbers
16 from that Item 4 on this Exhibit 92. I'm not sure if you
17 tabulated the numbers, but let me tell you my numbers and
18 see if they sound correct to you.

19 My numbers would indicate that in the area of
20 bus training, approximately a hundred and fifty-two persons
21 out of a total of five hundred and fifty-four persons had
22 not completed their bus training as of the date of the
23 report, June 5, 1984.

24 MR. GLASS: To clarify for the rest of us, when
25 you say bus training, are you talking about bus drivers,

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are you talking about people at dispatching points?

2 MR. MILLER: Bus drivers.

3 MR. GLASS: Thank you.

4 WITNESS KELLER: Would you repeat your numbers
5 again?

6 BY MR. MILLER: (Continuing)

7 Q My numbers are roughly a hundred and fifty out
8 of five hundred and fifty had not completed the bus
9 training.

10 A I disagree.

11 Q What are your numbers?

12 A Okay. At the time that we were at the LILCO
13 office, and I took notes on this summary sheet that we had
14 and I think that I made my notes accurately, since one of
15 the LILCO people were there and looking over my shoulder
16 to kind of point out if I made a mistake --

17 Q We didn't have that advantage, Mr. Keller.

18 A I think that my records seem to indicate that
19 there were five hundred and twenty-two fully trained bus
20 drivers. There were twenty-seven bus drivers who had not
21 received all of the training.

22 In addition -- and this may be where we are get-
23 ting close to the number that you had, the five hundred and
24 twenty-two that I was talking about were fully trained vis-a-
25 vis the modules in the plan that's discussed in Section 5 of

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2 the plan, and there were twenty-seven more who needed to
3 take more modules. Okay.

4 At the time we were there, we were told -- and I
5 think it was on the computer printout also -- that four
6 hundred and one of the bus drivers had received a license
7 to operate a bus.

8 end #13
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Q Okay.

A So that the training of the busdrivers specifically, is kind of two part. There is the part which was discussed in the plan, and there is the part that they had a license to drive a bus.

Now our review was only involved with the plan part of it. But I did write down a note, that according to the records I saw, there were 401 operators licensed to operate a bus.

Q So if you call that second part the bus road test part the licensing part, then it is true that roughly 150 of the 550 still had some training to go.

A That is correct, but that is certainly not training that FEMA is ever going to evaluate.

FEMA is not in a position to authorize operator licenses for bus drivers in the State of New York.

Q I understand. But you would want to know -- I take it FEMA would want to know if LILCO's bus drivers were duly licensed by the State of New York?

A I would think that the companies which have agreed to allow LILCO to use their buses for a fee, under an arrangement, would be much more concerned that those bus drivers are licensed to operate those buses.

I can't recall ever going to an exercise -- and I have been to a number -- where I have asked the driver

mm2

1 of a bus to see his license. And I doubt if I ever would.

2 Q Mr. Keller, in terms of LERO trainees -- and
3 again on this Item 4, Exhibit 92, my numbers indicate that
4 approximately 400 of 1700 LERO persons had not, as of June 5,
5 completed their orientation training.

6 A To be very frank, I have not tabulated the
7 numbers in that vein.

8 What I did was to take -- since we had agreed
9 not to remove anything from the office when we did this spot
10 audit, I had taken copies of Figure 2.1.1 of the plan,
11 which is the LILCO response organization chart, and I
12 made notes on those in each box associated with each job
13 function for the number who were fully trained and the number
14 who still had training -- needed to be fully trained.
15 I never did add up how many were not.

16 But, the number that you gave sounds reasonable.
17 I think there was a total number on the form that said
18 something of that nature, and I think it is a reasonable
19 number.

20 Q Your method, Mr. Keller, of looking at the
21 figures -- can you tell me for example, without doing
22 calculation, the number of traffic guides who had yet to
23 complete their training?

24 A You want traffic guide, or lead traffic guide?

25 Q Traffic guides.

mm3

1 A It will take me a moment to try to find it on
2 the chart, but I have it here. I think I have it.

3 (Pause)

4 A Okay, traffic guides. I have -- my numbers
5 indicate that 259 had been fully trained, and 3 still had
6 one or more modules of training required.

7 Q 3?

8 A That's my number, yes, sir.

9 Q That's the one area I guess we have different
10 numbers. My numbers were that 358 out of 527 had not
11 completed their training.

12 A All I have is the notes that I took that evening.
13 As I say, there was someone looking over my shoulder. I
14 think I transcribed these notes correctly. I may have
15 made a mistake. I have a difficulty in that the number of
16 traffic guides which are required by the plan, there are
17 75 at Port Jefferson, 51 at Riverhead and 67 at Patchogue.

18 That is about 180 required. Even with the 150
19 percent training capacity, the number that you came up with
20 seems to be a lot higher than that. And my numbers seem
21 to be more in line with the numbers required.

22 I don't know.

23 Q Let me ask you, Mr. Keller --

24 MS. MONAGHAN: Judge Laurenson, perhaps we could
25 move this along if I could clarify for Mr. Miller that what

mm4

1 he and Mr. Keller are apparently talking about are two
2 different documents.

3 LILCO keeps its training records in a number
4 of ways that I think both Mr. Miller and Mr. Keller recognize.
5 I believe the numbers that Mr. Keller is talking about are
6 the numbers that are pulled from the LERO worker summary
7 for training sessions -- I'm sorry, 1 through 11. I think
8 that is what Mr. Keller is talking about

9 That particular document breaks down by LERO
10 worker category, precisely the number of workers who are
11 to complete training sessions, and those who have missed
12 one session or more. So it gives you figures based on the
13 job category.

14 The particular document that Mr. Miller is
15 discussing with Mr. Keller right now which is listed as
16 No. 4 on the log of documents and is entitled "LERO
17 Training Session Summary Report," breaks down by the
18 individual what we term as sessions, which can combine one
19 or more modules of the training program, precisely the
20 number of people who are scheduled to take that session, and
21 the number of people who have completed that session.

22 So, for example, if you are looking at Session 1,
23 which combines more than one module and combines some of
24 the early modules which have been referred to as the generic
25 module, virtually every one in the LERO training program

1 would have been scheduled to take that module.

2 JUDGE LAURENSEN: Does that clarify everything?

3 (Laughter)

4 MR. MILLER: I have been talking about Item 4
5 on Exhibit 92, and I think Mr. Keller has been also.

6 WITNESS KELLER: No. As it turns out, to be
7 perfectly frank, I did not write down on my notes what
8 these various things were.

9 Ms. Monaghan says that the computer run that I
10 got my numbers off of is more -- or is accurately portrayed
11 as Item 1 on this log, then that is what I was talking about.
12 And I looked at -- I remember looking at a log which is
13 characterized by Ms. Monaghan as the one that is Number 4.
14 But the numbers that I have we were just discussing came
15 off of, apparently, Number 1. It is characterized as
16 Number 1.

17 BY MR. MILLER:

18 Q All the numbers you took down, Mr. Keller, came
19 from Item 1 on Exhibit 92?

20 A (Witness Keller) Apparently.

21 MR. GLASS: I wonder if there is a more
22 expeditious way we could run through this as to the numbers.
23 The particular charts that Mr. Keller is referring to were
24 provided to all the Parties at the deposition. If there is
25 some way that we can expedite this so that he is not doing

mm6

1 the addition right now; if you want us over the break, or
2 if you want to come back with it tomorrow; just simply move
3 a little faster on these items.

4 MR. MILLER: Judge Laurenson, I am ready to
5 move on to the next item. The information I am talking to
6 Mr. Keller about to my knowledge was not provided at the
7 deposition.

8 MR. KELLER: That would be correct, because I
9 made no notes on -- let's assume that what Ms. Monaghan
10 just said is a correct interpretation, and I have no reason
11 to believe it is not, I made no notes off the log that you
12 are talking about.

13 MR. MILLER: Fine.

14 Why don't we go on to Item 8 of Exhibit 92,
15 Mr. Keller.

16 BY MR. MILLER:

17 Q Mr. Keller, LILCO relies on more ambulance
18 companies than the four you list -- than the four listed
19 in Item 8 of Exhibit 92, correct?

20 A (Witness Keller) That's my understanding, yes.

21 Q Those were four that were simply randomly
22 selected for your review?

23 A No. It is my understanding that the training for
24 four of the eleven ambulance companies has been completed.

25 Q So you purposely selected the four companies

mm7

1 for which the training has been completed?

2 A Yes. If the training hasn't been completed, on
3 the face of it it says they have to do more, I wasn't
4 concerned with what more had to be done. I looked at what
5 had been completed.

6 Q Item 9, Mr. Keller, I think this was clarified
7 at the deposition. The obsolete map of the bus transfer
8 points, is it fair to say that that item is listed on here
9 simply because you wanted to see a map and there was a
10 large map available, and you looked at it. And, although
11 it was obsolete you looked at it simply because you did
12 see it on July 24th?

13 A A characterization. I didn't make this list,
14 Mr. Irwin made this list.

15 But with that stipulation, I think that is a
16 fair characterization. That's right.

17 Q Item 10, Mr. Keller, these are the workbook
18 exercise for, I think 12 randomly selected LERO workers,
19 correct?

20 A Yes, sir, that's correct. Yes.

21 Q And from your review of these workbook exercises,
22 it is fair to say that the exercises themselves were not
23 graded in any way by the instructors, correct?

24 A As we said at the deposition, there was some
25 indication that some of the workbook exercises had been

1 marked by a second individual. But there were no grades
2 insofar as A, B, C, pass, fail, 80, 90, that I saw.

3 Q Were all the answers completed?

4 A Not always, no.

5 Q Did you notice some answers on these workbook
6 exercises that were obviously wrong?

7 A Yes.

8 Q Did you realize, Mr. Keller, that the workbook
9 exercises such as those you reviewed are open-book exercises
10 to the LERO workers?

11 A It was not clear to me whether they were open
12 book or closed book. I have no knowledge of how the
13 instructor instructed the trainee to fill it out.

14 Q Would it surprise you if I told you they were
15 open-book exercises?

16 A No.

17 Q Item 11, Mr. Keller, on Exhibit 92, that again
18 was a computer printout, correct?

19 A Well, each of these was a computer printout, yes.

20 Q And is it fair to say that these printouts in
21 Item 11 generally show the number of trainees scheduled to
22 attend a classroom session, and the number of no-shows for
23 a session?

24 A You could characterize it as that. These are
25 computer generated attendance logs. And when a trainee

1 or whatever, attended the session, he was required to sign
2 a log. If he didn't sign the log, he was supposed to
3 be absent, in which case Mr. Glass then went to assure that
4 that individual had taken one of the makeup sessions. -- a
5 similar -- exactly the same session at a later date.

6 Q It is true, isn't it Mr. Keller, from your
7 review of these computer printouts for these classroom
8 sign-in sheets, that in a number of cases the absenteeism
9 rate was as much as 50 percent?

10 MS. MONAGHAN: Objection as to the relevance.

11 JUDGE LAURENSEN: Overruled.

12 WITNESS KELLER: I did not make any numeric
13 estimation. I would say that there were a few. Certainly
14 not the majority of the ones that we looked at, where there
15 were people who did not -- who had originally been scheduled
16 to attend, did not attend that session.

17 I don't recall any -- I may be wrong -- but my
18 recollection is there were none at which 50 percent of the
19 people who were assigned to a session did not show up. That
20 is my recollection.

21 But again, to be frank, Mr. Glass spent more
22 time with these sign-in sheets than I did.

23 Q And you didn't take down numbers on this item,
24 Mr. Keller, then?

25 A I did not, no. The only reason we used these

1 sign-in sheets was to see -- the computer printout said
2 there was somebody who was fully trained. Let's say it
3 is a bus driver, to use your example. We then went further
4 and said, Okay, we want to look at this man's workbook,
5 the bus driver's workbook. He was scheduled to take the
6 Overview, let's say, Module 1 exercise on a certain date.

7 We went to that date, found his workbook section
8 in the file, and I looked at that section.

9 He was scheduled for Module 2 on another date,
10 let's say. We went to that date in the file, found his work-
11 book section, we looked at that.

12 He was scheduled for, let's say, Module 7 -- I
13 don't know, I am picking numbers -- he didn't show up for
14 that one. He was absent. We then verified which one of
15 the makeup sessions he attended, went to the file, got the
16 workbook for that makeup session. I reviewed his workbook
17 exercise section, and we went all the way through that until
18 we had reviewed all the workbook sections for all of the
19 people that were listed in Item 10.

20 (Witnesses conferring)

21 In no case did we find any examples of an
22 individual who had been scheduled for a session who had
23 missed that session, who had not made it up at a later date.

24 Q How long after the original session?

25 A Didn't look.

mml1

1 Q It is not relevant in your opinion?

2 A That's right.

3 Q Mr. Keller, you have told me that you did not, at
4 any time, see any drill or exercise result, critique,
5 evaluations during your review, correct?

6 A Not so. Item 6.

7 Q Item 6. Okay.

8 Quickly, Item 6 was this one drill participant
9 form --

10 A Which I interpret to be a participant critique,
11 yes.

12 Q And Item 6 -- I think you noted at your deposition
13 in fact that it is your understanding that there had been
14 drill participant comments by bus drivers to the effect that
15 they thought they should be given better maps, and that you
16 understand that apparently LILCO has provided better maps.

17 A That is correct.

18 Q And did you gather all that, Mr. Keller, from
19 this drill participant form, this Item 6 to Exhibit 92?

20 A The first-- that particular form which is for
21 one of the early drills, fall of '83, was for a bus driver.
22 My recollection is that it had the times that were
23 required, the time he left a certain point until the time
24 he got to another point to indicate that he had indeed
25 driven the bus route.

mml2

1 There was no indication that he had driven a bus
2 over the bus route, but he had indeed driven the bus route.

3 His comment was -- the substance of his comment
4 was that they needed better maps of the bus routes. I
5 gathered from that that he had been given a map and as part
6 of the plan, that is one of the things they are supposed to
7 get, a map. And I interpret this to mean that that individual
8 thought the map he had been given was not satisfactory.

9 I asked if there were similar comments for
10 later bus route drills, and I was told that new maps and
11 better maps had been supplied, and that there were no comments
12 of this nature for later drills.

13 Q That's the part I want to know about, Mr. Keller.

14 Who is it that told you there had been no comments
15 by any drill participants in later drills from this drill,
16 in the fall of 1983 regarding the need or request by bus
17 drivers for better maps?

18 A I believe it was Mr. Daverio, but I wouldn't
19 swear to that. That is my belief.

20 But I want to be very clear it was this very
21 specific -- not that there were no comments from bus drivers
22 from subsequent drills. That my understanding was that
23 there had been no further comments with regard to their
24 need for better maps. Only that very small aspect.

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mml3 1

Q Comments by bus drivers?

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A Comments by bus drivers, yes, that's right.

end T14 3

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1 Q Mr. Keller, this form that you looked at, I
2 think as you just stated, it did ask the bus driver to put
3 down the time it took to get from the staging area to the
4 bus company, and the time from the bus companies to the
5 transfer point, correct?

6 A (Witness Keller) That is correct.

7 Q But it did not ask anything about the route
8 that was supposed to be driven by the bus driver, isn't that
9 correct?

10 A The route running time is what you are asking?

11 Q Anything about the route. Was there any question
12 on that participant form regarding the bus route to be
13 driven?

14 A I do not recall any, no.

15 Q Mr. Keller, is it fair to say that the purpose
16 of the spot check you conducted was to determine basically
17 whether LILCO's paperwork is in order?

18 A That was certainly part of it, yes.

19 Q And what is the other part of it?

20 A To get a feel for me, as one of the panel members,
21 that indeed they did have records that indicated they had
22 done what the plan said they were going to do.

23 That these records were in a usable form. That
24 they were able to ascertain whether they needed to train
25 replacement people once the initial training had been

1 completed, so that we could make a more intelligent response
2 to some of the contentions.

3 Q Let me ask you, Mr. Keller, back on this point
4 of drill exercise critiques and evaluations. You have seen
5 such critiques and evaluations before, I take it?

6 A I have been involved in preparing critiques as
7 Federally evaluated exercises, yes.

8 Q Do you think that such critiques and evaluations
9 regarding training drills and exercises should be retained?
10 Should the documentation be retained?

11 MS. MONAGHAN: Objection, relevance. Outside
12 the scope of the contentions.

13 MR. MILLER: It is inside the scope of the
14 testimony, Judge Laurenson. We are talking about LILCO's
15 training materials.

16 JUDGE LAURENSEN: It seems to me we have heard
17 testimony from other witnesses concerning the length of time
18 to keep critique forms. Now, I can't recall specifically
19 which ones we were talking about.

20 MS. MONAGHAN: Judge Laurenson, I believe it is
21 my recollection that when there were questions asked by
22 Suffolk County with respect to LILCO's document retention
23 policy on the critique form, and what would be an appropriate
24 policy, that you sustained an objection on those grounds.

25 MR. MILLER: I don't remember it that way at all.

1 MS. MONAGHAN: I believe there was some testimony
2 with respect to which of the critique forms had been retained
3 by LILCO.

4 JUDGE LAURENSEN: Just a moment.

5 (Board confers)

6 JUDGE LAURENSEN: The best that the cumulative
7 memory of the Board is, is that this came up before, but
8 we don't recall what the precise ruling was, but since on
9 its face this does not appear to us to lead to relevant
10 evidence, we will sustain the objection unless the County
11 can show us that we ruled otherwise on it the last time it
12 came up.

13 MR. MILLER: It is a fairly difficult burden
14 to bear, Judge Laurenson.

15 JUDGE LAURENSEN: Let me just clarify the reason
16 for the ruling. It is that the amount of time that LILCO
17 would be required to retain documents, critiques or whatever,
18 in our view, is not relevant to any of the Contentions that
19 we have admitted here, and that is the basis for the ruling
20 that we have just made.

21 BY MR. MILLER: (Continuing)

22 Q Mr. Kowieski, I maybe asked you this earlier,
23 and I apologize if I did. Did any member of the RAC other
24 than members of this panel, that may be members of the RAC,
25 review any training materials regarding the LILCO Plan other

1 than the plan and the procedures themselves?

2 A (Witness Kowieski) No.

3 Q Look at page 102 of your testimony, gentlemen.
4 Contention 39 has two sub-parts, A and B, and they both
5 deal generally with the issue of attrition, isn't that
6 correct?

7 A (Witness Keller) That is correct. Yes.

8 Q And Mr. Keller, Contention 39.A involves specifically
9 attrition among LILCO's personnel, correct?

10 A That is correct.

11 Q Now, your answer to Question 122 says that the
12 plan states that in addition to the on-going regularly
13 scheduled training, special accelerated training will be
14 initiated to maintain staffing of key positions, do you see
15 that?

16 A Yes.

17 Q Do you know what positions are considered, 'key
18 positions,' under the LILCO plan?

19 A Not specifically, no.

20 Q Do you know --

21 A (Witness Baldwin) The key positions as I
22 understand are those key -- well, the top, I believe it is
23 -- give me that organizational chart. The seven. The
24 Director of Local Response, Manager of Local Response, Health
25 Services Coordinator, Evacuation Coordinator, Lead Communicator,

1 The Support Services Coordinator, and the Coordinator of
2 Public Information.

3 Q So, Mr. Baldwin, it would be your understanding
4 that it would be those seven persons in LERO who would be given
5 special accelerated training if the need arose because of
6 attrition?

7 A That is my understanding of the statement that
8 is in the plan.

9 Q Do you know, Mr. Baldwin, can you define for me
10 what this speciald accelerated training amounts to in terms
11 of how quickly it would be given?

12 A (Witness Keller) I don't think we have any
13 specific information on the time table this accelerated
14 training would be given, but I think this refers to a provision
15 in the plan. As we tried to state earlier, there is as we call
16 it a core of modules that all emergency workers are required
17 to take, and then depending on their specific job function
18 they are assigned other modules.

19 The seven individuals that Mr. Baldwin just
20 enumerated take a large number of the modules. Since these
21 are typically the coordinators and the upper level management,
22 they take more modules than, for example, someone who is going
23 to do monitoring at a reception center.

24 So that the plan which provides for the periodic
25 offering of these various modules on a semi-annual basis, you

1 only get them once every six months.

2 Since these people have to take many more modules,
3 my interpretation was they would condense this schedule to
4 some degree.

5 We have no specific information on how long it
6 would take to give them, though.

7 Q Do you know, Mr. Keller, how long it takes typically
8 under the LILCO plan to fully train a LERO worker? What
9 time frame are we talking about?

10 A Are you referring to the number of classroom hours
11 involved, or calendar time over which this training would
12 be spread?

13 Q Calendar time.

14 A At least six months.

15 Q And could be longer?

16 A Possibly, yes. I would also think it could be
17 shorter, too, but on the average it is going to be spread over
18 a fairly extended period of time.

19 Q In that second paragraph to Answer 122, Mr.
20 Keller, you talk about the concept of overstaffing. Is it
21 your testimony that overstaffing ensures that adequate response
22 personnel will necessarily be available under the LILCO plan?

23 A This is one way to assure that you have sufficient
24 personnel to perform a particular role. The concept of the
25 plan is for two twelve hour shifts, so that you need two

1 individuals trained to fulfill any one function.

2 Now, people are sick. They are out of town.
3 They are on vacation. They are unavailable. They leave.
4 The attrition issue.

5 If you have an oversupply in addition to these
6 two individuals for any one job function, you have provided
7 for the contingency that -- the attrition issue, or they
8 are sick, they are on vacation, they are on leave, so
9 in that regard, yes, it is our testimony that this is one of
10 the ways that you assure that you would have adequate people
11 to respond.

12 Q Let me try my question again, because I think
13 we are in agreement, but I want to make sure. I want to know
14 if it is your testimony that overstaffing necessarily ensures
15 adequate response personnel would be available, or is your
16 testimony essentially commentary regarding the concept of
17 overstaffing as a mechanism to help ensure the availability
18 of personnel?

19 A I thought we were discussing here the issue of
20 training, and I interpreted, if I heard your last question
21 correctly, to be a question that was not involved with
22 training, but to be involved with the assurance that people would
23 be available. And I am not sure that -- what we are testifying
24 here is that they have trained enough people to handle the job
25 functions, and that doesn't necessarily say anything about whether

1 they would be available to do the job or not.

2 Q I am only asking, Mr. Keller -- I am looking
3 at that first sentence of the second paragraph, to Answer 122.
4 The LILCO training program utilizes the concept of over-
5 staffing to ensure the availability of adequate numbers of
6 response personnel.

7 And my question is: Are you saying that the
8 concept of overstaffing necessarily provides assurance of
9 adequate response personnel, or is it simply a mechanism
10 which can help provide such assurance?

11 MS. MONAGHAN: Asked and answered.

12 MR. MILLER: It hasn't been answered.

13 JUDGE LAURENSEN: Overruled.

14 WITNESS KELLER: The answer to your question is,
15 yes.

16 BY MR. MILLER: (Continuing)

17 Q It can't be yes, Mr. Keller. My question wasn't
18 a yes or no question.

19 A I think you said is it my testimony that -- et
20 cetera, et cetera, et cetera, and the answer is yes.

21 Q I gave you two options, so I have to know one
22 or the other.

23 A Would you restate your question. I am sorry.

24 Q Let me try it again. Are you saying in that
25 sentence of your testimony, that the concept of overstaffing

1 necessarily ensures the availability of response personnel,
2 or are you saying that the concept of overstaffing is a
3 mechanism which in your opinion, helps provide assurance
4 that you would have available personnel?

5 A If I didn't lose you, or you didn't lose me,
6 I think the former.

7 Q You are saying that overstaffing by definition
8 ensures the availability of response personnel?

9 A (Witness McIntire) Of trained response
10 personnel.

11 A (Witness Keller) I think maybe -- we have
12 tried to answer this in light of the contention, and I think
13 the contention -- or my understanding of the contention, is
14 how do you know that since we recognize there is attrition,
15 how do you know you are going to have enough people available,
16 considering the fact that there is going to be attrition.

17 Within that context, that if you train extra
18 people, you overstaff. That you have assurance that you
19 will have trained people available to fulfill a specific
20 function.

21 A (Witness McIntire) This answer did not go to
22 the availability because of other means other than, you know,
23 as discussed before, we are discussing strictly the
24 availability of trained staff.

25 Q I understand. But Mr. Keller, I have to take your

1 answer to mean that under no circumstance can you imagine
2 not having an available number of personnel; adequate number
3 of available personnel, because you have adopted a concept
4 of overstaffing?

5 MR. GLASS: I think the witness has been asked
6 and answered the question, and now we are getting into under
7 no circumstances whatsoever that you can imagine -- I don't
8 know what advantage that gives the Board.

9 JUDGE LAURENSEN: I think you also are getting
10 away from the question of training, and it is not clear to
11 me whether you are still relating all of these questions back
12 to training.

13 But to the last question, the word, 'training'
14 was omitted in the last question. I don't know whether that
15 was intentional or not, but it seems to me we are leading
16 to a confused state of the record.

17 BY MR. MILLER: (Continuing)

18 Q Let me try again, Mr. Keller. Do you know the
19 attrition rate which has generally been experienced by
20 LILCO?

21 A (Witness Keller) I do not.

22 Q Do you think that you would have to know the
23 attrition rate in order to make a judgment concerning whether
24 the concept of overstaffing provides assurance that you will
25 have adequate trained personnel available?

1 A Are you referring to the overall attrition rate
2 of LILCO, or are you referring to the attrition rate of the
3 LILCO employees who have been assigned a function in LERO?

4 Q Well, let's focus on the attrition rate in
5 LERO. Wouldn't you have to know that to decide or determine
6 whether or not overstaffing provides assurance that you are
7 going to have -- necessarily have an adequate number of
8 trained response personnel available to you?

9 A (Witness McIntire) I think it would be the ideal
10 situation to look at it in a more specific term; look at
11 it on a function by function basis rather than an overall
12 basis, because there could be cases where there could be
13 deficiencies in specific functions, but if you look at the
14 aggregate total, it would seem to indicate that there would
15 be more than enough trained people.

16 Q And I gather, Mr. McIntire, you say that because
17 as your testimony states, LILCO has committed to overstaffing
18 by approximately fifty percent, and you would not think
19 LILCO would experience an attrition rate of greater than
20 fifty percent? Is that what you are saying?

21 A No. We are not testifying to the LILCO attrition
22 rate. We do not know that. We are only testifying to what
23 the overstaffing rate is.

24 A (Witness Keller) Maybe to add, hopefully, there
25 are certain job functions which are staffed in the plan on

1 the assumption that the whole ten mile EPZ, or at least the
2 land area of the ten mile EPZ, would have to be accommodated
3 all at once.

4 While this is a possibility, it is further
5 down the probability scale than an accident where you
6 would have to take protective actions for a portion of
7 the EPZ at any given time.

8 So, the staffing which is redundant in the
9 three staging areas, if there were a deficiency in one
10 of those areas, a temporary deficiency or whatever, that
11 may not be as serious since the likelihood of having to
12 deploy all of your emergency response personnel is very,
13 very remote, that kind of a deficiency might not be as
14 serious as having a deficiency, for example, in the
15 recovery manager. I am sorry, the Director of Local
16 Response.

17 Every time you have an emergency, you need the
18 Director of Local Response. You may not need -- in fact,
19 it is highly likely -- that you will not need all the bus
20 drivers in every emergency, all at the same time.

End 15.21
Sue fols.

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2 So that the degree of redundancy, the amount of
overstaffing, is somewhat of a judgmental.

3 (Witness McIntire) Also, we've testified that
4 the plan is based on two 12-hour shifts. There is in
5 unique circumstances nothing to prevent an emergency worker
6 from working more than a twelve hour shift if the need arose.

7 (Witness Kowieski) I would like to add what
8 was already said by Mr. Keller and McIntire. I think it's
9 my opinion it is irrelevant. This is -- if attrition rate
10 is fifty percent or thirty percent or ten percent.

11 What's important that LILCO plan specifies that
12 at least fifty percent at any given time, fifty percent, of
13 emergency workers will be trained in addition what's re-
14 quired by plan. So if plan calls for thousand, fifteen
15 hundred will be trained at any given time. And new people,
16 the people that are going to leave the company, immediately
17 new people that will join the company or within company will
18 be trained to maintain the fifty percent excess.

19 Q This is to everyone on the panel. Are you
20 familiar with the austerity program which has been declared
21 by LILCO?

22 MS. MONAGHAN: Objection. Relevance.

23 MR. MILLER: Judge Laurenson, it's obviously
24 relevant, because we are going to go into the issue of the
25 layoffs, which goes to the issue of attrition which is what

#16-2-SueT1

2 we are talking about. And we've talked about it before in
3 the very context of Contention 39.A.

4 JUDGE LAURENSEN: I think it has to be specific
5 though to demonstrate that there are not a sufficient
6 number of trained people, but just a general question about
7 the austerity program is not relevant I don't think.

8 Sustained.

9 BY MR. MILLER: (Continuing)

10 Q Are any of you gentlemen familiar with the fact
11 that there have been a number of layoffs at LILCO during
12 the last half year?

13 A (Witness McIntire) I am generally aware of it
14 through accounts in the newspaper and other forms of news.

15 Q Now --

16 A (Witness Baldwin) Yes, I'm aware of it, too,
17 also through the same vehicle.

18 Q Given a number of layoffs, Mr. Kowieski, going
19 back to your comment, what assurance is there to you, to
20 FEMA, that LILCO could and can indeed maintain approximately
21 a fifty percent excess staff?

22 A (Witness Kowieski) Well, first of all, let me
23 just clarify one point if I may. I refer, when I made my
24 comment, I mentioned plan. I should have said that train-
25 ing records indicate that fifty percent, there is a fifty
percent of excess of training people. To answer, we don't

#16-3-SueT

have any evidence to support your contention.

2 (Witness McIntire) Let me comment on that this
3 way. It's my understanding that the austerity program was
4 implemented several months ago and that the austerity program
5 has come to an end, and that the staffing level of the LILCO
6 and the LERO organization are basically the same.

7 Meanwhile, subsequent to the time of the com-
8 pletion of the austerity program Mr. Keller went out and
9 made a spot audit where he did then fill in some numbers
10 which, in most cases, gives me anyway an assurance that
11 there are adequate numbers of personnel. And with no talk of
12 further austerity programs, it would seem a logical assumption,
13 at least on my part, that I could feel comfortable that
14 levels of staffing in the fifty percent level in excess
15 could be maintained.

16 Q And to your knowledge, Mr. McIntire, are maintained
17 today?

18 A It is my understanding that there is in existence
19 a procedure within the plan that people that do leave the
20 LERO organization will be replaced over time.

21 Q But my question is, to your knowledge, does
22 adequate staffing within LERO exist today?

23 A Based on -- looking at Mr. Keller's numbers and
24 not doing any analysis, I would certainly say it seems a
25 general conclusion I could draw now. I think Mr. Keller

#16-4-SueT1

could comment on it in more detail.

2 Q Well, following up, Mr. McIntire, with you
3 and your knowledge of LILCO and Shoreham through the news-
4 paper such as the austerity program, have you read anything
5 about the LILCO strikes?

6 A Yes.

7 Q Did you read anything about the fact that members
8 of LERO resigned because of the strike?

9 MS. MONAGHAN: Objection. I think the Board
10 has limited the strike contentions to something that does
11 not include that issue, and it's not relevant to what we
12 are discussing here.

13 JUDGE LAURENSEN: I think we are beyond the
14 scope of the training testimony, and you are into the
15 strike -- the strike area is something we have set aside for
16 the week of August 23th, and I don't know that FEMA is
17 involved in that aspect of the case.

18 MR. MILLER: Excuse me. My only point with Mr.
19 McIntire, I wanted to ask in terms of this issue of this
20 excess staffing. My point is that there are circumstances
21 that can make the retention of this excess staffing of fifty
22 percent, as claimed by LILCO, impossible.

23 And I think these witnesses have knowledge to that
24 effect. Part of that knowledge would include such things
25 as a strike. And the witnesses are here; they will not be

#16-5-SueT

1 here the weeks of August 28th. I think I should be allowed
2 to ask the question.

3 MR. GLASS: This is reaching the area of argumen-
4 tation that maybe is better left for his proposed findings
5 of facts and conclusions of law.

6 MR. MILLER: How am I going to make a finding
7 of fact on something that I'm saying? It has got to be in
8 the record through the witness.

9 MR. GLASS: It's calling for speculation on the
10 part of the witness.

11 JUDGE LAURENSEN: There are a lot of things
12 that can cause the reduction in the amount of trained
13 workers. And whether it's a strike or whether it's an
14 austerity program, or whatever label you want to attach to
15 it, I think the substance of what you should be going into
16 to prove the County's contention here is what the provisions
17 are to provide for enough trained LERO employees rather than
18 the causes of these people being unavailable for their
19 duties.

20 The objection is sustained.

21 MR. MILLER: Judge Laurenson, this might be a
22 good time for the first afternoon break.

23 JUDGE LAURENSEN: All right. Since we are going
24 to be in session until six o'clock today, we will follow
25 our usual practice of taking two ten-minute recesses in the

#16-6-SueT 1

afternoon. Only one of which will be taken right now.

2

(Whereupon, the hearing is recessed at 3:33 p.m.,

3

to reconvene at 3:45 p.m., this same day.)

4

JUDGE LAURENSEN: Mr. Miller.

5

BY MR. MILLER: (Continuing)

6

Q Gentlemen, on Page 102 again on Contention 39.A,

7

you refer to a tracking system whereby the numbers of fully

8

trained individuals for each job function is maintained.

9

Do you see that?

10

A (Witness Keller) Yes.

11

Q And how were you made aware of this tracking

12

system?

13

A I believe this was the computer list which I

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believe has been identified as Item Number 1 on Suffolk

15

County Exhibit 92.

16

Q So, it's something not stated in the LILO plan

17

but you noticed this during your spot check?

18

A That's correct.

19

Q Mr. Keller, is it fair to say that this tracking

20

system is limited just for those individuals within LERO

21

who are fully trained?

22

A No. I think I said that it gave an indication of

23

those individuals which had not received the full compliment

24

of training. I think the plan also says on Page 5.1-8 that

25

records will be maintained by LILCO Customer Relations

#16-7-SueT1

2 reflecting the type of training, given the number of
3 personnel that attended the course, the copies and the
4 results of the workbook reviews.

5 Q Are you saying then, Mr. Keller, that this
6 tracking system, to your knowledge, tracks all LERO
7 members?

8 A It's my understanding that the -- those
9 individuals which have been given and assigned an emergency
10 response function that would require training can be
11 identified. The numbers of people who have been trained
12 for a specific function, can be identified. The numbers of
13 people who have been completely trained can be identified.
14 The numbers of people who need additional training to be
15 fully qualified can be identified.

16 Q Do you believe, Mr. Keller, that LILCO employees
17 who are assigned to LERO should be trained before they are
18 assigned to LERO and given their emergency response duty or
19 function?

20 A My personal belief is that they almost have to be
21 assigned a job function before they can be adequately
22 trained. By the way that the design of the training is,
23 it's my understanding that there are certain modules which
24 are given to all emergency workers; there are other modules
25 which are given to emergency workers depending on their
specific job assignment. And until he or she has received

#16-8-SueT

2 a specific job assignment there is no way that LILCO can
follow their own plan and give these people the training.

3 Q Do you believe that LILCO should rely upon
4 individuals who have been assigned job functions in LERO
5 before those individuals have been fully trained?

6 A (Witness McIntire) Could you define for us
7 please what you mean "rely upon?" The point I'm getting
8 is that Shoreham is not an operating plant. So, LERO would
9 not be in a response mode at this present time. So,
10 therefore, in my way of thinking, the training function
11 would be the logical thing to be carried out now.

12 If I'm mischaracterizing your point or something,
13 I would appreciate clarification.

14 Q Well, let's go down the road, Mr. McIntire.
15 Let's assume an operating plant and let's assume that this
16 training system, as described in the plan and from Mr.
17 Keller's review of the audit check, would be the training
18 program in place down the road.

19 There is no reason to believe otherwise, is
20 there, at this time?

21 A I don't understand the question. I'm sorry.

22 Q Assume with me, if you will, that we are talking
23 about an operating plant, and we are talking about the
24 training program which is the one now being litigated. It's
25 the only one we are familiar with. Do you think that LILCO

#16-9-SueT 1

2 should, under those circumstances, rely on LERO members
3 who have not been fully trained to perform emergency response
4 functions?

5 A It's certainly desirable in any case, in any
6 plan, to have workers in the emergency response organiza-
7 tion fully trained.

8 Q And, in fact, Mr. McIntire, in this case,
9 considering the fact that you have utility employees who
10 are not trained, professional emergency workers, wouldn't
11 it be necessary that those workers be fully trained before
12 they be counted upon by LILCO to perform emergency response
13 functions?

14 A Do you mean by fully trained, to have completed
15 the training modules as depicted in the matrix in the
16 plan? Or, do you mean something in addition to that?

17 Q Well, how would you define fully trained?

18 A I would define fully trained as it indicates the
19 training required for each of the positions in the LERO
20 response organization as specified in the training matrix.

21 Q Okay. Using that definition, should workers be
22 fully trained in LERO before they are expected by LILCO to
23 perform emergency response functions?

24 A It is certainly desirable that a sufficient number
25 of emergency workers be trained to carry out the responsibili-
ties outlined in the LERO plan.

#16-10-SueT

Q And from that standpoint, Mr. McIntire, shouldn't those workers be trained before they are assigned emergency response functions?

A I don't understand what you are trying to differentiate. I understand how Mr. Keller answered that previously, and that would be my inclination to answer it the same way, in that a person has to have an emergency response role before that person can be fully trained for that role.

We have testified that there are certain modules that all workers, all LERO workers, would take. That is fine. But once you go past that initial group of modules for all workers, then it would be necessary for the individual to have a specific response role so that he could then, in fact, complete the required number of modules.

Q Mr. McIntire, I understand that under LILCO's approach you need to identify a job function for LERO members so you know how to train those members.

A Agreed.

Q But, should you rely upon those LERO members before they are fully trained to actually perform their emergency response functions?

A Okay. I think again it would be desirable certainly to have fully trained people undertake emergency response functions. It's possible because of circumstances

#16-11-SueT

2 that you might have to rely on a small number of individuals
3 who have not fully completed the training to take on the
4 emergency response function.

5 The conclusion that I would draw on that is
6 could the person -- the person could probably undertake the
7 function in a reasonable degree of success, depending upon
8 the number of modules he or she had completed, but the
9 person who has completed the entire spectrum of modules
10 could probably undertake the response mechanism even more
11 efficiently.

12 Q Let me ask you, Mr. McIntire, the last -- do you
13 have the contentions?

14 A We have a copy somewhere.

15 Q Contention 39.A I would like for you to look
16 at.

17 A Could we ask for clarification, was this one
18 that has been rewritten since the original submission or
19 not?

20 Q Well, since the original submission it may have
21 been, but not since January of 1984.

22 A Okay. Thank you.

23 (The witnesses are going through documents.)

24 Yes, we have Contention 39.A.

25 Q Mr. McIntire, the last sentence of Contention 39.A
it says: LILCO should make satisfactory completion of its

#16-12-SueT

1 emergency response training program a prerequisite to the
2 hiring of personnel who will be assigned emergency response
3 duties.

4 Do you see that?

5 A Yes, I do.

6 Q Do you disagree with that?

7 A Yes, I do.

8 Q And the reasons for your disagreement?

9 A As a practical matter, I would think that very
10 few individuals would commit to taking a training course
11 before they have a decision on whether they are hired or
12 not.

13 I think it would be much more effective management
14 practice to hire people on the condition that they complete
15 the training modules soon after being put on the rolls.

16 Q And if such persons would not complete such
17 training modules soon after being hired, what then?

18 A That could certainly be a reason to discuss
19 whether the employee should continue with the company or
20 not.

21 Q Do you know, Mr. McIntire, if LILCO has any
22 such condition to its hiring of personnel?

23 A No, I do not.

24 Q Looking at Contention 39.B, looking at your
25 testimony on Contention 39.B, this addresses the attrition

#16-13-SueT

among non-LILCO personnel, correct?

2 A (Witness Keller) That's correct.

3 Q Now, you state in the first sentence, Mr.
4 Keller, the LILCO plan adequately provides for training of
5 non-LILCO support organization personnel.

6 Do you see that?

7 A Yes.

8 Q Are you saying there that LILCO has adequately
9 trained non-LILCO personnel or that, in your opinion, on
10 paper the LILCO training program has the capability to
11 train non-LILCO personnel in an adequate manner?

12 A Okay. I think what we are saying is what is
13 on the paper, that the transition plan adequately provides
14 for training of non-LILCO support organization personnel.

15 Q So, are you saying that the training program as
16 designed has, in your opinion, the capability of providing
17 such training?

18 A (The witnesses are conferring.)

19 Yes. The plan adequately provides for the
20 mechanism for the training of non-LILCO support organiza-
21 tion personnel.

22 Q I just want to make sure, Mr. Keller, that I
23 understand this. You are not saying that LILCO has
24 adequately trained non-LILCO personnel?

25 A I think we have already stated earlier this

#16-14-SueT

2 afternoon that with regard, for example, ambulance personnel
3 that according to the LILCO records at the time that we
4 reviewed them they had trained four out of eleven ambulance
5 company responders.

6 If the plan includes the response of eleven
7 companies, they have only completed four at this point.
8 They have not completed the training of all of the ambulance
9 personnel who are going to be used in the plan.

10 If we had to make a judgment as to what the
11 status is as of the time we reviewed their records, it
12 would be incomplete.

13 Q Mr. Keller, the fact that you saw records at
14 LILCO that indicated training had been provided to four
15 ambulance companies, do you take that and then reach the
16 conclusion that the training which has been provided has
17 been adequate training?

18 A With regard to their role, radiological response
19 in support of LILCO, yes.

20 Q Have you met with any ambulance company person-
21 nel?

22 A We have not.

23 Q Have you met or had discussions with any
24 instructors of the training provided to ambulance companies
25 and their personnel?

A I believe that one of the individuals who was at

#16-15-SueT

the audit was one of the trainers. I'm not positive
whether he was involved with giving any of the training to
the ambulance personnel.

The answer is, I don't know.

end #16
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1 Q Well, did you have discussions with this person
2 about training of ambulance personnel?

3 A Not specifically, no.

4 But he was one of the people who give the
5 training sessions.

6 Q And you have observed no drills, exercise,
7 classroom sessions, anything of that kind at which ambulance
8 company personnel have participated, is that correct?

9 MR. GLASS: I object. I think the record is
10 very clear for the first question in the training group,
11 question 121, what material was reviewed by the witnesses.

12 It is very simple to clutter the record up with
13 a whole litany of things that were not looked at, but they
14 don't add to any relevance -- any additional information
15 to the record.

16 MR. MILLER: Judge Laurenson, in this circumstance
17 these witnesses have made clear that they have done more than
18 a plan review. They have gone out and looked at training
19 materials. And I am certainly entitled to ask questions about
20 what this panel of witnesses have done. And when they make
21 a conclusion that says they have made judgments that training
22 has been adequate as provided by LILCO, I think we are
23 certainly entitled to inquire into the basis for that
24 conclusion.

25 JUDGE LAURENSON: This is cumulative to what you

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1 asked earlier. You went through with each one of these
2 witnesses what they had reviewed in connection with their
3 testimony. Now you are coming back at it again.

4 I think on the basis of it being cumulative
5 of evidence, the objection is sustained.

6 BY MR. MILLER:

7 Q Has each member of this panel stated today or
8 in their testimony, the exclusive all-encompassing list of
9 training materials which they have reviewed?

10 Let me rephrase it, Mr. Keller. I wanted to know
11 if you have stated on the record today or in your testimony,
12 everything that you have reviewed regarding the LILCO
13 training program?

14 A (Witness Keller) To the best of my recollection,
15 yes.

16 A (Witness McIntire) Yes.

17 A (Witness Kowieski) Yes.

18 A (Witness Baldwin) To tell you the truth, I don't
19 recall going through this entire list of each thing with
20 you. I listed the modules that were assigned to me, but I
21 didn't tick off for you each of the things.

22 (Witnesses conferring)

23 Could you restate the question for me?

24 Q My question, Mr. Baldwin is have you today in
25 your testimony before this Board or in your written testimony,

1 these 11 pages, identified all training-related materials
2 which you have reviewed concerning the LILCO plan?

3 A As a member of the panel, cumulative, we have
4 identified that, yes.

5 Q Mr. Keller, in answer 123 you mentioned that--
6 well, you say that the plan designates the Coast Guard and
7 ambulance personnel as examples of non-LILCO organizations that
8 are provided training by LILCO. But you say LILCO does
9 not limit training to these organizations, correct?

10 A (Witness Keller) That's correct.

11 Q And you have told me that you know, at least
12 from your review of LILCO's records, you believe that not
13 all ambulance personnel relied upon by LILCO have been
14 fully trained.

15 A At the time that the records were reviewed, the
16 training appeared to have been incomplete for the ambulance
17 companies which are included in the LILCO plan, yes.

18 Q Do you know whether the Coast Guard personnel
19 relied upon by LILCO have been fully trained?

20 A We did not review Coast Guard training records.
21 But it was represented to us by the LILCO personnel at the
22 spot check, that the training for the Coast Guard had been
23 completed.

24 Q And does that satisfy you?

25 A The purpose of the spot check audit is not to do

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1 100 percent verification of every item. And the idea of a
2 spot check is to look to see if trends are evident, if the
3 files are incomplete, if there are inaccuracies in the files.

4 We found no case where we had any problem with
5 any of the records.

6 My conclusion was that the records were complete,
7 they appear to be accurate, and there was no reason to believe
8 that if LILCO had said they had trained somebody, there was
9 any evidence they had not trained them.

10 So, based on that if LILCO represented to me that
11 they had trained the Coast Guard, we believed them.

12 A (Witness McIntire) But again we will repeat that
13 the thing that we are ultimately concerned with is the
14 implementability of the plan. And that would be evaluated
15 and exercised. And that might not be dependent upon whether
16 the training was given or wasn't given.

17 You could have people that have received the
18 training that may not be able to implement the plan, and
19 vice versa.

20 Q Will FEMA talk to the Coast Guard, Mr. McIntire?
21 Or, during an exercise, would FEMA take steps to ensure
22 that whether or not the Coast Guard has received training
23 would be determined?

24 A We have previously testified that in Region II
25 one of the RAC members -- specifically from the Department

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1 of Transportation, is an active duty member of the Coast
2 Guard.

3 So, to answer your question, would we talk to the
4 Coast Guard, the answer would be yes.

5 Would we talk to them, the Coast Guard, specifically
6 on training as it relates to Shoreham, that would be pure
7 speculation at this point in time.

8 Q Mr. Keller, other than the Coast Guard which you
9 say LILCO tells you has been trained, and ambulance personnel
10 for which you saw records for some personnel indicating they
11 had been trained, are you aware of any other non-LILCO
12 personnel who have received training from LILCO at this time?

13 A (Witness Keller) I am not.

14 Q Now you state on page 103 that LILCO suggests that
15 the Red Cross should participate in LILCO training -- LERO
16 training. Do you see that?

17 A Yes, I do.

18 Q Do you believe that the Red Cross should partici-
19 pate in training?

20 A Yes, I do.

21 Q Do you know if the Red Cross will participate in
22 training?

23 A I have no direct knowledge of whether the Red
24 Cross will participate in training. The issue here is the
25 interface at the reception centers where the LERO organization

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1 in the same facility, or at least a different part of the
2 ~~same~~ facility, is going to be monitoring and perhaps
3 decontaminating the arriving potential evacuees, or evacuees.

4 The relocation centers will be operating -- the
5 sheltering part of the relocation center will be operated
6 by the American Red Cross.

7 There was an interface in this particular area
8 where the LERO people and the Red Cross people are going to
9 have to work very closely together. And we felt that it
10 would be advantageous for the Red Cross people to receive
11 some of this LERO training to insure that this interface
12 would go more smoothly.

13 This would not mean that the Red Cross cannot
14 run a shelter adequately without the training. But, we felt
15 it would be better, and apparently LILCO thinks the same
16 thing, because it was their letter that they suggested that
17 the Red Cross participate in this training.

18 Q You say, Mr. Keller, the last sentence of the
19 paragraph, that other organizations which have to take
20 action, but are not support organizations, will be offered
21 annual training.

22 Do you see that?

23 A This is what the plan says, yes.

24 Q Now the organizations you are talking about there
25 would be organizations such as schools and special facilities

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1 like hospitals?

2 A That's correct, yes.

3 Q Do you know whether any of those kinds of
4 organizations have accepted LILCO's offer to be provided
5 training?

6 A It was represented to me at the spot check that
7 one of the school -- I believe it was districts -- has
8 agreed to accept the training, and that training would be
9 scheduled for the fall of this year when the full staff of
10 the school district would be available.

11 Q That is the Wading River School District, to which
12 you refer on page 108 of your testimony?

13 A That is correct.

14 Q Other than the Wading River School District, are
15 you aware of any other organization which is expected to
16 take action under the LILCO plan, which has agreed to accept
17 the training LILCO is offering?

18 A It gets very fuzzy here.

19 It was represented to me that there have been
20 contacts between LILCO and the hospitals and the nursing
21 homes. I am not clear whether they have gone all the way
22 to conclusion and said, yes, we will accept the training,
23 or no.

24 But, at least there have been contacts, there
25 have been discussions. It was represented to me that these

1 discussions had occurred.

2 But I was not told specifically that there had
3 been any fixed date to provide -- if the fall of '84 is a
4 fixed date -- that there had not been a date established
5 by which time these other support organizations -- not
6 support, but organizations which would be expected to take
7 an action, would be trained.

8 Q Mr. Keller, why don't you look at page 108 of your
9 testimony. That is what you are referring to now, I believe.

10 Let's talk first about the Wading River School
11 District and your statement that you were told by LILCO
12 personnel that training for that district will be provided
13 in the fall of 1984.

14 A That's correct.

15 Q Who told you that?

16 A At the deposition we provided a listing of the
17 attendees at the spot-check audit. I don't recall which of
18 the attendees from LILCO made the statement. My suspicion --
19 my recollection I think was Mr. Devario. It may have been
20 Mr. Weismantle, but I believe it was Mr. Devario.

21 Q But it was at the spot-check audit?

22 A That's correct.

23 Q And your statement that contact was made with
24 schools, hospitals and nursing homes to arrange for
25 training according to LILCO personnel. Who told you that?

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1 A Again I believe it was Mr. Devario, but I may
2 have been mistaken. It was at the spot-check audit, in any
3 event.

4 Q And were you led to believe, Mr. Keller, that
5 according to LILCO personnel, schools, hospitals and nursing
6 homes have agreed to accept the training to be offered by
7 LILCO?

8 A As I just tried to say, it was not clear to me
9 whether or not there had been an actual acceptance, as
10 there was apparently -- is apparently in the Wading River
11 School District. But, it was represented to me that the
12 contact had been made and that discussions were ongoing.

13 They apparently have not been told, "Go away,
14 don't bother me." Or that kind of thing.

15 So, I suppose I inferred, although I do not know
16 that they have accepted -- any of these other organizations
17 have accepted the offer from LILCO for training. But it
18 was represented that the discussions were ongoing or had
19 been underway just before we were out for the spot-check
20 audit.

21 Q The reason I am asking, Mr. Keller, is because
22 obviously, the word "contact" could mean a lot of different
23 things. It could mean, couldn't it, that LILCO has written
24 a letter to these organizations saying that we want to
25 train you, and they have never received a response to the

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1 letter. But that would be contact, wouldn't it?

2 A I got the impression -- it was only an
3 impression -- that there had been verbal contact with some,
4 at least, indication of a likelihood of an affirmative
5 response. That was an impression on my part. I have no
6 documentation, there is nothing.

7 The discussion was we have also contacted the
8 schools, the hospitals and nursing homes to arrange for
9 training. We haven't got anything set up yet, but it looks
10 like we are going to get it set up, or something of that
11 nature.

12 Q You haven't contacted any of these organizations
13 to determine?

14 A We have not.

15 A (Witness McIntire) If I might point out that
16 each of the questions in the training contentions starts
17 with the phrase, "Does the LILCO transition plan or
18 training program adequately provide --" so our testimony is
19 strictly on the transition plan.

20 Q That is not true, Mr. McIntire. Your testimony is
21 beyond the plan, because we just had testimony from Mr. Keller
22 that he has had discussions with people.

23 A Okay. Okay, I will stand corrected on that.

24 I will say that the vast majority, what we have
25 prefiled on was basically the plan itself, and the plan

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1 review. That is the predominance of the testimony.

2 We are not making any presentation that we have
3 gone out and done anything of significance beyond a plan
4 review, except in a few isolated incidents where, during
5 the course of Mr. Keller's conversations and spot checks,
6 certain things were mentioned to him.

7 I am certain that they were mentioned in terms of
8 information to us, not something that we were acting upon.

9 Q Mr. Keller, back to these organizations such as
10 the schools, nursing homes and hospitals, do you believe
11 that these kinds of organizations should be trained by
12 LILCO with respect to their LERO role and how they would,
13 as LILCO says, "take action."

14 A (Witness Keller) Well, they have no specific
15 LERO role, that is number one.

16 If they had a specific support role then they
17 would -- the RAC would have decided that these organizations
18 should have filed a letter of agreement to undertake this
19 LERO support role.

20 These are organizations -- could be organizations
21 which would be expected to take action in the event of an
22 emergency, just as the population would be expected to take
23 action in the event of an emergency.

24 Since these organizations are concentrations of
25 large numbers, or possibly large numbers of people, or people

mml2

1 with special needs, it would certainly be advantageous if
2 these organizations availed themselves of the opportunity to
3 take some training.

4 I believe the plan very clearly states that
5 LILCO is willing to offer to these organizations whatever
6 training the organization desires. It is not a matter of
7 LILCO trying to impose a certain module, for example, on
8 these organizations.

9 My recollection of the plan is that they will
10 provide whatever training that organization wishes,
11 basically.

12 Q To make sure I understand, Mr. Keller, did you
13 say that the organizations, such as hospitals and schools,
14 they have to respond to take actions, just like the public
15 would take action?

16 A They would be expected to take actions, just as
17 the public would be expected to take action.

18 I don't know how anybody has to do anything,
19 though LERO would make a protective action recommendation to
20 the public, to the schools, to a hospital.

21 The public doesn't have to respond to that protective
22 action recommendation; the school district doesn't have to
23 respond to that protective action recommendation. I would
24 certainly think it would be advisable if they did.

25 I don't know of a requirement where we can

mml3

1 require that the public or the schools or any other
2 organization, to respond to a protective action recommendation.

3 Q But Mr. Keller, doesn't LILCO under their plan,
4 rely on organizations such as schools, to help ensure
5 that the protective actions that would be recommended by
6 LILCO are carried out?

7 A The LILCO plan outlines a sequence of events
8 that they anticipate will be followed. For example, if
9 there is an alert declared, the LILCO plan specifies that
10 the schools be notified by the tone alert radios, and they
11 will be told to dismiss their students early.

12 The plan is then predicated on the presumption
13 that the schools will do these things.

14 Q And to do those things, Mr. Keller, wouldn't it
15 be advantageous to have training about the LILCO plan?

16 A I think I just said that it would certainly be
17 advantageous for these organizations to avail themselves
18 of the opportunity to receive training from LILCO.

19 If these organizations refuse to avail themselves
20 of the opportunity to receive training, that is within
21 the prerogative of these organizations, I would think.

22 I would be much more comfortable if they had --
23 these organizations, the schools, the hospitals had
24 availed themselves of this opportunity, but I don't know of
25 any way that you can require these people to do that.

mml4

1 Q The question, Mr. Keller is, could in the event
2 of no training by the organization, could the sequence of
3 events as you refer to it, talked about, discussed in the
4 LILCO plan, be implemented?

5 A One of the protective action recommendations
6 which we discussed either this morning or yesterday afternoon,
7 I forget which, for example is the sheltering in the schools.

8 If the school is contacted by LILCO/LERO and
9 says that there is a protective action recommendation,
10 you should shelter your students in the school. And by
11 shelter we mean bring all the people indoors, close the
12 doors, close the windows and turn off the ventilation, do I
13 think that the school could perform that protective action
14 without training?

15 The answer is yes.
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end T17

1 Do I think it would be helpful if they had the
2 training, the answer is, yes. The same goes for the
3 evacuation. The go home early policy. Does the school --
4 is it necessary that the school be trained specifically in the
5 LILCO plan and procedures. For the school to be able to
6 dismiss their students early, no, I don't believe it is
7 necessary or required that they have the LILCO training for
8 the schools to be able to dismiss their students early.

9 Q What about evacuation?

10 A The evacuation calls for putting the students on
11 the buses, and having the buses drive to a relocation center.
12 Since at the end of every school day, they put their students
13 on the buses, the only difference is where they drive the
14 students.

15 It certainly would be helpful, but I don't think
16 it is absolutely necessary that they have this training.

17 Q That assumes of course, Mr. Keller, that the
18 buses and the bus drivers are available and willing to take
19 those students to the relocation centers.

20 MS. MONAGHAN: Objection. It is beyond the
21 scope of the contentions, and appears to be going to the role
22 conflict issue.

23 JUDGE LAURENSEN: Sustained.

24 BY MR. MILLER: (Continuing)

25 Q The last paragraph, Mr. Keller, on page 103, you

1 mention first of all in this paragraph letters of agreement.
2 I know previously there has been testimony by this panel that
3 there are concerns, because you have seen letters of intent,
4 and not letters of agreement. Are you now making a
5 distinction?

6 A Yes. I think what we are saying here is that
7 once an acceptable letter of agreement has been signed, and
8 at the time of review of Revision 3 of the plan, there were
9 many of these which were not letters of agreement. But
10 once a party -- and I think I am getting very close to a
11 legal issue, but I am sure someone will yell if I do -- that
12 once a party, in our view, signs a letter of agreement to do
13 a certain job, and to provide in doing that job a certain
14 number of people to do that job, the fact that they have
15 signed that letter of agreement, in our view, is sufficient
16 reason to believe that they would inform LILCO that they
17 don't have enough trained people.

18 This statement is made in regard to the contention
19 about attrition, that if one of these organizations -- support
20 organizations now -- who have signed a letter of agreement to
21 provide this given support to LILCO, if there is attrition
22 within their organization, and they don't have enough trained
23 people, we feel that by signing this letter of agreement they
24 have agreed to tell LILCO they need more training.

25 Q Let me make sure I understand, Mr. Keller. Are

1 you saying that the fact that a letter of agreement may be
2 signed, automatically obligates the support organization,
3 such as the Coast Guard, to inform LILCO of training needs?

4 A Yes. It seems to us, or to me anyway, that if
5 you agree to do a certain job in this letter of agreement,
6 and part of that job is to provide trained people, if these
7 people are not available within your organization and you
8 sign the letter of agreement, then it is LILCO's responsibility
9 to provide the training. I think the fact that you have
10 signed this letter of agreement obligates you to tell LILCO
11 that you need more training for these people because of
12 attrition.

13 A (Witness Baldwin) And the plan stipulates that,
14 on page 516, where it says: The responsibility organization
15 is to ensure that they maintain an adequate number of trained
16 individuals on staff at all time; is the obligation of the
17 organization providing support services.

18 I interpret that to mean that those support
19 organizations that are signatories to provide these things
20 understand that, or that at least LILCO will advise them
21 so that that is what they are to do.

22 Q Mr. Baldwin, we have had this discussion before,
23 I suppose, the fact that the plan says it -- the plan says
24 that the organizations will be obligated to tell us they
25 need more training. To you that means the organizations are

1 obligated. Do you accept that from LILCO?

2 A (Witness Kowieski) Yes.

3 A (Witness Baldwin) If they sign the letter of
4 agreement.

5 A (Witness McIntire) So we can be perfectly clear,
6 in this process we are not dealing with words like, 'absolute.'
7 We are dealing with the term, 'reasonable assurance.'

8 Q Do you know of any organizations that have in
9 fact agreed to give such notice to LILCO?

10 A (Witness Keller) At the time of the review,
11 RAC review, as you have already brought out, there were many
12 concerns as to the letters of agreement within the plan.

13 Many of these letters were not letters of
14 agreement. They were letters of intent, for example, for
15 the bus companies. There was concern with the letter from
16 the Coast Guard. There were other concerns. Concerns with
17 the letter from the Red Cross.

18 I would say that probably most of the letters
19 that were contained in Revision 3 of the plan we found some
20 fault with.

21 I think what we are talking about here is a
22 generic kind of issue. Our feeling, I believe, is that
23 if an organization agrees with a valid letter of agreement
24 to do a certain role, yes, then they would obligate themselves
25 to inform LILCO that they needed training.

1 The issue of whether there are valid letters of
2 agreement at the current time is an open one. Based on
3 what we have reviewed up to this point, I would say that
4 they don't have anywhere near the numbers of letters of
5 agreement that they need to have.

6 Q Mr. Keller, the valid letters of agreement
7 that you are referring to in the generic sense, would you
8 expect to see in such a letter of agreement, a specific
9 provision regarding this idea of informing LILCO of training
10 needs?

11 A Not necessarily. It depends on what the letter
12 of agreement calls for. If it calls, for example, the provision
13 of buses, I don't think you would have to have anything about
14 training.

15 If it calls for buses with drivers, then you
16 might or may not. As Mr. McIntire said, a reasonable assurance
17 that these things will occur is what we are looking for.

18 We cannot state that in every case this will
19 happen, but it is our judgment that if someone signs a letter
20 of agreement, they understand what they are signing, and if
21 a trained individual from the signer's organization is a part
22 of the services that he agrees to provide, then informing LILCO
23 that additional training is required we would perceive to be
24 part of that agreement.

25 Whether it is called out specifically or not.

1 Q Let's look at your testimony on Contention 40,
2 on page 104. The first paragraph to Answer 124, Mr. Keller,
3 is that basically -- I understand it is very brief -- but
4 is that basically a description of your understanding of
5 the LILCO training program?

6 A As described in the plan, yes.

7 Q And in that description, when you say full scale
8 exercises, are you referring there to FEMA graded exercises,
9 or LILCO exercises?

10 A Both. There is nothing to prohibit LILCO from
11 having a full scale exercise which was not evaluated by
12 FEMA or any other Federal agency.

13 Q The statement that you make -- well, you say
14 that the training program is designed to provide adequate
15 training to LILCO personnel. Do you see that?

16 A That is correct.

17 Q I want to again try to make sure that we are
18 understanding this the same way. I take it that what you
19 are saying -- let me start again.

20 I take it that you are not saying in that first
21 sentence, Mr. Keller, that the LILCO training program
22 adequately prepares LILCO employees for their job functions
23 in LERO, but that what you are saying is that in your
24 opinion, on paper, LILCO's training program has the capability

25

1 to provide such training to LERO members?

2 A I think I understand your question. I think what
3 we are saying is that the plan appears to have a design,
4 the paper plan if you will, I think that is what you are
5 trying to drive at, has -- is designed to provide training.

6 Our review of the modules with the caveat that
7 there is some disagreement between the modules that we
8 reviewed and the plan as we understand it today, would lead
9 us to believe that the training is reasonably adequate.
10 Based from a review of the training materials that we have
11 discussed today.

12 We have not evaluated whether the individual is
13 able -- the trained individual -- is able to perform the
14 specific function as we discuss in the second paragraph of
15 this answer.

16 The real bottom line is whether they can do the
17 job or not. What we saw in review of the training materials
18 is that these materials are reasonably adequate, there is
19 nothing in this material that led us to believe that the
20 trainees should not be able to do the job.

21 However, we have not evaluated in an exercise
22 whether they can or whether they can't.

23 Q That helps. Thank you, Mr. Keller. As you say,
24 the key is can they do the job or not, and at this time FEMA
25 has not made that determination.

1 A That is correct.

2 Q Now, going on to the second paragraph of the
3 answer, when you say that the ability of individuals to
4 perform particular job functions during a real emergency
5 cannot be evaluated, are you saying at this time?

6 A At this time, that is correct.

7 Q You are not saying that it would actually require
8 an actual emergency to make that kind of an evaluation.

9 A It can be argued, and it has been argued, I
10 believe, not necessarily before this Board at this time, that
11 exercises and drills are not the same as real emergencies.

12 If you subscribe to that argument, then the only
13 way to tell whether an individual can perform a function is
14 in a real emergency. We don't necessarily subscribe to that.

15 But putting that aside, the whole radiological
16 emergency preparedness program is predicated on the idea that
17 exercises, Federally evaluated exercises, are a reasonable
18 way to evaluate the ability to implement a plan, and for the
19 emergency workers to perform their roles.

20 As we said before, we know of no imminent exercise
21 for the Shoreham plant; therefore, we can't evaluate that.

22 Q I want to follow up on that, Mr. Keller. You
23 used the word, 'imminent.' No imminent exercise. Are you
24 aware of any exercises?

25 A No.

1 Q Okay. Let me go back to also your point about
2 drills and exercises versus the real actual emergency.

3 I take it you believe that drills and exercises
4 can lead to valid conclusions regarding the adequacy of a
5 training program?

6 A Yes, I do.

7 Q Would you agree with me, Mr. Keller, that in the
8 case the drills and exercises, would have to be realistic and
9 observed by persons knowledgeable about the duties and tasks
10 to be performed by the trainees?

11 A I would like clarification on, 'realistic.' What
12 is realistic to me, may very well not be realistic to you.

13 Q You understand the term, 'realistic.'

14 A I understand my understanding of, 'realistic.'

15 Q Okay. What is your understanding?

16 A Well, insofar as a drill or an exercise with a
17 nuclear -- in terms of radiological emergency preparedness,
18 the amount of radioactivity that would be postulated and
19 used in the drill may not be in conformance with what the
20 normal expectations are of the kinds of accidents which are
21 likely to happen. We very often require, in order to satisfy
22 certain exercise objectives, what could very well be called
23 unrealistic source terms.

24 Q I don't want to interrupt you, Mr. Keller, but
25 let's not get into the aspects of the amount of release.

1 A But that is part of the realism, or the realistic
2 nature, and I thought that was your question.

3 Q Okay. Let me try again. I was referring to
4 a realistic drill exercise scenario from the standpoint of --
5 let's take for example, from time to time you see in the news
6 you have a simulated airplane crash. You have victims, if
7 you will, that are at the airfield. The Red Cross, the
8 ambulance companies, whoever responds, they actually go through
9 the process of bandaging the people, treating them as if they
10 were actual victims of the crash. Transporting them actually
11 to the hospital.

12 That, to me, attempts to grasp the realistic
13 results that could flow from an airplane crash. You understand
14 the concept.

15 A Okay. Generally speaking when what we call a
16 medical drill is evaluated in a radiological emergency response
17 exercise, we do transport a volunteer victim from the site
18 of an accident to a hospital. And that is normally done.

19 It has been done in this region at almost every
20 exercise that I have been involved with. Do we transport
21 large numbers of them, no. Typically, only one.

22 Sometimes one from onsite, and sometimes one from
23 offsite, but in fact we do do that type of thing, and we would
24 anticipate that that type of thing would be done in an exercise
25 at Shoreham.

1 Q Let me interrupt you again. I was merely trying
2 to give an example of what I consider to be a realistic
3 scenario.

4 A (Witness McIntire) I think that I am at least
5 comfortable with what you define, 'realistic.' We have had
6 some discussions that I would not consider realistic, but
7 I think in the context of the example you provided, I
8 understand what you mean. I think we can try to continue
9 to answer the questions.

10 Q Okay. I am just looking for the answer to this
11 question: Do you believe that drill exercise scenarios
12 -- if they are going to accomplish the purpose of trying
13 to lead to a credible, valid judgment regarding the adequacy
14 of the training, should be realistic?

15 A (Witness Kowieski) Yes. As a matter of fact,
16 we make every effort in past exercises that we observed in
17 Region II, to develop credible, and realistic exercise
18 objections, and scenario.

19 As a matter of fact, we on numerous occasions,
20 we introduced what we call, 'free play activities.' For
21 instance, to give you an example, this is one example. Evacuati
22 route.

23 First of all, let me just clarify that exercise
24 objectives and scenario are confidential. Participants
25 wouldn't be aware what to expect during the exercise, but

1 one of the free play activities would be evacuation route.
 2 Evacuation during the day of exercise, when decision-maker
 3 would make a decision right now I am going to evacuate
 4 Zone 10 and 15.

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2 When evacuation will be in progress, the actual
3 buses -- evacuation would be initiated, will observe
4 actual phone call to the dispatcher office. The dispatcher
5 office would actually see how long it take for dispatcher
6 to mobilize drivers, then would follow the driver, the bus,
7 along the evacuation route. They would not -- the bus
8 drivers would not be aware prior to the day of exercise
9 which route he or she will drive.

10 So, we feel this is making exercise as realistic
11 as possible. The same concept is being utilized for traffic
12 control point, for failure of the siren system. So, we
13 have the full spectrum of free-play activities to add
14 realism to the exercise to make exercise as realistic as
15 possible, as close as possible to real event.

16 (The witnesses are conferring.)

17 (Witness Baldwin) As far as the contention
18 goes, the contention deals with being able to perform
19 emergency functions under fatigue and stress. And having
20 been an observer at federally-evaluated exercises, we can't
21 simulate the kind of fatigue and stress that is actually
22 experienced under life-threatening experiences, but we do
23 have a good sense of how people perform under stress because
24 they know they are being evaluated.

25 Q Mr. Kowieski, let me go back to you for a moment.
I want to make sure you understand my question regarding

#19-2-SueT

1 the desirability of realism in drills and exercises goes
2 also to the issue of LILCO's drills and exercises. And
3 your description -- I found it helpful, but your description
4 was primarily of the FEMA-graded exercise and the realism
5 you look for.

6 A (Witness Kowieski) That's correct.

7 Q You would want to see such realism as well in
8 LILCO's drills and exercises, wouldn't you?

9 A I would expect that LILCO, LERO, if they want to
10 really fully train and, you know, fully test their emergency
11 response personnel they would design credible exercise
12 scenario.

13 Q And, Mr. Kowieski, at this time you have not
14 reviewed the scenarios used by LILCO with respect to
15 realism or any other aspect; is that correct?

16 A I have not.

17 Q You state, the second sentence in the last
18 paragraph on 104, you state that the duties of emergency
19 response personnel are not in most cases complex nor do
20 they require a job-related experience.

21 Do you see that sentence?

22 A (Witness Keller) Yes.

23 Q I want to make sure I understand this sentence.
24 Are you saying there that experience, job-related experience,
25 is unimportant?

#19-3-SueT

1 A The statement, I think, should be read as it is
2 written. They don't require job-related experience. It
3 would be desirable, helpful, all of those things. But as
4 a requirement, it is our opinion that there is not a
5 requirement for job-related experience.

6 Q Now, you are saying that's because, Mr. Keller,
7 the jobs, the duties, in your opinion, are not in most
8 cases complex, correct?

9 A That's correct.

10 (Witness McIntire) And what we are also saying
11 is that we believe that people can be trained to take --
12 undertake these emergency response functions to a reasonable
13 degree of success.

14 Q So that in your opinion, Mr. McIntire, training
15 can, in essence, stand in place of experience?

16 A We are not saying stand in place of. We are
17 saying that training can -- training of individuals can
18 prepare a person to undertake most emergency response roles
19 in a reasonably successful manner.

20 Q Let me ask you, that sentence would imply that
21 there are at least some emergency response duties in LERO
22 that you do consider complex and that would require job
23 related experience.

24 Could you tell me which ones?

25 A Okay. Basically, in my opinion, these would be

#19-4-SueT1

1 the top management jobs. And the experience that these
2 individuals would require, in my judgment, would be manage-
3 ment experience.

4 Okay. With the exception -- we point out, the
5 radiation health coordinator, of course, should have the
6 technical experience.

7 Q Is there any job function in LERO which any member
8 of the panel believes is either complex or requires job-
9 related experience other than the ones just specified by
10 Mr. McIntire?

11 A (Witness Keller) Yes. The DOE response functions
12 which are described in the LILCO plan, the dose assessment
13 function, it would certainly be helpful although it is not
14 a requirement I don't think, unfortunately. This function is
15 not part of the LERO or the LILCO training program. We did
16 not evaluate it.

17 I think what we were trying to say is, based on
18 what we had evaluated in the training program the majority
19 of the jobs, with the exception of the ones that Mr. McIntire
20 talked about, management type jobs which should probably
21 have some management background, but with regard to the
22 LILCO training material that we reviewed we did not see
23 any job functions which were that complex that you should
24 not be able to train people to do these jobs even though
25 they did not have the job-related experience.

#19-5-SueT₁

1 We are talking about the LILCO people that
2 were trained now, I believe.

3 Q Yes. Let's focus on the LILCO personnel.

4 A Okay. So, what we said we said. Yeah.

5 Q You wouldn't consider duties such as the traffic
6 guides have to perform as being complex or requiring job-
7 related experience?

8 A That's correct.

9 Q And you wouldn't consider the monitoring and
10 decontamination functions at, for example, relocation
11 centers to require job-related experience?

12 A I believe that a training program such as the
13 one that we reviewed should be able to train people to
14 pick up a measurement device, be able to ascertain whether
15 the batteries were in the device, to be able to turn it on,
16 to be able to ascertain whether it was functional, and to
17 be able to pass this device over the body of an evacuee at
18 a prescribed rate and to establish whether or not the meter
19 needle goes above a certain rate.

20 And that's a very thumbnail sketch of what the
21 person who is going to monitor an evacuee is. And I don't
22 see where that -- it is our opinion that that kind of
23 training requires job-related experience. That was just
24 an example.

25 Q Tell me, if you would, Mr. Keller, for a traffic

#19-6-SueT 1

2 guide, give me your thumbnail sketch as to why, in your
3 opinion, that job is not complex and does not require any
4 job-related experience?

5 A (Witness Baldwin) The traffic guide training
6 materials deal with the issues of how to direct traffic,
7 where to set up cones, cones with lights on them, where
8 the people should stand, where the traffic guide should
9 stand, and most importantly they tell the -- well, not
10 most importantly, but an important consideration is that
11 if the police, the authorities, show up at that location
12 to turn those activities over to them and stay with the
13 police until such time as they are relieved of duty for
14 purposes of communication and tracking their exposure to
15 radiation.

16 Q The basis for saying the authorities, the police,
17 show up, that comes from your reading of the LILCO plan,
18 Mr. Baldwin?

19 A It comes from my reading of the training materials
20 where that is discussed.

21 Q Now, do you take into consideration, Mr. Baldwin,
22 in jobs such as those the traffic guides would have to
23 perform any of the factors which could result should there
24 be an evacuation of the Shoreham area such as heavy traffic,
25 angry motorists, congested conditions, accidents?

Are those things considered by you as well?

#19-7-SueT1

1 A Those things are described in the training
2 materials.

3 (Witness McIntire) And if I may add to that,
4 during the 1977 black-out of New York City, I was living
5 in Manhattan. That black-out occurred just after dark,
6 around 9:30, knocking out all street lights and traffic
7 lights. And I did witness spontaneous people going to the
8 intersections to direct the traffic, and as a result of
9 that the Manhattan area was able to empty out and there
10 were no real serious traffic problems.

11 Q Has any member of this panel had any involvement
12 in training, traffic guides, or anyone who has performed
13 any kind of function like the guidance of traffic?

14 MR. GLASS: Objection. Asked and answered at
15 the very beginning today.

16 It was a specific question asking about their
17 experience as trainers.

18 JUDGE LAURENSEN: I think you went through all
19 that again when we started this afternoon, didn't you?

20 MR. MILLER: I asked earlier, Judge Laurenson,
21 if they could tell me the areas they had specifically
22 trained, the task they had specifically provided training
23 under the LILCO plan. Traffic guides was not mentioned.

24 I will be glad if the Board is saying -- basically,
25 I want a clarification from the witnesses that they haven't

#19-8-SueT 1

provided any training in that area.

2

JUDGE LAURENSEN: I will sustain the objection as calling for cumulative evidence.

3

4

BY MR. MILLER: (Continuing)

5

Q Have any of the members of the panel ever themselves directed traffic?

6

7

A (Witness Keller) Yes.

8

Q Could you tell me the circumstances, Mr. Keller?

9

10

A A long time ago I was a volunteer fireman, and I have directed traffic around volunteer fire response.

11

12

Q So, you have done that on more than one occasion?

13

A I believe it was twice.

14

Q How many years are you going back?

15

(Laughter.)

16

A About thirty-five in round numbers.

17

Q Has anybody else had any experience in this regard?

18

19

A (Witness McIntire) I believe that I served as a crossing guard some time during my junior high school.

20

21

(Laughter.)

22

Q Do you consider that directing traffic?

23

A To a degree, yes.

24

Q Have any of you ever driven a bus?

25

A No, for me.

#19-9-SueT1

(Witness Keller) How many passenger?

2 Q A regular forty passenger --

3 A A forty passenger bus, no.

4 Q Have any of you ever driven a tow truck?

5 MS. MONAGHAN: Objection as to the relevance of
6 this line of questioning. I don't think that it's getting
7 to evidence that is going to be material in permitting
8 this Board to make its decision on the training contentions.

9 MR. MILLER: It's going to the issue, Judge
10 Laurenson, of a statement in their testimony that they do
11 not consider the task under the LILCO plan to be either
12 complex or to require experience.

13 I'm trying to find out their experience, and that
14 goes to the basis of this statement they have made in their
15 testimony.

16 MR. GLASS: The relevance certainly is not there.
17 In addition, they have talked about the need for training.
18 There is no correlation here whether they were trained to
19 drive the tow truck and, therefore, were unable to after
20 that training. I just don't see the relevance whatsoever
21 to the training contention.

22 JUDGE LAURENSEN: I think it meets a minimal
23 test for relevance. But it certainly doesn't produce any
24 kind of substantial evidence for the record.

25 I would admonish the counsel that this type of

#19-10-SueT

2 inquiry as to the specific experience of these witnesses
3 is not the kind of evidence that is going to be helpful.
4 The question is what information do they have that leads
5 them to that conclusion, not necessarily what personal
6 experiences they may have had.

7 The question is whether they have education or
8 background themselves or have acquired information that
9 leads them to that conclusion. But you are focusing on
10 only one minute aspect of it.

11 The objection is overruled.

12 WITNESS MC INTIRE: I can answer that in this
13 way. Even though I have not myself driven a forty-passenger
14 bus nor a tow truck, I do have my New York State driver's
15 license, which I looked on the back, and there are various
16 types of licenses issued. And one of those is a Class 2
17 license which is a permit to allow the operator to operate
18 buses seating more than fifteen passengers.

19 So, these are the types of things that we look
20 for.

21 BY MR. MILLER: (Continuing)

22 Q I don't understand, Mr. McIntire. You have a
23 license which says you can drive a bus, you say?

24 A (Witness McIntire) No. I'm saying on the standard
25 New York State license there are a number of categories of
what the license is for. And one on the license says that --

#19-11-SueT

2 it is a legal license in New York State, is a license to
3 permit an individual to drive a bus seating more than
4 fifteen passengers. Any person not having this license
5 is not legally allowed to drive a bus in New York State.

6 So, the point I'm making is, we are more
7 concerned with how many of these people have this license,
8 because I'm sure in the great State of New York that they
9 don't grant these licenses without having these people meet
10 adequate safety standards.

11 (Witness Kowieski) Hopefully, what I will add
12 will be helpful to you in understanding why we feel the
13 specific duties of emergency response personnel in most
14 cases are not complex.

15 Last year, at certain point -- or, two years ago,
16 Rockland County decided not to participate in the planning
17 process. In response, the New York State and utilities
18 developed what they call compensating plan to compensate for
19 a lack of Rockland County resources. As a result, the plan,
20 compensating plan, was based on the utility and State
21 resources.

22 The mixture of people, the people that actually
23 are part of the emergency response plan, in most cases their
24 everyday duties and responsibilities were not related whatso-
25 ever what they were asked to do or perform during the
exercise. The exercise took place on August the 24, the 25th,

#19-12-Sue^d

and was successful.

2 So, this is another proof that you don't have to
3 have a job-related experience to perform emergency response
4 functions.

5 (Witness McIntire) And we might also point out
6 that these individuals were trained in significant detail
7 and depth before these exercises were held.

8 Q Who was directing traffic in those exercises,
9 Mr. Kowieski? Were police officers being used at all to
10 direct traffic?

11 A (Witness Kowieski) There was combination of
12 police officers and some of the utility workers or State
13 workers.

14 Q But you had some police officers, didn't you?

15 A I'm not positive if every intersection was
16 staffed by police officer and utility or State worker.

17 Q But there were police officers involved in the
18 exercise, correct?

19 A That's correct. But, also I would like to add
20 that the operation of the EOC a number or majority of
21 emergency response functions were staffed by people that
22 came not from emergency response field, except command and
23 control.

24 Q Mr. Kowieski, in that exercise you are referring
25 to, did FEMA evaluate, test the ability of utility workers,

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for example, to direct traffic?

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Did you make that specific evaluation?

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A I don't have a specific recollection at this point in time of exercise scenario, the details of exercise scenario. I have a general recollection that we made every attempt to have a true representation of the utility and State workers performing every function as required by compensating plan.

For instance, we had utility workers driving buses and having regular bus drivers accompany them. In other cases, have regular bus drivers driving buses and a utility worker who is designated to be bus driver accompany the regular bus driver.

So, we made every attempt to have a true test of the response plan, compensating plan.

end #19

MM flws

T20 MM/mml

1 Q I think we can leave this area.

2 Let me just ask one more question, hopefully.
3 Mr. Keller whether we agree or not as to whether job-related
4 experience is required to perform the duties under the LILCO
5 plan, would you agree with me that there is little job-
6 related experience among LILCO personnel in performing the
7 kinds of duties required under the LILCO plan?

8 A (Witness Keller) For the vast majority of the
9 individual job assignments, I would agree that it is correct.
10 However, I do believe in light of what Mr. McIntire had
11 discussed in terms of management experience, that most of
12 the upper tier -- the key people that Mr. Baldwin talked
13 about, do have at least apparently from their job titles,
14 do have management responsibility within LILCO. And that
15 these people would have job-related experience.

16 Q Thank you.

17 MR. MILLER: Judge Laureson, this would be a
18 good time, I think, for the break.

19 JUDGE LAURENSON: Let's take a ten-minute
20 recess.

21 (Recess)

22 BY MR. MILLER:

23 Q Gentlemen, looking at the last sentence on
24 page 104, is your statement that experiences and other
25 types of emergencies have shown that emergency workers have

1 performed their role in all types of emergencies where stress
2 and fatigue are involved, is that statement referring to
3 professional emergency workers?

4 A (Witness McIntire) It is referring to all
5 emergency workers. And the vast majority of emergency
6 workers in most cases are not professional emergency workers.

7 Q Such as police and firefighters?

8 A Exactly.

9 Q I take it that it is not your testimony that
10 stress and/or fatigue cannot impact job performance?

11 A That is not our testimony. What our testimony
12 is, is that in emergency situations it has been our general
13 experience in all types of emergencies that people in these
14 operations will work much longer than you think they would
15 work. They will be driven to complete the job that they
16 need to do to save lives, to help the injured, those types
17 of emergency functions.

18 Q Do you believe that training should be provided
19 on how to deal with stress?

20 A To emergency workers?

21 Q Let's talk about the LILCO plan 2, LILCO personnel
22 that are expected to perform emergency tasks.

23 MS. MONAGHAN: Judge, I think that is outside the
24 scope of the contention.

25 MR. MILLER: Judge Laurenson, I am looking at the

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1 FEMA testimony. They talk about stress and fatigue.

2 I am asking them now if they think that training
3 should be provided in the area of stress.

4 Anyway, it is not outside the contentions. It
5 is within Contention 40.

6 MS. MONAGHAN: I believe Contention 40 goes to
7 how people will perform under a stressful situation. It is
8 a different issue as to whether or not stress training is
9 appropriate.

10 And I believe when the Board ruled on admission
11 of the contentions, the revised training contentions, the
12 decision was made that stress training was not required by
13 the regulations and it is not relevant to the issues.

14 MR. MILLER: Judge Laurenson, Contention 40
15 states in many places -- stress and fatigue are addressed.
16 But I am looking in particular at one sentence, "training
17 alone cannot prepare people for the actual stress and
18 trauma that accompany emergency conditions."

19 I think that the issue is, can you train people
20 for stress? Can training alone overcome the impact of
21 stress? And should you, indeed, train people for stress?

22 And I think all of that is encompassed within
23 the contention.

24 JUDGE LAURENSEN: Well, the question of stress and
25 fatigue -- the question is raised in Contention 40. I

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1 think it is somewhat ambiguous, but the objection will be
2 overruled here.

3 You may answer the question.

4 WITNESS MC INTIRE: What I believe, is that
5 training to prepare emergency workers to do their -- under-
6 take their emergency roles well, will in itself be a
7 significant factor in reducing stress. It is my experience
8 that stress is caused by such things as inability to do the
9 job, uncertainty on what to do when decisions are required.
10 Those types of things.

11 So, if I were putting it in priorities in my
12 own perspective, I would put emergency response training
13 for the respective roles for each emergency worker at
14 a much higher priority than specific training to do with
15 dealing with stress and the individual.

16 BY MR. MILLER:

17 Q You would agree with me, would you not, that it
18 is possible to train people in how to deal with stress?

19 A (Witness McIntire) It is my feeling that
20 you can attempt that, but it would be very difficult to
21 train an individual to deal with stress if he or she were
22 unable to undertake their emergency response role success-
23 fully. If they were aware of the fact that they were doing
24 a poor job, I think in the vast majority of the cases that
25 stress would be present within that individual no matter how

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1 much training they had in the field of dealing with
2 individual stress.

3 Q But there are such things as role playing. There
4 are ways to build time limitations into drills and jobs to
5 be performed during drills, all sorts of things which build
6 stress into a training situation, which can lead to a result
7 of alleviating stress. Isn't that correct?

8 A I think we may be saying basically the same thing,
9 if I understood your question correctly.

10 I think you are saying that through drills and
11 exercise, it is possible to train emergency workers to do
12 their jobs better, and that would reduce stress.

13 If I mischaracterized your remarks, I am sorry,
14 because that is my testimony.

15 Q Let me try asking it a different way. In your
16 opinion, should these drills simulate stress?

17 MS. MONAGHAN: Objection. Relevance.

18 JUDGE LAURENSEN: Overruled.

19 WITNESS MC INTIRE: What I think is more
20 important, that drills simulate real or realistic, as we
21 talked about, emergency conditions that would require the
22 emergency workers to take actions, make decisions, or
23 whatever their appropriate role.

24 And as a result of this I believe that, you know,
25 this would deal with the question of reducing stress,

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1 because you know these people, after these drills and
2 exercises should be better able to perform their emergency
3 roles.

4 To go further, I don't think as a general
5 rule it is productive in the training of emergency workers
6 to build in situations that are not realistic, and that
7 would normally not be a condition they could reasonably
8 expect to see in an emergency operation.

9 I think it is much more important to have the
10 realism built into the drills and exercises.

11 BY MR. MILLER:

12 Q I take it what you are telling me, Mr. McIntire,
13 is that if you take the appropriate steps to build realism
14 into your drills and exercises, that in a way leads to the
15 training for how to deal with stress.

16 A (Witness McIntire) What I have been attempting to
17 communicate is that by training in a meaningful, realistic
18 way, emergency workers, that in itself will reduce stress
19 in an actual emergency situation.

20 The other point I am trying to make is that
21 training in my judgment tends to become ineffective if the
22 scenario followed is unrealistic. The emergency workers
23 will then have a tendency not to take their training
24 seriously, not to think it is for a real event, and therefore
25 may not get as much out of the training as they would with

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1 more realistic drills and exercises.

2 Q Going back just for a moment to that sentence
3 regarding your opinion about the specific duties of workers
4 not being in most cases complex, or requiring job
5 experience.

6 Would you agree with me, gentlemen, that a
7 task or a duty which you believe generally is not complex
8 could indeed become complex, depending on the actual
9 situation and circumstances that would develop during an
10 emergency?

11 A That is certainly within the realm of possibility.

12 Q And so, for example, taking a traffic guide, a
13 traffic guide in a task to be performed by a traffic guide
14 as you understand them from your review of the LILCO plan,
15 if conditions during an emergency would evolve, such as you
16 would have congestion of traffic, perhaps accidents and so
17 forth, that task of directing traffic could indeed become
18 a complex task, isn't that correct?

19 A That is true.

20 And I believe that the plan builds in procedures
21 for certain emergency workers to receive supplemental
22 assistance, to receive policy direction from other people
23 in the decision chain when they encounter situations which
24 may be beyond their own individual capability to deal with
25 at that moment.

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1 Q Sticking with my example of traffic guide,
2 Mr. McIntire, what is it in the LILCO plan which, in your
3 understanding of the plan, would lead to providing assistance
4 to a traffic guide or leading to some other way to resolve
5 the complexity of the task?

6 A The ability to communicate with a person's
7 superior, to receive this guidance, to make requests for
8 assistance, to make requests for a need for clearing of
9 accidents or any of these situations that you mentioned.
10 It would not certainly be expected that an individual
11 traffic guide would clear an accident by himself.

12 Q Let's look at Contention 41. This goes to the
13 issue of LILCO's communication training, correct?

14 A That's correct.

15 Q The first sentence again says that the plan
16 provides for adequate training of personnel in the use of
17 communications equipment.

18 I want to ask again to make sure we all have a
19 clear understanding of what you are saying: Is it fair to
20 say that what that statement is saying, is that the LILCO
21 training program in your opinion, on paper, provides the
22 capability of training LILCO personnel in the use of
23 communications equipment in an adequate manner?

24 MR. GLASS: I object, your Honor. The testimony
25 speaks for itself.

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1 What we are getting at now is an attempt to use
2 certain inflammatory words or adjectives in a particular
3 question. The continuous use of paper plan, I think it is
4 repetitious at this point. It is not serving a purpose.

5 I have been very patient today and not raised
6 it to this point, but I do not see where it is providing
7 any additional information to the record.

8 JUDGE LAURENSEN: I guess it is proper cross
9 examination. He is entitled to find out whether there is
10 anything beyond the plan itself that was considered such as
11 he has explored in the other areas concerning the spot
12 checks.

13 Objection is overruled.

14 WITNESS KELLER: In the review of the plan --
15 I guess the answer to your question is yes. I think it can
16 be answered in the affirmative, if I recall.

17 BY MR. MILLER:

18 Q Yes, sir.

19 So your testimony, Mr. Keller, is addressing in
20 essence again the design of the training program as you
21 understand from your review of the plan?

22 A (Witness Keller) That's correct.

23 Q And when you talk about the use of communications
24 equipment, one of the primary pieces of such equipment
25 would be radios, correct?

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1 A That, and telephones.

2 Q Do you know, Mr. Keller, from your review of the
3 training materials, how often persons expected to use radios
4 in LERO are given the opportunity to actually practice the
5 use of radios?

6 A It is my recollection that the communication drills
7 are scheduled as quarterly drills. I have no knowledge
8 whether they are given the opportunity to practice on a
9 more frequent basis than that.

10 I don't believe the plan is specific whether they
11 will have free time to go play with the radios. But the
12 plan, I do believe, says that there will be quarterly
13 communication drills. And I think our testimony indicates
14 that it is our understanding that these drills have not
15 been completed at this time.

16 Q Do you understand, Mr. Keller, that during these
17 quarterly communications drills, all LERO personnel who would
18 be expected to use a radio during an emergency at the
19 Shoreham plant, participate in such drills?

20 A As our testimony indicates, my interpretation of
21 the contention was that only the communicators, i.e. the
22 people who were at the EOC, would be given the opportunity
23 to participate in these drills.

24 My understanding of what the plan says, that
25 there will be radio checks between the EOC and the various

mm11

1 field locations. And I interpret that to mean that there
2 will be somebody in the field with a radio to communicate
3 with the communicator in the EOC.

4 I am not aware that all of the individuals who
5 might be in the field would be involved in the quarterly
6 communication drills, but at least some of them would be.

7 Q If the goal of the training program is to
8 provide the communicators in the EOC the opportunity to make
9 transmission -- and as you say you would want people in
10 the field for them to communicate with -- you could have
11 merely one person in the field for each communicator of the
12 EOC, correct?

13 A That's a possibility.

14 Q And there are many, many more personnel under
15 the LILCO plan that, in an emergency, could be out in the
16 field using a radio? For example, all traffic guides,
17 correct?

18 A There is certainly more than one per communicator,
19 that's correct.

20 Q And when you say in your testimony, Mr. Keller,
21 that it is "our conclusion that the field locations to be
22 involved in these tests must be staffed," are you saying
23 there that all field locations should be staffed, or just
24 one per communicator?

25 A At a minimum, one per -- that's not even true.

mm12

1 There must be someone outside the EOC. And you
2 may only have one outside the EOC. If you had sufficient
3 number of radios, and sufficient numbers of persons available,
4 he could talk with all the communicators inside the EOC.
5 We don't have specific knowledge as to how these drills will
6 be conducted.

7 I think the intent of the plan -- in my
8 interpretation the intent of the plan is broader than
9 just an exercise of the communicators, or a drill with
10 the communicators.

11 Q Mr. Keller, if you had a situation where the
12 intent of the plan was to quarterly test the equipment,
13 radio equipment of the communicators in the EOC, then even
14 if you had a few people out in the field manning locations,
15 you would not then have an opportunity for many other
16 members of LERO to practice the use of their radios during
17 these tests, would you?

18 A That is correct.

19 The real -- the thing that we are concerned with,
20 or should be concerned with, is the ability of the field
21 personnel to be able to communicate necessary information
22 between the people in the field and the EOC. As Mr. McIntire
23 has just discussed, drills and exercises help to convince
24 these people that they can do these things in an adequate
25 way.

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1 Again, if we have an exercise, an effectively
2 evaluated exercise, we will be able to evaluate this in a
3 somewhat stressful situation insofar as the participants
4 are concerned.

5 The fact that the federal evaluators are hovering
6 over their shoulder has created stress within the partici-
7 pants.

8 Q Mr. Keller, these quarterly communication drills,
9 the rule book calls them communication drills -- isn't it
10 true that these so-called drills are really -- the purpose
11 of these are really to test the operability of the communica-
12 tions equipment?

13 A That is certainly one function. If you are going
14 to use -- have a communications drill, the equipment must
15 work in order to have the drill.

16 Q But in terms of providing an opportunity for
17 members of LERO expected to use radio equipment, to be
18 able to practice the use of such equipment, these drills
19 really don't accomplish that purpose, do they, except for
20 perhaps the communicators at the EOC?

21 A And my interpretation is someone or some number
22 of people out in the field. It is not solely my interpreta-
23 tion, it is not solely the communicators. There are other
24 people involved in the field. Certainly not the complete
25 complement of people who would be expected -- the maximum

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1 number who could be expected in a real emergency, but at least
2 some other people would be involved.

3 Q When you say at the end of the paragraph that
4 it is your understanding that these quarterly communications
5 drills have not been completed, you are saying they have not
6 been completed even for the first time, at this point,
7 correct?

8 A That is my understanding.

9 Q In fact, it is true that they have not even been
10 developed at this time, correct?

11 A I don't have any knowledge to that.

12 Q Do you have any knowledge as to when LILCO
13 expects these drills to be completed for the first time?

14 MS. MONAGHAN: Objection, relevance.

15 JUDGE LAURENSEN: Overruled.

16 WITNESS KELLER: I have no information as to
17 the timetable or the schedule for when these drills will be
18 completed. But, as Mr. McIntire pointed out earlier, FEMA
19 is not particularly concerned about that because this is
20 not an operating plant.

21 If it were an operating plant, or if an operating
22 license were imminent, I think we probably would have more
23 concern. But we are not aware of any imminent license to
24 operate, or exercise, or lots of other things.

end T20

25

1 Q Mr. Keller, your understanding, your conclusion
2 about the staffing of at least some field locations during
3 these quarterly tests, do you know if LILCO will, in fact,
4 staff these field locations as you expect they should?

5 A This is my interpretation of what I read in
6 the plan. I am not aware one way or the other whether my
7 interpretation is correct or incorrect.

8 Q Do you know, Mr. Keller, whether at this time
9 LILCO's communications equipment is all in place, or whether
10 it is operational?

11 MS. MONAGHAN: Objection. Not relevant. Beyond
12 the scope of the contentions.

13 JUDGE LAURENSEN: Sustained.

14 MR. MILLER: Judge Laureson, the contention goes
15 to communications. It goes to communications drills, and it
16 goes to the adequacy of the instruction provided. If the
17 equipment is not in operation or in place, I don't see how you
18 could have such drills, and I am not sure how you could reach
19 conclusions about the adequacy.

20 JUDGE LAURENSEN: But the contention is a
21 training contention. It isn't an equipment contention. We
22 have gone through that before.

23 MR. MILLER: It is a training contention, but
24 the training depends upon the use of equipment.

25 JUDGE LAURENSEN: I still don't see that that

1 makes your question relevant to this contention.

2 BY MR. MILLER: (Continuing)

3 Q Mr. Keller, do you have a copy of Contention 41?

4 A I think Mr. Baldwin does.

5 Q Let me just ask -- Mr. Keller, you have it now?

6 A Yes.

7 Q Okay. Do you disagree with any portions of
8 Contention 41?

9 A Yes.

10 Q Could you tell me which ones, or maybe -- is it
11 the entire contention?

12 A Specifically, I don't think that the training
13 necessarily has to cover the range of coverage for each
14 available frequency. That is something you will determine
15 when you are out there trying to use it.

16 Proper radio discipline certainly should be
17 involved in the training. I disagree with the section that
18 only communicators will participate in the drill.

19 My interpretation of the plan is counter to that
20 part of the contention.

21 Q Where do you see that part about only the
22 communicators will participate.

23 A Only persons in those selected LERO positions
24 designated as communicators will participate in this drill.

25 It is the --

1 (Witness McIntire) Fifth line up on page 116.

2 (Witness Keller) On the bottom. My interpretation
3 is that other people will communicate -- will participate in
4 some of these drills.

5 Q I am not sure we have the same version of the
6 contention.

7 Mr. Keller, so your disagreements with the
8 contention are; one, that you don't think you have to
9 include training on the range of coverage available, correct?

10 A (Witness Keller) Not specifically, no.

11 Q And that you believe -- it is your interpretation
12 that persons other than communicators would participate in the
13 quarterly communication drills, correct?

14 A In communication drills. Not necessarily the
15 quarterly communication drill, but in communication drills,
16 yes.

17 Q Do you have any other disputes with the contention?

18 (Panel confers)

19 A One moment to review some of our background
20 information to decide if we have any serious problem with
21 anything else.

22 MR. GLASS: Judge Laurenson , I just have a
23 concern about the method that is being used right now. It
24 certainly doesn't leave a clear record when you start handing
25 the witnesses the contentions. Tell us what you disagree

1 with.

2 It leaves the possibility for oversight. It
3 leaves the possibility for confusion. I wouldn't mind
4 if necessary so we have a clear record that they go through
5 each item as we go along, but I am concerned about this type
6 of method of having a clean record for everybody.

7 JUDGE LAURENSEN: I think Mr. Miller has asked
8 a very open-ended question here that is going to take some
9 time for the witnesses to review the contention, but I think
10 this is within a permissible scope of cross examination,
11 although I think it certainly is very time consuming, but
12 the witnesses will take whatever time they need to answer
13 this question.

14 MR. GLASS: I did not have an objection to the
15 scope of it. I was just concerned with the method that is
16 being used to accomplish it, as it would impact on the
17 record.

18 MR. MILLER: Judge Laurenson, if this is
19 going to take a lot of time, I will move on. I would have
20 thought the witnesses would be generally familiar with the
21 contentions. I didn't think this would be a time consuming
22 area.

23 MR. GLASS: We have a number of contentions. We
24 have a number of plans. We have a number of modules that
25 the witnesses have reviewed. To expect them to remember

1 every phrase in every contention is rather difficult at
2 this point, as it would be for anybody else.

3 MR. MILLER: Let me ask the panel. Is this
4 going to take some time? If so, we will --

5 MR. McINTIRE: We ascertained the answer to the
6 question.

7 MR. KELLER: Give it to him.

8 BY MR. MILLER: (Continuing)

9 Q Mr. Keller, why don't you finish up. We have
10 named two areas in the contention which you do not seem to
11 agree with. Is there anything else?

12 A (Witness Keller) I think that is probably
13 the reasonable picture of our problems with this contention.

14 Q And I think I heard you mention, Mr. Keller,
15 earlier that you do believe that training in proper radio
16 discipline is something that should be included within
17 communications training, correct?

18 A That is correct. I did not -- again, what should
19 be included and what is required to be included, certainly
20 the better etiquette and proper communications protocol
21 will smooth the flow, and allow things to move in a more
22 expeditious manner. It doesn't necessarily preclude the
23 passage of information if people don't use proper communica-
24 tion methodologies, and we would like to see it done and
25 it would be helpful, only being able to evaluate how bad it is

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1 would enable you to make an evaluation if it is necessary or
2 not.

3 Q Will you look at Contention 44, please, gentlemen
4 on page 106. You say in the first sentence of the answer
5 that the plan does not specifically address this issue,
6 and this issue refers to whether the plan adequately provides
7 for testing the understanding of the message content, correct?

8 A That is correct.

9 Q Let me ask you, what would you expect to see in
10 the plan for this issue to be specifically addressed?

11 A We don't expect to see anything in the plan. A
12 contention was raised that there is nothing in there which
13 tests the understanding of messages.

14 We agree that we could find nothing in the plan
15 which addresses this particular issue. We don't find this
16 a problem. We go on to try to explain what we think is
17 likely to be the case.

18 We don't expect or require that this type of thing
19 be in the plan.

20 Q Mr. Keller, your answer to Question 126 basically
21 goes to the fact that State agencies, Federal agencies,
22 have to your understanding and knowledge in the past, have
23 been able to understand the data presented in the radiological
24 emergency data form, correct?

25 A That is correct.

1 Q Now, that I suppose is one side of the issue,
2 but would you agree with me that for message content to
3 be understandable, you also of course have to have had the
4 data form filled out accurately and completely?

5 A Are you trying to say that the individual who
6 initiates the message, if he makes a mistake, whether
7 the people on the receiving end can identify this mistake?

8 Q Well, what I am saying is that people who
9 initiate the message do have some control over whether the
10 message as transmitted will be understandable to the
11 recipient?

12 A I don't understand.

13 Q You don't understand that.

14 A (Witness McIntire) What we could say again is
15 that this is another type of issue that we would evaluate
16 at an exercise. This whole sequence of message distribution
17 and understanding.

18 A (Witness Baldwin) The response that we -- the
19 answer that we gave to this question 126, specifically deals
20 with the form used to transmit and receive technical
21 information regarding the emergency, which is located in
22 OPIP 3.4.1, which is the form used to transmit this
23 information, emergency information over the RECS communication
24 system.

25 We have seen this type of form used in a number

1 of drills in New York State, and find it -- that the information
2 can be transmitted and received successfully.

3 We have also encountered situations where wrong
4 information has been transmitted and wrongly recorded, or
5 properly transmitted and wrongly recorded.

6 A And in that latter situation, Mr. Baldwin, would
7 lead to -- I assume would lead to increasing the possibility
8 that the recipient of the message would not understand the
9 message content appropriately.

10 MS. MONAGHAN: Objection. The question is vague,
11 and it is beyond the scope of what we are litigating here.
12 We are getting pretty far afield from the training aspects
13 of this.

14 MR. MILLER: The contention goes specifically
15 to communications testing to determine understandability
16 of message content. That is what I am asking about.

17 JUDGE LAURENSEN: Your question is if it was
18 transmitted erroneously, or recorded erroneously, if that
19 would lead to a misunderstanding? I suppose it would.

20 MR. MILLER: All I am trying to establish,
21 Judge Laurenson, is that the witnesses have looked at the
22 contention which talks about understandability of message
23 content.

24 Their answer addresses the fact that to their
25 knowledge, recipients of these messages elsewhere have been

1 able to understand the content of the message.

2 I am pointing out, or trying to point out, that
3 understandability also depends on the initiator of the
4 message, which in this case are LILCO personnel.

5 MR. GLASS: I don't think that is what the
6 question has been. I think you are getting to a very
7 generic issue of, you know, if they make a mistake in the
8 data that they are transmitting, and I think that is beyond
9 the scope of the contention.

10 MR. MILLER: Preparation of the message to me
11 is part of the communications of the message, but --

12 JUDGE LAURENSEN: I think this is beyond the
13 specific training communications contention that we have
14 in 44.

15 Objection is sustained.

16 BY MR. MILLER: (Continuing)

17 Q Look at Contention 44.E, will you gentlemen?
18 The free play for decision-making issue. Let me ask you
19 first of all if you would define a free play for decision
20 making?

21 A (Witness Kowieski) As already described today
22 how we develop exercise objectives and scenario. First of
23 all, the knowledge of the exercise objectives and scenario
24 among -- well, strike that.

25 The exercise objective and scenario are kept

1 confidential, to start with.

2 The exercise objective and scenario provide --
3 we make every attempt to put as much realism into the exercise
4 as possible. Therefore, decision-maker would be faced with
5 the situation which is similar to one in case of real
6 emergency.

7 Q So, Mr. Kowieski, the free play aspect of the
8 decision making ties into the realism, is that what you are
9 saying?

10 A Yes.

11 Q And I gather then in FEMA graded exercises,
12 FEMA attempts to build free play for decision making into
13 the scenarios that is used during the exercise?

14 A That is correct.

15 Q Now, have you made any determination as to
16 whether LILCO in its drills and exercises, attempts to build
17 free play for decision-making into its scenarios?

18 A Well, first of all, we haven't done any
19 evaluation of the LILCO exercise objective and scenario.
20 So, we are not aware of any effort on the part of LILCO
21 to introduce free play of activities.

22 Q In the LILCO drill and exercises?

23 A That is correct.

24 Q Would you think that free play for decision-making
25 in LILCO's training drills and exercises would be a good idea?

1 A Yes, it would.

2 Q Do you have any reason to dispute Contention 44.E.
3 If it will save time, I will read it. It is a one sentence
4 contention. It says: The plan fails to describe how
5 exercises and drills are to be carried out to allow free play
6 for decision-making.

7 A (Witness Keller) The plan states that scenarios
8 for drills and exercises would allow for participant
9 discretion in decision-making.

10 There are no details of how this will be done
11 in the plan, to our knowledge.

12 Q So, where the contention says the plan fails
13 to describe free play for decision-making, you are saying
14 you agree that the contention is correct?

15 A I am saying that the details of how the free
16 play will be done in a drill or exercise is not in the plan,
17 but I am also saying that the plan says that there will be
18 provisions for free play -- I am sorry, for participant
19 discretion and decision-making.

20 I am also saying -- or also testifying -- that
21 the degree to which you can use free play will depend upon
22 the specific exercise objective and the scenario that
23 you use, insofar as the plan does not contain, or are we
24 aware of any requirement for the plan to contain, specific
25 exercise objectives or drill objectives, there is really no

1 way that the plan can contain the details of specifically
 2 how free play will be incorporated within these drills and
 3 exercises.

4 So, on a very literal and specific terms, yes,
 5 we agree with the wording of the contention.

6 However, it has no basis in reality. There
 7 is no way -- that unless you include in the plan all of
 8 the objectives and scenarios for all the drills and all
 9 the exercises, that you can detail specifically how you
 10 are going to carry out free play.

11 End 21.
 12 Sue fols.

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That's the point we are trying to make.

2 Q Could you give me the cite, Mr. Keller, for
3 where in the plan it is stated that drills will provide
4 for participant discretion, I think you said?

5 A (Witness Baldwin) On Page 5.2.2, the second
6 bullet, Line 5, Revision 3.

7 Q That's fine. Just the cite is what I wanted.
8 The answer to Question 127, Mr. Keller, refers to NUREG
9 Element N.3.

10 A (Witness Keller) That's right.

11 Q N.3 is set forth on Page 53 of the RAC report,
12 correct?

13 A (Witness Kowieski) That's correct.

14 Q When I read Element N.3, I do not see any
15 mention of free-play for decision-making or participant
16 discretion or anything of that kind.

17 How does Element N.3 relate to Contention 44.E?

18 A Well, first of all, the Element N.3.A, for
19 instance, states that exercise objectives of each drill --

20 Q Mr. Kowieski, I'm looking at the RAC report.
21 Are you looking at something else?

22 A Well, I'm trying -- first of all, I would like
23 to call your attention to NUREG requirement, what's
24 required, and our response to it. The NUREG requirement is
25 that exercise objective and scenario will be developed and

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2 provided to FEMA. As I already described the process, when
3 we evaluate exercise objective and scenario, we will make
4 sure that scenario provides for free-play, a number of
5 activities including decision-making.

6 (Witness Keller) In addition, one of the reasons
7 that we referenced N.3 in the RAC review is that N.3 is
8 referenced in the contention. And if indeed that is an
9 improper reference in the contention, I'm sorry.

10 Q No, it's not, Mr. Keller. I just want to
11 clarify this, though.

12 When in your answer you mention NUREG Element
13 N.3, the RAC report regarding Element N.3 does not discuss
14 free-play for decision making, does it?

15 A That's correct.

16 Q Now, NUREG Element N.3 does say that each
17 organization shall describe how exercises and drills are
18 to be carried out to allow free-play for decision-making
19 and to meet the following objectives. And there are a
20 number of objectives.

21 Where is it in the LILCO plan or procedures
22 that they describe how exercises and drills are to be
23 carried out to allow free-play for decision-making as
24 required by NUREG Element N.3?

25 A (Witness Kowieski) On Page 5.2-2, after you
finish with bullets, the next paragraph states in the middle

#22-3-SueT 1

2 of the paragraph: Details of the scenarios will not be
3 discussed with the exercise participants prior to the
4 exercise. The objectives for the exercise will be submitted
5 for FEMA/NRC review 75 days prior to the conduct of the
6 exercise.

7 Q Mr. Kowieski, that's referring to the FEMA-graded
8 exercise, correct?

9 A That's correct.

10 Q What about with respect to drills and exercises
11 to be conducted by LILCO?

12 A (The witnesses are conferring.)

13 Again, if you are referring to the LILCO -- the
14 exercises or drills, conducted without FEMA involvement as
15 official observers, there is no -- the plan does not
16 mention how issue of decision-making or free-play in
17 decision-making will be addressed.

18 However, this plan is very specific as to how
19 free-play of decision-making will be accomplished if FEMA
20 and NRC will evaluate exercise objective and scenario.

21 Q With respect to LILCO's drills and exercises,
22 as you say, there is nothing in the plan that describe
23 free-play for decision-making and NUREG 0654, Element N.3,
24 would require such a description; isn't that correct?

25 A NUREG 0654 refers to FEMA-evaluated drills.

Q Are you saying that Element N.3 or all of NUREG

#22-4-Sue-21

0654 is only applicable to when you have a FEMA-graded drill?

A There is nothing that would prohibit any emergency response organization, including LERO, to apply the same criteria as specified in NUREG 0654.

What I'm saying to you, that what we will go by during the exercise would be NUREG -- what we will go by during the Federally-observed exercise would be NUREG 0654. As far as we are concerned, we regard to Federal-observed exercise this requirement is satisfied, and NUREG Element N.3.A is adequately addressed in the plan.

Q Mr. Kowieski, let me try one more time and then we will leave this point.

Are you telling me that in your opinion there is no requirement under NUREG 0654 for LILCO to describe free-play for decision-making in LILCO drill, training drills and exercises?

A Yes. Again, if you read NUREG requirement N.3, it's very specific. It says: Each organization shall describe how exercise and drills are to be carried out to allow free-play for decision-making.

And then you continue: Pending the development of exercise scenario and exercise evaluation, guidance by FEMA and NRC, the scenarios for use in exercises and drills shall include but not limited to. And then goes on.

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(Witness McIntire) We might point out that is
the exact section cited in the contention, Contention 44.E.

Q I understand that, Mr. McIntire. What I'm
trying to get across to you is that it's the County's
position, as stated in Contention 44.E, that free-play for
decision-making must be described in the training drills
and exercises, the FEMA-graded exercise as well as LILCO
training drills and exercises.

The County believes that that is supported by
Element N.3. I'm trying to ascertain whether you agree
or disagree with that.

A (The witnesses are conferring.)

MR. GLASS: I think at this point the witnesses
have stated rather --

MR. MILLER: Mr. Glass, I would prefer your
not testifying for the witnesses. They are conferring
among themselves.

MR. GLASS: I'm objecting to your proceeding
along this line. I feel that they have already answered
the question.

I have an objection.

MR. MILLER: Well, your objection is asked and
answered. And Judge Laurenson can rule on your objection,
then.

JUDGE LAURENSEN: The objection is overruled.

end #22
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2 WITNESS KELLER: This may be a better way to put
3 our position.

4 We feel that the statement in the plan that says
5 participants' discretion -- will allow for participant
6 discretion and decisionmaking, is basically free play and
7 we feel that meets the requirement of NUREG 0654. And we
8 feel that it is not possible to detail specifically, and we
9 do not -- we are not of the opinion that it is required to
10 detail specifically how this free play will be used in any
11 given exercise, because it is our opinion based on our
12 experience that the way free play will enter into any given
13 exercise, will depend on the specific objectives of that
14 particular exercise, and the specific scenario which is
15 used to demonstrate those objectives, if that is counter
16 to the contention of the County, I guess it is.

17 BY MR. MILLER:

18 Q I think the issue in dispute gentlemen, is that
19 you seem to be reading NUREG 0654 just to require free play
20 for decisionmaking to be described in the FEMA graded
21 exercise.

22 A (Witness Keller) I don't believe that it is
23 possible, or we don't believe that it is possible to describe
24 the specific way in which free play for decisionmaking
25 will be exercised in a drill or exercise; whether it is a
FEMA-evaluated one, or one that LILCO puts on for itself,

1 until after the objectives of that particular drill and
2 exercise have been established and until after the scenario
3 for that particular drill or exercise has been established.

4 And we are interpreting a rather general statement
5 in the plan that says that the scenarios for exercises and
6 drills will allow for participant discretion and decision-
7 making to adequately meet the requirement of NUREG 0654 for
8 either a federally evaluated exercise, or for a LILCO drill.

9 Now that is the interpretation that the RAC has
10 made. Apparently the County disagrees with that interpreta-
11 tion.

12 A (Witness Baldwin) And in reviewing compliance
13 with NUREG 0654, the provisions in the plan say that it
14 provides for review of the scenario, of the objectives and
15 scenario, to take it sequentially, by FEMA and NRC. And at
16 that time, in the process of reviewing those and approving
17 those for an exercise that is going to be observed by FEMA,
18 free play would be taken into consideration, and indeed a
19 requirement.

20 MR. MILLER: Judge Laurenson, I think this would
21 be a good time to break for the day.

22 I would like to move the admission of SC Exhibit
23 No. 92 into evidence before we break for the day.

24 MR. GLASS: FEMA has no objection.

25 JUDGE LAURENSEN: Any objection?

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MR. ZAHNLEUTER: No objection.

MS. MONAGHAN: No objection.

JUDGE LAURENSEN: Suffolk County Exhibit No. EP-92
will be received in evidence and bound in the transcript
following this page.

(The document previously
marked SC EP-92 for
identification, was received
in evidence.)

(Exhibit No. SC EP-92, Log of Documents Examined
by FEMA during LERO Training Record Audit - 7/24/84 follows:)

LOG OF DOCUMENTS EXAMINED BY FEMA DURING
LERO TRAINING RECORD AUDIT - JULY 24, 1984

1. LERO Worker Summary for Training Sessions 1-11 (June 21, 1984)
2. Training Status of LERO Workers (July 23, 1984)
3. Internal drill schedules (calendar form) for drills held October 1983 through June 1984
4. LERO Training session Summary Report (June 5, 1984)
5. Annual Re-training binder
6. One (1) Drill Participant form from Drills, Fall 1983 (examined to indicate that bus routes were run by LERO bus drivers during drills)
7. Lesson Plan for Ambulance Personnel Training
8. For Ambulance companies already trained (Peconic, Guardian, Nassau and Orlando), all attendance sign-in sheets and the complete training records of two individuals [names deleted] were examined.
9. Obsolete map of bus transfer points in the 10-mile EPZ was examined solely to determine the relative distance of transfer points from the plant site.
10. The completed workbook exercises for the following LILCO/LERO workers were examined:

	<u>Name</u>	<u>LERO Job</u>	<u>LERO Location</u>
a.	[name deleted]	Bus Driver	Port Jeff S.A.
b.	[name deleted]	Bus Driver	Port Jeff S.A.
c.	[name deleted]	Rad Monitoring	Centers
d.	[name deleted]	Rad Monitoring	Centers
e.	[name deleted]	Rad Decon	Centers
f.	[name deleted]	Security	EOC
g.	[name deleted]	Route Alert Dr.	Riverhead S.A.
h.	[name deleted]	Road Crew	Riverhead S.A.
i.	[name deleted]	Ld Traff Guide	Port Jeff S.A.
j.	[name deleted]	Traffic Guide	Port Jeff S.A.
k.	[name deleted]	Mgr.-LERO	EOC
l.	[name deleted]	Director-LERO	EOC

11. The following classroom sign-in attendance sheets were examined:

Session 1: 117, 129, 133, 137, 140, 144, 156, 158, 171,
180, 1AE

Session 2: 203, 211, 213, 216, 227, 228, 229, 238, 240,
269, 2AI

Session 3: 304, 312, 331, 334, 338, 340, 349, 350, 360,
368, 372, 3AG

Session 4: 405, 407

Session 5: 503, 506, 5AA

Session 6: 603, 605, 609

Session 7: 709, 714, 717

Session 8: 807, 816, 917, 823, 826

Session 9: 906, 909, 914, 924, 928

Session 10: A06, A09, A14

Session 13:* DAF

* Session 13 is the Traffic Guide training given by H. Babb

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JUDGE LAURENSEN: We will adjourn until 9:00 a.m. tomorrow morning.

(Whereupon, at 6:10 p.m., the hearing in the above-entitled matter was recessed to resume at 9:00 a.m. on Thursday, 16 August 1984)

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: Wednesday, August 15, 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.

Mimie Meltzer

Official Reporter - Typed

Mimie Meltzer

Official Reporter - Signature

Myrtle Traylor

Official Reporter - Typed

Myrtle Traylor

Official Reporter - Signature

Garrett Walsh

Official Reporter - Typed

Garrett J. Walsh, Jr.

Official Reporter - Signature