

LILCO, April 20, 1988

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NUCLEAR REGULATORY COMMISSION

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Before the Atomic Safety and Licensing BoardOFFICE OF SECRETARY
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BRANCH

In the Matter of

LONG ISLAND LIGHTING COMPANY

(Shoreham Nuclear Power Station,
Unit 1))
)
)
Docket No. 50-322-OL-3
(Emergency Planning)
(Emergency Broadcast System)
)

**LILCO'S MOTION TO STRIKE DIRECT TESTIMONY
OF CHARLES G. PERRY, III AND GREGORY C. MINOR
ON BEHALF OF SUFFOLK COUNTY REGARDING LILCO'S
EMERGENCY BROADCAST SYSTEM**

Long Island Lighting Company (LILCO) hereby moves to strike portions of the "Direct Testimony of Charles G. Perry, III and Gregory C. Minor on Behalf of Suffolk County Regarding LILCO's Emergency Broadcast System," dated April 13, 1988 (hereinafter "Perry/Minor").

The arguments for striking this testimony are:

- A. Portions of the testimony address EBS coverage beyond the 10-mile EPZ, which is not required by the Commission's regulations, and was specifically precluded from litigation by the Board's ruling on the EBS contention in this remanded proceeding.
- B. The testimony seeks to re-litigate issues concerning WALK radio, which also was specifically precluded from litigation by the Board's ruling on the EBS contention.
- C. The testimony seeks to litigate "listenership" of the radio stations, a subject that has been specifically precluded by the Board's ruling.
- D. Portions of the testimony lack either factual or legal basis.
- E. Portions of the expert testimony regarding LILCO's EBS are sponsored by witness Minor, who is not qualified as an expert on issues related to EBS.

LILCO will discuss each of these five points in general before addressing the specific portions of the testimony that should be stricken.

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ARGUMENTS FOR STRIKING PORTIONS
OF THE PERRY/MINOR TESTIMONY

A. EBS Coverage Beyond the EPZ

Many portions of the Perry/Minor testimony should be stricken because they seek to impose EBS coverage requirements for areas outside the EPZ.

As LILCO argued in its January 27, 1988, Objections to Intervenors' EBS contention, and again in LILCO's March 17, 1988, Response to Intervenors' Motion for Reconsideration, NRC regulations require LILCO to show only "means to provide early notification and clear instructions to the populace within the plume exposure pathway Emergency Planning Zone." 10 C.F.R. § 50.47(b)(5) and Part 50, App. E.IV.D.3. The Board agreed, stating that "[t]he Board knows of no requirement in NRC regulations or case law construing them which imposes an obligation on an Applicant to communicate through EBS messages to members of the public outside the EPZ." Memorandum and Order (Board Ruling on Contentions Relating to LILCO's Emergency Broadcast System), Feb. 24, 1988 at 3 (hereinafter "Feb. 24, 1988 Order"). Despite that ruling, portions of the Perry/Minor testimony seek to reclaims Intervenors' previous arguments that LILCO must provide EBS coverage outside the EPZ.

B. Issues Regarding WALK Radio

In several places the Perry/Minor testimony draws comparisons between WPLR and WALK. Such comparisons are not relevant to whether LILCO's current EBS satisfies NRC regulations, and were excluded from litigation in the Board's ruling on the EBS contentions. See Feb. 24, 1988 Order at 4 ("In regard to comparisons made to WALK radio, the issues to be contested in this proceeding only concerns the ability of LILCO's present system to meet regulatory requirements and criteria, and not standards set by a part of the EBS no longer existing in its emergency plan").

C. WPLR Listenership in the EPZ

The Perry/Minor testimony seeks to litigate the extent of WPLR's listenership in the EPZ. Such testimony is irrelevant to the coverage of the EBS and lacks basis in the NRC regulations, which require only a "means" to provide early notification and clear instruction to the populace in the 10-mile EPZ. 10 C.F.R. § 50.47(b)(5). There are no regulatory requirements that any EBS station(s) be the most popular or most listened-to in the EPZ. See NUREG-0654, App. 3 at 3-13. Again, the Board precluded litigation of "listenership" in its February 24 ruling: "The listenership rate of a lead radio station like WPLR and the public perception of that station are not issues designed to supply requisite information concerning the adequacy of the EBS system to operate in an emergency." Feb. 24, 1988 Order at 5.

D. Lack of Factual or Legal Basis

Portions of the Perry/Minor testimony are conclusory and lack either factual or legal basis. This testimony simply parrots the allegations in the contentions, without offering affirmative facts or evidence to substantiate those allegations. Thus, for example, the Perry/Minor testimony states that there "may" be areas not covered by WPLR's signal (Testimony at 26); there are other FM stations that "could" interfere with WPLR (Testimony at 26); and it is "likely" that the hilly landscape of the North Shore adversely affects WPLR's coverage (Testimony at 28-29). These and other unsupported statements are made despite Intervenors' admission that their own data concerning WPLR is insufficient to draw any conclusions about WPLR's coverage. Testimony at 17. Such testimony should be stricken.

E. Witness Minor Lacks Qualifications as an Expert on EBS Issues

The testimony regarding the professional qualifications of witness Gregory C. Minor fails to establish any basis for Mr. Minor's testimony as an expert regarding emergency broadcast systems. See also Minor deposition transcript, pages 5-8 which are attached as Attachment A. Consequently, his sponsorship of testimony regarding LILCO's EBS should be stricken.

SPECIFIC PARTS OF THE PERRY/MINOR
TESTIMONY THAT SHOULD BE STRICKEN

1. Minor p.4, line 5 beginning with "[Minor]" through p.5, line 8 ending with "of the testimony."

LILCO moves to strike expert witness Gregory C. Minor on the basis that he is not qualified as an expert on the issue of emergency broadcast systems. This passage and the professional qualifications in Attachment 3 to this testimony show that Mr. Minor possesses no special expertise on EBS systems or radio coverage of the type necessary to qualify him as an expert on the admitted issues.

2. Perry/Minor p.5, line 19 beginning with "According to LILCO" through p.6, line 3 ending with "IV-3 (Rev. 6)."

LILCO moves to strike this passage because the Board's ruling on the EBS contentions precludes comparisons with WALK radio, and a fortiori any further litigation of WALK's capabilities. Feb. 24, 1988 Order at 4.

3. Minor p.13, line 1 beginning with "Q. Does LILCO's EBS" through p.14, line 9 ending with "(Emphasis added.)"

LILCO moves to strike this passage because the Board's ruling on the EBS contentions precludes litigation regarding the coverage of areas beyond the 10-mile EPZ. The Commission's regulations require only a "means" to provide early notification and clear instruction to the populace within the plume exposure pathway EPZ.

4. Minor p.14, line 19 beginning with "[Minor]" through p.15, line 7 ending with "described in the attached report."

LILCO moves to strike this passage because Mr. Minor is not qualified as an expert regarding EBS, and his week of contacts with the Moffet firm do not so qualify him. Therefore, his opinions regarding the Moffet, Larson & Johnson field tests and report should be stricken.

5. Perry/Minor p.15, line 8 beginning with "Q. Did you review" through p.16, line 20 ending with "results had been prepared."

LILCO moves to strike this question and the accompanying answers by witnesses Perry and Minor; whether either reviewed LILCO's reports regarding coverage of the EPZ prior to performing field tests is irrelevant to the admitted contention.

6. Perry/Minor p.25, line 19 beginning "With respect to" through p.26, line 12

LILCO moves to strike this testimony because there is no basis for the assertions that WPLR's signal may not reach all areas of the EPZ, as evidenced by Intervenors' own admission on page 17 that their data is insufficient to permit any conclusions about WPLR's coverage.

7. Perry/Minor p.26, line 13 through line 21 ending with "Shoreham.4/", including the passage contained in footnote 4

LILCO moves to strike this passage regarding WPLR listenership in the EPZ, because such testimony is precluded by the Board's ruling on the EBS contention.

8. Perry/Minor p.27, line 3 beginning with "even if it is" through line 6"

LILCO moves to strike this passage because listening habits are irrelevant to the admitted contention and are excluded by the Board's ruling.

9. Perry/Minor p.28, line 13 beginning with "Second,"
through line 22 ending with "126."
-

LILCO moves to strike this paragraph, because there is no basis for the testimony regarding the orientation of rooftop radio antennas in the EPZ and any effect on WPLR's signal. Furthermore, Mr. Dippell only opined on the orientation of television antennas, not radio antennas, in his deposition. See Dippell deposition transcript, pages 124-28 which are attached as Attachment B.

10. Perry/Minor p.28, line 23 beginning with "Third," through
p.29, line 2 ending with "EPZ."
-

LILCO moves to strike this sentence because there is no basis for the assertion that the geography of the EPZ diminishes WPLR's signal below acceptable levels.

11. Perry/Minor p.32, line 5 beginning with "At this time"
through line 7 ending with "contours."

LILCO moves to strike this sentence as having no basis, because LILCO provided the raw data "necessary to assess the accuracy of the measured contours."

12. Perry/Minor p.33, line 1 beginning with "Given the" through
line 3 ending with "LILCO."
-

LILCO moves to strike this sentence as having no basis.

13. Perry/Minor p.34, line 1 beginning with "Q. Cohen" through
line 8 ending with "own Plan."
-

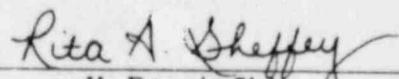
LILCO moves to strike this question and the accompanying answer on the ground that it again revisits the matter of EBS coverage of areas "west of the EPZ", and thus is outside the scope of the issues admitted in the Board's ruling on the EBS contention.

14. Attachment 3:

LILCO moves to strike Mr. Minor's resume because it does not show any

qualifications for Mr. Minor as an expert on radio coverage or emergency broadcast systems.

Respectfully submitted,



K. Dennis Sisk
Scott D. Matchett
Rita A. Sheffey

Hunton & Williams
707 East Main Street
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Date: April 20, 1988

'88 APR 25 P4:06

LILCO, April 20, 1988

CERTIFICATE OF SERVICE

OFFICE OF SECRETARY
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In the Matter of
LONG ISLAND LIGHTING COMPANY
(Shoreham Nuclear Power Station, Unit 1)
Docket No. 50-322-OL-3

I hereby certify that copies of LILCO's Motion to Strike Direct Testimony of Charles G. Perry, III and Gregory C. Minor on Behalf of Suffolk County Regarding LILCO's Emergency Broadcast System were served this date upon the following by Federal Express as indicated by one asterisk, or by first-class mail, postage prepaid.

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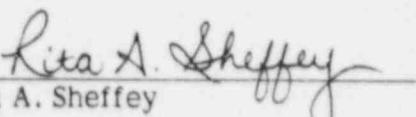
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DATED: April 20, 1988


Rita A. Sheffey

ATTACHMENT A

ATTACHMENT A

1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

3 Before the Atomic Safety and Licensing Board

4

5

6 | In the Matter of

7 LONG ISLAND LIGHTING COMPANY Docket No. 50-322-OL-3
8 (Emergency Planning)
8 (Shoreham Nuclear Power Station,
Unit 1)

The deposition of GREGORY C. MINOR, taken by counsel
for the Applicant, pursuant to Notice, before Lynda H.
Benton, a Notary Public for the State of Virginia at
Large, on the 10th day of March, 1988, beginning at
11:00 a.m., at the offices of Hunton & Williams,
2000 Pennsylvania Avenue, N.W., 9th Floor, Washington,
D.C.

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REPORTED BY: Lynda H. Benton, RPR, CP

1 BY MR. SISK:

2 Q I am going to provide a copy to the
3 witness, and ask the witness to review it for a
4 moment.

5 A (Perusing document.)

6 Yes.

7 Q Mr. Minor, does this appear to be a copy
8 of your most recent listing of professional
9 qualifications and publications?

10 A Yes, it does. This is the one -- it
11 seems to be the same copy provided in Response to
12 Interrogatories.

13 Q I believe it is.

14 A And essentially the same as those that I
15 have given you in past depositions, but it has a few
16 of or more recent testimonies on it.

17 Q Excellent. Thank you.

18 Mr. Minor, can you describe for me your
19 background with respect to any analyses of
20 transmission of radio broadcast signals?

21 A Well, I have to start, of course, with
22 the fundamental engineering courses that are offered
23 in that area which I have taken. And beyond that, I
24 have worked very little in that field.

1 Q Okay. What types of engineering courses
2 are you referring to?

3 A I am speaking of college courses related
4 to radio field theory and related to transmission
5 theory in general for AM and FM type signals.

6 Q Have you participated in any of those
7 courses at the graduate level or, I should say,
8 post-graduate level?

9 A I don't recall any courses, any Master's
10 program that related to that particular area.

11 (Shaking head negatively.)

12 Q Did you have any courses or other
13 dealings with the area of transmission of radio
14 signals while you were at General Electric Company?

15 A There was some work there in field theory
16 that would relate to the propagation of radio waves
17 and it was on an analytical level dealing with the
18 theories and equations involved with transmission.

19 Q You may be reaching back a ways, but to
20 the best of your recall, could you describe that work
21 for me?

22 A Well, I think I described about as much
23 as I do recall of it --

24 Q All right.

1 A -- in that discussion. The work at
2 General Electric, the advanced engineering course was
3 dealing with various analytical approaches and
4 equations, types of mathematical equations that would
5 be used to solve typical engineering problems. And
6 some of the equation forms would be those that you
7 would deal with in transmission theory, also. But,
8 the problems were not specifically related to a unique
9 radio antenna or anything like that.

10 Another part of my General Electric
11 experience that comes to mind is working in the
12 traveling wave tube department in Palo Alto where we
13 were attempting to design traveling wave tubes to work
14 in the higher frequency bands which are actually
15 beyond the FM and AM bands.

16 Q Is that what was referred to on Exhibit
17 1, I believe at one point, as work on microwave tubes?

18 A Yes.

19 Q I believe I saw that somewhere.

20 A Yes, it was.

21 Q The types of mathematical formulas that
22 you referred to, would that include the types of
23 mathematical calculations used to compute signal
24 power, signal strength based on signal power and

1 antenna height, those sort of computations?

2 A In the work in my undergraduate
3 activities at the University of California at
4 Berkeley, we took courses and studied that aspect
5 relating to antenna patterns and distribution of
6 signals that would result from different antennas.
7 And, also, I was interested in that at an earlier age
8 and in high school I did some work there on my own in
9 the design of a certain type of Yagi antenna for
10 television reception, which at that date was a
11 relatively new item.

12 Q Okay. Can you describe for me how a
13 mathematical formula applicable to transmission of a
14 radio broadcast signal works? Can you just give me a
15 basic understanding of how one would go about
16 computing whether a particular radio station signal
17 would reach a particular point, say, five miles
18 distant from it?

19 A Well, in general, you are dealing with a
20 couple of natural phenomena. You are dealing with
21 line of site projection in some cases and whether the,
22 the radio wave is expected to bend beyond the horizon
23 and whether it will reach the distances you are
24 talking about with direct propagation or whether it is

ATTACHMENT B

ATTAC

TRANSCRIPT OF PROCEEDINGS

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

DEPOSITION OF RALPH E. DIPPEL

Washington, D. C.

Thursday, March 24, 1988

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1 GJW/sw 1 A I am personally not aware of it.

2 Q Okay. How about in any other way, are you aware
3 of it, rather than personally?

4 Did you hear that anybody else had done any other
5 tests?

6 A That had been retained by LILCO to do other
7 testing?

8 Q Without necessarily being retained.

9 A You mean instructed by LILCO to do it?

10 Q Well --

11 A I'm unaware of it either way.

12 Q Okay. So, you are aware of no other tests done
13 by LILCO concerning its EBS?

14 A No, I'm not.

15 Q Do you have any knowledge concerning the
16 directional orientation of rooftop antennas in the EPZ?

17 A Are you talking about FM antennas?

18 Q FM rooftop antennas, yes, sir.

19 A Not specifically on the EPZ but in general
20 throughout the country I have considerable experience.

21 Q Okay Did you study the directional orientation
22 of rooftop antennas in the EPZ?

2 GJW/sw 1 A Based on my experience in representing literally
2 hundreds of FM stations over the past 40 years, it is my
3 opinion that most FM reception does not use a rooftop
4 antenna in any area, whether it's Long Island, the EPZ, or
5 Timbuktu.

6 The reception with FM receivers is invariably
7 confined to the antenna that is built in on the set, whether
8 it's a power cord antenna or whatever. There is not the
9 same need for an outside antenna in FM that there is in TV.

10 Q What kind of antennas are those?

11 A For TV or for FM?

12 Q For FM?

13 A As I said just a minute ago, there is an antenna
14 that comes with the set --

15 Q Are those unipolar antennas?

16 A It could be.

17 Q Could they also be dipolar antennas?

18 A It could be, rabbit ears. But, most FM receivers
19 utilize what I term a power cord antenna, the ones that you
20 plug into the wall for 60 cycle AC power. The portables, of
21 course, have the little unipolar antenna generally which is
22 telescopic. It just pulls in and out of the set.

2 GJW/sw 1 Q Would dipolar FM antennas be oriented in a
2 certain way, certain direction?

3 A Just depending on how the receiver is set on the
4 table. It's random.

5 Q Do you have an opinion whether FM dipolar
6 antennas would be oriented in an east/west fashion in the
7 EPZ?

8 A I have no reason to believe that they would.

9 Q Do you have any reason to believe they would not?

10 A My belief is that they are probably randomly
11 oriented.

12 Q What do you base that belief on?

13 A Because people listen to stations at all
14 different azimuth angles, signals approaching from many
15 different directions.

16 Q Do you have any opinion as to the directional
17 orientation of television antennas on Long Island?

18 A I believe that rooftop television antennas are
19 probably pointed toward New York.

20 Q Which is in an east/west fashion?

21 A Correct.

22 Q What do you base that belief on?

1 GJW/sw 1 A Because that is where most of the TV stations
2 are..

3 MR. MISSAL: I would like to have this marked as
4 Exhibit 9.

5 (A handwritten document, dated August
6 12, 1987, Re: LILCO Project, is marked
7 as Dippell Deposition Exhibit Number
8 9 for identification.)

9 BY MR. MISSAL: (Continuing)

10 Q Are you familiar with this document?

11 A Not really.

12 Q Do you recognize the handwriting?

13 (The witness is looking at the document.)

14 A I can't say for sure. Nobody signed it.

15 Q Does the handwriting look familiar to you?

16 A It is possible that that came from our office.

17 Q Okay. Did you have any discussions with Brandt
18 Aidikoff concerning a broadcast coverage map to include the
19 composite AM and FM services on Long Island?

20 A We received instructions to produce such a map,
21 and we produced the map.

22 Q And, were they included in Exhibit 8?