

LILCO, January 16, 1984

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION '84 JAN 18 AIO:58

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
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Before the Atomic Safety and Licensing Board

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

LILCO'S MOTION TO ADMIT SUPPLEMENTAL TESTIMONY  
OF MATTHEW C. CORDARO, JOHN A. WEISMANTLE AND  
EDWARD B. LIEBERMAN ON PHASE II EMERGENCY  
PLANNING CONTENTIONS 23.D AND 65 FOR GOOD CAUSE

Pursuant to this Board's Bench Order of December 12, 1983 (Tr. 1289-90), its written Order of December 23, 1983 and its ratification on January 4, 1984 of the LILCO-Suffolk County "Joint Motion for Adjustment of Schedule," LILCO files herewith the attached "Supplemental Testimony of Matthew C. Cordaro, John A. Weismantle and Edward B. Lieberman on Behalf of Long Island Lighting Company on Phase II Emergency Planning Contentions 23.D and 65" for good cause as shown below.

On November 28, 1983, LILCO moved for documentary and deposition discovery on and the right of response to the "Direct Testimony of Peter A. Polk on Behalf of Suffolk County Regarding Contentions 23.D (Shadow Phenomenon) and 65 (Evacuation Time Estimates)" (hereinafter, "Polk Testimony"), filed

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November 18, 1983. LILCO's motion was filed because, despite diligent efforts on discovery, LILCO had not earlier been able to learn that Mr. Polk was preparing computer-assisted evacuation time estimates for the Shoreham 10-mile EPZ, or that he was the Suffolk County witness preparing estimates of the frequency of occurrence of automobile accidents and of automobiles running out of fuel during an evacuation. LILCO's Motion for Discovery and Response to Polk Testimony, November 28, 1983, at 2-6. In each case the estimates presented in the Polk Testimony differed markedly from those prepared by LILCO and reported in its direct testimony, also filed November 18, 1983.

On December 12, 1983 this Board granted LILCO's request for discovery on the Polk Testimony (Tr. 1289-90), and indicated that further testimony would be permitted on the basis of a showing of good cause to be made after discovery or subsequent cross-examination. On December 23, in granting a parallel Suffolk County motion for further discovery concerning the work of Edward Lieberman, LILCO's expert witness on traffic issues, the Board indicated that any supplemental testimony should be filed, along with a showing of good cause, within two weeks after completion of such supplemental discovery. "Order Granting in Part Suffolk County's Motion for Discovery . . . , " December 23, 1983, at 4. The date for filing any further testimony on Group I traffic issues was subsequently fixed at January 16 by the January 3, 1984 Joint Motion for Adjustment

of Schedule (page 2, ¶ 2), which was accepted by this Board in pertinent respects on January 4, 1984. The supplemental discovery of Messrs. Polk and Lieberman, meanwhile, was completed on January 6, 1984.

Good cause exists for the filing of this supplemental testimony on the three issues on which the Board granted LILCO discovery.<sup>1/</sup> In each case the Polk Testimony indicates results that are significantly at variance with those reflected in LILCO's November 18, 1983 testimony. Prior to the filing of that testimony, LILCO had not learned, despite diligent efforts, of the content or even the pendency of Mr. Polk's three analyses. Prior to the discovery granted by the Board's December 12, 1983 Order LILCO had no access to the materials or the thought process underlying those analyses. With that discovery, LILCO has come to understand the analytical process whose results are presented in the Polk Testimony. In each of the three cases, the bases for the marked contrast between the results presented in initial direct testimony have become

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<sup>1/</sup> Document discovery in the case of the evacuation time estimates consisted of detailed input listings, approximately 2000 pages of output listings, and a key to the computer model used by Mr. Polk, along with detailed listings of and a map showing assumed population distribution and traffic assignments. LILCO's review of these documents was confirmed by a deposition of Mr. Polk on January 6, 1984. Discovery ascertained that there were no further documents or analyses underlying Mr. Polk's estimates of accident frequency and automobiles running out of gasoline, beyond those attached to his November 18, 1983 testimony.

apparent. The Supplemental Testimony being filed herewith analyzes and explains these differences in detail.

With respect to the first analysis, that of evacuation time estimates, discovery revealed two basic facts: first, that the EVACPLAN model used by Mr. Polk, unlike the DYNEV model used by Mr. Lieberman, does not account for roadway network interconnections or such physical realities of roadways as length and the existence of turning embayments or turn signals, and hence does not yield results that are as dependable as those produced by the DYNEV model, all else being equal. Second and more visibly important, direct testimony had shown apparently radical differences between LILCO's and Suffolk County's evacuation time estimates from the EPZ. (LILCO's estimates for a full 10-mile EPZ evacuation under normal weather conditions in summer vary from just under 5 hours to about 7 1/2 hours, depending upon the extent of voluntary evacuation from beyond the EPZ and the presence or absence of special traffic controls. Those in the Polk Testimony show traffic not clearing for 17 hours on the Sunrise Highway just beyond the southern edge of the EPZ, and 18 hours on the LIE just west of the EPZ.) Discovery revealed that these differences are entirely a function of volunteer evacuation from the East End which originates outside the EPZ, never enters it, and is merely modeled at selected intersections along the EPZ's southern and southwestern boundaries. Detailed evaluation of Mr. Polk's

computer runs shows that all traffic evacuating from within the EPZ reaches the EPZ boundary at all locations, including the Sunrise Highway and the LIE, within 7 hours 30 minutes after the start of an evacuation. Further, when the real EPZ evacuation time of 7 hours 30 minutes for Mr. Polk's model is used and Mr. Polk's assumptions about evacuation conditions are compared with the most nearly comparable evacuation runs performed by LILCO (Case 27: Summer, normal weather, uncontrolled, 50% shadow), the results are almost astonishingly similar: the LILCO analysis is 7 hours 35 minutes for evacuation of the EPZ under these conditions. Thus, properly understood, Mr. Polk's analyses actually confirm LILCO's rather than challenge them. The attached Supplemental Testimony makes these points clear.

With respect to the frequency of accidents, the Polk Testimony estimates on the order of 141 accidents (Polk Testimony at 10-12 and Attachment 1) -- higher than LILCO's estimate by a factor of about 30 to 40. Review of the literature cited as a basis by Mr. Polk reveals a straightforward oversight by him in its interpretation. That literature shows that accident frequency correlates not simply with vehicle speed, as the Polk Testimony suggests, but with vehicle speed in relation to the prevailing speed of traffic at the time of the accident. Correction of this error again eliminates the disagreement between Mr. Polk's analyses and LILCO's, as the attached Supplemental Testimony points out.



Third, with respect to the frequency of automobiles running out of gasoline -- estimated by Mr. Polk at 277 cars -- Mr. Polk has used outdated 1976 information on the gasoline consumption characteristics of the U.S. automobile fleet and has made an error in manipulation of the data assumed by him. The result is an overstatement by a factor of about three. In any event, Mr. Polk's testimony neglects the fact that LILCO will have refueling trucks dispersed at 7 locations on major roads through the EPZ, each of them capable of providing 3 gallons of gasoline to over 400 cars -- i.e., more than enough to address the situation hypothesized by Mr. Polk all by itself. This also is made clear by the attached Supplemental Testimony.

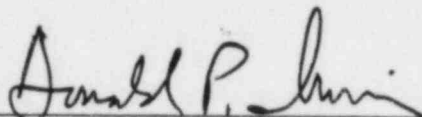
Each of the above points is made in the attached Supplemental Testimony. Each would have been made in LILCO's initial direct testimony if the information now available to LILCO had been available then. Each of these points clarifies areas of previously unexplained difference between LILCO's and Suffolk County's traffic analyses. The Supplemental Testimony containing them thus aids in the process this Board has repeatedly expressed its concern for -- narrowing and clarifying issues by means of testimony filings that meet head-on. Presentation of the information in the attached Supplemental Testimony is also the most efficient means of presentation: it would be virtually impossible to elicit from an adverse expert witness the analysis of Suffolk County's evacuation time

estimates contained in the Supplemental Testimony. Efficiency also commends filing it now rather than as rebuttal after questioning of Suffolk County's witnesses on their direct testimony; that questioning can be better focused now than it could have been otherwise. Further, since the testimony makes use of no information other than that provided by Suffolk County on supplemental discovery or already in the record otherwise, there should be no aspect of surprise in it for the County.

For the foregoing reasons, LILCO believes that good cause exists for permitting the filing of the attached Supplemental Testimony, and moves that the Board accept it.

Respectfully submitted,

LONG ISLAND LIGHTING COMPANY

A handwritten signature in dark ink, appearing to read "Donald P. Irwin", is written over a horizontal line.

Donald P. Irwin  
Lee B. Zeugin

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DATED: January 16, 1984