

LILCO, July 27, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
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Before the Atomic Safety and Licensing Board

In the Matter of)
)
LONG ISLAND LIGHTING COMPANY) Docket No. 50-322-OL-4
) (Low Power)
(Shoreham Nuclear Power Station,)
Unit 1))

LILCO'S MOTION TO STRIKE TESTIMONY OF
ROBERT WEATHERWAX, MOHAMED EL-GASSEIR AND
GREGORY MINOR ON BEHALF OF SUFFOLK COUNTY

Pursuant to 10 CFR § 2.743(c) the Long Island Lighting Company ("LILCO") moves to strike the "Testimony of Robert Weatherwax, Mohamed El-Gasseir and Gregory Minor on Behalf of Suffolk County" (hereinafter "County Testimony") on the grounds that a probabilistic risk assessment is not required for licensing, that the witnesses are not qualified to offer the opinions contained in the testimony, and that the testimony is inadmissible hearsay because it is based on a draft study that was not performed by any of the witnesses.

I. A Probabilistic Risk Assessment Is Not Relevant to Issues
Raised By The Low Power Licensing Proceeding

The testimony of Weatherwax, El-Gasseir, and Minor is based on "a quantitative comparison of the probability of Shoreham reaching a state of core vulnerability (as defined by LILCO's contractor Science Applications, Inc. in Probabilistic Risk Assessments for the Shoreham Plant) due to loss of off-site power,

during operation at 5% power, assuming operation with the alternate system and assuming operation with the originally proposed qualified on-site power system." County Testimony at 4. LILCO moves to strike the testimony of Weatherwax, El-Gasseir and Minor in its entirety as irrelevant to the issues raised by LILCO's petition for an exemption from GDC 17. As the Shoreham Licensing Board chaired by Judge Brenner recognized in its Partial Initial Decision

[t]here is no NRC requirement nor regulatory guidance for application of fault tree and/or event tree logic to analyze the reliability of systems (Finding J-902). Moreover, Commission policy dictates that the Staff should continue to use conformance to regulatory requirements as the exclusive licensing basis for plants (emphasis added).

Long Island Lighting Company (Shoreham Nuclear Power Station, Unit 1) LBP-83-57, 18 NRC 445, 573-74 (1983) (emphasis in original; footnote omitted). In reaching that conclusion, the Brenner Board relied on the Commission's Policy Statement on Safety Goals for the Operation of Nuclear Power Plants, 48 Fed. Reg. 10,772, at 10,775, col. 3 (1983) which states that the Staff should use conformance to regulatory requirements as the exclusive licensing basis for nuclear power plants. Thus, although PRAs may be useful tools for making management decisions in nuclear power plants, the NRC has recognized that they are not required as a basis for licensing plants. Rather, the NRC Staff and Licensing Boards look to existing deterministic analyses based on the NRC's regulations to determine the adequacy of plant safety. See Partial Initial

Decision, 18 NRC at 573. Likewise, PRAs are not required for a low power license and, therefore, they are not relevant to the issues raised by this low power licensing proceeding.

Significantly, one of the reasons the Commission has not yet embraced PRAs as a basis for licensing plants is the difficulty in developing appropriate standards:

[B]ecause of the sizable uncertainties still present in the methods and the gaps in the data base -- essential elements needed to gauge whether the objectives have been achieved -- the design objectives should be viewed as aiming points or numerical benchmarks which are subject to revision.

48 Fed. Reg. 10,772, at 10,774, col. 1. And yet, in the risk assessment presented by these witnesses, the Board is asked to base a decision on an alleged difference in core vulnerability from loss of offsite power events of $.44 \times 10^{-6}$ per year for the TDI diesel generators to 3.3×10^{-6} per year for the current AC power configuration. The Commission's caution in embracing PRAs reflects the difficulty in comparing such infinitesimal numbers and drawing any meaningful conclusions.

II. Suffolk County Witnesses Are Not Qualified to Render the Opinions Contained in the Testimony

A. Mr. El-Gasseir is not qualified to render an opinion on the PRA

The testimony offered by Suffolk County and the opinions contained therein are based on probabilistic risk assessments. The responses are purportedly sponsored by all the witnesses. Yet,

Mr. El-Gasseir is not qualified to offer testimony on PRAs because he has never performed a PRA, is not familiar with standard industry guides concerning PRAs and, prior to working on this low power licensing proceeding, he had never even reviewed a PRA.

Nothing in Mr. El-Gasseir's testimony indicates any qualifications sufficient to support expert testimony under Federal Rule of Evidence 702. During his deposition, El-Gasseir confirmed this lack of expertise when he testified about his extremely limited familiarity with probabilistic risk assessments. He testified that he had never before performed a probabilistic risk assessment.^{1/} He further stated that he is not familiar with documents which the industry considers seminal works on PRAs. In response to a question about the PRA Procedures Guide, which the Brenner Board termed the latest draft guideline for performing a state of the art PRA (see Partial Initial Decision, Finding J-925), El-Gassier stated:

A. I went over the PRA Procedures Guide to write this. Portions of it. Yes, guided by Mr. Weatherwax, guided by the Table of Contents.

Q. So you had not been previously familiar with the document?

^{1/} Q. Would it be correct, then, to conclude that other than the work you are now performing on Shoreham, you have not conducted any type risk assessment for a nuclear power plant?

A. Yes.

Deposition of Mohamed G. El-Gasseir (El-Gasseir Deposition) at 11-12.

A. No, not before that.

El-Gasseir Deposition at 20. Later in his deposition, El-Gasseir testified with respect to the PRA Procedures Guide that

A. I did some selected reading in the document.

Q. On that reading, I think I may have asked you this -- that reading was just for this project?

A. It is for this project, yes. It started with this project.

Q. You hadn't reviewed it before?

A. No.

Q. Would that be true of the PRA Review Manual, document no. 44?

A. Yes. That's the same. That's true of that, although that one I hardly even looked at.

El-Gasseir Deposition at 40-41.

Not only was El-Gasseir ignorant of the seminal publications on probabilistic risk assessments, but he could not explain fundamental concepts related to PRAs.

Q. Are you familiar with dependency analyses?

A. In general terms, yes.

Q. Could you describe for me the methodologies for dependency analyses for PRAs in nuclear power plants?

A. I don't think I could do that, no.

Q. So you're generally familiar with dependency analyses?

A. Yes.

Q. Would you consider yourself an expert on doing dependency analyses?

A. No.

El-Gasseir Deposition at 46.

Q. How would you perform a dependency analyses?

A. Right now, I can't tell you. I don't know how.

Q. So you'd just do whatever Mr. Weatherwax told you to do in performing the dependency analysis?

A. I believe I have done enough mathematical training that I would understand what was being involved.

Q. So you think that if you were instructed on what calculations to do, you could perform them?

A. Yes.

El-Gasseir Deposition at 52. El-Gasseir's ignorance of dependency analyses, which are an important element of PRAs (see, e.g., Partial Initial Decision, Findings J-929, -940, -948), clearly demonstrates that he is not competent to render testimony on a probabilistic risk assessment. Incredibly, the County offers El-Gasseir as an expert witness on PRAs despite the fact that until he became involved in the Shoreham low power proceeding, he had never even reviewed a PRA.^{2/}

^{2/} Q. I take it you had not reviewed any PRA prior to reviewing the Shoreham PRA?

A. No.

El-Gasseir Deposition at 44.

The testimony offered by Mr. El-Gasseir is jointly sponsored by Messrs. Weatherwax and Minor. Apparently, Suffolk County in presenting its testimony as the work of the entire panel considered that El-Gasseir's testimony was a vital and integral portion of the County's testimony on probabilistic risk assessments. Since his testimony is inextricably entwined with the testimony of Weatherwax and Minor, the Board should strike all of the testimony on the grounds that El-Gasseir is not qualified.

- B. The Witnesses are not qualified to render an opinion on AC power, diesel generators or gas turbines.

LILCO moves to strike the portion of the testimony at page 5, line 11 - page 6, line 11 and Attachment C to the testimony, which is entitled "Description Of Alternate Emergency AC Power System Proposed For Low Power Operation And The Normal Qualified On-Site Emergency AC Power System," on the grounds that the witnesses are not qualified to testify on these subjects. Not one of the witnesses who sponsored the testimony has any knowledge or experience in the design or operation of an electric distribution or transmission system. Nor do any of them have experience with diesel generators or gas turbines which would permit them to support and offer into evidence this portion of the testimony and Attachment C which contains purported descriptions of the normal AC power system at Shoreham, the mobile diesel generators (GM EMD diesel generators), the 20 MW gas turbine and the proposed operating procedures for the equipment.

When deposed about whether they had any experience in the design or operation of an electric distribution system, the witnesses sponsoring this testimony uniformly replied that they did not. For example, in his deposition, El-Gasseir testified as follows:

Q. The work with respect to contractual arrangements, did that involve any of the technical details of transmission of power?

A. No.

Q. How about the work for the Bonneville Power Authority in policies on power transmission? Did that involve any technical aspects of the transmission of power?

A. Only peripherally.

Q. How was that?

A. Only in the sense of the policies governing the use of the intertie, the voltage limitations and the intertie.

El-Gasseir Deposition at 6-7.

Mr. El-Gasseir also testified:

Q. Are you familiar with reliability data for diesel generators at nuclear power plants?

A. No. Let me correct that.

Q. Go ahead.

Q. Yeah, I did some reading about the reliability of the EMDs and that was material that was discovery material from LILCO, but that's the extent of it.

El-Gasseir Deposition at 39-40.

Similarly, Suffolk County witness Minor testified that he had no experience with the design of electrical transmission systems for a utility.

Q. Have you ever designed or been responsible for designing electric transmission equipment for an electric transmission system?

A. I have not had direct experience in design of electrical transmission systems for a utility. I have had training in that area, and I have worked for a utility in a summer assignment in their hydrogeneration in their when I was in college. So I am familiar with that area, but I have not formally designed the equipment for a utility.

.

Q. Have you ever applied that knowledge in designing any transmission system or equipment?

A. I believe I answered that earlier and said no.

Q. Have you ever been responsible for operating any power generation equipment?

A. No.

Deposition of Gregory C. Minor at 24 - 26.

Robert Weatherwax also testified that he had little experience in the design of electric distribution systems.

Q. What experience have you had in the design of electric distribution systems and jumpers such as the ones we are talking about?

A. Essentially little.

Deposition of Robert Weatherwax at 186.

As a consequence of their lack of experience in the design and operation of electric distribution or transmission systems, these witnesses are not competent to offer the testimony found at page 5, line 11 through page 6, line 11 and in Attachment C to the testimony all of which contain purported descriptions of the normal AC power system at Shoreham and the reliability of that system.

This portion of the testimony and Attachment C to the testimony also depend for their foundation on an understanding of the operation of the General Motors EMD diesel generators and the 20 megawatt Pratt & Whitney gas turbine as sources of AC power. Not one of the witnesses has the knowledge or experience in the subject area of diesel generators or gas turbines which would permit them to offer this portion of the testimony, including Attachment C. During their depositions, the witnesses admitted that they have little experience with either diesel generators or gas turbines. For example, during his deposition Gregory C. Minor stated as follows:

Q. [H]ave you ever been responsible for the operation of a diesel generator?

A. No, I have not.

Q. Have you ever designed a diesel generator?

A. No, I have not.

Q. Have you ever been responsible for the operation or design of a gas turbine?

A. No, I have not.

Deposition of Gregory C. Minor at 26. Weatherwax also indicated that he was not personally familiar with EMD diesels.

Q. Have you talked to the manufacturers of the EMD diesels or anyone from your company?

A. I have not personally. I actually am not sure, I guess. That's the best I can tell you. I am sure Mohamed could fill you in it. There was some talk certainly that trying to get ahold of General Motors and speaking to them about it.

Deposition of Richard K. Weatherwax at 190.

LILCO moves that the testimony contained on page 5, line 10 through page 6, line 11 and Attachment C to the testimony be stricken on the grounds that the witnesses are not qualified to testify on this about the design or operation of an electric distribution or transmission system nor do they have experience with diesel generators or gas turbines which would permit them to offer into evidence the testimony or Attachment C to the testimony.

III. The Testimony Is Inadmissible Hearsay

LILCO moves to strike this testimony on the ground that it is based on inadmissible hearsay. While hearsay is not inadmissible per se in NRC proceedings, the witnesses rely principally on a document that they did not prepare and of which they have no personal knowledge. The document relied upon is a draft entitled "Probabilistic Risk Assessment, Shoreham Nuclear Power Station,

Low Power Operation up to Five Percent of Full Power" (Low Power PRA), prepared by Delian Corporation and Science Applications, Incorporated, for LILCO.^{3/} Testimony at 7. Because the witnesses have no personal knowledge of the assumptions, parameters and methodology employed in the Low Power PRA, they cannot be cross-examined upon those subjects. For example, on page 9 (note 1) and in Attachment E of the testimony, the witnesses indicate that do not know whether certain assumptions about repairing diesel generators have been made in the Low Power PRA or the SAI PRA. On page 8 of the testimony the witnesses clearly speculate about the source of the data used in the Low Power PRA. The witnesses' lack of personal knowledge of the Low Power PRA is compounded by the fact that the document is still a draft which has not been formally reviewed or approved by LILCO. Thus, this testimony, based upon a draft document not prepared by the witnesses, should be excluded as inadmissible hearsay.

IV. CONCLUSION

For the reasons stated above, the Board should strike the Testimony of Robert Weatherwax, Mohamed El-Gassier and Gregory Minor on Behalf of Suffolk County.^{4/}

^{3/} The witnesses also claimed to rely on another probabilistic risk assessment for Shoreham dated June 24, 1983, entitled "Final Report, Probabilistic Risk Assessment, Shoreham Nuclear Power Station" (SAI PRA). This document was prepared for LILCO by Science Applications Incorporated.

^{4/} In the interest of efficiency, this motion is submitted in advance of the witnesses' appearance on the stand. It is based on

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(footnote continued)

the prefiled and deposition testimony of the witnesses. If the Board denies this motion and permits the witnesses to testify, LILCO may raise additional grounds for striking the testimony following voir dire and cross-examination.

LILCO, July 27, 1984

CERTIFICATE OF SERVICE

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LONG ISLAND LIGHTING COMPANY
(Shoreham Nuclear Power Station, Unit 1)
Docket No. 50-322-OL-4
(Low Power)

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I, Jessine A. Monaghan, hereby certify that copies of the following documents

LILCO'S MOTION TO STRIKE THE DIRECT TESTIMONY OF DALE G. BRIDENBAUGH AND RICHARD B. HUBBARD ON BEHALF OF SUFFOLK COUNTY

LILCO'S MOTION TO STRIKE PORTIONS OF THE TESTIMONY OF MICHAEL D. DIRMEIER AND JAMSHED K. MADAN ON BEHALF OF SUFFOLK COUNTY

LILCO'S MOTION TO STRIKE TO TESTIMONY OF G. DENNIS ELEY, C. JOHN SMITH, GREGORY C. MINOR AND DALE G. BRIDENBAUGH ON BEHALF OF SUFFOLK COUNTY REGARDING EMD DIESEL GENERATORS AND 20MW GAS TURBINE

LILCO'S MOTION TO STRIKE DIRECT TESTIMONY OF RICHARD KESSEL ON BEHALF OF THE STATE OF NEW YORK

LILCO'S MOTION TO STRIKE TESTIMONY OF ROBERT WEATHERWAX, MOHAMED EL-GASSEIR AND GREGORY MINOR ON BEHALF OF SUFFOLK COUNTY

were served this date, July 27, 1984, upon the following by first-class mail, postage prepaid, by hand (as indicated by an asterisk) or by Federal Express (as indicated by two asterisks).

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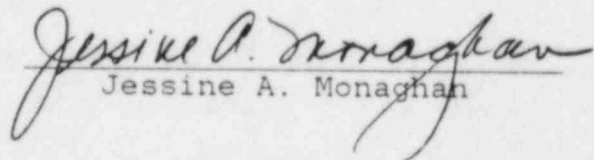
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