

RELATED CORRESPONDENCE

LILCO, December 12, 1984

DOCKETED

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

Before the Commission

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

AFFIDAVIT OF ADAM M. MADSEN

Adam M. Madsen, being duly sworn, deposes and says:

1. I am Adam M. Madsen. I have prepared this affidavit for use in Docket #50-322-OL-4 concerning the licensing of the Shoreham Nuclear Power Station (Unit 1) (Shoreham) which is pending before the Nuclear Regulatory Commission.

2. I am Vice President of Corporate Planning for Long Island Lighting Company. As such, I am responsible for all activities of LILCO's Departments of Facilities Planning, Financial Planning and Analysis, Economic Research and Strategic Planning. Additional details concerning my professional qualifications are included in Attachment A to this Affidavit entitled "Professional Qualifications of Adam M. Madsen."

3. This Affidavit is submitted in response to the Affidavit of Eugene Gleason which erroneously asserts that Shoreham is not needed until 1997. Shoreham is required immediately to provide a reliable supply of electricity to Long Island, not 13 years from now. In summary, many of the bases for the Gleason Affidavit's conclusions are incorrect. The forecast used for his conclusions has already been proven grossly incorrect in that it significantly underestimated consumption of electricity on Long Island: for 1983, by 470,000 megawatt-hours, and for 1984 by 655,000 megawatt-hours. He used electric rates that are patently incorrect. He ignored both the \$20 million worth of oil which will be saved each month once Shoreham is in operation and the \$1.9 million capacity penalty charges which will be saved in 1985. He utilizes a statewide energy forecast that has already been proven incorrect by 4,000 GHW for 1983 and 7,000 GHW for 1984. Finally, he ignores the obvious reliability danger posed by Long Island's nearly complete reliance on foreign oil, a reliance which could turn into disaster at the next disruption of oil supply.

4. According to LILCO's current load forecast, without Shoreham in service, generation deficiencies will exist on Long Island as follows:

1985 -- 202 MW  
1986 -- 273 MW  
1987 -- 344 MW  
1988 -- 368 MW  
1989 -- 397 MW

If LILCO continues to own an 18% share of Nine Mile Point #2, about one-half of the 1988 and 1989 deficiency will be eliminated; but for 1985, 1986 and 1987, there is very little prospect, other than operating Shoreham, for relieving the deficiency. Some small partial relief may come from a small purchases from the PASNY Fitzpatrick unit. In addition, some nominal relief may come from refuse fired power plants. Neither of these will substantially reduce the deficiency, however.

5. Loss-of-load probability analyses indicate that these generation deficiencies could cause 6 to 12 brownouts per year on Long Island -- an unsatisfactory level. Even though there may be excess generating capacity off Long Island, it will not effectively improve reliability of service to Long Island because of the limited transmission capacity to southeast New York as well as the limited interconnection transmission capacity to Long Island. The earliest in-service date for a new transmission interconnection to Long Island is between 1991 and 1993.

6. The State Energy Office's (SEO) conclusion that Shoreham is not needed for 13 years is based on a forecast for

Long Island that has already been proven wrong. That forecast compares with the actual experience of the last two years as follows:

<u>Year</u>	<u>SEO Forecast</u>	<u>Experienced</u>
1983	12,679 GWH	13,149 GWH
1984	12,909 GWH	13,574 GWH

Thus, the load experienced in 1984 is already more than 5% higher than the SEO forecast.

7. The SEO incorrectly forecast that sales of electricity on Long Island would decline for years. By 1988, the SEO forecast predicted sales on Long Island almost 10% lower than the 1984 sales actually experienced. In fact, the level of sales actually experienced 1984 was not forecast by the SEO to occur until 1994.

8. Another fallacy in the SEO forecast results from price elasticity. The SEO used the wrong rate increases. The SEO forecast that the actual price of electricity would rise as follows:

1985	--	18.6%
1986	--	19.3%
1987	--	15.9%
1988	--	11.2%

LILCO has publicly stated that it will not request any new rate

increases to be effective in 1985 and the maximum rate increases in the future are expected to be 9% per year or lower. Thus, if demand will increase with lower rates, SEO's analysis predicts an understated demand. The combination of SEO's rate increase assumptions and erroneous load levels in 1984 led to SEO's erroneous conclusion concerning the need for Shoreham.

9. LILCO will incur significant additional costs for even a month's slip in Shoreham's service date. Each month of delay results in the burning of approximately \$20 million worth of oil. In addition, if Shoreham moves ahead promptly and achieves an October 1985 in-service date, it will save \$1.9 million in generation capacity deficiency penalty costs from the New York Power Pool (NYPP) in 1985. A slip to November 1 or later eliminates this saving.

10. Another concern is reliability of fuel supply on Long Island, which is nearly 100% dependent on foreign oil. Shoreham presents the only opportunity to make a significant dent in this reliability problem.

11. Based purely on capacity needs, it may be true that for the State as a whole there apparently is enough generating capacity on line or under construction so the State may not need Shoreham's capacity under the mid-1990s. This remote capacity, however, will do nothing to solve LILCO's local



reliability problems. It will do nothing for the oil dependency problem on Long Island or the brownout problem on Long Island because of the inadequate interconnection capacity to Long Island.

12. Additionally, the SEO forecast for New York State may be too low. The SEO forecasted 118,000 GWH for New York State in 1983; the actual was 122,000 GWH, or 3.3% higher. The SEO forecasted 119,000 GWH for 1984; the actual is 126,000 GWH, or 5.9% higher. In fact, the SEO forecast for 1989 equals the load actually experienced in New York State in 1984. Furthermore, the SEO analyses of installed generation by 1999 includes over 3500 MW of generating capacity that is neither under construction or licensed.

13. The statements in the Affidavit of Eugene J. Gleason regarding LILCO's study entitled Shoreham Operation/Versus Abandonment (An Economic Analysis) in June 1983 mischaracterize that study. The study was prepared under my direction and did not assert that LILCO did not need Shoreham until 1994 and 1996. These were the earliest dates LILCO could complete the licensing and construction of two 400 MW coal units to replace Shoreham if it were to be abandoned. Figure 2 on page 8 of that report, as well as the tables on pages 9 and 10, show clearly that even with the lower load forecast at that time, LILCO was deficient in installed generating capacity starting in 1985.

Adam M. Madsen  
Adam M. Madsen

Subscribed and sworn to before me  
this 13<sup>th</sup> day of December, 1984

Elizabeth A. Briody  
Notary Public

My Commission Expires: March 30, 1985

ELIZABETH A. BRIODY  
Notary Public, State of New York  
No. 30-4606123  
Qualified in Nassau County  
Commission expires Mar. 30, 1985

PROFESSIONAL QUALIFICATIONS  
OF ADAM M. MADSEN

I was elected Vice President of Corporate Planning in March 1984. I am responsible for the activities of four departments: Facilities Planning, Financial Planning and Analysis, Economic Research and Strategic Planning. From 1978 through March 1984 I was Manager of Engineering, responsible for the activities of four departments: Planning, Electrical Engineering, System Engineering and Engineering Design. Previously I was Manager of the Planning Department where I was responsible for planning all of LILCO's electric and gas facilities. In 1978 I was appointed LILCO's member of the New York Power Pool Planning Committee, having served as its Chairman. I am a member of Northeast Coordinating Council's Joint Coordinating Committee and I am presently an alternate to the Northeast Coordinating Council's Executive Committee.

I have a Bachelor's degree in Electric Engineering from Manhattan College and a Master of Science degree in Nuclear Engineering from Long Island University. I am also a registered Professional Engineer in the State of New York.

I have testified with respect to LILCO's activities concerning electric system planning, economics and operations



in a number of proceedings before the Public Service Commission, the New York State Board on Electric Generation Siting and the Environment (Siting Board) and the Nuclear Regulatory Commission (NRC). In particular, I testified in the Jamesport Article VII transmission proceeding, in the Jamesport construction permit licensing hearings before the NRC's Atomic Safety and Licensing Board. I also testified in PSC proceeding (1) analyzing the economics of completing Shoreham versus various conservation alternatives; (2) determining the accounting and ratemaking treatment applicable to the extraordinary property loss resulting from the Siting Board's rejection of the New Haven project; (3) concerning measures to facilitate coal conversions in New York; (4) regarding LILCO's electric and gas rate increase requests; (5) the proceeding concerning ratemaking principles applicable to the Shoreham Nuclear Power Station; and (6) most recently the Jamesport prudence case.

LILCO, December 14, 1984

CERTIFICATE OF SERVICEDOCKETED  
USNRC

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

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I hereby certify that copies of AFFIDAVIT OF SERVICE were served this date upon the following by U.S. mail, first-class, postage prepaid.

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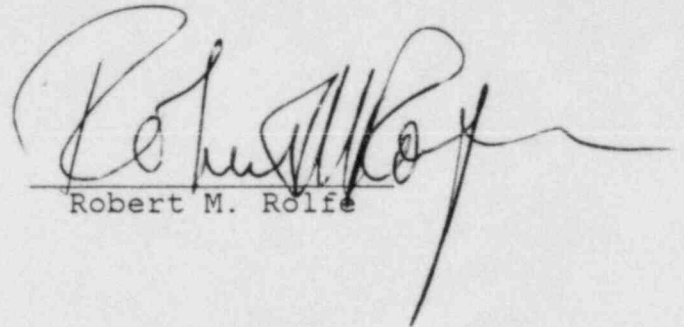
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DATED: December 14, 1984