

STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

*A. Cause*

THREE EMPIRE STATE PLAZA, ALBANY 12223

836804

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August 30, 1983

*Bordenick / Dewey  
Repka / Rawson  
McDonald / Reis  
RB*

Bernard Bordenick, Esq.  
Office of the Executive  
Legal Director  
U.S. Nuclear Regulatory  
Commission  
Washington, D. C. 20555

Re: New York Public Service Commission  
Shoreham Prudence Investigation.

Dear Mr. Bordenick:

Enclosed are the pertinent pages of LILCO witness Cordaro's testimony which claim that LILCO was unable to maintain normal communications with the AEC during the Shoreham licensing hearings. I would be happy to send other excerpts, or complete copies of this testimony, if you are interested.

I would like to discuss the so-called "black out" with you at your convenience. I can be reached at (518) 474-4535. I appreciate your assistance in this matter.

Very truly yours,

*James W. Brew*

JAMES W. BREW  
Staff Counsel

Enclosure

8412130351 840521  
PDR FOIA  
BELAIR84-250 PDR

*NRK*

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2 In 1973 alone, 32 Regulatory Guides were issued by the  
3 AEC. While regulatory guides identify what is required,  
4 they do not identify the procedures or analysis necessary  
5 for the implementation of the requirement. The AE must  
6 determine the appropriate procedures and analysis. In some  
7 cases, such as Regulatory Guide 1.46, concerning the effects  
8 of pipebreak, and Regulatory Guide 1.75, concerning  
9 electrical separation, the full impact took years to  
10 determine.

11  
12 Q. Why couldn't the Shoreham project team anticipate some of  
13 these regulatory changes during the licensing hearings?

14 A. LILCO was unable to anticipate fully these changes due to  
15 certain AEC procedures, which resulted in reduced AEC  
16 technical consultations relating to Shoreham. In order to  
17 avoid the appearance of collusion and impropriety, as well  
18 as any last minute changes in a plant's Safety Evaluation  
19 Report, the AEC, during the licensing hearing, traditionally  
20 communicated with a utility only through counsel. Due to  
21 the highly publicized and unusually contentious nature of  
22 the Shoreham proceedings, the AEC adhered more strictly to  
23 traditional procedures. At all times, other than during  
24 the hearing period, informal technical dialogues were held

CORDARO DIRECT

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2 at which utilities and their AE's were informed of potential  
3 or imminent regulatory changes and other AEC technical and  
4 engineering concerns. During Shoreham's licensing hearing  
5 only the most important licensing issues outstanding at the  
6 time, including the ECCS and environmental concerns, were  
7 discussed. The vital informal day-to-day technical  
8 dialogues, particularly regarding regulatory guides, were  
9 impeded at an extremely important time in the project's  
10 history. These circumstances had little or no effect on the  
11 engineering of most nuclear facilities because their  
12 licensing hearings were very short. At Shoreham, however,  
13 LILCO was unable to maintain continual informal technical  
14 contact with the AEC during its lengthy three-year licensing  
15 hearings.

16  
17 Q. Would you please explain the impact of the reduced AEC  
18 technical consultation on the Shoreham project?

19 A. To construct a facility as complex as a nuclear power plant,  
20 engineering must be sequenced to ensure that necessary  
21 information is available when needed by construction. This  
22 engineering effort is called engineering support to  
23 construction. Similarly, engineering must be available to  
24 allow the timely procurement of equipment. The result of

CORDARO DIRECT

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2 not exactly knowing what the AEC would require caused  
3 Shoreham's engineering to be less supportive to construction  
4 and procurement than engineering on other nuclear projects.  
5 Shoreham's engineering consistently was less advanced than  
6 planned and not always available when required. As a  
7 result, construction was rescheduled and equipment was  
8 delivered late.

9 When the Shoreham project was restarted in the Fall of  
10 1972, Shoreham's engineering appears in retrospect to have  
11 been less advanced than the engineering of other plants when  
12 they received their CP. Shoreham's less advanced  
13 engineering began to become apparent only in late 1973 after  
14 S&W engineering activities had progressed.

15 The Shoreham project engineering had difficulty  
16 supporting construction throughout the project because of  
17 the continuous promulgation of new regulations by the AEC  
18 and NRC during Shoreham's construction. As engineering  
19 attempted to implement regulations, new regulations were  
20 issued that had to be simultaneously evaluated. At the same  
21 time, engineering was attempting to support construction by  
22 issuing a continuous series of engineering information to  
23 construction forces.  
24

CORDARO DIRECT

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2 Q. Did LILCO experience any difficulty in implementing the new  
3 regulatory codes and requirements on the Shoreham project?

4 A. Yes. Part of the problem resulted from the fact that regu-  
5 latory requirements were and are found not only in official  
6 regulations such as 10 CFR 50, but also in Regulatory  
7 Guides, AEC branch technical positions, standard review  
8 plans, NUREg documents, etc. While these quasi-official re-  
9 quirements do not have the force of regulations, they are  
10 difficult to integrate into plant design since they may not  
11 necessarily be required and may or may not enhance plant  
12 safety. Moreover, in many instances, regulatory guides and  
13 other similar guides do not provide specific information  
14 needed for their implementation. The utility is left to  
15 determine the method of compliance.

16 The difficulty of implementation of regulations and re-  
17 quirements to Shoreham was compounded by the extraordinar-  
18 ily long time needed to obtain a construction permit, the  
19 restricted flow of information from the AEC during the  
20 licensing hearing, and the project curtailment resulting  
21 from Calvert Cliffs. Because of these unforeseeable delays,  
22 the Shoreham project was forced to comply with many new  
23 regulations, and the applicability of many regulations could  
24

CORDARO DIRECT

1  
2 not be fully determined until after LILCO filed its Final  
3 Safety Analysis Report in 1975.  
4

5 Q. Did compliance with regulatory requirements result in  
6 increases of Shoreham's cost?

7 A. Absolutely. LILCO's compliance with regulatory changes and  
8 supplements contributed to cost increases. Design changes  
9 necessitated by new regulatory requirements resulted in  
10 changes on numerous systems with an accompanying increase in  
11 cost.

12 Whenever feasible, LILCO took steps to minimize the  
13 impact of regulatory changes. For example, after the Mark  
14 II Hydrodynamic Load requirements were issued, LILCO  
15 recognized the possible impact on Shoreham's piping and  
16 equipment systems. As a result, LILCO worked with Stone &  
17 Webster to increase substantially the design margins on all  
18 pipe supports not yet designed and released for construction  
19 even though the exact magnitude of the loads and final NRC  
20 interpretation of the requirements were not available.  
21 Because of LILCO's action, over one thousand large bore pipe  
22 supports were upgraded. Four years later, when the final  
23 design assessment was made, over ninety percent of these  
24 pipe supports did not require additional modifications.

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