



LONG ISLAND LIGHTING COMPANY

SHOREHAM NUCLEAR POWER STATION

P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

Direct Dial Number

June 20, 1983

SNRC-908

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SER Item No. 10 - Seismic & LOCA Loading
Shoreham Nuclear Power Station - Unit 1
Docket No. 50-322

Reference: (1) Letter from General Electric (J. F. Quirk) to
NRC (H. Bernard) dated July 27, 1982.
(2) Letter SNRC-752 dated 8/18/82

Dear Mr. Denton:

In Supplement No. 1 to the Shoreham Safety Evaluation Report (SER), the staff concluded that Shoreham's fuel response when subjected to SSE and LOCA loadings was adequate. This adequacy was based on the staff's review of General Electric Report NEDE-21175-P "BWR/6 Fuel Assembly Evaluation of Combined Safe Shutdown Earthquake (SSE) and Loss-of-Coolant Accident (LOCA) Loadings", and Shoreham specific horizontal SSE acceleration. This report was approved by the staff subject to the condition that sufficient margin against fuel assembly liftoff be demonstrated under SSE and LOCA loading.

To accomplish this, General Electric Report NEDE-21175-3-P (BWR Fuel Assembly Evaluation of Combined SSE and LOCA Loadings Amendment No. 3) was prepared and submitted to the staff via Ref. 1. LILCO endorsed this report for Shoreham via Ref. 2.

As a result of the staff's review of this report and based on discussions with the staff, LILCO is aware that additional plant specific information is required on fuel lift. To this end, Table 3.9.2B-3 from Shoreham's FSAR has been revised and is included as Attachment A. This table denotes that the fuel lift (fuel assembly gap opening) under combined SSE and LOCA loadings is zero. This value is based on an 84% non-exceedence probability at a 50% confidence level, consistent with the methodology utilized in NED-21175-3-P.

8306280547 830620
PDR ADOCK 05000322
E PDR

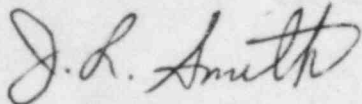
B001
1/1

June 20, 1983
SNRC-908
Page 2

The staff's review of NEDE-21175-3-P also precipitated certain questions from the staff relative to structural integrity of the fuel assemblies involving allowable loads, hydrodynamic modeling and unirradiated material properties. On June 10, 1983, General Electric Co. on behalf of the Licensing Review Group (LRG), made a presentation to the staff. It is LILCO's understanding that these questions will be formally resolved upon GE's submittal of their presentation material. It should be noted that, as shown in Table 3.9.2B-3, there exists considerable margin between the bounding accelerations contained in NEDE-21175-3-P and Shoreham's calculated peak accelerations.

LILCO feels that the information contained herein should be sufficient to completely close this issue on the Shoreham docket. If you should have any questions, please contact this office.

Very truly yours,



J. L. Smith
Manager, Special Projects
Shoreham Nuclear Power Station

RWG:bc

Attachment

cc: J. Higgins
All Parties Listed in Attachment 1

SHOREHAM FSAR

TABLE 3.9.2B-3

FUEL ASSEMBLY (INCLUDING CHANNEL)

<u>Acceptance Criteria</u>	<u>Loading</u>	<u>Primary Load Type</u>	<u>Calculated Peak Acceleration</u>	<u>(1)Evaluation Basis Acceleration</u>
Acceleration Envelope	Horizontal Direction:	Horizontal Acceleration Profile	1.3G	3.6G
	1. Peak Pressure 2. Safe Shutdown Earthquake 3. Annulus Press- urization			
	Vertical Direction:	Vertical Accelerations	2.0G	12.0G
	1. Peak Pressure 2. Safe Shutdown Earthquake 3. Safety Relief Valve 4. Condensation Oscillation			

NOTES:

- (1) Evaluation Basis Accelerations and Evaluations are contained in NEDE-21175-3-P. The evaluation basis acceleration envelope is defined by a coincident 8G vertical acceleration with the 3.6G horizontal acceleration. The 3.6G horizontal value is reduced linearly to zero as the corresponding vertical acceleration increased from 8 to 12 G's.
- (2) The calculated maximum fuel assembly gap opening for the most limiting load combination is 0.0 inch. This is less than the gap (0.52 inch) required to start the disengagement of the lower tie plate from the fuel support casting.
- (3) The fatigue analysis indicates that the fuel assembly has adequate fatigue capability to withstand the loadings resulting from multiple SRV actuations over the lifetime of the fuel.

ATTACHMENT 1

Lawrence Brenner, Esq.
Administrative Judge
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Peter A. Morris
Administrative Judge
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. James H. Carpenter
Administrative Judge
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Daniel F. Brown, Esq.
Attorney
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Bernard M. Bordenick, Esq.
David A. Repka, Esq.
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

James Dougherty
3045 Porter Street
Washington, D.C. 20008

Herbert H. Brown, Esq.
Lawrence Coe Lanpher, Esq.
Karla J. Letsche, Esq.
Kirkpatrick, Lockhart, Hill
Christoper & Phillips
8th Floor
1900 M Street, N.W.
Washington, D.C. 20036

Mr. Marc W. Goldsmith
Energy Research Group
4001 Totten Pond Road
Waltham, Massachusetts 02154

MHB Technical Associates
1723 Hamilton Avenue
Suite K
San Jose, California 95125

Stephen B. Latham, Esq.
Twomey, Latham & Shea
33 West Second Street
P.O. Box 398
Riverhead, New York 11901

Ralph Shapiro, Esq.
Cammer and Shapiro, P.C.
9 East 40th Street
New York, New York 10016

Matthew J. Kelly, Esq.
State of New York
Department of Public Service
Three Empire State Plaza
Albany, New York 12223