LONG ISLAND LIGHTING COMPANY
SHOREHAM NUCLEAR POWER STATION
P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

March 5, 1984 SNRC-1012

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

Supplement to the Phase II Submittal,
Control of Heavy Loads
Shoreham Nuclear Power Station - Unit 1
Docket No. 50-322

Reference:
1. LILCO letter, SNRC 817 (J. L. Smith) to the NRC (H. R. Denton), dated January 6, 1983.
2. Shoreham Safety Evaluation Report dated April 1981, page 9-4.
3. SWEC letter (S.B. Jacobs) to the NRC (J.F. Stolz) dated September 23, 1977, entitled, "Topical Report - SWECO 7703, Missile-Barrier Interaction."
4. LILCO letter, SNRC 1007 (B. R. McCaffrey) to the NRC (H. R. Denton) dated February 21, 1984.

Dear Mr. Denton:

This letter is in response to the telephone conversation of January 9, 1984 among: R. Caruso, E. Sylvester, Nuclear Regulatory Commission; T. Stickley, T. Yen, EG&G, Idaho; J. T. Murphy, S. Wakefield, et al, Stone & Webster Engineering Corporation; and A. J. Lageraaen, R. Travis, Long Island Lighting Company. The discussion addressed the September, 1983 draft Technical Evaluation Report (TER) of the LILCO Phase II Submittal of the "Control of Heavy Loads" (Reference 1). The following represents clarification of the LILCO phase II report.

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2.3.1 Reactor Building [NUREG 0612, Article 5.1.4]
The only overhead crane that carries loads over irradiated fuel in the vessel or the fuel pool, as well as safe shutdown equipment is the polar crane. The NRC has previously concluded that the fuel handling system is acceptable, as it meets the intent of Branch Technical Position ASB 9-1, "Overhead Handling Systems for Nuclear Power Plants" (Reference 2).

2.3.2 Other Areas [NUREG 0612, Article 5.1.5]
The cable separation analysis report and the instrumentation and small bore piping separation studies were used as input in the assessment of each postulated heavy load drop. These studies are non-mechanistic by nature; the cabling, instrumentation lines and small bore piping within a particular segment of the reactor building or primary containment are assumed to be unavailable, regardless of the initiating event.

For each postulated load drop an area of damage is determined. The aforementioned studies are used to determine what components are unavailable. The area is also reviewed to determine if large bore piping and mechanical equipment, such as valves and heat exchangers, are impacted. An assessment of the effects of the unavailable electrical, instrumentation and mechanical components is performed to verify the ability to safely shutdown the plant. LILCO confirmed the ability to achieve and maintain the plant in cold shutdown for all postulated heavy load drops.

Structural calculations were performed to determine the integrity of each affected floor slab after a load drop. The analytical methodology was developed as part of the Stone & Webster Engineering Corporation (SWEC) Missile - Barrier Test Program. The details of this program have been submitted to the NRC on a generic basis (Reference 3).

The safe load paths for the Reactor Building Closed Loop Cooling Water (RBCLCW) pumps have been revised. The failure of either RBCLCW Repair Trolley will not affect the operation of the redundant loop.

The movement of the radiation shield requires a special lifting device. This device and its compliance with NUREG 0612 are discussed in the "Report on Special Lifting Devices, Shoreham Nuclear Power Station - Unit 1" (Reference 4). The radiation shield and the associated special lifting device are lifted by the single failure proof hook of the polar crane.

LILCO believes the information stated herein will enable the NRC to verify the compliance of the Shoreham Nuclear Power Station with the Phase II requirements for the Control of Heavy Loads.

In a related matter, LILCO indicated that a probablistic load drop assessment has been initiated to quantify the reliability improvement associated with the installation of a single failure proof auxiliary hook. This study is expected to be completed in

approximately 4 months, whereupon LILCO will inform the NRC of the conclusions.

If any additional information is needed, please contact this office.

Very truly yours,

B. R. McCaffrey
Manager, Nuclear Compliance and Safety

RJT:ck

cc: C. Petrone
All Parties Listed in Attachmnent 1

ATTACHMENT I

Bernard M. Bordenick, Esq.
David A. Repka, Esq.
Edwin J. Reis
U.S. Nuclear Regulatory Commission
7735 Old Georgetown Road
to mailroom
Bethesda, MD 20814

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

Ben Wiles, Esq.
Assistant Counsel to the Governor
Executive Chamber
State Capitol
Albany, NY 12224

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

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

Gerald C. Crotty, Esq.
Counsel to the Governor
Executive Chamber
State Capitol
Albany, NY 12224

Martin Bradley Ashare
Suffolk County Attorney
H. Lee Dennison Building
Veterans Memorial Highway
Hauppauge, NY 11788

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

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

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

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

SNRC