UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

October 19, 1981

Honorable Nunzio J. Palladino
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: REPORT ON THE SHOREHAM NUCLEAR POWER STATION UNIT 1

Dear Dr. Palladino:

During its 258th meeting, October 15-17, 1981, the Advisory Committee on Reactor Safeguards completed its review of the application of the Long Island Lighting Company (LILCO) for a license to operate the Shoreham Nuclear Power Station Unit 1. A Subcommittee meeting was held in Washington, D.C. on September 30, 1981 to consider this project. A tour of the facility was made by members of the Subcommittee on April 30, 1981. During its review, the Committee had the benefit of discussions with representatives of the Applicant and the NRC Staff. The Committee also had the benefit of the documents listed. The Committee reported on the construction permit application for this plant in a letter to AEC Chairman Glenn T. Seaborg dated December 18, 1969.

The Shoreham plant is located on Long Island in the Town of Brookhaven, Suffolk County, New York, about 55 miles east-northeast of downtown New York City. It uses a GE BWR-4 nuclear steam supply system with a rated power level of 2436 MWt and a Mark II pressure suppression containment with a design pressure of 48 psig. The Shoreham plant is one of three included in the Mark II Owners Group lead plant program. The NRC Staff has completed its review of the lead plant program and has issued NUREG-0487 and Supplements I and II, "Mark II Containment Lead Plant Program Load Evaluation and Acceptance Criteria." The NRC Staff has concluded that Shoreham satisfies these criteria. In addition, LILCO has committed to evaluate the final generic load definition of NUREG-0808, "Mark II Containment Program Load Evaluation and Acceptance Criteria," against the load specification used in the interim evaluation (NUREG-0487). Subject to satisfactory completion of this work, the NRC Staff has found the Shoreham containment acceptable. We concur in this finding.

LILCO described the management organization and the technical personnel available for operation of the Shoreham plant. Because of LILCO's lack of BWR operating experience, the NRC Staff is requiring that the control room staff and senior plant management be provided with advisors who have substantial BWR operating experience. We concur with the NRC Staff that supplemental personnel experienced in BWR operation are needed until adequate operating experience is developed by the LILCO staff.

LILCO described three safety review committees which will be a permanent part of the Shoreham organization. We believe that these committees should include some expertise from sources outside LILCO's or its contractors' organizations to provide balanced professional judgment on matters that could affect public health and safety. LILCO should organize the planned safety review committees as soon as practical so they will have time to develop an understanding of plant related safety matters prior to plant operation.

LILCO also described its program and philosophy for training of personnel. The initial training that the operations staff has received using a contractor-run training organization appears adequate. However, LILCO should establish an in-house training program to be maintained on a continuing basis so that operational skills are enhanced.

LILCO has initiated a Shoreham plant assessment based on probabilistic risk assessment techniques. The Applicant's assessment effort in this area will provide a valuable addition to his operational knowledge.

An outstanding issue in the NRC Staff's Safety Evaluation Report dated April 1981 and Supplement 1 to that report dated September 9, 1981 involves the remote shutdown system. The NRC Staff is concerned that a single, random failure in the instruments and controls of systems controlled from the remote panel or in the systems themselves may prevent the remote shutdown panel from performing its function. This item should be resolved in a manner satisfactory to the NRC Staff. The Committee wishes to be kept informed.

The NRC Staff has identified other outstanding issues in its Safety Evaluation Report. We believe that these outstanding issues can be resolved and recommend that this be done in a manner satisfactory to the NRC Staff before operation at full power.

We believe that if due consideration is given to the recommendations above, and subject to satisfactory completion of construction, staffing, and pre-operational testing, there is reasonable assurance that Shoreham Nuclear Power Station Unit 1 can be operated at power levels up to 2436 MWt without undue risk to the health and safety of the public.

Sincerely,

J. Carson Mark
Chairman

References:

1. Long Island Lighting Company, "Shoreham Nuclear Power Station Unit 1 Final Safety Analysis Report," Volumes 1-16 and Amendments 1-40.

2. U.S. Nuclear Regulatory Commission "Safety Evaluation Report Related to the Operation of Shoreham Nuclear Power Station Unit 1," NUREG-0420, dated April 1981 and Supplement No. 1 dated September 9, 1981.
3. U.S. Nuclear Regulatory Commission, NUREG-0487, "Mark II Containment Lead Plant Program Load Evaluation and Acceptance Criteria," dated October 1978 with Supplements 1 and 2 dated September 1980 and February 1981.
4. U. S. Nuclear Regulatory Commission, NUREG-0808, "Mark II Containment Program Load Evaluation and Acceptance Criteria," dated August 1981
5. Letter, SNRC-629, B. R. McCaffrey, Manager, Long Island Lighting Company (LILCO), to Advisory Committee on Reactor Safeguards, regarding response to requests for information made at the ACRS Subcommittee meeting on Shoreham Station Unit 1 of September 30, 1981, dated October 13, 1981.
6. Letters from J. P. Novarro, Project Manager, LILCO to Harold R. Denton, Director, Office of Nuclear Reactor Regulation (NRR), NRC, dated July 17, 1981; June 29, 1981; June 15, 1981; May 29, 1981; May 29, 1981; May 28, 1981; May 27, 1981; May 27, 1981; May 27, 1981; May 21, 1981; May 15, 1981; May 15, 1981; May 15, 1981; May 12, 1981; April 22, 1981; April 15, 1981; March 16, 1981.
7. Letters from B. R. McCaffrey, Manager, LILCO, to Harold R. Denton, Director, NRR, NRC dated August 18, 1981; August 7, 1981; July 31, 1981; July 23, 1981; July 22, 1981; July 21, 1981; July 20, 1981.