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

JOHN D. LEONARD, JR.
VICE PRESIDENT - NUCLEAR OPERATIONS

September 24, 1984 SNRC-1081

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

On-site Oil Storage Tank
Shoreham Nuclear Power Station - Unit 1
Docket No. 50-322

Reference: Letter to J. D. Leonard (LILCO) from A. Schwencer (NRC) dated September 4, 1984. NRC Requests 311.10 and 311.11

Dear Mr. Denton:

The following represents LILCO's response to NRC Requests 311.10 and 311.11. The Requests are noted below.

NRC Request 311.10: Section 2.2.2

Please provide a detailed scaled topographical map of the finished grade elevations of the plant site similar to figure 2.4.5-3 which shows the location of the onsite oil storage tank and the safety related structures. Indicate the location of all storm drains, culverts and ditches between the storage tank and these structures. In the event of an oil tank failure, describe the flow path of the oil in relation to these structures. Consider an oil fire at the closest distance between the released oil and the safety related structures. Calculate the thermal flux due to the oil fire on the safety related structures.

Response:

The enclosed figure (Enclosure 1) identifies the locations of the storm drains and ditches between the storage tank and the safety-related structures, and provides a general topography of the site. There are no culverts between the storage tank and these structures.

In the event of an oil tank failure, the oil would flow into the area contained by the steel dike (see Response to Request 311.11).

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The closest distance between the released oil and the safety related structures is approximately 500 ft. LILCO believes, that based on engineering judgement given the separation of the safety-related structures from the heat source, the heat flux experienced by these structures would be negligible. A confirmatory calculation is being performed, of which the results will be forwarded as soon as they become available.

NRC Request 311.11: Section 2.2.2

Describe the earthen barrier, if any, which encloses the gas turbine oil tank. Indicate the capacity of the oil tank and the earthen barrier in event of tank failure.

Response:

An 8-foot high steel dike surrounds the oil tank, with no penetration through the wall. The National Fire Protection Association (NFPA) Standard No. 30, "Flammable and Combustible Liquids Code", states that "the volumetric capacity of the diked area shall not be less than the greatest amount of liquid that can be released from the largest tank within the diked area, assuming a full tank".

The diked area completely surrounds the tank. The diameter of the tank is 60 feet and the height is 46 feet with a nominal capacity of 23,100 barrels. It contains No. 2 fuel oil, which is classified by NFPA-30 as a combustible liquid, Class IIIA. This tank was erected in accordance with the American Petroleum Institute's Standard 650.

The dike is 150 feet in diameter and 8 feet high with a nominal capacity of 25,200 barrels, representing approximately 109% of the tank's capacity.

We trust this is responsive to Mr. Schwencer's letter. If additional information is required, do not hesitate to contact this office.

Very truly yours,

John D. Leonard, Jr.
Vice President - Nuclear Operations

NRL/JPC:ck

Enclosure

cc: P. Eselgroth
C. Petrone