

## 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

January 29, 1985

SNRC-1140

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

> Single Failure Concerns Alternate AC Power Supplies Shoreham Nuclear Power Station - Unit 1 Docket No. 50-322

Dear Mr. Denton:

It has come to our attention, as a result of recent phone conversations between members of our respective staffs, that your Staff has raised questions concerning a postulated single failure that they believe will disable both of LILCO's alternate AC power supplies (the 20 MW gas turbine and the four 2.5 MW mobile diesel generators). Your Staff post lates the following conditions simultaneously exist: (a) loss of all offsite AC power, (b) a design basis loss of coolant accident, (c) inability to start any of the multiple offsite gas turbine units to restore power to the site and, (d) an electrical fault occurs in electrical circuit breaker number 460 between the reserve station service transformer (RSST) and bus 11 as shown in FSAR Figure 8.2.1-1. Given this set of conditions they are concerned that this single fault can render both sources of AC alternate power incapable of restoring power to an emergency bus. If their concern is valid the Staff believes that this would not be consistent with previous Staff findings on this subject as described in SSERs 5 and 6 and in Staff testimony before the Low Power Licensing Board.

The purpose of this letter is to demonstrate that the concern raised by the Staff does not affect its prior testimony concerning the susceptibility of LILCO's alternate power supplies to single failures.

Breaker number 460, the reserve station service transformer supply breaker to bus 11, is normally open. This reserve station service transformer supply breaker and all other interconnecting tie supply breakers on buses 1A, 1B, 11 and 12 are normally open and the verification of this is required per Shoreham Nuclear



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Power Station Technical Specification 4.13.1.1.2.a.6. First, the fault postulated by the Staff on normally open breaker 460 is not a credible failure mode. It has been our experience that electrical faults, such as the one being postulated by the Staff do not occur when the breaker is in the open position. As noted above, the open status of the breaker is verified periodically per the technical specifications. Thus, it's not credible to assume that the breaker fails in this mode while it is open.

Second, even if a fault occurred as postulated in tie breaker number 460 it is still possible for the 20 MW gas turbine to supply power to Shoreham. In such an event, the EMD diesels could not be connected to the failed bus 11 and the failure of breaker number 460 would also cause a trip of the RSST protective relays which would trip all 7 RSST 4 KV breakers, the 69 KV switchyard supply breaker 640 and the 20 MW gas turbine breaker. The Plant Operator can open ABS 623 and the 4KV switch gear breaker 450 thereby isolating bus number 11 and the faulted 4 KV breaker 460. The Plant Operator can then reset the RSST lock out relay 86T4B, thereby allowing the 20 MW gas turbine to start in a dead line mode. The System Operator, by rearranging system breakers, can reroute power from the gas turbine via the 69 KV system and the 138/69 KV step up transformer at the Wildwood substation on the Shoreham property to the Shoreham 138 KV switchyard. Power is then connected to the emergency 4 KV bus from the normal station service transformer.

Despite our systems ability to overcome this highly improbable multiple contingency event we hereby commit to rack down 4 KV breaker number 460 to eliminate the Staff concern. We anticipate that this commitment should fully resolve this concern. Given that the postulated failure is highly unlikely, that there are ways to route power from the 20 MW gas turbine, even if it occurred, and that LILCO has made the above commitment with respect to breaker number 460, we trust that there is no need to change previous Staff positions on this subject.

Should you or members of your Staff have any additional questions, please do not hesitate to call my office.

Very truly yours, onau John D. Leonard, Jr. Vice President - Nuclear Operations

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cc: P. Eselgroth, Sr. Resident Inspector