U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-322/85-23

Docket No. 50-322

License No. NPF-19 Priority - Category C

Licensee: Long Island Lighting Company

175 East Old Country Road

Hicksville, New York 11801

Facility Name: Shoreham Nuclear Power Station

Inspection At: Shoreham, New York

Inspection Conducted: April 29 - May 1, 1985

Inspectors: A. Krasopoulos 5/28/85
A. G. Krasopoulos, Reactor Engineer date

S. Pullani 5-28-85
S. V. Pullani, Fire Portection Engineer date

Also participating and contributing to the report were:

A. Fresco, Mechanical Systems Specialist, BNL
H. Thomas, Electrical System Specialist, BNL

Approved by: C. J. Anderson 5/29/85
C. J. Anderson, Chief, date
Plant Systems Section

Inspection Summary:

Inspection on April 29 - May 1, 1985 (Inspection Report 50-322/85-23)

Areas Inspected: Special, announced team inspection of emergency lighting and the safe shutdown capability of the plant in the event of a fire. This inspection was a follow-up of a previous inspection (50-322/84-46) conducted in the same areas. The inspection involved 80 inspector hours on-site and 18 inspector hours in-office by the team consisting of 4 inspectors.

Results: No violations or deviations were identified. Of the five previous outstanding items followed up during this inspection, three were closed and two remain open.

DETAILS

1.0 Persons Contacted

1.1 Long Island Lighting Company (LILCO)

*J. Carney, Corporate Fire Protection Engineer
J. Contrino, Electrical Design Section Supervisor
*M. Giannattasio, Senior Project Engineer - Electrical
*R. Grunseich, Supervisor - Nuclear Licensing
*R. Kascsak, NPD Manager
R. Kubinak, Director - Quality Assurance, Safety & Compliance
*C. Kowe, QA Supervisor
*L. Lewin, Outage Modification Manager (Acting Plant Manager)
A. Muller, QC Division Manager
J. Notario, Manager - Quality Assurance
*R. Paccione, Nuclear Systems Supervisor
P. Prrariell, Maintenance Engineer
*P. Quinan, Fire Protection Supervisor
G. Rhoads, Compliance Engineer (Impell Corporation)
*J. Rigert, NSD Manager
J. Smith, Manager - NOSD
W. Steiger, Plant Manager
*M. Vasely, Nuclear Engineer (Systems)
*E. Youngling, Manager - Nuclear Engineering Department

1.2 Stone and Webster Engineering Corporation (S&W)

A. Duchaney, Senior Designer
R. Gauthier, Leac Power Engineer
*R. Morris, Electrical Engineer
J. Murphy, Lead Licensing Engineer
*A. Papp, Senior Electrical Engineer
K. Schack, Control Engineer

1.3 Nuclear Regulatory Commission (NRC)

P. Eselgroth, Senior Resident Inspector

*Denotes those present at the exit meeting.

2.0 Followup of Previous Inspection Findings

A previous inspection (50-322/84-46), conducted to assess the safe shutdown capability of the plant in the event of a fire, had identified eight deviations and eleven unresolved items. These items were numbered 84-46-01 through 19 and were described in Inspection Report 50-322/84-46. A summary of these findings is also included in the same report as Attachment 3. The present inspection (50-322/85-23) followed up five of the nineteen previous findings, i.e. 50-322/84-46-01, 02, 06, 18, and 19. As described below, three of these items are closed and two remain open.

The remaining fourteen items are in the area of reactor licensing and are being referred to the NRC Office of Nuclear Reactor Regulation (NRR) for their resolution. The licensee's initial response for these items is included in their letter SNRC-1141, dated January 29, 1985. The licensee was informed that they should resolve these items with NRR expeditiously. After these items are resolved between the licensee and NRR and all related licensee actions are completed, Region I will close out these items from the Region I Outstanding Item File.

The status of the five items followed up in the present inspection is as follows:

2.1 (Closed) Unresolved Item (50-322/84-46-01) Backup Information for Cable Separation Analysis Report (CSAR) Not Available

For equipment located in the reactor building (secondary containment), the licensee had performed and docketed a CSAR which divided the reactor building into overlapping 45 degree segments. The licensee assumed that all components, the cables and raceways, in a given segment were lost due to a fire; yet demonstrated that the capability to shut down still existed. The NRC staff had reviewed the cable separation analysis and concluded that it is an acceptable method demonstrating that adequate separation exists between the redundant trains.

This is documented in Supplement 1 to the Safety Evaluation Report, dated September 1981, Section 9.5.6.

During the previous inspection (50-322/84-46), the backup information used in arriving at the conclusion of the CSAR that sufficient safe shutdown capability existed for a fire in any given segment, was not available at the site for the team's review. During the present inspection, the licensee provided such backup information for several segments selected for the inspection. The team reviewed the information and determined that the conclusion of the CSAR is valid under the assumptions contained therein. The team also determined that sufficient safe shutdown instrumentation (reactor pressure and level; and suppression pool level and temperature) would also be available for a fire in any given segment.

This item is resolved.

2.2 (Closed) Unresolved Item (84-46-02) Location of Certain Safe Shutdown Components Not Specified

The previous inspection had identified that certain safe shutdown components are to be locally operated while executing the safe shutdown procedure SP29.022.01, Shutdown from Outside Control Room, Revision 5, and that to facilitate an orderly and timely shutdown and as an aid to the operator, the procedure should indicate the locations of these

components. Subsequently, in Revision 6 of the procedure, the licensee indicated the locations of these components. The team reviewed the Revision 6 and found it acceptable.

This item is resolved.

2.3 (Open) Unresolved Item (50-322/84-46-06) Routing of Sprinkler System Control Cables in RCIC and HPCI Areas of Reactor Building

During the previous inspection, the team suspected that the control cables for the preaction sprinkler systems in the RCIC and HPCI pump areas may be routed through the area protected by the sprinkler system. The concern was that, should a fire occur in this fire area, the cables may be damaged, thus preventing the actuation of the sprinkler system.

The licensee replied that the cables are not within the sprinkler system zone. The team verified through observation that the licensee's statement is accurate. However, it was noted during this inspection that the preaction systems for both RCIC & HPCI pump areas may not operate properly unless certain modifications are made. The licensee agreed and committed to implement the following modifications:

The licensee will relocate some of the heat detectors that actuate the preaction system of the HPCI pump area. These detectors are located above the heat collector shield of the sprinkler heads. This heat collector will prevent the rising heat flux from timely reaching the detector, thus delaying the operation of the sprinkler system. Also, the licensee will relocate one of the manual pull stations that actuate the sprinkler system of RCIC pump area. The pull stations, as presently located, may not be accessible in the event of a fire. Within this area the licensee will also relocate the heat detector conduit to a level above the heat detectors. The conduit as presently located may be damaged, thus preventing the operation of the RCIC preaction sprinkler system. The licensee further committed to implement these modifications prior to receipt of the 5% power license.

This item is unresolved pending review of the modifications.

2.4 (Closed) Unresolved Item 84-46-18) Nameplate Rating of Emergency Lighting Battery Packs

Appendix R specifies that 8-hour battery pack emergency lights be installed for areas of the plant necessary for safe shutdown and in areas of access and egress thereto.

In the previous inspection, it was noted that the nameplate rating for both of the two types of battery packs present in the plant, Exide F-100 6VDC packs with 2 bulbs and B-200 12VDC packs with 3 bulbs, is 1.5 hours based on 4-bulb operation.

During this inspection, the licensee provided manufacturer's catalog information which shows that both types are rated for 8 hours of operation, the F-100 with two 12W bulbs, and the B-200 with four 12W bulbs. This covers all of the units identified in the plant and is in accordance with the requirements of Appendix R.

This item is resolved.

2.5 (Open) Unresolved Item (84-46-19) No Emergency Lighting Available in Specific Locations

In the previous inspection, four areas in the Reactor Building were identified in the procedure for shutdown from outside the control room, SP 29.022.01 which call for local operator actions away from the remote shutdown panel but which do not have any 8-hour self-contained battery packs.

At the first location identified, Elev. 150' north side, the fuel pool cooling pump area, the action involves ensuring the supply of cooling water to the spent fuel pool. Since this is outside of the scope of Appendix R requirements for safe shutdown of the reactor, no self-contained battery packs are required. Station AC-Powered emergency lighting is however available. For the next two areas, the RPV Instrument Panel at Elev. 78' and the RHR Valve Room at Elev. 63' which contains the RHR vent valves 01V-3124 and 01V-3125 associated with the RHR suction isolation valves *MOV47 and *MOV48, the actions identified in the procedure are only required if the diesel generators or certain other components fail to operate. Since Appendix R does not require postulation of additional single failures besides the components within a fire area or zone, these actions are not required under Appendix R assumptions.

The fourth action, opening the condensate transfer loop fill valve E11*04V-0016, is an optional step to flush the RHR suction lines of contaminated water. It is not required for safe shutdown.

Therefore, for the reasons cited above, these areas do not require self contained battery pack lighting and this portion of the item is closed.

The one remaining issue concerns the relocation of the battery pack in the 101 Diesel-Generator Room which is currently located such that it cannot illuminate the diesel-generator panel.

The licensee initiated a Design Output Package (DOP 85-037) entitled "DC Emergency Lighting Mod.D.G.101", dated April 25, 1985 to relocate the battery pack so that it will illuminate the diesel generator panel.

This portion of the item will be closed after the relocation has been physically completed. It currently remains as an open item.

3.0 Quality Assurance

During the course of the inspection, the team reviewed several drawings, fire hazard analysis, fire protection modification packages, procedures, and other fire protection documents. The scope of review included verification of their technical adequacy, appropriate reviews, design and procurement controls, and other Quality Assurance requirements for the licensee's fire protection program.

The team did not identify any unacceptable conditions.

4.0 Unresolved Items

Unresolved items are matters for which more information is required in order to ascertain whether they are acceptable, violations, or deviations. Unresolved items are discussed in Section 2.0.

5.0 Exit Interview

The inspection team met with the licensee representatives, denoted in Paragraph 1, at the conclusion of the inspection on May 1, 1985. The team leader summarized the scope and findings of the inspection at that time.

The team leader also confirmed with the licensee that the documents reviewed by the team did not contain any proprietary information. The licensee agreed that the inspection report may be placed in the Public Document Room without prior licensee review for proprietary information (10 CFR 2.790).

At no time during this inspection was written material provided to the licensee by the team.