U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-322/88-01

Docket No. 50-322

License No. NPF-19

Licensee: Long Island Lighting Company
P. O. Box 618
Wading River, New York 11792

Facility Name: Shoreham Nuclear Power Station

Inspection At: Wading River, New York

Inspection Conducted: January 11-15, 1988

Inspector: Joseph A. Golla
Joseph A. Golla, Reactor Engineer — date 3/9/88

Approved by: P. K. Eapen
Dr. P. K. Eapen, Chief — date 3/9/88
Special Test Programs Section, EB, DRS

Inspection Summary: Inspection on January 11-15, 1988 (Inspection Report No. 50-322/88-01)

Areas Inspected: Routine unannounced inspection of test witnessing and administrative control of local leak rate testing and tours of the facility.

Results: One violation was identified. The inspector noted a procedural deficiency with the local leak rate test procedure which resulted in overpressurizing a test volume. It is not known if this practice was pervasive and is viewed as a lack of overview of test activities. This deficiency therefore constitutes a violation. (50-322/88-01-01)

DETAILS

1. Persons Contacted

T. Arrigo, M&TE Technician
*L. Britt, Manager, Nuclear Licensing
*R. Crowe, Operations Staff Manager
*A. Dubison, Nuclear Licensing
*R. Grunseich, Operations Compliance Engineer
F. Hubert, Maintenance Engineer
*W. Maloney, QCD
*J. Notaro, Department Manager, Nuclear Quality Assurance
P. Pizzariello, Maintenance Engineer
C. Seaman, Quality Systems Division
*S. Skorueski, Assistant VP, Nuclear Operations
*W. Steiger, Plant Manager
*M. Toner, Maintenance Engineer

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*F. Crescenzo, Resident Inspector

*Denotes those present at the exit meeting on January 15, 1988.

2.0 Local Leak Rate Testing (LLRT)

The purpose of this inspection was to ascertain that the LLRT was conducted in compliance with the requirements and commitments referenced in the following sections, and that the test results met the acceptance criteria specified in the station procedures and Appendix J, 10 CFR 50. The procedures were reviewed for their technical adequacy to perform the intended activities.

2.1 References

* Shoreham Nuclear Power Station Technical Specifications Section 4.6

* 10 CFR, Part 50, Appendix J, Primary Reactor Containment Leakage Testing for Water Cooled Power Reactors

* Final Safety Analysis Report (FSAR)

* ANSI/ANS 56.8-1981, Containment Systems Leakage Testing Requirements

* USNRC I&E Information Notice No. 85-71, Containment Integrated Leak Rate Tests

2.2 Documents Reviewed

* SP 84.654.03, "Primary Containment Leak Rate Test," Revision 4

* Calibration Data for Local Leak Rate Test Instruments

* Selected Quality Control Surveillance Reports

* Compliance Engineer Program Planning Surveillance Schedule

2.3 Test Witnessing

The inspector witnessed the performance of test activities to verify that:

* approved test procedures were available and in use;

* the procedures were adequately detailed to assure satisfactory performance;

* parts and materials were properly identified; and

* qualified test equipment and tools were used.

Mass flow-in test of RCIC turbine exhaust isolation valve 1E51*MOV-045 and check valve 1E51*08V-0021 on January 13, 1988 were witnessed. Also witnessed was the mass flow-in test of RBCCW isolation valve No. 1P42*MOV-047 on January 14, 1988. These three valves exhibited zero leakage.

The inspector made the following observation during the LLRT of 1E51*08V-0021: while filling the test volume behind the valve with water from the condensate transfer system (this check valve is tested with water by initially filling the test volume and measuring leakage by air makeup behind the water slug in the piping), the test personnel significantly overpressurized the test volume while "cracking" open the valve at the condensate transfer tap. Local indication of pressure showed a value greater than 100 psig. The test pressure called for the volume to be filled and pressurized with water to approximately 40 psig, the test pressure is 46 (+2, -0) psig and accident pressure for the plant is 46 psig. The test personnel then bled down the volume to the required test pressure and completed the test. This is a violation (50-322/88-01-01).

The inspector raised to the licensee the concern that initially overpressurizing the test volume could help to preseat the valve thereby influencing the test results. The licensee then administered a procedure change to the Type C leak rate test procedure SP 84.654.03, Rev. 4, cautioning against overpressurizing test volumes utilizing water. The caution statement requires the use of a relief valve in

the water supply header set at 40 (+2, -0) psig and suggests the use of a needle valve to control flow into the test volume. This water method and caution statement is applicable for two check valves each on the RCIC and HPCI pump turbine exhaust lines. The inspector reviewed the procedure change notice and found its provisions acceptable.

2.4 Test Instrumentation

Calibration records for the instruments utilized to conduct the tests witnessed were reviewed by the inspector. All instruments; flowmeters, pressure gages, temperature gages were found to be calibrated within their frequency and were tested by standards which are traceable to the National Bureau of Standards (NBS). No unacceptable conditions were identified.

2.5 LLRT Procedure Review and Administrative Control

The inspector reviewed the LLRT procedure to determine its adequacy of content and adherence to accepted testing methodology. The LLRT procedure is structured such that every mechanical penetration is covered by specific valve lineups, piping diagrams, and procedural steps to conduct the test. The procedure was found to be technically correct to perform local leak rate testing utilizing the mass flow-in method. This method is acceptable per 10 CFR 50, Appendix J and current industry practice. The inspector verified that the LLRT procedure contained the following pertinent information: criterion utilized to determine maximum pathway leakage through a valve/piping network, test precautions, prerequisites, limitations and actions, and information and justification concerning valves which are reverse direction tested. The inspector also reviewed documentation relevant to the overall administrative control of the local leak rate test program. Information which documented the following activity status was reviewed: recording of test results, acceptance criterion, surveillance scheduling, and valve maintenance work. The information reviewed was well organized and appeared adequate to provide proper administrative control of the overall LLRT program. No unacceptable conditions were identified.

3.0 Personnel Training and Qualifications

The qualification and training of selected test personnel were discussed with a licensee representative. In addition, the inspector evaluated the performance of test personnel during test witnessing. The inspector determined that the test personnel qualifications met the requirements specified in ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel." They were knowledgeable of their responsibilities and technical aspects of leak testing. No unacceptable conditions were identified.

4.0 Plant Tour

The inspector made several tours of the plant facilities including the reactor building, turbine building, control room, and plant exterior to monitor maintenance activities and housekeeping. All areas inspected were generally clean and free from debris not affiliated with ongoing maintenance. No unacceptable conditions were identified.

5.0 QA/QC Involvement

The inspector discussed coverage of local leak rate testing with representatives from the QA and QC organizations and reviewed selected quality control surveillance reports on local leak rate test surveillances. QC surveillance reports were comprehensive and findings were well documented. QA/QC representatives interviewed appeared knowledgeable of local leak rate testing and their duties as QA/QC auditors.

6.0 Exit Meeting

Licensee management was informed of the purpose and scope of the inspection at the entrance interview. The findings of the inspection were periodically discussed and were summarized at the exit meeting on January 15, 1987.

Attendees at the exit meeting are listed in Section 1.0 of this report. At no time during the inspection was written material provided to the licensee by the inspectors.

The licensee's representatives did not indicate that this inspection involved any proprietary information.