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U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-322/80-02

Docket No. 50-322

License No. CPPR-95 Priority -- Category B

Licensee: Long Island Lighting Company

175 East Old Country Road

Hicksville, New York 11801

Facility Name: Shoreham Nuclear Power Station, Unit 1

Inspection at: Shoreham, New York

Inspection conducted: January 14 - February 17, 1980

Inspectors: H B Kister 2-28-80
J. C. Higgins, Resident Inspector date signed

_____ date signed

_____ date signed

Approved by: H B Kister 2-28-80
H. B. Kister, Chief, Reactor Projects Section No. 4, RO&NS Branch date signed

Inspection Summary:

Inspection on January 14-February 17, 1980 (Report No. 50-322/80-02)
Areas Inspected: Routine onsite regular and backshift inspections by the resident inspector (54 inspection hours) of work activities, preoperational testing and plant staff activities including tours of the facility; test witnessing; comparison of as-built plant to FSAR descriptions; review of plant systems against TMI-2 short term lessons learned recommendations; review of environmental qualifications; review of operating procedures; review of licensed operator training; followup on previous inspection findings; and, participation in meetings on Security Plan and with local public officials.
Results: No items of noncompliance were identified.

Region I Form 12
(Rev. April 77)

## DETAILS

1. Persons Contacted

T. Czapleski, Training Coordinator (NES)
D. Durand, OQA Engineer (L)
C. Fonseca, Site Engineering Representative (S&W)
J. Kelly, Field QA Manager (L)
L. Lewin, Assistant Startup Manager (L)
B. McCaffrey, Project Engineer (L)
J. Morin, Senior Licensing Engineer (L)
J. Notaro, Operating Engineer (L)
J. Novarro, Project Manager (L)
J. Riley, Lead Startup Engineer (GE)
J. Rivello, Plant Manager (L)
J. Scalice, Reactor Engineer (L)
W. Steiger, Chief Operating Engineer (L)
J. Taylor, Startup Manager (L)

NES - Nuclear Energy Services
L - Long Island Lighting Company
S&W - Stone and Webster
GE - General Electric

The inspector also interviewed other licensee and contractor personnel during the course of the inspection including management, clerical, maintenance, operations, engineering, testing, quality assurance, and construction personnel.

2. Previous Inspection Item Update

(Closed) Inspector Followup Item (322/79-11-02): Fire extinguishers: The inspector discussed with the fire protection staff the criteria used for refilling extinguishers, reviewed inspection results verifying the operability of extinguishers and fire hoses, observed the recharging of fire extinguishers and toured the plant at various times during the inspection to observe fire protection equipment. The level of fire protection being provided is consistent with the fire hazard currently existing at the plant. This item is closed.

(Closed) Unresolved Item (322/79-20-01): Use of operating procedures: In order to fulfill FSAR and R. G. 1.68 commitments relative to the use of normal system operating procedures (SP's) during preoperational testing, the licensee has established a multi-faceted program. While a system is under the jurisdiction of the startup group, an Interim Operating Instruction (IOI) is written for preventive maintenance and for system operation.

The licensee's representative stated that the Test Engineer's will utilize the normal SP's to the maximum extent possible when writing the IOI's. When a system is turned over to the plant staff at the completion of the preoperational tests, the test Engineer will provide a written evaluation of the system and the system's operating procedure (SP). Additionally, the licensee's representative stated that at six months before operating license issuance, by schedule, any system not turned over to the plant staff will at that time shift from operation per IOI to operation per SP, unless there are system specific reasons precluding it.

3. Plant Tour

The inspector conducted periodic tours of accessible areas in the plant during normal and backshift hours. During these tours, the following specific items were evaluated:

-- Hot Work: Adequacy of fire prevention/protection measures used.

-- Fire Equipment: Operability and evidence of periodic inspection of fire suppression equipment.

-- Housekeeping: Minimal accumulations of debris and maintenance of required cleanness levels of systems under or following testing.

-- Equipment Preservation: Maintenance of special precautionary measures for installed equipment, as applicable.

-- Component Tagging: Implementation and observance of equipment tagging for safety, equipment protection, and jurisdiction.

-- Instrumentation: Adequate protection for installed instrumentation.

-- Logs: Completeness of logs maintained.

-- Security: Adequate site construction security.

-- Prohibited Items: Observations to determine no smoking in restricted areas and no alcoholic beverages onsite.

Minor problem areas were discussed with licensee representatives throughout the inspection.

No items of noncompliance were identified.

4. Test Witnessing

The inspector reviewed Procedures PT.316.001A and B for the "24V DC Power Distribution Preoperational Test" System A and B and the pertinent FSAR Sections. These tests consisted primarily of checks on the capabilities of the 24 volt DC battery chargers and battery banks. The inspector witnessed portions of the preoperational tests and, during the witnessing, observed the following:

-- Performance of test by qualified personnel;

-- Prerequisites and initial conditions properly documented;

-- Test approved and released for performance by the Joint Test Group (JTG);

-- Test equipment calibrations current;

-- QA/QC coverage, as required, was provided; and,

-- Test exceptions properly noted.

No unacceptable conditions were identified.

5. Operator Training

During the course of the inspection, the inspector attended two training sessions for prospective licensed operators on transient and accident analysis. The inspector also discussed several aspects of the lesson plans with the training coordinator.

No unacceptable conditions were identified.

6. Main Steam Isolation Valve Leakage Control System (MSIV-LCS)

a. General

The inspector reviewed the FSAR description of the MSIV-LCS, Regulatory Guide 1.96, "Design of MSIV Leakage Control Systems for Boiling Water Reactor Nuclear Power Plants," the current piping and instrumentation drawings for the system, the proposed Technical Specifications for the systems and procedures SP23.406.01, SP24.406.01 and SP54.654.03 for operating and testing the system. The inspector observed the as-built system in the plant in order to determine if it was constructed in accordance with FSAR and Regulatory Guide requirements. The inspector also reviewed the plant procedures for conformance with pertinent requirements. As a result of these reviews, the following three items are considered unresolved and are designated as Item No. (322/80-02-01).

(1) Physical Separation

The FSAR description, Section 6.5.3.2, states that the upstream and downstream subsystems are physically separated. The inspector noted on his system tour that in the steam tunnel the piping from the two systems are within two feet of each other and that some pipes from each subsystem pass through the same floor penetration out of the steam tunnel. The licensee's representative stated that physical separation was not needed for the two subsystems by design since the MSIV-LCS is a post-accident system and not a safe shutdown system. The inspector verified this with the NRC reviewer and stated that the item would be unresolved pending correction of the FSAR to agree with the as-built system.

(2) Post-Accident Discharge

The design of the MSIV-LCS is to take high level radioactive material, which may be in the primary containment after a postulated accident and leaking through the MSIV's, and process it for eventual discharge out the plant stack. The MSIV-LCS takes this leakage from the main steam lines and pumps it into the Reactor Building atmosphere for dispersion and later collection by the Reactor Building Standby Ventilation System (RBSVS). The FSAR states that fission products processed by the MSIV-LCS are directed into an area served by the RBSVS. The licensee's representative stated that this area is the Reactor Building itself. Item 2.1.6.a of the "TMI-2 Lessons Learned Task Force Status Report and Short Term Recommendations" (NUREG-0578) requires that plants limit leakage from systems likely to contain radioactive materials outside primary containment by preventive maintenance and periodic testing to rates that are as low as practical. The inspector noted that the design of the MSIV-LCS appeared to be contrary to the intent of this item and that the potential existed for limiting needed personnel access to the secondary containment post-accident or for causing added personnel exposure when entries are made. This item will receive additional NRC review and is considered unresolved.

(3) Operating Procedures

The MSIV-LCS operating procedure, SP23.406.01 currently does not contain specific guidance on when to initiate the system post-accident. The inspector noted that two items which should be considered were the time of about 20 minutes after an accident specified in Regulatory Guide 1.96 and the possibility that initiation may not be required if the main condenser was still intact (ACRS consideration). This item is considered to be unresolved.

7. Primary Containment Atmosphere Control System (PCAC)

The PCAC System at Shoreham consists of two hydrogen recombiners and a containment purge subsystem as a backup in the event that the recombiners do not operate satisfactorily. As described in FSAR Figure 6.2.5-1 the purge piping currently open ends in the Reactor Building within one foot of the RBSVS intake duct. As described in paragraph 6.a.(2) above, this arrangement appears contrary to the intent of NUREG-0578 and offers the potential for increased personnel exposure post-accident. This item will also receive additional NRC review and is designated as unresolved item no. (322/80-02-02).

8. Environmental Qualifications

During a tour of the steam tunnel area, the inspector noted that the caps on the Resistance Temperature Detectors (RTD's) were not tightly attached. Discussions with the General Electric representative revealed that the RTD's were environmentally qualified in a sealed condition. Current installation plans for the RTD's do not appear to provide assurance that moisture will not enter the RTD's. Electrical connections in the Primary Containment are provided with potted junctions to eliminate moisture problems but these are not currently specified in the steam tunnel. This item is unresolved and is designated as item no. (322/80-02-03).

9. Information Meeting with Local Officials

On January 17, the resident inspector and several other NRC personnel met with local public officials in order to:

-- Acquaint local officials with the mission of NRC;

-- Introduce key NRC personnel associated with the facility;

-- Discuss lines of communication between the local officials and the NRC; and,

-- Discuss the status of the facility and related community concerns with the local officials.

The below listed personnel attended the meeting.

Local Officials

S. Allen, Deputy Supervisor, Brookhaven Town
J. Janoski, Supervisor, Riverhead Town
K. LaValle, State Senator

NRC Personnel

E. Brunner, Chief, Reactor Operations and Nuclear Support Branch, Region I
J. Higgins, Resident Inspector, Shoreham Nuclear Power Station
R. Hoefling, Office of the Executive Legal Director
H. Kister, Chief, Reactor Projects Section No. 4, Region I
J. Wilson, Licensing Project Manager, Division of Project Management, NRR

All parties agreed that the meeting was beneficial in establishing lines of communication and in providing information about the role of the NRC and the resident inspector at Shoreham. Topics discussed included: current allegations of construction irregularities, availability of NRC inspection and investigation reports, licensing sequence for Shoreham, public hearing status, spent fuel storage plans, fire fighting plans and upgraded safety requirements as a result of the accident at Three Mile Island.

10. Unresolved Items

Areas for which more information is required to determine acceptability are considered unresolved. Unresolved items are contained in Paragraphs 6.a, 7, and 8 of this report.

11. Management Meetings

At periodic intervals during the course of the inspection, meetings were held with senior plant management to discuss the scope and findings of this inspection.

The resident inspector also attended entrance and exit interviews of region-based inspectors and investigators conducted with plant management during the course of this inspection.

Additionally, on January 15 and 16, the inspector participated in meetings and plant tours with licensee representatives and members of the NRC staff to review the Shoreham Security Plan and to observe the status of installation of physical security equipment.