

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-322/84-42

Docket No. 50-322

License No. CPPR-95

Priority --

Category C

Licensee: Long Island Lighting Company

P.O. Box 618

Wading River, New York 11792

Facility Name: Shoreham Nuclear Power Station

Inspection At: Shoreham, New York

Inspection Conducted: November 13-15, 1984

Inspector: *N. Blumberg*  
N. Blumberg, Lead Reactor Engineer

12/5/84  
date

Approved by: *L. H. Bettenhausen*  
L. H. Bettenhausen, Chief, Test  
Programs Section, EPB

12/10/84  
date

Inspection Summary:

Inspection on November 13-15, 1984 (Report No. 50-322/84-42)

Areas Inspected: Routine, announced inspection of licensee action on previous inspection findings, initial fuel load and startup test program status, fuel movement training, and QA/QC interfaces. The inspection involved 21 hours on-site by one region based inspector.

Results: No violations were identified.

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## DETAILS

### 1. Persons Contacted

#### Licensee Personnel, Consultants, and Contractors

- \* J. Alexander, Reactor Engineer
- \* B. Beytin, Systems Engineer
- \* W. Burnett, Compliance Engineer, Impell
- N. Corege, Instructor, General Electric (GE)
- \* R. Grunseich, Supervisor Nuclear Licensing
- J. Livingston, Startup Engineer, GE
- \* A. Muller, QC Division Manager
- \* G. Rhoads, Compliance Engineer, Impell
- \* J. Riley, Operations Manager, GE
- \* W. Steiger, Plant Manager
- \* J. Wynne, Compliance Engineer

#### USNRC

- \* P. Eselgroth, Senior Resident Inspector
- C. Petrone, Resident Inspector

\* denotes those present at exit interview

### 2. Licensee Action on Previous Inspection Findings

(Closed) Deviation (50-322/84-31-01):

The following three deviations from the Final Safety Analysis Report (FSAR) were identified:

- (1) Startup Test Procedure (STP)-14, "RCIC System", acceptance criteria for RCIC turbine trip was less restrictive than that specified in the FSAR. The inspector verified that a revision to STP-14 includes the FSAR acceptance criteria regarding RCIC turbine trip.
- (2) STP-15, "HPCI System" was to be performed at Test Condition (TC) 2 rather than TC-6 as specified in FSAR Table 14.1.1-1. This appears to be an error in the FSAR as the General Electric Startup Test Specification calls for the HPCI test to be done at TC-2. The inspector verified that the licensee has submitted a change to the FSAR to specify TC-2 for the HPCI test.
- (3) STP-15 did not evaluate HPCI turbine condenser system steam leakage as required by the FSAR. The inspector verified that STP-15 has been revised to include limits for steam releases and for evaluations that such limits are not exceeded.

This item also noted a concern that deviations identified above may be generic to other procedures. The licensee performed and documented a complete review to ensure consistency among acceptance criteria in the FSAR, GE Test Specifications and the startup test procedures. Changes were made to the FSAR or STP as appropriate. The inspector reviewed this document and determined that a substantive effort had been made to correct any potential generic problems.

Based on the above actions, this item is closed.

(Closed) Unresolved Item (50-322/84-31-02):

The following procedural discrepancies had been identified:

- STP-5 specified acceptance criteria for control rod drive (CRD) scram times to the nearest milliseconds causing the possibility of exceeding Technical Specification (T.S.) scram times by several milliseconds. STP-5 has been revised to specify CRD scram time acceptance criteria to nearest one hundredth of a second which is consistent with T.S. limits.
- No mechanism was provided in STP-5 for the initialling of each procedural step for the testing of each control rod. STP-5 has been revised so that a matrix has been included which allows the verification of each test step for each rod.
- STP-14 does not provide procedural steps for verifying that the RCIC turbine gland seal steam system is functioning properly and does not ensure that this verification is done at each test condition that STP-14 is performed. STP-14 has been revised to perform an evaluation of RCIC turbine gland seal leakage as a procedural step and has been included in each test condition under which the RCIC system is tested.

The inspector verified that each of the above changes had been made. Based on the above, this item is closed.

(Closed) Inspector Follow Item (50-322/84-27-01):

The following guidelines of Regulator Guide 1.68 - Revision 0, Appendix C, Section B, did not appear to have been incorporated into STP-3, "Fuel Loading":

- (1) -- B.1.e. The status of containment should be specified and established.
- B.1.f. The status of the reactor vessel should be specified. Components should be either in place or out of the vessel as specified to make it ready to receive fuel.

- B.2.f. An inverse multiplication plot from at least two channels should be maintained ...

Based on additional discussions with licensee representatives and further review of STP-3, the inspector verified that the above items were included in STP-3.

- (2) -- B.1.k. The status of protection systems, interlocks, ... alarms, and radiation protection equipment should be prescribed and verified...

Most protection systems had been included in STP-3; however, STP-3 was revised to include the Reactor Protection System which had been omitted.

- (3) -- B.3.a Establishment of criteria for stopping fuel loading ... [such as] ... loss of communications between control room and fuel loading station ... and inoperability of the emergency location system [Standby Liquid Control System].

The inspector verified that STP-3 has been revised to specifically include the above criteria for stopping fuel load.

- (4) -- B.3.b Establishment of criteria ... [for assuring that] ... if [a full loading] increment is reduced because of excessive subcritical multiplication, it should not be increased again.

The above criteria is not included in STP-3. The latest revision to R.G. 1.68 no longer includes the above criteria. The inspector verified that STP-3 has been revised to provide more adequate precautions concerning subcritical multiplication.

- (5) -- B.3.c Establishment of Criteria for containment evacuation. A licensee representative stated that the above was included in EPIP 1-6, "Plant Evacuation". However, the inspector noted that the EPIP was intended for general emergencies under normal operating conditions. The intent of R.G. 1.68 is for the protection of personnel in case of unintentional criticality which could occur during fuel load, rod withdrawals, or shutdown margin checks. The licensee stated that STP-3 would be revised to include precautions for containment evacuation.

Based on the above, this item is closed.

### 3. Startup Test Program Status Inspection

#### 3.1 Initial Fuel Load

The inspector conducted detailed discussions with licensee representatives concerning the current status of initial fuel load and start-up testing. Based on these discussions, the following status was determined:

- Should the Nuclear Regulatory Commission issue an operating license, it would take approximately two weeks for the licensee to commence initial fuel load. The main factor in this would be the procurement, transportation and installation of neutron sources to the site.
- The licensee plans to go immediately from fuel load to initial criticality and startup testing to the extent authorized by the license.
- A review has been accomplished to ensure that all surveillance tests required by the Technical Specifications have been addressed. Most surveillances are being performed, and status is maintained for those which are not.
- A new fuel load and startup testing schedule has been established. The inspector reviewed the new schedule and selected a sampling of procedures to be subject of future NRC:RI inspections.

### 3.2 Fuel Load Training

On the refueling floor, the inspector witnessed training of personnel in the movement of fuel. A dummy fuel bundle was being moved from the fuel pool to the reactor core and back. Instruction and certification was being accomplished by an instructor provided under contract by GE. Personnel were being instructed to the following licensee procedures which were located on the refueling floor:

- SP 35.705.19, Revision 0, Removal of Fuel Assemblies
- SP 35.705.20, Revision 0, Installation of Fuel Assemblies
- SP 34.001.02, Revision 4, Refueling Platform, Main Grapple, Auxiliaries, and Hoists Operability, Testing and Inspections

No deficiencies were observed.

### 3.3 GETARS I

GETARS I is a high speed data acquisition system which has been installed in the Control Room for Startup Testing. The inspector discussed the use of this system with GE personnel responsible for its operation. They stated that GETARS can monitor approximately 250 plant parameters; is electrically isolated from safety related instrumentation; and will be used for collecting some official test data.

The inspector requested that calibrations and procedures concerning the GETARS I be provided. These will be provided and reviewed during a subsequent NRC:RI inspection.

#### 4. QA/QC Interfaces

The inspector reviewed a final inspection report of the Reactor Pressure Vessel (RPV) internals conducted on November 3, 1984. Water level in the reactor vessel was lowered and the following areas were inspected by the Reactor Engineer and four plant engineers including one from Operations QC:

- RPV Wall
- RPV instrument penetration
- Feedwater spargers
- Core spray spargers
- RPV annular region
- Jet pumps
- Lower core plate
- Upper core plate
- Control rods
- Control rod support guides
- Nuclear instrumentation

The report noted that no discrepancies or foreign material were observed. The reactor vessel is currently completely flooded in readiness for initial fuel load.

#### 5. Management Meetings

Licensee management was informed of the scope and purpose of the inspection at an entrance interview conducted on November 13, 1984. The findings of the inspection were periodically discussed with licensee representatives during the course of the inspection. An exit interview was conducted on November 15, 1984 (see paragraph 1 for attendees) at which time the findings of the inspection were presented.

At no time during this inspection was written material provided to the licensee by the inspector(s).