

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-322/85-28

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: June 24-28, 1985

Inspectors *P. Eselgroth*
D. Forek, Lead Reactor Engineer

8-2-85
date

Larry & Binggo
M. Evans, Reactor Engineer

8-2-85
date

Approved by: *P. Eselgroth*
P. Eselgroth, Chief, TPS, DRS

8-2-85
date

Inspection Summary: Inspection on June 24-28, 1985 (Inspection Report No. 50-322/85-28).

Areas Inspected: Routine, unannounced inspection of the Startup Test Program; including the overall startup test program, startup test results, test exception reports, core thermal power determination, turbine roll activities; containment local leak rate testing; QA/QC interfaces; and tours of the facility. The inspection involved 57 hours onsite by two region based inspectors.

Results: No violations were identified.

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DETAILS

1.0 Persons Contacted

Long Island Lighting Company and Contractors

D. Bouchie, Lead STD and A Engineer
*R. Grunseich, Supervisor Nuclear Licensing
*A. Himle, PATP Test Coordinator
*B. Kobel, Nuclear Licensing
R. Lawrence, Project Advisory Engineer
*J. Livingston, PATP Test Coordinator
*R. Macina, Reactor Engineer
*A. Mullen, QC Division Manager
S. Petty, QC Supervisor
*G. Rhodes, Compliance Engineer
*J. Scalice, Operations Manager
*W. Steiger, Plant Manager
*B. Sutor, Compliance Engineer
M. Toner, Reactor Engineer

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*J. Berry, Senior Resident Inspector Designee
*P. Eselgroth, Section Chief Test Programs Section
*M. Evans, Reactor Engineer

*Denotes those present at exit meeting on June 28, 1985.

2.0 Startup Test Program

References:

- Shoreham Nuclear Power Station (SNPS), Final Safety Analysis Report
- SNPS Safety Evaluation Report
- Regulatory Guide 1.68 "Initial Test Programs" for Water Cooled Reactor Power Plants"
- SNPS Power Ascension Phase Planning Schedule
- SP-12.075.01 Administration of Startup Testing
- ANSI N18.7-1976 "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants"

2.1 Overall Startup Test Program

The inspector reviewed the following documents:

- SP-12.075.01, "Administration of Startup Testing," Revision 9,
- SP-12-075.01, "Administration of Startup Testing," Revision 10 draft copy
- Review of Operations Committee (ROC) Meeting Minutes for Meetings 85-070, 85-071 and 85-072
- Test Review Committee (TRC) Meeting Minutes for Meeting 85-06

The inspector reviewed the above documents to followup the items identified in inspection report 50-322/85-14 Section 2.1 relating to the administration of the startup program.

The inspector also reviewed the Master Startup Activity List in the Administration of Startup Testing Procedure SP-12.075.01 Rev. 9, to determine whether the overall program was consistent with the FSAR Chapter 14 commitments. The inspector reviewed the plant test schedule to ascertain that all tests committed for test condition heatup were scheduled by the licensee.

Findings

Based on review of the Master Startup Activity List and the plant test schedule, the inspector verified that the licensee has satisfied the FSAR commitments.

The findings identified in Section 2.2 are also reflected in the following concerns. The test results reviewed by the inspector for open vessel testing have not yet been reviewed and approved by management as described in Chapter 14 of the FSAR. The licensee conducted a plateau review which in addition to other items reviewed test summaries of test results prepared by the test personnel. Since ANSI 18.7 requires timely review of startup test results, the inspector questioned the adequacy of the plateau review. The inspector also noted that the administrative procedure did not define plateau review acceptance criteria for proceeding into the next test condition. The inspector noted that the plateau review as a minimum should assess that: all required tests were conducted, test results for tests conducted were reviewed and approved by management, all test exceptions were resolved, and all test changes made to completed tests were reviewed and approved by management.

The inspector noted during review of the administrative procedure that the licensee established a plant hold for level 1 test exceptions and explicit approval of the plant manager to remove the plant

hold. However, the specific administrative actions were not defined that must be completed in the period between the time a plant hold is placed due to identification of a level 1 test exception and the removal of the plant hold by the plant manager.

The inspector noted that the licensee has not proceeded into test condition heatup. The inspector discussed the above items at the exit and the findings were noted by the licensee. The inspector indicated that the above items would collectively constitute an unresolved item pending modification of the administrative procedure and conducting the required reviews prior to proceeding into test condition heatup. (322/85-28-01).

2.2 Startup Test Results

The inspector reviewed the following test results for test condition open vessel for the attributes contained in inspection report 50-322/85-14 Section 2.4.

STP-1 "Chemistry and Radchemistry"

STP-2 "Rad Measurements"

STP-3 "Fuel Load"

STP-4 "Full Core Shut Down Margin"

STP-5 "CRD Testing"

The inspector also reviewed temporary procedure change notice TPC 85-70 and station procedure change notice SPCN-85-198.

Findings

Test summaries of results were prepared by test personnel. Several examples of conflict with the administrative procedure were also identified by the inspector which reflects a lack of management review and approval of test results. These include two documents labeled official test copy of STP-1, penciled entries of non-relevant test information in STP-1, and lack of reference to test exception report numbers in the affected step in the STP-2 procedure.

The inspector's review of the test data against the procedure acceptance criteria did not identify any unacceptable conditions. Chemistry data; rad surveys (see section 2.3 regarding TER-2-1); CRD insert, withdraw, friction and scram data were all acceptable. The full core shutdown margin was 2.74% with an acceptance criteria of greater than 1.05%. The average scram times for the

zero pressure scram condition were as follows:

<u>Notch</u>	<u>Time to Notch</u>
45	.238
39	.413
25	.845
5	1.535

Inspector review of the TPC and SPCN against STP-1 were found to be acceptable. Inspector will reassess the adequacy of the test results following review and approval by management.

2.3 Test Exception Reports (TER)

The inspector reviewed 26 TER reports against STP's 1, 2, 3, 4, 5, 10, 811, and 817. Resolution of all TER's except 817-1 was reviewed and approved by the technical review committee (TRC) and review of operations committee (ROC) and management. TER-817-1 was recently identified. Inspector review of the resolutions identified no unacceptable resolutions from a testing and plant operations viewpoint. However, following inspector review of TER-2-1, he questioned the completeness of the resolution to prevent problems in the future. TER-2-1 was issued due to data unavailability for an inaccessible rad survey point. Data was not needed for this test condition. Licensee resolution did not address relocating the survey point to an accessible location. The licensee acknowledged the inspector's observation.

2.4 Core Thermal Power Determination for Low Power Testing

The inspector reviewed the following documents:

- Portions of STP-12 "APRM Calibration," Revision 3, dated June 24, 1985.
- TP-54604.11 "Low Power Level Determination," Revision 1 dated June 26, 1985
- GE memorandum dated May 16, 1985 "Power Calculation Uncertainty at Low Power"

The inspector reviewed the method the licensee will use to determine core thermal power under the low power license. The licensee indicated that the APRM's calibrated by the constant rate heatup method will be used to determine core thermal power. Inspector independent evaluation concluded the method is conservative. The licensee also indicated that they have installed ultrasonic flow meters on the startup feedwater line and will utilize data from these flowmeters and a standard steady state heat balance to further calibrate the

APRM's at approximately 2% power. The inspector expressed concern on using the data from the ultrasonic flow meters to further adjust the APRM's due to lack of previous experience. The inspector indicated that use of a constant rate testing calibration for APRM's is conservative and has not caused problems in conducting the low power startup testing program in the past. A review of the uncertainty calculations performed by the licensee indicate uncertainty of the constant rate heatup method and low power steady state heat balance are comparable. Inspector independent assessment also concluded the same.

Based on the inspector's investigation, the licensee representative agreed that for the low power testing:

- a constant rate heatup calibration will be used to adjust APRM's gains
- APRM's will be reading on the x10 scale.

2.5 Turbine Roll Activity

The inspector held discussions with the licensee representative regarding the plans to roll the turbine on the 5% license. The licensee indicated that they are reviewing the plans and activities of the recently completed low power turbine roll at Limerick and performing a safety evaluation for this activity. The inspector will follow closely the licensee plans and evaluations in this area.

3.0 Containment Local Leak Rate Testing

The inspector observed primary containment purge air to suppression chamber isolation valve orientation and packing to determine if a problem previously identified at Peach Bottom (Inspection Report 50-272-85-23) during containment Integrated Leak Rate Testing existed at Shoreham. At Peach Bottom, valve packing oriented toward primary containment had not been tested during local leak rate testing. (LLRT)

The following procedures were also reviewed:

- Procedure No. 84.654.03, Type C Local Leak Rate Test Penetration X-28, Surveillance completed June 14, 1985.
- Procedure No. 84.654.07, Elastomer Seat Butterfly Valve Leak Test Penetration X-29, Surveillance completed June 12, 1985.

Findings

Based on discussions with a licensee representative inspection of the valve orientation and review of the procedures, the inspector assessed that the problem identified at Peach Bottom does not exist at Shoreham.

Every 18 months, blank flanges are installed on the primary side of the valve and an LLRT is performed. Therefore, the valve packing is tested.

No unacceptable conditions were identified.

4.0 QA/QC Interfaces

The inspector held discussions with the QC Division Manager and QC Supervisor and discussed plans for the Startup Test Program. The inspector also contacted QC inspectors regarding their activities and findings. QC has and will provide shift coverage and perform surveillance reviews of ongoing tests. Startup results will also be reviewed by QC, however, none have been reviewed to date since none have been reviewed by management. The inspector also reviewed the audit report 85-02 conducted February 15 - March 20, 1985 which included an assessment of the startup program. The audit identified two observations.

No violations were identified.

5.0. Tours of the Facility

The inspector made several tours of the facility during the course of the inspection including the turbine building, reactor building, control structure and control room. The inspector noted that scaffolding was erected in the reactor building to implement Appendix R commitments.

No unacceptable conditions were noted.

6.0 INDEPENDENT MEASUREMENTS/Assessments

Independent measurement or assessments are described in Section 2.2, 2.3, and 2.4.

7.0 Unresolved Items

Unresolved items are matters about which more information is required to ascertain whether they are acceptable items, items of noncompliance or deviations. Unresolved items disclosed during the inspection are discussed in Section 2.

8.0 Exit Interview

At the conclusion of the site inspection on June 28, 1985, an exit meeting was conducted with the licensee's senior site representatives (denoted in paragraph 1). The findings were identified and discussed. At no time during the inspection did the inspector provide written inspection findings to the licensee. The licensee indicated that no proprietary information was contained in the scope of this inspection.