

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-322/84-27

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

Inspection At: Shoreham, New York

Inspection Conducted: July 9-12, 1984

Inspectors: H.H. Nicholas for 8/13/84
N. Blumberg, Lead Reactor Engineer date
S. Kucharski 8/13/84
S. Kucharski, Reactor Engineer date
H.H. Nicholas for 8/13/84
J. Raval, Reactor Engineer date

Approved by: HH Nicholas for 8/13/84
L. Bettenhausen, Chief, Test Programs Section date
EPB, DETP

Inspection Summary: Inspection on July 9-12, 1984 (Report No. 50-322/84-27)

Areas Inspected: Routine, unannounced inspection of initial fuel load and startup testing procedures, and licensee actions on previously identified NRC items, NRC Bulletins, and Construction Deficiency Reports (CDR). The inspection involved 89 inspector-hours onsite by three region based inspectors.

Results: No violations were identified.

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DETAILS1. Persons Contacted1.1 Long Island Lighting Company (LILCO), Contractors, and Consultants

J. Alexander, Reactor Engineer
 A. Asquino, Field Q.C. Engineer (SWEC)
 R. Bernard, Project QA Manager (SWEC)
 *W. Burnett, Compliance Engineer (IMPELL)
 L. Calone, Manager, Nuclear Training Division
 R. Cardella, Manager, Nuclear Procurement Division
 *M. Gross, Engineer, Nuclear Operation Support Division
 *R. Grunseich, Supervisor, Nuclear Licensing
 J. Kelly, Assistant, QA Manager
 R. Loper, Operation, Staff Engineer
 *B. McCaffrey, Manager, Nuclear Licensing and Regulatory Affairs
 *A. Muller, Operations, QA Engineer
 R. Perra, Assistant Superintendent, FQC
 *G. Rhoads, Compliance Engineer (IMPECC)
 *T. Rose, QA Engineer
 *W. Steiger, Plant Manager
 J. Wynne, Compliance Engineer

1.2 U.S. Nuclear Regulatory Commission

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

*Denotes those present at the Exit Interview.

2. Licensee Action on Previous NRC Findings

(Closed) Construction Deficiency Report (50-322/83-00-09): Limitorque motor-to-shaft key failures: An I.E. information notice No. 81-08 was issued to all concerned utilities defining a problem with the limitorque operator (SMB-4) key located between the pinion gear and the motor shaft. Further investigation by the Limitorque Corporation discovered the same problem exists with other operators. As a result of the I.E. information notice and the Limitorque's analysis, the licensee issued a construction deficiency report of their findings when replacing the faulty keys. The inspector reviewed the Engineering and Design Coordination Reports (E&DCR), the Repair/Rework requests, the Check out and Initial Operations Test (C&IO) which verify the retest procedures, the Quality Assurance guidelines followed by the licensee in the replacement, retesting and storage of the new keys and determined, based on the above, reviews that the keys were satisfactorily repaired and that adequate action was taken to ensure that faulty keys would not be reinstalled. This item is closed.

(Closed) Violation (50-322/82-15-01): Various discrepancies were identified during review of preoperational testing. This item was reviewed during inspection 322/83-05 and the five examples of the violation were determined to have been corrected; however, during this review three additional apparent discrepancies were identified. As a results, this item was left open pending resolution of these discrepancies. The inspector reviewed the three packages and determined that the discrepancies had been resolved. This item is closed.

(Closed) Unresolved Item No. (50-322/83-28-01): HPCI Failure to Seal in Initiation Signal: The HPCI pump discharge valve would fail to open if the manual pushbutton is released or if the automatic signal clears before 11-13 seconds. This could result in the HPCI initiation to light and seal in even though the pump discharge valve had not open. The licensee made the required design change and rewired so that the system goes to completion once initiated. The inspector determined, based on the review of the modification package 83-126, that this item has been satisfactorily resolved. Based on the above, this item is closed.

(Open) IE Bulletin 83-06: This bulletin identified nonconforming materials supplied by Tube-Line Corporation to the Nuclear Industry and requested licensee's to determine if such material had been supplied to and used at their facilities. In their response to this bulletin (Letter SNRC-987, dated December 8, 1983), the licensee stated that no Tube-Line materials were furnished to Shoreham Nuclear Station (SNPS) for QA Category I piping/equipment from the vendors identified in the IEB-83-06 and that no ASME Code materials furnished directly or indirectly from Tube Line were installed in safety related systems.

The inspector reviewed material verifications supplied by major vendors who furnished materials to SNPS and noted that verifications from six vendors were not available. Subsequent to the inspection, the licensee furnished to the inspector documentation from those six vendors. The inspector also reviewed six purchase order packages for QA Category I equipment and determined that no Tube Line materials were installed in safety related systems. However, records from Capitol Pipe and Steel Products which supplied the materials for supplementary fuel oil tanks for the new Colt Diesel Generators, were not available for review. The licensee will furnish the NRC these records at a later date. Tube Line had supplied the licensee 75 data slides and one welding manual. However, based on the above reviews the inspector determined no Tube Line materials were purchased for safety related systems.

The inspector examined the licensee's program to preclude the inadvertant purchase of nonconforming materials from Tube Line or other vendors. The licensee's program consists of vendor evaluation, procurement document review, and receipt inspection which are defined in the licensee's QA manual. Per this program a Qualified Suppliers List (QSL) is utilized to ensure that materials and equipment are purchased from qualified suppliers

only; and a Deficient Item List (DIL) has been established to ensure that previously identified deficient items are not procured. The inspector determined that these programs were adequate.

The inspector informed the licensee that a formal response to Item 4 of the Bulletin must be provided to the NRC regarding generic concerns identified by the Bulletin concerning the use of non-conforming material. IEB-83-06 remains open pending formal licensee response on generic concerns and documentation of certification of proper materials used in the Colt Diesel Generator supplemental fuel tanks.

(Open) IE Bulletin 83-07: This bulletin identified apparently fraudulent products supplied by Ray Miller, Inc., (RMI) to the nuclear industry and requested licensee's to determine if such material had been supplied and used at their facilities. In their response to IEB-83-07 (Letter SNRC-1017, dated March 22, 1984) the licensee stated that no RMI materials were installed in safety related systems or in storage for future QA Category I use. An RMI flange had been installed on a QA Category II Condensate Storage Tank, the final disposition of this flange could not be established; however, the licensee provided evidence that this flange or similar ones could not be used on QA Category I equipment.

The inspector reviewed the verifications from major vendors and subvendors who furnished materials and services at SNPS and noted that certifications from three vendors were not available. Subsequent to the inspection, the licensee furnished to the inspector documentation from those three vendors. Purchase order packages from eight vendors for QA Category I equipment which included the certified materials test reports, certificate of compliances and material data reports were also reviewed. Based on this review, the inspector determined that no RMI materials were purchased or installed in safety related systems at SNPS.

The licensee's program to preclude the inadvertent purchase of non-conforming materials from RMI or other vendors was reviewed. The results of this review stated under IEB 83-06 inspection results detailed elsewhere in this report. The inspector also reviewed Field Quality Control (FQC) regarding the traceability control of QA Category I items. FAC maintains traceability control numbers for all ASME III, Class 1, 2, and 3 components.

FQC documents were reviewed to determine if any RMI products were made by field purchases. No such purchases were identified.

The licensee is in receipt of a NRC letter dated June 11, 1984 requesting formal response regarding generic concerns identified by Item 4 of IEB 83-07. IEB 83-07 remains open pending licensee formal response to this letter.

3. Startup Procedure Review

3.1 References

- Regulatory Guide 1.68-1973, "Preoperational and Initial Startup Test Programs For Water - Cooled Power Reactors"
- ANSI N18.7-1976, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants"
- Technical Specifications Shoreham Nuclear Power Station Proof and Review Copy
- SNPS-1 FSAR, Chapter 14, "Initial Tests and Operations"
- 12.075.01, "Administration of Startup Testing"
- 12.006.01, "Station Procedures - Preparation, Review, Approval, Change, Revision and Cancellation"

3.2 Startup Test Procedure Review

During the startup test phase of reactor operations, a sampling of licensee startup test procedures (STP's) are to be reviewed for their conformance to the requirements and guidelines of the standards and procedures referenced above. Procedures will be reviewed for the following attributes:

- Appropriate management review and approval has been accomplished.
- Appropriate committee review has been accomplished.
- Procedures are in proper format.
- Initial test conditions are specified.
- Prerequisites and precautions have been included.
- Test equipment and/or plant instrument calibrations necessary to perform the test are clearly identified.
- Procedure is technically adequate and workable.
- Test objectives are clearly stated.
- Provisions are made for identifying personnel performing the test.
- Temporary jumpers or lifted leads are properly restored.
- Provisions are made for recording and approving test data.

-- Acceptance criteria are specified.

-- Methods for identifying test deficiencies and exceptions and their resolutions are provided.

During this inspection, STP-3, "Fuel Loading", proposed Revision 5, was reviewed to the above criteria.

3.3 Findings

During review of STP-3, the inspector noted the following guidelines of R.G. 1.68, Appendix C, Section B, did not appear to be incorporated into STP-3 or other licensee procedures:

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

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

Note: STP-3 requires an inverse multiplication plots but does not require plots be from at least two channels.

-- 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].

-- 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.

-- B.3.c. Establishment of Criteria for containment evacuation. the inspector discussed the above items with the Reactor Engineer. The Reactor Engineer stated that station procedures would be reviewed and, where applicable, revised to conform to the guidelines of R.G. 168.

This item is open and will be followed in a subsequent NRC:RI inspection to ensure the items identified above are incorporated into licensee procedures (50_322/84-27-01).

4. Management Meetings

Licensee management was informed of the scope and purpose of the inspection at an entrance interview conducted on 7/9/84. The findings of the inspection were periodically discussed with licensee representatives during the course of the inspection. An exit interview was conducted on 7/12/84 (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).