

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-322/84-33

Docket No. 50-322

License No. CPPR-95 (4-73) 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: September 18 - September 25, 1984

Inspectors:	<u>J. S. Hodson</u>	<u>10/30/84</u>
	J. S. Hodson, Reactor Engineer	date
	<u>U. Cheh</u>	<u>11-5-84</u>
	U. Cheh, Reactor Engineer	date
	<u>J. Chung</u>	<u>11-5-84</u>
	J. Chung, Lead Reactor Engineer	date
Approved by:	<u>C. J. Anderson</u>	<u>11/5/84</u>
	C. J. Anderson, Chief, Plant Systems Section, Engineering Programs Branch, DETP	date

Inspection Summary: Inspection on September 18 - September 25, 1984
(Inspection Report No. 50-322/84-33)

Areas Inspected: A special, unannounced inspection of licensee actions on previous inspection findings; activities related to NUREG-0737 action items: II.E.4.1, Dedicated Hydrogen Penetrations; II.E.4.2, Containment Isolation Dependability; QA program implementation; and plant tour. The inspection involved 63 inspection hours on-site by three region-based inspectors.

Results: Noncompliance - None; Deviation - None.

8412030258 841109
PDR ADOCK 05000322
G PDR

Details

1.0 Persons Contacted

Long Island Lighting Company

- *G. Grunseich, Supervisor Nuclear Licensing
- *A. Mullen, QC Division Manager
- *W. Steiger, Plant Manager

Stone & Webster Engineering Corporation

- *J. Brand, Mechanical Engineer
- W. Maloney, Acting Modification Engineer

IMPELL

- *W. Burnett, Compliance Engineer
- *G. Rhoads, Compliance Engineer
- *J. Wynne, Compliance

General Electric Company

- J. Whittaker, Start-up Engineer

U.S. Nuclear Regulatory Commission

- *U. Cheh, Reactor Inspector
- *J. Chung, Lead Reactor Inspector
- *P. Eselgroth, Senior Resident Inspector
- J. Hodson, Reactor Inspector
- *C. Petrone, Resident Inspector

*Denotes those present at the exit meeting on September 25, 1984.

2.0 Licensee Action on Previous Inspection Item

(Closed) Inspector Follow-up Item (50-322/84-20-02) The recirculation flow unit circuitry requires modifications to prevent a load reduction of the flow-biased RPS inputs.

The inspector reviewed General Electric Field Deviation Disposition Request (FDDR) No. KS1-2282 and Auxiliary Unit Instructions GEK-73621A of September 1983 and verified that the auxiliary unit printed circuit card was replaced as documented in a GE memorandum dated July 13, 1984. This item is closed.

3.0 Containment Isolation Dependability (NUREG-0737, Item II.E.4.2)

NUREG-0737, Item II.E.4.2 consists of 7 requirements for review and action by the licensee. These requirements are:

- (1) Diversity in the parameters chosen for automatic containment isolation (CI).
- (2) Modification of the CI design as a result of classifying systems as either essential or nonessential.
- (3) Automatic isolation of all non-essential systems.
- (4) CI reset not causing repositioning of CI valves.
- (5) Reduction of the CI pressure setpoint.
- (6) Sealed closure of containment purge valves that do not conform to Branch Technical Position CSB 6-4
- (7) Containment purge and vent valves auto-isolation on high containment radiation.

Previous NRC inspection (Inspection Report No. 50-322/83-09) identified that the last item in the above requirements and specific concerns regarding the sealed closure of purge valves 1T46*AOV038A-D and 039A-D and valve 1T48*MOV 032B remained open.

3.1 Containment Purge and Vent Valves Auto-Isolation on High Containment Radiation

The Shoreham Safety Evaluation Report (SEER) specified that a high radiation isolation signal would be required on those containment purge/vent valves which may be opened during operational modes 1, 2, or 3. In SNRC-657, dated January 11, 1982, and SNRC-762, dated August 31, 1982, the licensee committed to this isolation logic and provided a conceptual design. This signal logic is now installed.

The inspector verified by review of the implementation package, IP 83-002, "Purge/Inerting Valve Closure" and the design output package, DOP 83-002, for the installation of the high radiation isolation signal. The packages were examined for evidence of satisfactory QA involvement, proper engineering review, and for adequacy of design in accordance with the NUREG-0737 requirements. The installation was field verified by a visual inspection of the purge/vent exhaust ductwork and panel 1D11-PNL-19 on elevation 95' of the reactor building.

TS 3.6.1.8 specified the operation requirements of safety-related purge and vent system valves. Contrary to this, previous NRC inspection (Inspection Report 50-322/83-09) identified that 4" nitrogen supply valves (IT24*AOV004Ab,001A/B) were not included in SP 23.418.01

and SP 23.425.01. The inspector verified by review of Revision 6 to the procedure that the 4" valves were incorporated into the procedure. This item is closed.

3.2 Sealed Closure of IT 46*AOV038 A-D and 039 A-D and IT 48*MOV 032B

In Technical Specification 3.6.1.8/4.6.1.8, the licensee had committed to seal closed the 18" purge valves (IT46*AOV038 A-D and 039 A-D) and valve IT 48*MOV032B. A previous NRC inspection (Inspection Report 50-322/83-09) indicated that these valves were not properly designated in their respective surveillance procedures (SP).

The inspector reviewed the latest revisions of the procedures. SP 23.405.01, Appendix 12.2, Revision 3, "Reactor Building Standby Ventilation System", now lists valves, IT 46*AOV038 A-D and 039 A-D as locked closed. SP 23.402.01, Appendix 12.2 Revision 3, "Primary Containment Post LOCA Hydrogen and Oxygen Recombination" also shows IT 48*MOV 032B as locked closed.

Also, previous inspection (Inspection Report 50-322/83-09) identified that SP 23.418.01 discussed the need for the dedicated operator to provide the closure function to the purge and vent valves, including 4" valves. The inspector verified by review of Revision 3 to the procedure that the 4" valves were included in the paragraph 8.1.7 of the procedure SP 23.418.01.

This item is closed.

4.0 Dedicated Hydrogen Penetrations (NUREG-0737, Item II. E. 4.1)

NUREG-0737 TMI Action Plan item II.E.4.1 specifies that plants using external recombiners or purge systems for post accident combustible gas control of the containment atmosphere are required to provide containment penetration systems for external recombiner or purge systems that are dedicated to that service only. Furthermore, the systems shall meet the redundancy and single failure requirements of the General Design Criteria 54 and 56 of Appendix A to 10 CFR 50, and shall be sized to satisfy the flow requirements of the recombiner or purge system.

Previous NRC inspection (Inspection No. 50-322/83-10) identified that the following TMI Action items remained open:

- (1) Approval of test PT 402.001 and verification that it demonstrated proper flows through each of the containment penetrations.

The inspector verified by review of SP24.402.01, Revision 4, August 20, 1984 that the subject procedure was incorporated into the station surveillance program, and that paragraph 9.3 in the procedure specified flow requirements (60 scfm) for the Recombiner blowers. Flow testing was completed on October 31, 1983 per preoperational test, PT.402.001-1.

This item is closed.

- (2) Incorporation of the valve motor vendor's instructions in the Operating procedure.

In a letter dated January 30, 1984 to a NRC resident inspector, the licensee stated that LIMITORQUE Vendor manual did not specify the requirements for motors. However, the inspector verified by review of SP 24.402.01, Revision 5, "Post LOCA Hydrapen Recombiner Functional Test" that automatic actuation and cooling requirements were included in the procedure.

Additional precautions and preventive overheating guidelines during the system operation were also implemented in SP23.402.01, Revision 3, "Primary Containment Post LOCA Hydrogen and Oxygen Recombination." This item is closed.

- (3) Incorporating heat-up time, ground resistance and visual checks, flow checks, and 18 month checks in surveillance procedure and scheduled Activity Worksheets (SAW).

Technical Specification 4.6.6.1a requires that each recombiner will retain an operating temperature of 700°F within 90 minutes and maintain 700°F or over for at least 4 hours. The system functional test, SP24.402.01, Revision I, specified the requirements as an acceptance criterion in paragraph 9.1.1 with 9 test intervals of 6 months. Also, channel calibration procedure, SP 44.654.06, Revision 0, July 20, 1984 applied 60 minutes heat-up time for system stabilization prior to the calibration test.

The inspector verified by review of the procedure, SP 24.402, 01, Revision 0, Appendix 12.1, paragraphs 14.0 and 14.1, that a resistance-to-ground test would be performed within 30 minutes of completion of the functional test, and that a resistance to ground for the heater should be greater than or equal to 10,000 ohms. The flow requirements were also incorporated into the procedure.

Item B.3 in TS 4.6.6.1 required that a visual examination would be performed at least once per 18 months to verify that there was no evidence of abnormal conditions within the recombiner enclosure. The inspector verified and the licensee concurred that no procedural specifications to meet the TS requirements were prescribed in the surveillance procedures. Subsequently, the licensee issued a temporary procedure change, SPCN 84-1274, for the requirements, and incorporated into SP 44.654.06. This item is closed.

- (4) Correlation of thumb switch settings to flows in the operating procedure.

Flow correlation to the thumb switch settings was specified in Appendix 12-6 of SP 23.402, 01, Revision 3, June 13, 1984, and this item is closed.

- (5) Verification of ability to start up the recombiners in automatic mode.

Preoperational test of Primary Containment Atmosphere Control System, PT. 402.001-1, was completed November 15, 1983. The test included actuations of "A" and "B" Recombiners, and verification of both flow paths.

The inspector also verified by review of Engineering and Design Coordination Report (E&DCR) F45215A that the Honeywell Controllers would actuate in the Automatic mode, and that the instability problems identified during previous T48 system (C5.402.001-1) testing was resolved on July 3, 1983.

This item is closed.

- (6) Correlation of the valve lineup checklist as necessary.

The inspector verified that the valve lineup checklist was incorporated in Appendix 12.2 of SP 23.402.01, Revision 3. The checklist in the Appendix identified valve numbers required valve positions and descriptions of their functions.

This item is closed.

5.0 Q.A. Program

The inspector discussed QA/QC surveillance program with a licensee QA representative. The licensee stated that six QC/QA surveillance inspectors would be assigned for field surveillances during startup tests, as compared with two QC/QA inspectors for operation surveillances.

Also, QC/QA deficiency reports would be available for NRC. The inspector determined that the QA surveillance program was adequate, and had been improved.

No unacceptable conditions were identified.

6.0 Facility Tour

The inspectors observed work activities in progress, completed work, and plant status in several areas of the plant during a general inspection. The inspectors examined work items for obvious defects and non-compliance with NRC requirements or licensee commitments. Particular note was taken of indications of quality control activities through visual evidence such as inspection records and non-conformance and acceptance tags. Specific

completed work observed by the inspectors included activities related to NURGE-0737, Item II.E.4.1, Dedicated Hydrogen Penetrations, and Item II.E.4.2, Containment Isolation Dependability. Several isolation valves and 1D11-PNL-19 panel in the Reactor Building were also inspected. No unacceptable conditions were identified.

7.0 Exit Meeting

The inspector met with licensee and contractor representatives (denoted in Paragraph 1.0) at the conclusion of the inspection on September 25, 1984. The inspector summarized the scope and the inspection findings. At no time during this inspection was written material provided to the licensee.