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

Region I

Report No. 50-322/82-05

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: February 1 - March 29, 1982

Inspectors: J. C. Higgins
J. C. Higgins, Senior Resident Inspector — 3/29/82 date signed

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Approved by: Robert M. Gallo
R. M. Gallo, Chief, Reactor Projects Section 1A
Projects Branch #1, DPRP — 4/1/82 date signed

Inspection Summary:

Inspections on: February 1 - March 29, 1982 (Inspection Report No. 50-322/82-05)
Areas Inspected: Routine onsite regular and backshift inspections by the resident inspector (51 inspection hours) of work activities, preoperational testing and plant staff activities including: tours of the facility, test witnessing, review of NRC Bulletins and Circulars, review of valve power supplies, test procedure and test results review, and followup on previous inspection findings.

Results: No violations were identified.

DETAILS

1. Persons Contacted

T. Gerecke, Quality Assurance Manager (L)
J. Kelly, Field QA Manager (L)
W. Matejek, Lead Advisory Engineer (S&W)
M. Milligan, Project Engineer (L)
K. Nicholas, Lead Startup Engineer (GE)
J. Notaro, Operating Engineer (L)
J. Riley, Operations Manager (GE)
J. Rivello, Plant Manager (L)
C. Seaman, Senior Asst. Project Engineer (L)
J. Smith, Manager, Special Projects (L)
D. Terry, Assistant Startup Manager (L)
R. Werner, OQA Engineer (L)
E. Youngling, Startup Manager (L)

GE - General Electric
L - Long Island Lighting Company
S&W - Stone and Webster

The inspector also held discussions with 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

a. (closed) Unresolved Item No. (322/81-04-02): Demineralized Water FSAR Description: Final Safety Analysis Report (FSAR) paragraph 9.2.3.2 was revised in February, 1982 with Revision 25 to correctly describe the various demineralized water services. This item is closed.

b. (closed) Unresolved Item No. (322/81-04-03): Offsite Power Distribution Arrangement: Figure 8.2.1-1 of the FSAR was revised (Rev. 24) to delete the fused disconnect (62F) which was incorrectly shown. Also, Engineering and Design Coordination Report (E&DCR) #F-34661 was issued to change drawing FE-1A and delete disconnect 62F. This item is closed.

c. (closed) Unresolved Item No. (322/82-02-01): Filter Release: The licensee acknowledged that any item of this type should have an entry on the Master Punch List (MPL) and have a Repair/Rework Request written. The filters were added to the MPL and Repair/Rework #X61-39 was written to cover installation of the charcoal cells and filter media. This item is closed.

d. (closed) Deficiency No. (322/79-05-02): Quality Assurance (QA) Procedure Update: This item had been previously closed in report 80-06. The inspector reviewed the QA procedure manual to determine if preventive actions taken were still effective. The inspector noted that procedure and change notice handling was in accordance with requirements. No discrepancies were identified. This item remains closed.

3. Plant Tour

a. Discussion

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 - Maintenance of required cleanness levels of systems under or following testing;

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

- QA/QC surveillance - Pertinent construction and startup activities were being surveilled on a sampling basis by qualified QA/QC personnel;

- Security - Adequate site construction security;

- Weld Rod Control - Observations to determine weld rod was being controlled per site procedures; and

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

No violations were identified.

4. NRC Bulletins and Circulars

a. Bulletin 80-23

This Bulletin, "Failures of Solenoid Valves Manufactured by Valcor Engineering Corporation" describes defects in the subject valves, with specific part numbers. The licensee has reviewed his facility and determined, as requested by the Bulletin, that such valves are not used in safety related systems at Shoreham. These valves have been added to the Licensee's Deficient Items List to prevent procurement in the future. During tours of the plant, the inspector reviewed documents and observed various solenoid valves installed in the plant, and noted that none of the subject valves were used. This Bulletin is closed.

b. Circular 79-24

This Circular, "Proper Installation and Calibration of Core Spray Pipe Break Detection Equipment on BWRs", describes a design problem with the subject equipment. Several alternative solutions to the problem are available, as described in the Circular. The licensee has chosen to switch the high and low pressure connections to the differential pressure (D/P) instruments. This was accomplished through the following documents: FDDR KS-01-774, E&DCR F-28616, and R/RR E21-65. The inspector reviewed drawings and traced instrument lines in the plant from the reactor coolant system to one D/P instrument, after the modification was completed. No discrepancies were identified. The inspector also reviewed initial calibration and test data, various procedures, and the draft Technical Specifications for this equipment, and noted that the following items were not yet completely addressed:

- The adequacy of the D/P instrument to accurately reproduce the low setpoint of 0.5 psid is currently under engineering review by the licensee.

- Plant staff calibration procedure, SP.44.203.05, was not updated and still contained the old 5.0 psid setpoint, many "laters", and the incorrect panel number for E21*PDS-015A.

- In the new arrangement, the Core Spray Header Break Alarm actuates on a normal plant cooldown. The Alarm Response Procedure (ARP) did not specifically state when the alarm should actuate on a normal cooldown or clear on a normal heatup.

- The instrument does not receive a full channel functional test during either the preoperational or startup programs.

This Circular remains open.

c. Circular 81-02

This Circular, "Performance of NRC-Licensed Individuals While on Duty", described conditions and practices the NRC believes necessary for maintenance of a professional atmosphere in the control room and throughout the facility. The inspector reviewed station procedure SP.21.004.01, Rev. 3, "Main Control Room-Conduct of Personnel" and noted that the particular concerns of the Circular had been incorporated. The inspector did note, however, that the procedure had no clear definition of the licensed operators immediate area of responsibility. Definitions were not provided for "at the controls" or "the control room". The Circular references Regulatory Guide 1.114 for some guidance in this area. This Circular remains open.

5. TIP Containment Isolation Valves

The Traversing In-Core Probe (TIP) System measures neutron flux within the reactor core using detectors, which travel in tubes from outside the primary containment to the core. Each tube or line has two containment isolation valves, a ball valve and a shear valve per Table 6.2.4-1 of the FSAR. Paragraph 7.3.1.2.2 of the FSAR states that the power for containment isolation valves comes from engineered safety feature power supplies. The inspector noted that the power for the ball valves was non-safety related 120 volt AC and the power for the shear valves was non-safety related 125 volt DC from the station black battery. This item is unresolved and is designated Item No. (322/82-05-01).

6. Test Witnessing

The inspector reviewed test procedure PT.203.001-1 "Core Spray", and witnessed portions of the test including: collection of data for the Core Spray Pump Curves, pump vibration monitoring, and the Reactor Vessel Core Spray flow pattern test.

During the witnessing the inspector noted that:

- the test procedures were approved and released for performance;
- test procedures were in use by personnel performing the tests;
- test equipment was calibrated within required time periods;
- test personnel were suitably qualified:
- quality assurance participation was as required;
- data was logged per the procedures; and
- test acceptance criteria were met for portions observed.

Paragraph 7 of this report describes a discrepancy identified during this inspection.

7. ECCS Test Switch

The Emergency Core Cooling Systems' (ECCS) Logic can be tested in a number of different ways. One method of testing uses a General Electric (GE) test switch, which is connected to the relay logic cabinets for the Core Spray or the Residual Heat Removal Systems. This switch is used both during preoperational and periodic surveillance testing, and is referenced on the controlled Shoreham elementary prints, namely 1.61-201G and 1.61-219E, note 22, reference 2 (GE drawing no. 791E418TF sheets 1 and 4). The physical arrangement and internal wiring of the test switch is shown on GE drawing no. 136B2524, but not on a controlled Shoreham drawing. This item is unresolved pending establishment of a controlled Shoreham drawing of the test switch and is designated Item No. (322/82-05-02).

8. New Fuel Procedures

By letters dated September 25, 1978 and February 9, 1982 the licensee has requested a 10CFR Part 70 licensee to receive special nuclear material in the form of new fuel. A previous stipulation between the licensee, the NRC staff, and an intervenor set out several requirements for the issuance of that licensee. One item required that the NRC review and approve procedures related to the receipt of the new fuel. Accordingly, the inspector reviewed the following procedures, in conjunction with Region I specialist inspectors:

SP 58.001.01, Rev. 4 - Receipt, Inspection and Channeling of Unirradiated Fuel

SP 58.007.01, Rev. 3 - Inventory, Status and Control of Special Nuclear Material

Draft Procedure - Security Measures for the Protection of New Fuel Assemblies

Draft Procedure - Contingency Procedure, Threats to Steal or Theft of SNM

QAP-5-10.2, Rev. 0 - Station QQA Receipt Inspection, Handling, Unpacking and Channeling of Unirradiated Fuel

SP 32.002.01, Rev. 1 - Reactor Building Crane - Operation

SP 37.002.01, Rev. 0 - Reactor Building Crane, Hoist, Sling and Cable Inspection

Comments on the procedures were provided directly to the licensee and to the NRC Office of Nuclear Material Safety and Safeguards. The procedures are being revised and reapproved by the licensee and will receive another NRC review before the new fuel licensee can be issued.

9. Test Results Review

The inspector reviewed the completed preoperational test procedure PT.501.002, Halon Fire Protection for Remote Shutdown Panel and related documentation including:

- Test Change Notice #1, dated 3/4/82
- Test exceptions
- Repair/Rework Requests for the Halon System
- Alarm Response Procedures for the Halon System
- Checkout and Initial Operation Test Results
- Related Piping and Instrumentation Diagrams
- Test Engineer Analysis Report.

The inspector reviewed the above in order to determine that:

- test results were adequately evaluated by the licensee.
- test data met acceptance criteria.
- deviations were properly identified and tracked.
- licensee administrative procedures were observed.

With the exception of the three items discussed below, the inspector had no further questions on the items reviewed.

Inspection Report 50-322/82-03, paragraph 2 identified that PT.501.002 did not list the "before" and "after" temperatures for the Remote Shutdown Panel Room. Test Change Notice #1 added these temperatures to the required data. The inspector noted that the temperatures were recorded and that there was no significant change in the temperature during the test.

Of the four required control room alarm response procedures (ARPs) for the system, only two had been updated and included in the control room's current (or Blue Dotted) ARP book. Discussions with the Test Engineer revealed that all four had been updated. These were promptly placed in the Blue Dotted ARP book in the control room.

The inspector noted that the majority of Repair/Rework Requests had the Quality Assurance Function assigned to the Work Supervisor. The inspector questioned whether this satisfied the intent of a previous commitment to the NRC to include fire protection under the Quality Assurance Program. The licensee stated that this practice would be reviewed. This item will be tracked along with similar fire protection/QA concerns under Item No. (322/80-11-01).

10. Unresolved Items

Areas for which more information is required to determine acceptability are considered unresolved. Unresolved items are contained in Paragraphs 5, 7 and 9 of this report.

11. Management Meetings

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

The resident inspector also attended the entrance and exit interview of one region-based inspector during the inspection period and participated in the Construction Assessment Team inspection (Report 322/82-04).

Additionally on March 9, 1982 the inspector attended a prehearing conference associated with the NRC Atomic Safety and Licensing Board proceedings for a Shoreham operating license.