

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

Region 1

Report No. 50-322/81-23

Docket No. 50-322

License No. CPPR-95 Priority - Category B

Licensee: Long Island Lighting Company

Facility Name: Shoreham Nuclear Power Station, Unit 1

Inspection at: Shoreham, New York

Inspection conducted: December 7-11, 1981

Inspectors: R. A. McBrearty
R. A. McBrearty, Reactor Inspector

Jan. 11, 1982
date signed

date signed

date signed

Approved by: E. E. Tripp
E. E. Tripp, Chief, Materials and Processes
Section, DE&TI

1/2/82
date signed

Inspection Summary:

Inspection on December 7-11, 1981 (Report No. 322/81-23)

Areas Inspected: Routine, unannounced inspection of licensee actions on previous inspection findings and preservice inspection activities associated with ultrasonic examination of reactor pressure vessel welds using remote, automatic equipment including document review, data review and observation of work activities.

The inspection involved 31 inspection hours on site by one regional based inspector.

Results: No items of noncompliance or deviations were identified.

Region I Form 12
(Rev. April 77)

8201290266 820113
PDR ADOCK 05000322
PDR
Q

DETAILS

1. Persons Contacted

Long Island Lighting Company (LILCO)

- * T. F. Gerecke, QA Manager
- R. Glazier, Field QA Engineer
- * W. Hunt, Assistant Construction Manager
- * J. M. Kelly, Field QA Manager
- E. J. Nicholas, Section Supervisor - FQA
- * C. K. Seaman, Assistant Project Engineer

Nuclear Energy Services (NES)

- Z. Dargaty, UT Level II
- * G. Martens, Systems Manager - Level III
- J. Munson, Project Manager
- * M. L. Shakinovsky, NDE Engineer
- C. Tedesco, UT Level II

Reinhart & Associates, Inc.

- E. R. Reinhart, Consultant

U. S. Nuclear Regulatory Commission

- * J. C. Higgins, Senior Resident Inspector
- * Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

(Open) Unresolved Item (322/79-07-04): Examination of RPV feedwater nozzle. This item was discussed in IE Inspection Report No. 322/80-08 when additional information regarding indications detected in the nozzle/pipe weld of RPV nozzle N4B (azimuth 135⁰) became available. No new information was available at the time of this inspection. The item continues unresolved pending the licensee's reinspection and disposition and further review by the NRC of the disposition.

(Closed) Unresolved Item (322/80-15-02): Completeness and accuracy of PSI data. The item concerns PSI data sheets containing inaccurate weld identification and incomplete information regarding the disposition of ultrasonic indications.

An erroneous weld number was entered on visual report data sheet number 473-554. The licensee stated that the examiner had obtained the identification from a weld map that was being revised after a recent modification of the piping system. The weld in question was eliminated by the modification.

At the time the item was identified by the inspector, no PSI was being done at Shoreham. Upon resumption of activities, NES audited the site personnel and found that a large number of data sheets had not gone through the review process. This was documented by a memorandum dated June 16, 1981 referencing QA audit number NQA-335. Audit number NQA-375 was done on September 22, 1981, and found that the problems identified in the memo of June 16, 1981, were corrected at the time of the audit. To minimize the possibility of similar problems NES has designated an individual as a data controller who is responsible for assuring the accuracy and completeness of data. The erroneous data sheet number 473-554 was deleted from the system.

Based upon the above and discussions with NES and licensee personnel concerning this item, the inspector stated that the item is considered closed.

(Closed) Unresolved Item (322/80-15-03): Personnel certification records availability. The licensee PSI contractor NES, stated that, because the individual in question was no longer employed by NES, no determination was made regarding the availability of addition records for him. A decision to have his work redone was made by NES and data sheet number 472-25 dated August 13, 1981, was generated for the liquid penetrant re-examination of loop A recirculation system welds number B 31 NS 005 FW 21; B 31 P 1855 C, D, E and F; and R S1-A3-B. LILCO audit number FA-1343 dated August 10, 1981 confirmed that NES personnel on site were properly certified to various NDE Levels as applicable. An NES memorandum dated December 10, 1981 indicated that NES had performed an audit at Danbury, Connecticut in October 1981, of inservice inspection NDE personnel certification records. The NES audit found that the NES certification program requirements were being met.

Based on the above, the item is considered closed.

3. Preservice Inspection (PSI) Activities

The inspector reviewed procedures, observed ultrasonic examinations in progress, interviewed personnel and reviewed available data associated with the ultrasonic examination of reactor pressure vessel welds using remote, automatic examination equipment to ascertain compliance with ASME code and regulatory requirements.

a. Procedure Review

The following were included in the inspector's review:

- o Document number 80 A 0480, Revision 2, "Automatic Ultrasonic Examination Procedure For Reactor Vessel Welds"
- o Document number 80 A 4437, Revision 0, "Preservice Inspection Automated Examinations Scan Plan For Reactor Vessel Welds"
- o Document number 80 A 4340, Revision 0, "Functional Test Procedure - BWR Vessel Scanner"

- o Document number 85 A 149, Revision 0, "Procedure For The Certification of Surface Oriented Ultrasonic Examination Heads"

The above provided details related to system calibration, calibration reference standards, indication evaluation criteria, applicable code edition and addenda, recording requirements, examination frequency, beam angle and the extent of examination of applicable welds. In addition, data describing the accuracy of the scan tracking system and the method for certifying the ultrasonic examination head was documented. The measured angle of examination head, part number 85 C 282, serial number 1, and serial number 2 was included as part of document 85 A 149.

No items of noncompliance were identified.

b. Observations

The inspector observed the automatic scanning equipment attached to permanent tracks at the top of the biological shield wall and the display and recording equipment at the remote data collection station in the drywell. In addition, he witnessed the examination of circumferential weld number 1-313 joining the lower and lower intermediate shell course, and of vertical weld number 1-308 J in the lower intermediate shell course. The observations included system calibration and an intermediate calibration check.

The inspector noted that the activities were done in accordance with the applicable provisions of procedure 80 A 0480. The start and end point of the scan was found to agree with the predetermined scan plan delineated in document 80 A 4437. The examinations were conducted by three individuals, at least one of whom was qualified to UT Level II.

The equipment included an encoder which controlled the scan head motion (direction and rate of travel), two ultrasonic reflectoscopes for displaying the response from three transducers (a 0° longitudinal beam unit and two 45° shear wave units), a video recorder and a four channel strip chart recorder. A continuous record of the cathode ray tube (CRT) display was provided by the video recorder. All received signals are recorded on the strip chart and they can be correlated to the video tape record of each examination.

The inspector observed a scan rate digital readout display on the control panel and noted that it could be set to read scan rate in either the "X" or "Y" direction. The readout at the time of the inspector's observation indicated head travel of approximately 2 inches per second. The operator stated that the readout was not accurate and that a stop watch check of the travel rate showed that it was approximately 1 inch per second. He stated that the display has been indicating a faster than actual rate so that there was no problem in meeting the maximum allowed rate of 6 inches per second. The inspector had no further questions concerning this matter.

While inspecting the examination equipment at the shield wall, the inspector noted paint on the vessel surface above the top of the shield wall and including a portion of one scan path. He questioned the ability to maintain ultrasonic calibration sensitivity on the painted surface (calibration blocks are not painted), and was informed by the licensee that paint would be removed whenever it was present on the examination surface. The inspector observed that the paint was removed from an adjacent scan path surface. He had no further questions concerning this time.

The ultrasonic couplant was a mixture of demineralized water, ethylene glycol and Photo-Flow. The couplant was certified to contain acceptable amounts of halogens and sulfur as specified in procedure 80 A 0480.

No items of noncompliance were identified.

c. Preservice Inspection (PSI) Data Review

The inspector reviewed available data sheets to ascertain completeness and compliance with procedural requirements. The data had not gone through the licensee's review process at the time of this inspection.

Data package number 480-4 was reviewed and included data for scan 19-0-5, 19-0-6, 19-0-7 and 19-0-8 for weld number 4-308 A and 4-308 B.

Each weld was scanned parallel and perpendicular to the weld axis at 2-25 MHz test frequency and beam angles of 0° and 45° . The data were compared with the requirements of document 80 A 4437 related to examination head orientation, direction of scan and beam angle.

A comment on the data sheet regarding a midplane condition in weld 4-308 A was questioned by the inspector. The note stated that disposition was made in accordance with Section 10.1.1 of the procedure, but did not describe the test mode by which the condition was detected.

The inspector found that the condition was associated with the 0° straight beam examination and could be verified by the related strip chart and video tape. Because the chart and tape are considered supplementary data and are not part of the official data package, the inspector stated that the test mode by which indications are detected should be noted on the official data. The PSI contractor agreed and the inspector was informed at the exit meeting that information of that type would be included on the applicable data sheets.

The inspector was informed by the licensee that the strip charts and video tapes will be retained in Danbury, Connecticut by NES and, although not considered official data, will be available for review when it is deemed necessary.

No items of noncompliance were identified.

4. Exit Interview

The inspector met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on December 11, 1981. The inspector summarized the scope and findings of the inspection.