U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 82-14

Docket No. 50-322

License No. CPPR-95 Priority _____ Category _____

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 19-23 and 27-29, 1982

Inspectors: E. T. Shaub — 8/24/82
E. T. Shaub, Reactor Inspector — date

P. H. Bissett — 8/24/82
P. H. Bissett, Reactor Inspector — date

Accompanying personnel:

T R Cattledam for — 8/24/82
D. L. Caphton, Chief, MPS, EIB — date

E. T. Shaub for — 8/24/82
M. Geckle, NRC Intern — date

Approved by: T R Cattledam for — 8/24/82
D. L. Caphton, Chief, MPS, EIB — date

Inspection Summary: Inspection on July 19-23 and 27-29, 1982
(Report No. 50-322/82-14)
Areas Inspected: Routine unannounced inspection of Quality Assurance Program including operating staff training and preoperational test records. The inspection involved 121 inspector hours onsite and inoffice by two region based inspectors, a section chief and an intern.
Results: No violations were identified.

DETAILS

1. Persons Contacted

* L. Calone, Chief Technical Engineer
* J. Kaczor, Project Engineer
  J. Matson, Records Manager
* P. Pizzariello, Assistant Maintenance Engineer
* J. Rivello, Plant Manager
* P. Santoro, Assistant Records Manager
  G. Slater, Document Coordinator
* R. Werner, Operations Quality Assurance Engineer
  E. Youngling, Startup Manager

NUS Training Corporation

* J. Bengston, Training Supervisor
* L. Moffatt, Training Specialist

Stone and Webster

  D. Balyeat, Resource Test Engineer
* W. Matejek, Lead Advisory Engineer

USNRC

  P. Hannes, Resident Inspector
* J. Higgins, Senior Resident Inspector

The inspector also interviewed other licensee personnel including reactor operators, technicians, and members of the clerical staff.

*denotes those present at the exit interview.

2. Operating Staff Training

2.1 References

-- Long Island Lighting Co., (LILCO), Shoreham Nuclear Power Station Unit 2, Final Safety Analysis Report, Section 13.2 Training Program

-- LILCO LETTER SNRC 658, J. Smith to H. Denton, Subject: FSAR Revisions

-- LILCO LETTER, SNRC-718, J. Smith to H. Denton, Subject: Clarification and Amplification of letter SNRC-658.

-- ANSI 18.1,-1971, Selection and Training of Nuclear Power Plant Personnel

-- Proposed Technical Specifications, Administrative Section 6.0

-- LILCO Training Administration Manual, Draft

-- 10 CFR 55, Operators' Licenses.

-- NRC LETTER, H. R. Denton TO ALL POWER REACTOR APPLICANTS AND LICENSEES, DATED March 28, 1980, Subject: QUALIFICATION OF REACTOR OPERATORS

2. Non-Licensed Training Programs

Selected portions of the written training program were reviewed to verify consistency with the above requirements and the licensee's commitments in the following areas.

-- General Employee training/indoctrination (GET) in subjects such as quality assurance, emergency plan, administrative controls, radiological safety and prenatal exposure, controlled access and security, and fire/industrial safety

-- Formal and on-the-job training (OJT) for personnel such as craftsmen, technicians, QA/QC, engineers, operators and other plant support workers

-- Qualification/certification of personnel as applicable

-- Guidelines such as job analyses, testing methods and position descriptions for use in determining an individuals qualifications and supplementary training needs

-- Facility equipment such as workshops, classrooms, lesson plans, course material, and visual aids (including mock-ups, items and parts similar to those in-plant, etc.)

-- Delineation of training organization, assignment of responsibilities and identification of objectives

-- Training of instructors, training program evaluation and making of needed change, and management involvement

-- Documentation of training and retention of required records

-- Staffing and qualifications of selected training department personnel

-- Refresher training, and requalification/evaluation is being performed as required

-- Replacement training schedu'ed or completed

The programs and the inspection findings are summarized in the following paragraphs.

2.2.1 General Employee Training (GET)

The inspector reviewed the training procedures and lesson plans listed below to determine conformance with the training requirements of 10 CFR 50, Appendix B, Criterion II; 10 CFR 19.12; 10 CFR 20; 10 CFR 73.50; Technical Specifications, Section 6; and ANSI 18.1-1971, "Selection and Training of Nuclear Power Plant Personnel," Section 5.4 for new and existing employees, temporary employees, technicians, and craft personnel.

-- SP 12.014.03, General Employee Training Program, Revision 1, May 18, 1978

-- Fire Protection, Revision 2, June 1982

-- Site Organization and General Policies, Revision 1, June 1982

-- Plant Description, Revision 2, June 1982

-- Health Physics (nonradiation workers) Revision 1, May 1982

-- Health Physics (radiation workers), Revision 6, May 1982

-- QA Indoctrination, Revision 2

This training provides plant personnel with indoctrination training and periodic retraining in the following areas:

-- Radiological health and safety

-- Emergency plan and procedures

-- Access control and security procedures

-- Industrial safety

-- QA/QC indoctrination

-- Formal training for females on the contents of Regulatory Guide 8.13, Appendix A

General employee training has not been implemented with the exception of the required Quality Assurance (QA) indoctrination. The licensee is scheduled to commence GET in September, 1982 and be completed for all employees prior to fuel loading.

No violations were identified.

2.2.2 Craft and Technician Training

The status of the training programs for craftsmen and technicians was reviewed with instructors and supervisors responsible for the training. Interviews were conducted with selected individuals who were at varying levels of training and qualifications. These included maintenance craftsmen, radiation protection technicians, chemistry technicians, craftsmen, radiation protection technicians, chemistry technicians, instrument and control (I&C) technicians and Technical Support personnel. The programs and the inspection findings are summarized in the following paragraphs.

2.2.2.1 Maintenance Craftsmen

The inspector reviewed the following training procedure which delineates the formal maintenance training:

-- SP 31.001.01, Training and Qualification of Maintenance Personnel, Revision 2, October 23, 1981

The program consists of a combination of formal classroom study offsite, practical OJT onsite and vendor supplied training in the maintenance and repair of particular plant systems and components leading to a level A-1 craftsmen qualification.

The inspector selectively sampled and examined three maintenance personnel training records. Interviews were conducted with supervisors and maintenance personnel to verify 1) that training was provided commensurate with the job classification and 2) job assignments were within the scope of the training.

No violations were identified.

2.2.2.2 Radiochemistry and Health Physic Technicians

The inspector reviewed the following training procedures and course outlines which describe the formal radiation protection and radiochemistry training.

-- SP 61.040.01, Health Physics Technician Qualification Program, Revision 6, July 8, 1982

-- SP 71.006.01, Technician Qualification Program, Revision 3, September 19, 1980

The training program consists of formal classroom training in Health Physic Technology or Radiochemistry, and plant systems and procedures training. This formal training is currently being provided by contracted services. In addition, the technicians participate in a qualification program which requires the technician to demonstrate understanding and competence in the various activities they are required to perform.

The inspector reviewed training records of six Radiochemistry and Health Physic personnel at various training levels. Interviews were conducted with supervisors and individuals to verify that training was commensurate with the job classification and duties assigned.

During review of the training records the inspector noted that documentation of qualifications existed for chemistry and health physic technicians but there were no technician certifications as required by ANSI N45.2.6, Qualification of Inspection, Examination and Testing Personnel-1973. The licensee's representative acknowledged the inspectors finding and committed to having the certifications completed, as required, for all technical personnel within ninety days after fuel load. Formal certification of technical personnel will be reviewed in a subsequent NRC:RI inspection(322/82-14-01).

No violations were identified.

2.2.2.3 Instrument and Control (I&C) Technicians

The inspector reviewed the following training procedure, which describes the formal I&C training program, to ensure all FSAR commitments were included:

-- SP 41.011.01, I&C Technician Qualification Program, Revision 5, February 20, 1981

The training program consists of formal classroom training and laboratory work in instrumentation and controls. In addition the technicians participate in a qualification program which requires the technicians to demonstrate understanding and competence for a particular system or piece of equipment.

The inspector reviewed the records of three I&C technicians. Interviews were conducted with supervisors to verify that the training given was commensurate with the job classification and duties assigned.

The I&C technicians participate in a qualification program but formal certification, as per ANSI N45.2.6, does not exist. Certification of I&C technicians, will be reviewed in a subsequent inspection along with Chemistry and Health Physics technicians as discussed in paragraph 2.2.2.2. (322/82-14-01).

No violations were identified.

2.2.3 Nuclear Engineers and Shift Technical Advisors (STA)

The inspector reviewed draft procedures which delineate the required training program for STA's and Nuclear engineers.

-- SP 51.006.02, Shift Technical Advisor Training, Revision A

-- SP 51.006.01, Nuclear Engineer Training, Draft

The formal training program for nuclear engineers and STA's meets or exceeds the commitments of the Final Safety Evaluation Report (FSAR).

The inspector reviewed the training records of three STA's and three nuclear engineers to verify the training received was commensurate with the FSAR and duties assigned.

The inspector discussed the issuance of the draft procedures with the licensee. The licensee's representative acknowledged the inspectors comments and committed to issuing the draft procedures within a reasonable time after the scheduled September 20, 1982, fuel load. Issuance of training procedures for STA's and nuclear engineers will be reviewed in a subsequent NRC:RI inspection (322/82-14-02).

No violations were identified.

2.2.4 Engineering/Technical Support Staff Training

The inspector reviewed the training given to the plant technical support staff to ensure that training met the requirements of the FSAR.

The inspector discussed the technical support staff training program with the Technical Support Supervisor and reviewed training records to verify that initial training for the technical support staff was complete.

The licensee has not yet formally developed a training program or procedure. The licensee's representative acknowledged the inspector's findings and committed to formally issuing an approved training program or procedure by the scheduled September

20, 1982, fuel load. The issuance of an approved training program will be reviewed in a subsequent NRC:RI inspection (322/82-14-03).

No violations were identified.

2.2.5 Fire Brigade Training

The inspector reviewed the following training procedures which delineates the formal training and drills required for fire brigade members.

-- SP 39.500.02, Fire Brigade Organization, Response, Practice and Drills, Revision 2, February 19, 1982

-- SP 39.500.03, Fire Protection Program Training, Revision 1, March 16, 1982

The inspector discussed the status of the training program with the technical training specialist and reviewed training records to verify that fire brigade members have completed formal fire fighting training as well as actual hands-on-training. In addition to the above training, the licensee has scheduled a series of drills to evaluate the fire brigades and the station responses to plant emergencies.

No violations were identified.

2.2.6 QA/QC Personnel Training

The inspector reviewed the following procedures to verify the training program is consistent with FSAR commitments.

-- OQA-5-02.1, Station OQA Introduction and Training, Revision 2, April 16, 1981

-- OQA-5-02.2, Station OQA Training, Qualifications, and Certification of Auditors, Revision 1, March 16, 1981

-- OQA-5-02.3, Station OQA Training Qualification and Certification of Inspection, Test and Examination Personnel, Revision 2, April 16, 1981

The inspector discussed the QA training program with QA Supervision and reviewed records of two QA auditors to verify that the required training and certification had been completed.

No violations were identified.

2.3 Licensed Operators Training Program

2.3.1 Program Review

The inspector reviewed the licensee's program with regard to the requirements and commitments set forth in those references listed in paragraph 2.1, and verified that, as currently established, the program includes the following:

-- instruction in heat transfer, fluid flow, thermodynamics and mitigation of accidents involving a degraded core

-- lesson plans or appropriate training materials describe the scope and depth of selected lectures

-- accelerated requalification standards of less than 70% in any section and less than 80% overall

-- documentation of personnel attendance

-- reactivity control manipulations on the plant or at a simulator as specified in H. R. Denton's letter

-- discussions/reviews of changes in facility design, procedures, and facility license

-- review of abnormal/emergency procedures

-- an established, planned, continuing lecture schedule appropriate to deficient areas identified by the most recent annual exams.

The inspector determined that the program, as described in the following procedures, was in conformance with existing regulatory requirements and licensee commitments.

-- SP 21.006.01, Station Operator Training and Qualification Program, Revision 2, September 22, 1982

-- SP 21.006.02, NRC License Training Program, Revision 2, April 2, 1982

-- SP 21.006.03, NRC License Requalification Program, Revision 2, October 16, 1980

Currently the licensee is implementing a "Cold Licensee Proficiency Maintenance Program" for the licensed operator candidates. This program provides the license candidate with the refresher training as established in procedure SP 21.006.03, NRC Licensee Requalification.

2.3.2 Program Implementation

The inspector randomly selected and reviewed the records of ten licensed operator candidates to verify documentation of the required license training.

Interviews were conducted with three licensed operator candidates to verify that (1) training is being conducted in accordance with approved procedures and lesson plans, (2) training is meaningful to participants, and (3) the training records reflect the actual training.

The inspector attended a licensed operator candidate training lecture on Fluid Mechanics, presented as part of the Cold Licensee Proficiency Maintenance Program, to verify that the lecture presented the information as required by H. R. Denton's letter, dated March 28, 1980.

Discussions were held with the licensee's training staff to determine the adequacy of the forth coming licensed operator requalification program and the required documentation. No inadequacies regarding the requalification program or associated documentation were identified.

2.3.3 Findings

2.3.3.1 The inspector determined that licensed operator candidates were not being kept current on plant design changes and modifications. The licensee's representative acknowledged the inspectors' finding. The licensee is aware of the problem, but due to an agreement with NRC Operator Licensing Branch, the August license examination will deal with the plant status as of July 1982. Because of this agreement, the licensee stopped routing design changes and modifications to the license operator candidates to avoid any confusion on their part. The licensee's representative stated that as soon as the license exams are completed, plant design change and modification information will be routed to the operators via the required Reading List. Dissemination of information on plant design changes and modifications to the operating staff via the required reading list or other means will be reviewed in a subsequent NRC:RI inspection (322/82-14-04).

2.3.3.2 During review of Quality Assurance Audit 81-10, LILCO Plant Staff and Training, completed November 12, 1981, the inspector noted that the scope and references of the audit addressed the LILCO FSAR training commitments and ANSI 18.1 but did not address the applicable regulations (10 CFR 50 & 55). The inspector expressed a concern that the audit scope and

references should include the applicable regulations to verify compliance with regulatory requirements. The licensee acknowledged the inspector's concern and committed to performing a training audit after the operator licensing examinations are completed but prior to fuel loading, to verify the facility staff is qualified and trained in accordance with LILCO FSAR commitments and regulatory requirements. NRC:RI will review the completed training audit in a subsequent inspection (322/82-14-05).

2.3.3.3 LILCO Project Resource Center (PRC) maintains "Plant System Descriptions." These descriptions serve as training aides and references for plant technical support staff as well as the Startup and Test Engineers. The inspector noted that the Plant System Descriptions do not reflect the current plant status. The licensee acknowledged the inspector's findings and stated that Plant System Descriptions are the responsibility of the plant Technical Support staff and as the systems are turned over from the start-up group to the plant staff, the Plant System Descriptions will be revised to reflect current as-built information in a reasonable time. The revision and updating of Plant System Descriptions will be reviewed in subsequent NRC Region I inspections (322/82-14-06).

No violations were identified.

3. Preoperational Test Records

3.1 References

-- Final Safety Analysis Report (FSAR), Section 17

-- ANSI N45.2.9 - 1974, Requirements for Collection, Storage, and Maintenance of Quality Assurance Records for Nuclear Power Plants

-- Regulatory Guide 1.88

-- ANSI N45.2 - 1977, Quality Assurance Program Requirements

3.2 Program Review

The licensee's program for maintaining records was reviewed for conformance with references listed in paragraph 3.1. This review encompassed:

-- requirements for maintaining and retaining Quality Assurance (Q.A.) type records

-- assignment of responsibilities, thus assuring that Q.A. type records will be maintained

-- record storage controls, including:

a. locations

b. designated custodians

c. record receipt/retrieval

d. superseded records

e. access controls

f. procedures

Procedures reviewed included:

-- Long Island Lighting Company (LILCO), Startup Manual Sections 4.7, Records Management, and 8.6, System Turnover to Production, Revision 16, January 28, 1982

-- Construction Site Instruction (CSI) 2.19, Shoreham Records Retrieval System (SR-2), Revision 8, April 18, 1979

-- SP 12.008.02, Retention of Permanent Plant Records, Revision 1, June 4, 1980

-- SP 12.008.04 Documentation to SR-2, Revision 0, March 26, 1979

-- Project Resource Center (PRC) Work Instructions for Record Management

-- SR-2 Working Instructions - Filing, Coding, Indexing and Microfilming

3.3 Implementation

The inspector selectively sampled various Q.A. type records to verify that records were:

-- listed on a records index;

-- readily retrievable from designated file or microfilm storage location as applicable;

-- provided suitable protection and stored in appropriate cabinets or containers in a predetermined location; and

-- processed in accordance with Shoreham Record Retrival System (SR-2) procedures and applicable work instructions.

The inspectors examined various plant procedures, manuals and a system turnover package for the Office and Service Building HVAC System (thus far, only 5 system turnover packages have been submitted to SR-2). The inspectors also toured the licensee's record retrieval center to verify that file room access was being controlled and that record processing and microfilming was being performed as described in work instructions.

3.4 Findings

LILCO Project Resource Center (PRC) is responsible for the establishment of a System Turnover package file which generally consists of the following documentation:

1. Checkout and Initial Operation (C&IO) Flush procedures

2. Acceptance Test or Preoperational Test results

3. Repair/Rework Requests

4. C&IO specific procedure

5. C&IO test results

6. System releases

Each system turnover package, upon completion, is forward to SR-2 for microfilming.

However, the inspectors determined that no formal set of procedures had been written detailing specific steps to follow prior to forwarding a System Turnover package to SR-2. To date, only one individual of the PRC has had the responsibility of assuring that all applicable documentation is included in a System Turnover package. To preclude the possibility of forwarding to SR-2 a System Turnover package with missing documentation, the licensee agreed to develop written procedures which would insure that completed System Turnover packages contained all applicable documentation. The issuance of an approved procedure will be reviewed in a subsequent NRC:RI inspection (82-14-07).

No violations were identified.

4. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable, deviations, or items of noncompliance. No resolved items were identified during this inspection.

5. Management Meetings

Licensee Management was informed of the scope and purpose of the inspection at the entrance interview conducted on July 19, 1982. The findings of the inspection were periodically discussed with licensee representatives during the course of the inspection. An exit interview was conducted on July 29, 1982 (see paragraph 1 for attendees) at which time the findings of the inspection were presented.