U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 82-17

Docket No. 50-293

License No. DPR-35 Priority - Category C

Licensee: Boston Edison Company

800 Boylston Street

Boston, Massachusetts 02199

Facility Name: Pilgrim Nuclear Power Station

Inspection At: Plymouth, Massachusetts

Inspection Conducted: May 12-14, 1982

Inspectors: G. Napuda, Reactor Inspector — 6/1/82 date

Approved by: D. L. Caphton, Chief, Management Program Section, EIB — 6/3/82 date

Inspection Summary: Inspection on May 12-14, 1982 (Inspection Report 50-293/82-17)
Areas Inspected: Routine, unannounced inspection by one region based inspector of licensee action on previous inspection findings; licensed operator requalification training; general employee training; and, craft/trades training. The inspection involved 25.5 hours onsite by one region based inspector.
Results: Of the four areas inspected, no violations were identified.

DETAILS

1. Persons Contacted

* R. Cook, Plant Engineer
  J. Crowder, Chemistry Lab Technician
  D. Fountain, Health Physics Technician
  D. Hughes, Nuclear Training Specialist
  J. Keiran, Electrical Maintenance
* R. Machon, Nuclear Operations Manager
  R. McGourthy, Mechanical Maintenance
* M. McLoughe, Senior Compliance Engineer
  D. McNamarra, Clerk
  W. Olson, Senior Nuclear Training Specialist
  B. Pickett, Respiratory Protection Supervisor
* D. Sanford, Nuclear Training Manager
  D. Williams, Nuclear Plant Operator

USNRC

* J. Johnson, Senior Resident Inspector
  R. Campbell, NRR-OLB

The inspector also interviewed other licensee and contractor employees including administrative, craft/trade, engineering, maintenance, operations, and training personnel.

*denotes those present at the exit interview conducted May 14, 1982.

2. Previously Identified Items

(Closed) IFI (80-14-01): Revise requalification training manual to include internal audit findings and new NRC requirements. Based on the manual review and findings discussed in paragraph 5, the inspector had no further questions.

(Closed) IFI (80-14-02): Train operators regarding modifications to plant prior to plant restart. Based on the review and findings discussed in paragraph 5, the inspector had no further questions.

(Closed) IFI (80-14-14): Initial OJT group training for interdepartmental tranferees, temporary and new staff assignees. Based on the program review and findings discussed in paragraph 4 the inspector had no further questions.

(Open) Unresolved Item (81-19-04): Reissue procedure 1.3.14, Indoctrination and Training, and revise training manual to include a list of effective pages. The inspector verified that the training manual is now a controlled document and as such is appropriately maintained. However, the reissued procedure has expired and the inspector will followup this portion of the item further.

(Closed) IFI (81-24-08): Review implementation of revised non-licensed training program. Based on the reviews and findings discussed in paragraph 4 the inspector had no further questions.

3. General Employee Training

3.1 Program Review

The inspector reviewed selected portions of the Training Manual and lesson plans for areas discussed below to verify consistency 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 (TS) Section 6; and, ANSI N18.1-1971, Selection and Training of Nuclear Power Plant Personnel, Section 5.4 for new/existing/temporary employees such as technicians and craft/trade personnel.

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; and,
-- Formal training for females concerning prenatal exposure (required by Regulatory Guide 8.13, Appendix A).

3.2 Implementation

The inspector randomly selected and reviewed licensee training records of ten individuals to verify that the required training had been given. In addition the inspector conducted six interviews with individuals whose records were reviewed to verify the following.

-- The scope of the training was similar to that contained in the licensee's training records;
-- The training was meaningful to those attending; and,
-- The areas presented were covered accurately and sufficiently from the participants' point of view.

The interviewees included administrative, craft/trade, operations and technical personnel, including one female.

3.3 Findings

As a result of NRC PAB and IE inspections (Reports 50-293/81-20 and 50-293/81-36 respectively) and various licensee commitments including BECo letter #81-249, the licensee has revised the Training Manual; developed a three year training program upgrading plan; planned for expanded physical facilities; and, begun implementation of these.

The training organization has been restructured to include a Manager of Training (MOT) and the position was occupied October, 1981. The inspector reviewed the Three Year Plan 1982 Budget-Nuclear Training Group which detailed the program plans and discussed its contents at length with the MOT. This individual stated that:

-- expanded staffing has been authorized, some positions filled and active recruitment is ongoing;
-- new physical facilities are expected to be completed this year;
-- visual and hands on training aids are being acquired;
-- new course modules and lesson plans required by the revised program continue to be developed;
-- senior management is contemplating centralizing corporate wide training still further; and,
-- the three year upgrading plan may be revised annually.

The inspector verified that the upgraded training program was being implemented consistent with the three year plan and the revised manual in the areas reviewed and discussed in previous and subsequent paragraphs. The inspector stated that he had no further questions and the implementation of the training program will be examined during subsequent NRC routine inspections.

No violations were identified.

4. Craft/Trade and Technical Training

4.1 Program Review

The inspector selectively reviewed the revised training manual (see paragraph 3.3), and modules and lesson plans to verify that the following training is provided.

-- formal training commensurate with the job classification;
-- fire fighting training; and,
-- on the job training to supplement formal training and education/experience.

4.2 Implementation

The inspector randomly selected and reviewed licensee training records of four individuals to verify that the required training had been given. The four individuals were also interviewed to verify the following.

-- The scope of training was similar to that contained in the licensee's training records;
-- The training was meaningful to those attending; and,
-- The areas were covered accurately and sufficiently from the participants' point of view.

Interviewees included electrical, chemistry, health physics, and mechanical disciplines.

Additionally, the inspector attended a portion of a vendor taught training course on the maintenance, assembly/disassembly, and repair of a particular model of self contained breathing apparatus being given to health physics personnel. The inspector also examined the course material, practical and visual aids used during a contracted course on hoisting/rigging being given to maintenance personnel.

4.3 Findings

The inspector discussed the status of this training program with the MOT. This discussion included among other items the licensee's intent to complete task analyses for all positions and to use these for determining individual supplementary training needs. The MOT also stated that a form (G-3) had recently been distributed to the Maintenance, Chemistry, and Health Physics Sections. An individual's education, experience etc. will be documented on this form, become a part of the records file, and also be used in analyzing individual qualifications and training needs. The inspector determined that the licensee was implementing the training program consistent with commitments, the upgraded program, and as discussed in paragraph 3.3. The inspector stated he had no further questions and that the implementation of the training program will be examined during subsequent NRC routine inspections.

No violations were identified.

5. Licensed Operator Requalification Training

5.1 Program Review

The inspector reviewed selected portions of the licensee's Training Manual and lectures/lesson plans to verify consistency with requirements of 10 CFR 55, Appendix A; the Accepted Operator Requalification Program; and, the revised training criteria of the March 28, 1980 letter to all power reactors from H. Denton (NRC).

The inspector determined that the established program included the following.

-- A lecture schedule with instructions in heat transfer, fluid flow, thermodynamics, and mitigation of accidents involving a degraded core among other required subjects;
-- A continuing lecture schedule appropriate to deficient areas identified during the preceeding exam; and,
-- That lesson plans or appropriate training materials describe the scope and depth of selected lectures.

-- An accelerated requalification for those scoring less that 70% in any section and/or less than 80% overall in the previous exam;
-- Documentation of personnel attendance;
-- Reactivity control manipulations on the plant or at a simulator;
-- Discussions/reviews of changes in the facility design, procedures, and facility license;
-- Review of abnormal/emergency procedures; and,
-- Systematic performance evaluations.

5.2 Implementation

The inspector randomly selected and reviewed the training records for five licensed personnel to verify that each included:

-- Completed examinations including answers and scores;
-- Required manipulation of controls for reactivity changes;
-- Completed oral examinations/evaluations;
-- Completed self study assignments and course/lecture attendance; and,
-- Completed additional training in areas where deficiencies were exhibited.

The inspector reviewed portions of the new Reactor Theory Training Course (RTTC) manual that consisted of nine completely developed modules. Four modules are awaiting signature approval of the MOT and two more are in final review by the Senior Training Instructor.

The inspector also reviewed portions of a vendor developed training program which is detailed in a Recognizing and Mitigating the Consequences of Severe Reactor Core Damage (RMCCD) manual. The inspector noted that chapters address such subjects as the TMI-2 incident; core cooling mechanisms; potentially damaging operating conditions; recognizing core damage/critical plant parameters; hydrogen hazards during severe accidents; transient analysis; neutron monitoring/core recriticality; radiation hazards/monitoring; and, BWR lessons learned. The licensee representative stated that this manual is being utilized for the current requalification program for areas not covered by other lessons/lectures.

Additionally, the inspector attended a portion of a lecture class (Module eight of the new RTTC) where neutron monitoring with incore detectors and interpretation of actual readings during fuel loading and control rod withdrawal were being discussed/presented.

The inspector interviewed the one available on-shift licensed employee and verified accuracy of records reviewed including the following.

-- That the scope of training was similar to that contained in the program;

-- That the training was meaningful; and,

-- That the areas covered were covered accurately and sufficiently.

5.3 Findings

The inspector verified that the vendor developed RMCCD course was given to all personnel holding a license during February-March, 1981. The Nuclear Operations Manager (NOM) and two Deputy NOMs also received the training at that time.

The review of control manipulation records and discussions with the senior training instructor indicated that a number of these abnormal condition manipulations were "oral walk throughs" of the applicable procedures and abnormal incident. The licensee stated that this method was used since appropriate offsite simulator time was not available during the past requalification program, but that simulator time has been procured for the next few years to actually perform these manupulations. The method used was consistent with paragraph C.3 of Enclosure 1 to the above mentioned H. Denton letter. A telephone discussion between the inspector and an NRR-OLB representative confirmed the acceptability of this training method for the circumstances during the past requalification program.

The inspector noted that the licensee had forwarded a letter to NRR-OLB requesting a requalification date extension to November, 1982.

The inspector also noted that one licensed operator who failed the oral exam during the past cycle was immediately taken off licensed duties, received retraining including appropriate walk throughs, was reexamined, and then passed the exam.

The licensee stated that the expanded physical facilities discussed in paragraph 3.3 are also for licensed training/retraining. The inspector stated he had no further questions.

No violations were identified.

6. Management Meetings

Licensee management was informed of the scope and purpose of the inspection at the entrance interview conducted May 12, 1982. The findings of the inspection were periodically discussed with licensee representatives during the course of the inspection. An exit interview was held onsite on May 14, 1982 (see paragraph 1 for attendees) at which time the findings of the inspection were presented.