

U. S. NUCLEAR REGULATORY COMMISSION
REGION I
INSPECTION REPORT

License/Docket/Report: DPR-35/50-293/94-12


Licensee: Boston Edison Company
RFD #1, Rocky Hill Road
Plymouth, Massachusetts 02360

Facility: Pilgrim Nuclear Power Station
Plymouth, Massachusetts

Dates: June 27 - July 1, 1994

Inspectors: J. Lusher, Emergency Preparedness Specialist, Region I
W. Maier, Emergency Preparedness Specialist, Region I

Approved by:



R. R. Keimig, Chief
Emergency Preparedness Section
Division of Radiation Safety and Safeguards

AREAS INSPECTED

Pilgrim Nuclear Power Station emergency preparedness (EP) program changes; emergency response facilities, equipment, instrumentation, and supplies; organization and management control; training; and independent reviews/audits.

RESULTS

The inspectors concluded that all areas of the Pilgrim emergency preparedness program were being effectively administered and implemented. No safety concerns or violations of NRC requirements were identified.

DETAILS

1.0 Persons Contacted

Boston Edison Company

- *+ J. Alexander, Nuclear Training and Materials Service Division Manager
- + E. Boulette, Senior Vice President - Nuclear
- *+ R. Cannon, Senior Compliance Engineer
- + D. Ellis, Compliance Supervisor (Acting)
- + R. Fairbank, Regulatory Affairs and Emergency Preparedness Department Manager
- * R. Finn, Senior Community Representative
- * A. Flanagan, Senior Public Information Representative
- *+ C. Fuller-Miles, Senior Nuclear Training Specialist
- + J. Keyes, Licensing and Compliance Division Manager (Acting)
- *+ R. Markovich, Emergency Preparedness Offsite Division Manager
- + P. Markson, Communications Specialist
- *+ J. Morlino, Emergency Preparedness Drills and Exercise Coordinator
- *+ L. Olivier, Nuclear Services Department Manager
- + D. Perry, Emergency Planner (Health Physics)
- *+ W. Rothert, General Manager, Technical
- * L. Schmeling, Plant Manager
- *+ J. Spangler, Emergency Preparedness Onsite Division Manager
- + T. Sullivan, Plant Manager
- *+ M. Williams, Senior Quality Assurance Engineer

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- + J. Macdonald, Senior Resident Inspector, Pilgrim Nuclear Power Station
- * Denotes attendance at entrance meeting June 27, 1994
- + Denotes attendance at exit meeting July 1, 1994

The inspectors also interviewed and observed other licensee personnel during the course of this inspection.

2.0 Emergency Plan and Implementing Procedures

The inspectors reviewed recent changes to the Emergency Plan Implementing Procedures and the Emergency Plan Administrative Procedures to determine if these changes decreased the effectiveness of the Emergency Plan.

The inspectors concluded that the changes made to these procedures were all enhancements to the Emergency Plan. The inspectors also reviewed the methodology used in the procedure for making changes to Emergency Preparedness (EP) procedures, EP-AD-100 (Emergency Preparedness Controlled Documents) to

determine if changes to procedures affected the Emergency Plan required an effectiveness review in accordance with 10 CFR 50.54(q). The inspectors noted that the procedure change sheet for revising or writing a procedure asks a single question about the proposed procedure/changes effects on the Emergency Plan. If the answer is yes, the reviewer is directed to complete a detailed questionnaire to determine the extent of the impact. If the answer is no, the review for impact on the Emergency Plan stops and the reviewer needs to do nothing further. The inspector concluded that if the reviewer did not answer the initial question correctly, the change could be made without an effectiveness review.

The inspector discussed this item with the On-site Emergency Preparedness Manager. The EP Manager agreed that a more detailed initial screening to determine the need for an effectiveness review was warranted. He committed to revising the procedure and change sheet for EP-AD-100 to ask five questions regarding the impact of the revision on plan effectiveness.

3.0 Emergency Facilities, Equipment, Instrumentation and Supplies.

3.1 Facilities Inspection

The inspector reviewed the communications capabilities and the inventory status of the Control Room, the Technical Support Center (TSC)/Operations Support Center (OSC), the Emergency Operations Facility (EOF), the Alternate EOF (AEOF) and the Personnel Processing Center. All of the communications equipment was in working order. The inspector spot checked the status of the inventory lists for the various facilities and found no shortages. All of the radiation monitoring equipment in these locations that the inspector checked had current calibration stickers. The inspector concluded that these facilities were being well maintained.

3.2 Facility Surveillance Procedures

The inspector reviewed the completed surveillance procedures for the emergency response facilities (communications tests and inventories) for the period of the last 12 months. He noted that these surveillances appeared to have been informally documented. The inspector noted some examples of discrepancies that were identified on the inventory sheets with no documentation of whether the discrepancy was corrected. Additionally, the performance date and the review date were not listed on some sheets, one completed inventory was altered in that the required quantity for an item was lined out and a different amount was written in, some communication tests were only partially completed due to problems with either equipment or off-site agency participation and the resolution of those problems was not adequately documented, and most of the inventory sheets were not identified other than with the page number of the parent administrative procedure.

The inspector discussed these items with the On-site Emergency Preparedness Manager. The EP manager agreed that the procedure could be improved. He committed to improve the process by establishing summary sheets that would indicate the status of all the inventories with the date of their completion and outstanding discrepancies. He further stated an intention to establish criteria for the resolution of identified discrepancies. The On-site EP Manager committed to have these procedural enhancements in place by the end of the current calendar year (1994).

3.3 Alternate Emergency Offsite Facility

The inspector inspected the AEOF and found it to be adequately stocked for use and with adequate communications capability. The AEOF was recently established at BECO's Massachusetts Avenue Service Center in Boston. The facility was moved there in late 1993 from the company's Braintree Engineering Center, a facility for which the lease was about to expire. The inspectors noted that the Emergency Plan lists the AEOF at Massachusetts Avenue as being 35 miles from the site. This is nearly double the distance indicated in NUREG-0696 (*Functional Criteria for Emergency Response Facilities*) for an AEOF (20 miles).

The inspectors looked at the effectiveness review that was performed for the location change to determine if this move caused a decrease in the effectiveness of the emergency plan. The review concluded that the move was an enhancement to the plan for the following reasons:

- Boston Edison owns the Massachusetts facility whereas the Braintree Engineering Center facility was leased.
- Another emergency group does not have to relocate to make room for the AEOF at the Massachusetts Avenue facility. The Technical Assessment Group (TAG), which was stationed at the Braintree Engineering Center, would have had to relocate if the AEOF was activated there. (TAG has been assigned to the TSC as a result of the termination of the lease of the Braintree facility).
- The Massachusetts Avenue facility is built to withstand hurricane force winds.
- Emergency backup power is available at the Massachusetts Avenue facility.
- Access control at the Massachusetts Avenue facility is available.
- Boston Edison radio repair personnel are available at the Massachusetts Avenue facility. That is their normal work location.
- Large manpower and equipment resources exist at the Massachusetts Avenue Service Center.

The inspectors agreed that the above reasons represented an improvement for the AEOF, but noted that the review did not address the impact of the increased distance on the ability to activate and relocate to the AEOF in a timely manner. The inspectors pointed this out to the licensee's EP management. The licensee's EP management stated that the distance increase was of minimal impact since the Braintree Engineering Center was already 28 miles from the site and the actual increase in distance was only 7 miles.

The inspectors concluded that the move of the AEOF from Braintree to Massachusetts Avenue did not adversely affect BECO's ability to set up an alternate location for an evacuation of the primary EOF. The inspectors inspected the AEOF at the Massachusetts Avenue service center. They determined the new AEOF location to have adequate communications capability to function as an alternate command center in the event of a radiological emergency.

4.0 Organization and Management Control

The inspector noted several changes in the EP organization since the last inspection. The Regulatory Affairs and Emergency Preparedness (RA/EP) Department Manager was new as of January 1, 1994, and he reports to the General Manager Technical, who reports to the Senior Vice President, Nuclear. The Offsite Division Manager and the Onsite Division Manager (who was previously the Facilities and Equipment Division Manager) reports to the RA/EP Department Manager. The Facilities and Equipment Supervisor position, which reports to the Onsite EP Division Manager is currently vacant. The licensee indicated that it would be filled in the near future. The Emergency Planner (Health Physics) was also new to the EP staff. The Offsite Division staff has remained stable.

The Emergency Response Organization (ERO) was adequately described in the emergency plan. All positions were staffed. However, the licensee's goal is to staff all positions with three or four qualified individuals. At the time of this inspection there were four positions which were only filled with two qualified individuals. The licensee indicated that additional personnel would be appointed and trained to fill the positions which did not meet the goal.

5.0 Training

5.1 Training Program Review

Training records for emergency preparedness were maintained as specified by administrative procedures. The inspector reviewed 106 personnel records in the new EP training data base. Only three individuals were found in the three month grace period.

Since the last inspection, the training data base was transferred from Dbase III to Microsoft Access. This data base was very user friendly. All records were also traceable in hard copy at the Training Center back to 1992. Records from 1992 back were available from the Document Control Center. The inspector concluded the training records system was very good.

The inspector also reviewed lesson plan TER-01-10-09 "Senior Emergency Management Training" and found it to be thorough and technically correct. Additionally, the inspector reviewed the exam bank and handouts for the same lesson plan and found the questions to be comprehensive and challenging.

The inspector also attended a class presentation of the EP overview on June 28, 1994. The instructor asked questions which required class participation in reviewing emergency preparedness requirements. The inspector assessed the presentation and audience participation as very good.

The inspector was informed that the Senior Emergency Plan Trainer had accepted a new position at corporate headquarters and that her previous position was open as of July 1, 1994.

5.2 Emergency Director Interviews

The inspectors interviewed four qualified Emergency Directors (EDs) to determine the effectiveness of training for individuals assigned to this position. The inspectors evaluated the effectiveness by observing the performance of the four individuals in scenarios presented to them that required classification and protective action recommendations. The four individuals consisted of two Nuclear Watch Engineers and two senior managers. All four individuals demonstrated satisfactory knowledge of the classification and protective action recommendation tasks that EDs would perform in an emergency. The inspectors concluded that the training program was being effectively implemented but that sufficient rotation of individuals assigned as EDs for drills in the past year was lacking. The Senior Vice President - Nuclear committed at the exit interview to correct this potential weakness.

6.0 Independent Reviews

The inspector reviewed three reports for audits performed since the last inspection: Audit Report 92-06, "Emergency Operating Procedures," (June 29 - July 23, 1992), Audit Report 92-12, "Emergency Preparedness," (August 28 - September 21, 1992), and Audit Report 93-09, "Emergency Preparedness," (August 27 - September 17, 1993).

Independent audits were performed every twelve months by at least two representatives from the Quality Assurance (QA) Department (one was lead auditor)

supplemented by an EP technical specialist from an outside, independent support organization.

The inspector found that the audits were comprehensive and thorough and identified areas requiring corrective action. The audits satisfied 10 CFR 50.54(t) requirements.

Several mechanisms were in use to track open items to completion. Audit findings were handled as Management Corrective Action Request and Deficiency Reports (requiring immediate attention), or as Recommendation or Problem Reports. The NRC review concluded that the audit findings were being promptly brought to the attention of appropriate management levels, and that the EP staff was attentive in addressing and resolving issues identified by the auditors.

7.0 Licensee Action on Previous Identified Items

7.1 Technical Support Center Ventilation Filter Testing (UNR 92-26-01) (CLOSED)

Inspection 92-26 (December, 1992) identified an unresolved item that concerned the adequacy of surveillance testing of the HEPA and charcoal filters in the TSC/OSC ventilation system. These filters were not being tested in the same manner as the Control Room ventilation system filters. The inspectors also noted that the procedure for testing the TSC/OSC ventilation system did not specify, and the technician was not familiar with, the actions to be taken in the event that there was a decrease in differential pressure across the filters with normal system flow through them (indicating a filter tear).

During this inspection, the inspectors noted that the licensee had developed a new procedure for di-octyl phthalate (DOP) testing of the HEPA filters as well as freon and methyl iodide testing of the charcoal filters. This procedure is PNPS Procedure 7.1.93 (HEPA Filter and Charcoal Filter Performance Test Program for the OSC/TSC Ventilation System). The inspectors concluded that this procedure was adequate to ensure that the TSC/OSC ventilation system is being adequately tested and that the testing satisfies the requirements of Supplement 1 to NUREG-0737. The inspectors noted, however, that the procedure for the testing of the TSC/OSC ventilation system still did not list any guidance for dealing with a filter exhibiting a decrease in differential pressure. This was brought to the attention of the On-site EP Manager, who revised the procedure to include a caution regarding this symptom. The inspectors reviewed this change during the week of the inspection and concluded that it adequately addressed the concern. This unresolved item is closed.

7.2 Effects of Reorganization on Emergency Response Organization (IFI 92-26-02) (OPEN)

During Inspection 92-29, a concern was raised about the Boston Edison Company's reorganization and its impact on the Emergency Preparedness (EP) staff and the emergency response organization (ERO).

The inspector was informed that the reorganization was continuing. Therefore, this item will remain open for further evaluation.

7.3 Clarification of and/or Training on Protective Action (PAR) Procedure EP-IP-400 (IFI 92-26-03) (CLOSED)

Inspection 92-26 identified inconsistencies in the PAR procedure (EP-IP-400) that caused confusion on the part of some of the Emergency Directors and Nuclear Watch Engineers. The inspectors concluded that there was a need for clarification of the procedure or additional training on the procedure.

During this inspection, the inspector interviewed two watch engineers and two management Emergency Directors, and evaluated their proficiency in the use of the PAR procedure which had been recently revised. Although the inspector observed some variation in proficiency in the use of the procedure, the inspector concluded that this was due to the relative experience levels of the individuals and that the procedure was not a factor. This item is closed.

8.0 Exit Meeting

At the end of the inspection, the inspectors met with licensee personnel listed in Detail 1 of this report and discussed the scope and findings of this inspection.

The licensee acknowledged the NRC findings and confirmed the commitments made by its representatives during the inspection.