

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-293/84-41

Docket No. 50-293

License No. DPR-35

Category C

Licensee: Boston Edison M/C Nuclear
800 Boylston Street
Boston, Massachusetts 02199

Facility Name: Pilgrim Generating Station

Inspection At: Plymouth, Massachusetts

Inspection Conducted: December 10-13, 1984

Inspectors: I. Cohen
I. Cohen, Emergency Preparedness
Specialist

April 23, 1985
date

James Hawxhurst
J. Hawxhurst, Emergency Preparedness
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April 23, 1985
date

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April 29, 1985
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Approved by: Terry Harpster
Terry Harpster, Chief, Emergency
Preparedness Section, DRSS

April 29, 1985
date

Inspection Summary:

Inspection on December 10-13, 1984 (Report No. 50-293/84-41)

Areas Inspected: Routine announced inspection of IE Inspection Procedures; Emergency Detection and Classification; Protective Action Recommendations; Notification and Communication; Changes to the Emergency Plan; Knowledge and Performances of Duties; Public Information Program; Licensee Audits.

Results: Two apparent violations were identified: failure to distribute public information as specified in the Emergency Plan (Paragraph 7); failure to update the Emergency Plan and Procedures in order to maintain compliance with the requirements of 10 CFR 50, Appendix E, Section G (Paragraph 5).

DETAILS

1.0 Persons Contacted

- *J. Crowder, Senior Compliance Engineer
- *A. Oxsen, Vice President Nuclear Operations
- *C. Mathis, Nuclear Operations Manager
- *J. Seery, Technical Section Head
- *D. Sanford, Nuclear Training Manager
- *L. Dooley, Acting Technical Training Supervisor
- *J. Johnson, Senior Resident Inspector, NRC
- *E. Graham, Compliance Group Leader
- *P. Manderino, Shift Technical Advisor
- *S. Wollman, Onsite Safety and Performance Group Leader
- *R. Kennedy, Acting NMSD Manager
- *E. Cobb, Principal Engineer
- *B. Nolan, Emergency
 - G. Fiedler, Watch Engineer
 - C. Martin, Shift Technical Advisor
 - G. McNeil, Administrative Assistant
 - G. Perkins, Administrative Assistant
 - N. Simpson, Shift Technical Advisor
 - T. Sullivan, Watch Engineer
 - K. Taylor, Watch Engineer

*Denotes those present at the exit meeting.

2.0 Emergency Detection and Classification

2.1 Review

The inspectors reviewed the appropriate sections of the emergency plan and procedures, conducted table-top discussions with Watch Engineers (WE) and Shift Technical Advisors (STA) and contacted the Massachusetts Department of Public Health Director. This area of the emergency program was evaluated against the references listed below, specifically to determine:

- if the licensee has and understands standard emergency classification and emergency action levels (EALs);
- if procedures have been developed, maintained, and implemented, and personnel are periodically trained to classify emergencies and take appropriate actions in a timely manner;
- if the onsite personnel designated to assume the role as Emergency Director (ED), understand their role and the inherent authority and responsibility to recommend protective measures to offsite officials; and

- if the state and local agencies agree with the EALs and have reviewed these EALs each year.

2.2 Findings

The licensee's emergency program specifies that the WE initially acts as ED and is responsible for declaring and properly classifying an emergency. The STA assists the ED in assessing plant conditions and classifying the emergency. The inspectors interviewed three WEs and STAs; checked the training records on six WEs and the three STAs interviewed.

Overall, the inspector found that licensee personnel demonstrated adequate knowledge of the emergency plan and procedures for detecting and classifying an emergency. Also, the individuals were periodically trained and understood their roles as part of the emergency organization. In one case, however, the inspector noted that an STA was unfamiliar with the dose assessment code input and output values, relative to classifying an emergency. Other areas of concern were also noted by the inspectors and identified to licensee personnel during the interviews. These items are discussed below.

- The EAL for hurricane windspeeds, greater than 90 mph for 15 minutes, appears to be unrealistically high; instrument failure would likely occur prior to reaching the value indicated. The licensee agreed to review EAL on hurricane windspeed and to revise it if appropriate. This item is unresolved (50-293/84-41-01).
- The characterized EALs in the procedures are not consistent with the EAL chart(s), the 'and' and 'or' qualifiers differ, in the Emergency Response Facilities (i.e., control room). The licensee agreed to review and revise Procedure 5.7.1 and the EAL chart as necessary to reflect all the appropriate action levels for classifying emergencies, and to assure that they are consistent. Licensee action in this regard will be reviewed in a subsequent inspection (50-293/84-41-02).
- Two of the three STAs were unable to perform a timely initial dose assessment based on monitored and unmonitored radiological releases, and one STA was unfamiliar with the dose assessment procedure. The licensee agreed to emphasize dose calculation and assessment training or develop procedures that are more conducive to only yearly training and also, include a more thorough review of this area in future licensee audits. This will be reviewed in a subsequent inspection (50-293/84-41-03).

The licensee presently does not have a procedure for continuously determining release rates/projected doses when instruments (effluent, meteorological and containment) are inoperable, offscale, or wind direction has shifted; nor one that addresses the methods used for assessing an unmonitored release pathway. The licensee is reviewing the need for procedural coverage in this area. This item is unresolved (50-293/34-41-04).

No violations were identified.

2.3 References

10 CFR 50 Appendix E, Part IV.B (1/1/84)
 IE Inspection Procedure 82201 (12/27/82), "Emergency Detection and Classification
 NUREG-0654
 PNGS Emergency Plan (1982), Section
 PNGS Emergency Procedure 5.7.1

3.0 Protective Action Recommendations

3.1 Review

The inspectors reviewed the procedures for making protective action recommendations and conducted walkthroughs with Watch Engineers (Emergency Directors until relieved) to determine their ability to evaluate protective action recommendations, including consideration of offsite conditions presented by the inspectors.

3.2 Findings

The Watch Engineers did attempt to consider offsite conditions, but the licensee's procedures did not provide guidance for decisionmaking during adverse weather conditions nor were evacuation times of sectors within the EPZ included within the procedure. The licensee is reviewing Emergency Plan Implementing Procedure 5.7.2.18 to determine a means to provide guidance for protective action recommendations during adverse weather conditions and include evacuation time for the various sectors. This item is unresolved. (50-293/84-41-05)

No violations were identified.

3.3 References

10 CFR 50.47(b)(9) and (b)(10)
 10 CFR 50, Appendix E, Part IV.D.3
 IE Inspection Procedure 82202 (12/27/82), "Protective Action Decisionmaking"
 NUREG-0654
 PNGS Emergency Plan, Section PNGS Emergency Procedure 5.7.2.18

4.0 Notifications and Communications

4.1 Review

The inspector held discussions with licensee watch engineers, control room administrative assistants, the emergency response coordinator and reviewed records of monthly emergency communications tests conducted during April, June and July 1984.

4.2 Findings

Based on the above review, the inspectors noted that the licensee, on a number of occasions, did not complete their offsite notifications within 15 minutes as outlined in Procedure 5.7.2.8, "Control Room Emergency Coordinator." Licensee personnel indicated that possible contributors to the delay in completion of notifications are:

- a) lack of training given to communicators;
- b) radio equipment failure;
- c) use of the same phone for callout and callback for verification;
and
- d) Use of the callout phone for other than emergency communication.

The licensee is reviewing the offsite notifications procedure and make appropriate changes to provide a high probability of completing offsite notification within the required 15 minutes. This will be followed in a subsequent inspection. (50-293/84-41-06)

No violations were identified.

4.3 References

10 CFR 50.47(b)(6)
IE Inspection Procedure 82203 (12/27/82), "Notifications and Communications"
NUREG-0654
NUREG-0696
PNGS Emergency Plan, Section PNGS Emergency Procedure 5.7.2.8

5.0 Changes to the Emergency Preparedness Program

5.1 Review

The inspectors reviewed changes to the emergency preparedness program and what had been incorporated into the emergency plan and appropriate implementing procedures.

5.2 Findings

The current PNPS Emergency Plan was issued April 1981 and has not been revised for any changes. Emergency Procedures have been updated to reflect current practice while the Emergency Plan which they

implement is out of date. Discrepancies exist between the Emergency Plan and implementing procedures for the reorganization of the Nuclear Organization and other current practices.

The PNPS Quality Assurance Department's annual audit report on Emergency Plan for both 1982 and 1983 also stated this deficiency.

The inspectors determined that this is a violation of 10 CFR 50.54(q) which states, in part, that "a licensee authorized to possess and/or operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in 50.47(b) of this part, and the requirements in Appendix E to this part." (50-293/84-41-07) See Appendix A, Notice of Violation.

5.3 References

10 CFR 50.54(q)
 10 CFR 50, Appendix E
 IE Inspection Procedure 82204, "Changes to the Emergency Preparedness Program"
 PNPS Emergency Plan, Section N.8.3

6.0 Knowledge and Performance of Duties

6.1 Review

The inspectors held discussions with licensee training personnel, reviewed lesson plans, test records, attendance records, and discussed the training courses with selected individuals. The inspector conducted walkthroughs with licensee emergency response personnel responsible for assuming the role of ED during an emergency. A scenario of changing plant operating conditions and events was provided to each individual or team (when a STA was available) and their responses evaluated. This area of the emergency program was evaluated against the references listed below, specifically to verify:

- that a training program is established and maintained as required by 10 CFR 50.47(b)(15);
- that the type and amount of training provided to key emergency organization personnel is adequate, the individuals understand their responsibilities and can perform their assigned duties; and
- that formal documentation of training is available to audit the program and that appropriate tests or drills to determine the effectiveness of the training were administered.

6.2 Findings

The inspector determined that all of the six WEs whose training records were reviewed had received general emergency preparedness and specialized training for their roles as EDs in 1984. Also, the three STAs had received similar training. However, prior training records were not readily available for verification of 1983 training. In addition, the inspectors found that testing used to determine the effectiveness of the emergency director training was invalid in that no passing grade could be determined. The inspector was informed that a computer tracking system for EP training has been developed, but not yet implemented and a more effective testing program was planned for future training.

The licensee plans to implement a tracking system for general and specialized EP training to provide assurance that personnel assigned to the EP organization are adequately trained in accordance with Section N.8 of the PNGS Emergency Plan and also to provide for simpler Emergency Plan Training Program audits. This item will be reviewed in a subsequent inspection (50-293/84-41-08).

The inspectors also noted, based on the table-top discussions, that the knowledge level of the WEs and STAs was weak in the areas of dose assessment and protective action decisionmaking. A review of the EP training program audits indicates that similar problems had been identified in audit NTD #84-364. The licensee is considering more closely their internal audits and is reviewing the need to provide additional practical-based training to the individuals responsible for performing initial dose assessment and protective action decisionmaking. This item is unresolved (50-293/84-41-09).

No violations were identified.

6.3 References

- 10 CFR 50.47(b)(15), 1/1/84
- IE Inspection Procedure 82206, 12/27/82, "Knowledge and Performance of Duties"
- NUREG-0654, Revision 1, 11/80, "Radiological Emergency Response Training"
- PNGS Emergency Plan 1982, Section N.8.1.1, "Training"
- Boston Edison Office Memorandum NTD #84-364, 8/23/84, "Emergency Plan Training Program Recommendations"

7.0 Public Information Program

7.1 Review

The inspectors reviewed Section 6.4.3, Part 5, of the PNGS Emergency Plan, Massachusetts Department of Health Public Information brochures (dated 9/82) and held discussions with licensee personnel. This area of the PNGS emergency program was evaluated against the references listed below, specifically to determine:

- that basic emergency planning information and general radiological information is disseminated to the public in the EPZ on an annual basis; and
- that signs or other measures which are used to provide information to the transient population provide appropriate information.

7.2 Findings

The licensee's Emergency Plan specifies that emergency planning information will be provided to the public yearly through direct mailing and hand distribution to residents within the emergency planning zone. This is in accordance with the requirements of 10 CFR 50, Appendix E, for annual dissemination of such material. The licensee did not provide emergency planning information or general radiological information to the public in the EPZ by the above provisions for 1983 and 1984. The licensee has indicated that the information was provided to the public in the EPZ periodically, but could not demonstrate what information was included or to whom it was disseminated. This is a violation (50-293/84-41-10).

In addition, the licensee's Emergency Plan requires that information for the transient population within the EPZ be provided through strategic stockpiling of brochures. The licensee has indicated that this information was provided via newspaper advertisements and radio announcements. This area requires further review to determine what provisions for disseminating emergency planning information, to the transient population within the plume exposure pathway, would be useful if an accident occurs. This item is unresolved (50-293/84-41-11).

One violation was identified.

7.3 References

10 CFR, Part 50, Appendix E, Section D.2
 PNGS Emergency Plan (1982), Section 6.4.3, Part 5
 NUREG-0654 (Revision 1, 11/80), Section 9, "Public Education Information"
 IE Inspection Procedure 82209 (12/27/82), "Public Info Program"
 Emergency Public Information (9/82), Massachusetts Department of Public Health

8.0 Licensee Audits

8.1 Review

The inspectors noted that independent audits were performed at least annually by the Quality Assurance Department. The audit was performed to determine consistency between the PNPS-1 Emergency Plan and the requirements of 10 CFR 50, Appendix E. The INPO Good Practice EP-801, "Generic Procedures and Guidance for Emergency Preparedness Quality Assurance Review," 3/83, was used to determine that the checklist and conduct of the audit were in compliance with the requirements of 10 CFR 50.54(t). The inspectors reviewed the latest Audit Report No. 83-31 dated January 19, 1984.

8.2 Findings

Deficiency and observation findings made by the independent review group were documented and reported to management. Corrective action was taken and documented with the exception that the PNPS Emergency Plan does not reflect the current Operational or Emergency Organizations. This action item in the 1982 Audit Report was upgraded to Deficiency Report No. 1199 in the current audit report to document the still unsatisfactory condition as the Plan has not been updated. This condition is reported as a violation in Section 6 of this report.

No violations were identified.

8.3 References

10 CFR 50.54(t)
IE Inspection Procedure 82210, "Licensee Audits Emergency Plan,"
Section 8

9.0 Exit Meeting

On December 13, 1984, the inspectors met with the individuals listed in Paragraph 1 and summarized the scope and findings of the inspection.

At no time during this inspection was written material provided to the licensee by the inspector.