

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

IE Inspection Report No: 50-289/76-25

Docket No: 50-289

Licensee: Metropolitan Edison Company

License No: DPR-50

P.O. Box 542

Priority: -

Reading, Pennsylvania 19603

Category: C

Safeguards Group: -

Location: Middletown, Pennsylvania (Three Mile Island 1)

Type of Licensee: PWR, 2535 MWt (B&W)

Type of Inspection: Routine, Unannounced

Dates of Inspection: October 28-29, 1976

Dates of Previous Inspection: October 12-14 & 21, 1976

Reporting Inspector: *G. Napuda*

11/10/76  
DATE

G. Napuda, Reactor Inspector

Accompanying Inspectors: None

DATE

DATE

DATE

Other Accompanying Personnel: None

DATE

Reviewed By: *Rev. Gage (acting for)*

11-10-76  
DATE

R. C. Haynes, Chief, Engineering Support Section  
Reactor Construction and Engineering Support Branch

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SUMMARY OF FINDINGS

Enforcement Action

A. Infraction

76-25-01 - Failure to Inspect Portable Fire Extinguishers

Contrary to 10 CFR 50, Appendix B, Criterion V:

The licensee did not perform, on a monthly basis, the portable fire extinguisher inspections required by his Procedure 1104-45, paragraph 45.2.4.2. (Details, Paragraph 8.a)

Licensee Action on Previously Identified Enforcement Items

Not inspected.

Design Changes

None identified.

Unusual Occurrences

None reported.

Other Significant Findings

A. Current Findings

1. Acceptable Items

The following items were inspected with respect to those aspects described in the Details of this report. No departures from regulatory requirements or SAR commitments were identified, subject to any specific exceptions which may be noted elsewhere under Enforcement Action or Current Findings of this report.

a. Work Control Procedures

A review of the work-control procedures verified that they addressed requirements for control of modifications. (Details, Paragraph 2)

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b. Quality Assurance Surveillance

A review of the quality assurance procedures verified that they require periodic audit of work authorizations and surveillance during modification. (Details, Paragraph 3)

c. Design Change Controls

A review of the documentation applicable to the plant verified that it specified the type of replacement cable penetration seal, to preclude the use of flammable materials in the seal. (Details, Paragraph 4)

d. Fire Training, Procedures and Drills

A review of the plant training program and records verified that fire-fighting training sessions are conducted on a regular basis. (Details, Paragraph 5)

e. Emergency Shutdown Procedures

A review of the plant procedures verified that there were emergency procedures for plant shutdown/cooldown in the event of loss of normal cooling mechanisms. (Details, Paragraph 6)

f. Fire Inspection Report

A review of the most recent fire inspection report by the licensee's insurer indicated that he had made a number of recommendations for additional fire protection. The licensee was actively reviewing them. (Details, Paragraph 7)

g. Facility Inspection

An inspection of the facility verified that there were installed systems for fire alarms and for extinguishing fires which were regularly inspected except as otherwise indicated herein. (Details, Paragraph 8.d)

2. Unresolved Items

a. 76-25-02 - Safety Cabinets for Storage of Flammable Materials

Two safety cabinets' spring loaded doors are defective. (Details, Paragraph 8.b)

b. 76-25-03 - Respiratory Equipment Inspection

A licensee audit identified discrepancies in their "Respiratory Program" which the inspector corroborated. (Details, Paragraph 8.c)

B. Status of Previously Identified Unresolved Items

75-24-01 - Pressure Testing of Fire Hoses was reinspected and remains unresolved. (Details, Paragraph 9)

C. Deviations

None identified.

Management Interview

At the conclusion of the inspection a meeting was held at the site with representatives of the licensee organization. Attendees at this meeting consisted of personnel whose names are highlighted (i.e. \*) in paragraph 1 of the Details Section of this report. The inspector summarized the purpose and the scope of the inspection (Paragraph A), and the results of the inspection (Paragraphs B, C, D and E)

A. Purpose of the Inspection

The inspector stated that the purpose of this routine, unannounced inspection was to ascertain whether special work controls for fire prevention and protection during operation, modification, and maintenance activities continued to be implemented, in accordance with the licensee's response to IE Bulletins Nos. 75-04 and 75-04A. (An initial inspection of these controls had been performed in November 1975 and documented in IE Inspection Report No. 50-289/75-24).

B. Items of Noncompliance

The items discussed are as identified under Enforcement Action in the Summary of Findings in this report. (Details, Paragraph 8.a)

C. Current Findings - Acceptable Items

1. Work Control Procedures. (Details, Paragraph 2)
2. Quality Assurance Surveillance. (Details, Paragraph 3)
3. Design Change Controls. (Details, Paragraph 4)
4. Fire Training, Procedures and Drills. (Details, Paragraph 5)
5. Emergency Shutdown Procedures. (Details, Paragraph 6)
6. Fire Inspection Report. (Details, Paragraph 7)
7. Facility Inspection. (Details, Paragraph 8.d)

D. Current Findings - Unresolved Items

1. Safety Cabinets for Storage of Flammable Materials. (Details, Paragraph 8.b)
2. Respiratory Equipment Inspection. (Details, Paragraph 8.c)

E. Status of Previously Identified Unresolved Items

Pressure Testing of Fire Hoses remains unresolved. (Details, Paragraph 9)

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## DETAILS

### 1. Persons Contacted

#### Metropolitan Edison Company

Mr. J. Colitz, Unit 1 Superintendent  
Mr. W. W. Cotter, Supervisor - Quality Control  
Mr. F. W. Grice, Safety Supervisor  
Mr. R. B. Evans, Radiation Chemistry Technician Junior  
Mr. G. R. Hitz, Shift Foreman  
Mr. G. A. Kunder, Supervisor Operations  
Mr. J. J. McGarry, Supervisor - Mechanical Maintenance  
Mr. W. S. Poyck, Coordinator of Services  
Mr. J. E. Romanski, Supervisor - Radiation Protection/Chemistry  
Mr. W. J. Sawyer, Engineer III - Nuclear  
Mr. D. M. Shovlino, Supervisor of Maintenance  
Mr. A. Tsaggaris, Supervisor - Training

### 2. Work Control Procedures

- a. The inspector verified that there is a work control procedure which defines requirements for operations personnel approval and control of modification activities. It is "Station Administrative Procedure 1016 - Implementation and Control of Station Maintenance and Modifications" Revision 10.
- b. The inspector verified that the "Safety Policies and Procedures Manual" contained a section titled "Welding and Cutting Procedure (Fire Safety)" dated June 26, 1975 that describes the special authorization (permit) that is required for activities involving welding and open-flame sources. The inspector also verified that this procedure required the assignment of a person whose sole temporary responsibility is to function as a "fire watch." The inspector noted that "Safety Department Directive No. 10 - Leak Detection" dated October 18, 1976 directs that open flame or combustion generated smoke be avoided as a leak detection agent and recommended that commercial foam or aerosol leak detecting material be used.
- c. The inspector verified that "Operating Procedure 1105-12, Communication System" Revision 1 describes the various systems of communications available within the plant.

3. Quality Assurance Surveillance

- a. The inspector verified that there are quality assurance procedures that requires periodic audit of work authorizations for modification and maintenance activities to verify compliance with established plant controls.

The procedures include:

- GP 4016, Operations QA Audit Program, Revision 2.
- GP 1008, Systems Subject to QA, Revision 1.

- b. The inspector verified that quality assurance surveillance is periodically performed during modification and maintenance activities to assure that they are authorized and that they conform with established plant controls.

The records reviewed included:

- Audit 75-12, "Modification Design Control."
- Audit 75-24, "Generation Review Committee."
- Audit 75-33, "Modification Control."
- QC Surveillance Report 76-65 "Repairing Fire Barrier Relay Room Penetration Seals."

The work activity that the latter document addresses was performed to Procedure 1920-FB-1. (Reference Paragraph 4).

4. Design Change Controls

- a. The inspector verified that an administrative procedure had been prepared which specifies the type of cable penetration sealing material to preclude the use of flammable materials in the event seal modification is necessary. It is "Installation/Repair of Cable Tray and Conduit Fire Barriers, 1420-FB-1," Revision 0 which specifies that fire barriers will be installed/restored to original design specification requirements.

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b. The inspector then utilized the 1976 log of work requests to select work requests that involved cable penetrations. The inspector reviewed Work Requests 12072 and 13827. The inspector determined that the former was a repair activity (Reference Paragraph 3.b) and the latter a modification/change. With respect to the latter the inspector ascertained that:

- The quality control department had reviewed the work request (and elected not to perform inspection/surveillance).
- The activity was initiated by "Change Modification 653."
- The licensee's engineering department authorized the activity by letter GEM 0506.
- "Procedure to Install Computer Room Air Conditioner Feeds WA 13827" was developed for the activity.

The inspector verified that this activity was performed according to Procedure 1016 (Reference Paragraph 2.a).

5. Fire Fighting Procedure, Training and Drills

a. The inspector verified that the following procedures were established for fire control and the inspection/maintenance of fire related equipment.

- "Emergency Plans and Procedures - Volume II, Section 8 - Fire Emergency Plan" Revision 0.
- "Emergency Procedure 1202-31, Fire Emergency Procedure" Revision 2.
- "Operating Procedure 1104-45, Fire Protection" Revision 12.

The inspector noted that Appendices A and B of Procedure 1203-31 specifically addressed the assignment of responsibilities and actions in the event of a fire in the Control Room and Cable Spreading Room respectively.



- b. The inspector reviewed records that indicated eight fire fighting training sessions of eight hours each had been conducted on April 29, August 5, 12, 19 and 26, September 23 and October 7 and 14 of this year. Approximately 180 persons including operators, maintenance personnel, engineers, radiation chemistry technicians and security guards were trained by a certified Pennsylvania State Fire Marshall. The first five sessions requalified the members of the Fire Brigade.

The licensee stated that two utility employees would conduct these training sessions in the future. The inspector was shown a letter titled "Training Request" dated October 4, 1976 from the Unit Superintendent to the Manager of Nuclear Operations. The request, approved by the Manager of Nuclear Operations and the Vice President indicated that two employees with community fire fighting experience were scheduled to attend four courses at the Pennsylvania State Fireman's Training School commencing November 3, 1976. Successful completion of these courses would gain state certification for the employees.

- c. The inspector reviewed fire drill documentation that indicated station fire drills were conducted on March 13 and 27, April 3, June 14 and October 27 of this year. During his inspection of the Cable Spreading Room (Reference Paragraph 8) the inspector noted that a test of the fire alarm system was conducted.

6. Emergency Shutdown Procedures

- a. The inspector verified that there were plant emergency procedures that provided alternate methods for accomplishing an orderly plant shutdown and cooldown in case of loss of normal coolant-supply systems, and that the latest revisions of these procedures were available in the Control Room. Decision criteria for the mode of shutdown are contained in the procedures. The inspector verified that the capability exists to provide raw river water in the event of the loss of normal and preferred alternate coolant.

The procedures include:

- 1102-13, "Decay Heat Removal by OTSG."
- 1106-6, "Emergency Feed."
- 1202-2, "Station Blackout and Station Blackout with Loss of both Diesel Generators."

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- 1202-3, "Turbine Trip."
- 1202-6, "Loss of Reactor Coolant R Cool Press."
- 1202-14, "Loss of Reactor Flow/RCP Trip."
- 1202-26A, "Loss of Steam Generator Feed to Both OTSG's."
- 1202-26B, "Loss of SG Feed to One OTSG."
- 1202-35, "Loss of Decay Heat Removal System."
- 1202-37, "Cooldown from Outside Control Room."

b. The inspector also verified that the "Alarm Response Sheets" required by the "Fire Emergency Plan" for Heating and Ventilation Annunciator Panels A and B had been prepared and were available in the Control Room.

7. Fire Inspection Report

The inspector reviewed the records associated with the most recent fire inspections of Nuclear Energy Liability-Property Insurance Association (NEL-PIA), the licensee's fire insurer. Report Nos N-155(75-5) dated October 1975 and N-155(76-2) dated July 1976 and letters NEL-PIA/Assistant Vice President (GPU) dated March 2, 1976, NEL-PIA/MET ED (meeting) dated June 10, 1976 and Safety Supervisor (MET ED)/NEL-PIA dated July 30, 1976. This documentation indicated that the licensee is actively evaluating and attempting to resolve outstanding items. The major item under discussion is the insurer's recommendation that all electrical penetrations provided with fire barriers only, be modified to air tight type sealed penetrations. Letters "Three Mile Island 1 Fire Safety" dated March 17, 1976, "Sealing Openings Between Control Room and Cable Spreading Room" dated March 8, 1976, GAI/TMI-ICS/ 827 and "Conference Notes No. 25" dated January 16, 1976 indicate that the licensee is responsive to the recommendations and is progressing toward a resolution.

8. Facility Inspection

The inspector conducted a tour of the Control Room, Cable Spreading Room, Battery Rooms, Diesel Generator Rooms, Auxiliary Building and Containment entrance area. Items examined included the fire alarm system and detectors, control room cabinet interiors, fixed and portable fire fighting equipment, and the records of the licensee's inspections of the fire fighting equipment.

a. Portable Fire Extinguishers

The inspector examined selected portable fire extinguishers that had been placed in the safety related areas. The inspector noted that the required tags on the equipment indicated several monthly inspections had not been performed. The "Inspection Record Sheets" filed in the Maintenance Department corroborated that these inspections had not been accomplished and the licensee stated the records were accurate. This was contrary to the licensee's Procedure 1104-45, Paragraph 45.2.4.2 which requires that portable fire extinguishers be "weighed and inspected monthly."

The inspector informed the licensee that this item (76-25-01) was considered to be an Infraction of 10 CFR 50, Appendix B, Criterion V, which states, in part: "Activities affecting quality shall be prescribed by documented...procedures...and shall be accomplished in accordance with these...procedures..."

b. Safety Cabinets for Storage of Flammable Material

The inspector observed two Safety Cabinets in the Diesel Generator Panel Room B whose spring loaded doors did not close completely. The inspector noted flammable material (e.g. thinner, paint etc) was stored in these cabinets and questioned the storage conditions. The licensee stated that the doors would be repaired or the cabinets would be replaced/ removed.

This item (76-25-02) is considered to be unresolved, pending a review of the licensee's action during a subsequent NRC inspection.

c. Respiratory Equipment Inspection

The licensee provided a copy of "Audit of Respiratory Program HPP 1616" dated October 27, 1976 to the inspector prior to his examination of the self contained breathing apparatus. This audit had revealed discrepancies in documentation and maintenance requirements and identified some equipment as missing.

The inspector examined selected self contained breathing apparatus and spare oxygen bottles in the Control Room and control access point to the Control Building. This equipment appeared operable and in acceptable physical condition. The inspector noted that two self contained breathing apparatus and four spare oxygen bottles had been installed in the Reactor Building entrance way. The inspector did corroborate the findings listed in the subject audit.

This item (76-25-03) is considered to be unresolved pending review of the licensee's resolution of the audit findings during a subsequent NRC inspection.

d. Other Fire Suppression and Fire Prevention Systems

The inspector observed that the installation of the CO<sub>2</sub> system in the Cable Spreading Room had been completed and was set in the manual operating mode. The inspector also examined the Halon Fire Suppression System Service and Inspection Report dated October 22, 1976 to verify that this system was in acceptable and operable condition.

The inspector reviewed Procedure "1303-11.10, Engineered Safeguards System Emergency Sequence and Power Transfer Test" which described how the bus providing power to the emergency lighting is tested. The inspector verified this test is periodically performed and noted that the emergency light fixtures are identified by a red stripe. The licensee stated that defective bulbs in these fixtures are replaced on a priority basis.

The inspector did not identify any housekeeping discrepancies or missing/deteriorated fire barriers.

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C. Pressure Testing of Fire Hoses

The inspector reviewed revised "Procedure 1104-45, Fire Protection" Revision 12. The inspector verified that Appendix B had been revised to specify that hoses would be pressure tested annually but noted that the body of the procedure was inconsistent with the Appendix as to the frequency of hose reel, hose pressure and valve alignment testing. Prior to the inspector's departure, the licensee issued "Procedure Change Request 76-740" to resolve these inconsistencies.

This item remains unresolved pending a review of the revised procedure during a subsequent NRC inspection.

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