

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

Region I

Report No. 50-289/78-25
50-320/78-38

Docket No. 50-289
50-320

License No. DPR-50 Priority -- Category C
DPR-73

Licensee: Metropolitan Edison Company

P. O. Box 542

Reading, Pennsylvania 19640

Facility Name: Three Mile Island 1 and 2

Inspection at: Middletown, Pennsylvania

Inspection conducted: December 12-15, 1978

Inspector: L. W. Gage
L. W. Gage, Reactor Inspector

1-11-79
date signed

date signed

date signed

Approved by: S. D. Ebner
S. D. Ebner, Chief, Engineering Support
Section No. 2, RC & ES Branch

Jan 15, 1979
date signed

Inspection Summary:

Inspection on December 12-15, 1978 (Report Nos. 50-289/78-25 and 50-320/78-38)

Areas Inspected: Routine, unannounced inspection of the fire prevention/protection program including work control procedures, quality assurance surveillance, design change controls, fire training and drills, emergency shutdown procedures, fire inspection reports, technical specification surveillance documentation, Safety Evaluation Report implementation, and facility inspection. The inspection involved 31 inspection hours onsite by one NRC regional based inspector.

Results: Of the nine areas inspected, no items of noncompliance were identified in six areas; three apparent items of noncompliance were identified in three areas. (Infraction-failure to control combustibles - Para. 8; Deficiency - failure to fully implement procedures - Para. 9; and Infraction - failure to implement a SER commitment - Para. 10)

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DETAILS

1. Persons Contacted

Principal Licensee Employees

Mr. R. Barley, Unit 1 Lead Mechanical Engineer
Mr. C. Hartman, Lead Electrical Engineer
Mr. G. Kunder, Unit 2 Superintendent, Technical Support
Mr. J. Logan, Unit 2 Superintendent
Mr. T. Mackey, Jr., Supervisor, Quality Control
Mr. F. McCormick, Group Supervisor, Technical Training
Mr. T. O'Connor, Sr. Tech. Analyst, Unit 1
Mr. M. Ross, Supervisor of Operations, Unit 1

(All present at exit interview).

2. Work Control Procedures

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 1021, "Plant Modifications," Revision 2, dated November 22, 1978. Major/minor change/modification requests must have the Unit Superintendent's review and approval.

No items of noncompliance were identified.

3. Quality Assurance Surveillance

a. Procedures

The inspector verified that there are quality assurance procedures that require periodic surveillance and audit of authorized modification and maintenance activities to verify compliance with established controls. The procedures include:

- . GP-4016, "OQA Audit Program," Revision 4, Change 2, dated November 27, 1978.
- . GP-1008, "Systems Lists," Revision 2, Change 1, dated December 1, 1978.

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The inspector also verified that there is a quality assurance procedure for performing an audit of the station's fire protection program. It is:

- . Operational Quality Assurance Plan for Nuclear Station, Revision 7, dated December 6, 1977.

b. Records

The inspector reviewed the licensee's documentation to determine if the above procedures were being implemented. He selected the following work requests from the Log of Work Requests: 25341, 25342, 25518 and 25563. (These are work requests whose short description indicated probable involvement with fire protection).

The inspector also reviewed the most recent licensee QA audit of the station's fire protection program: Number 77-21, for 1977. (The 1978 audit, Number 78-28, was in progress during the inspection.)

No items of noncompliance were identified.

4. Design Change Controls

The inspector reviewed the status of unresolved item 77-29-02: cable penetration seals of control-room cabinets in Unit 1 (Reference IE Inspection Report No. 50-289/77-29). The licensee stated that his Report No. IR-77-29-02 was being reviewed by his design engineering group; that it may result in a new procedure for sealing the cable penetrations using a Dow Corning silicone foam; and that the completion date for the review was September 30, 1979.

(At present, the Unit 1 control-room-cabinet cable penetrations are sealed only with Kaowool, while the drawing (C201-129) shows a typical floor seal to consist of a marinite board-Kaowool-marinite board sandwich; the Unit 2 cable penetrations are sealed with silicone foam, in accordance with Chemtrol Corp. procedure 3350, "Installation of CT-18 Silicone Foam.")

This item is still considered to be unresolved, pending review by an NRC inspector of new procedures, drawings and resealing during a subsequent inspection. (77-29-02)

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5. Fire Fighting Procedures, Training and Drillsa. Procedures

The inspector verified that the following procedures were established for fire control:

- . AP-1004, "Fire Emergency Plan," Revision 3, June 20, 1977.
- . EP-1202-31, "Fire," Revision 8, November 1, 1978.
- . OP-1104-45, "Fire Protection," Revision 22, September 22, 1978.
- . AP-1038, "Administrative Controls--Fire Protection Program Plan," Revision 0, May 10, 1978.

b. Training Records

The inspector verified that all members of the station fire brigade received fire prevention/protection training in accordance with licensee procedures EP 1202-31 and AP-1038. (Verification was based on a review of the licensee's latest computer printout, "Staff Training Status," dated October 31, 1978; a review of the training session attendance sheets (to verify the computer printout); and a review of the purchase requisition 100-0153-TG (to verify that the contracted training instructor was certified by the Pennsylvania State Fire School).

c. Drills

The inspector reviewed the licensee's fire-drill documentation (operations form OPS-S107) to verify that each shift took part in a fire drill at least once every 3 months, in accordance with licensee requirements.

No items of noncompliance were identified.

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6. Fire Inspection Report

The inspector reviewed the most recent fire inspection report of the American Nuclear Insurers (ANI), the licensee's fire insurer. This report, number N-155, dated February 2 and 9, and March 3 and 13, 1978 contained one new recommendation for Unit 1 and one for Unit 2. The licensee has agreed to implement the recommendations.

No items of noncompliance were identified.

7. Emergency Shutdown Procedures

The inspector verified that there are plant procedures that provide alternate methods for accomplishing an orderly plant shutdown and cooldown in case of loss of normal coolant-supply systems.

The procedures, for Unit 1, are:

- 1102-13, "Decay Heat Removal by OTSG," Revision 4 (May 16, 1977)
- 1106-6, "Emergency Feed," Revision 11 (January 5, 1978)
- 1202-2, "Station Blackout and Station Blackout with Loss of both Diesel Generators," Revision 9 (March 31, 1978)
- 1202-6, "Loss of Reactor Coolant/RCS Pressure," Revision 7 (May 19, 1978)
- 1202-14, "Loss of Reactor Flow/RC Pump Trip," Revision 3 (August 18, 1975)
- 1202-26A, "Loss of Steam Generator Feed to Both OTSGs," Revision 3 (October 26, 1976)
- 1202-26B, "Loss of Steam Generator Feed to One OTSG," Revision 4 (September 25, 1978)
- 1202-35, "Loss of Decay Heat Removal System," Revision 2 (August 27, 1974)
- 1203-15, "Loss of RC Makeup," Revision 4 (September 27, 1977)

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The procedures, for Unit 2, are:

- 2102-3.3, "Decay Heat Removal Via OTSG," Revision 6, (April 17, 1978)
- 2104-6.3, "Emergency Feedwater," Revision 4, (June 8, 1978)
- 2202-2.1, "Station Blackout," Revision 7, (June 21, 1978)
- 2202-2.5, "Station Blackout with Loss of Diesels," Revision 6, (September 22, 1978)
- 2202-1.3, "Loss of Reactor Coolant/RCS Pressure," Revision 11, (October 6, 1978)
- 2202-1.4, "Loss of RC Flow/RC Pump Trip," Revision 6, (October 12, 1978)
- 2202-2.2, "Loss of Steam Generator Feed," Revision 3, (October 13, 1978)
- 2202-1.8, "Loss of Decay Heat Removal," Revision 2, (January 5, 1978)
- 2203-1.5, "Loss of RC Makeup," Revision 2, (September 7, 1978)

No items of noncompliance were identified.

8. Facility Inspection

The inspector conducted an inspection, in each unit, of the Control Room, Cable Spreading Room, Battery Rooms, Diesel Generator Rooms, Auxiliary Building, Fire Water Pumping Station, and outside Hose Houses. Items examined included the fire alarming system, control room cabinet interiors, and fixed and portable fire fighting equipment.

During the inspection of the cable spreading room in Unit 2, the inspector noted empty cardboard boxes stored in the area, recording paper stacked on temporary tables, and a hot soldering iron plugged into an outlet near the recording paper. The licensee did not have any personnel in the area at the time.

The inspector considered this contrary to the licensee's procedure AP-1034, "Control of Combustible Materials," (Rev. 0) which states in paragraph 6.3: "Should it become necessary...to exceed the limits (of transient combustible material) for brief periods, the cognizant department head...must qualitatively evaluate any additional portable or temporary fire protection measures which must be taken in the area...while the limit...is exceeded, the area must be manned, or a fire watch patrol...at least once per hour be established." (The licensee had not performed an evaluation or established a fire watch patrol).

The inspector then cited the licensee for an Infraction to Appendix A to License No. DPR-73, paragraph 6.8.1, which states: "Written procedures shall be established, implemented and maintained..." (78-38-01)

9. Technical Specification Surveillance Tests

The inspector reviewed the results of the surveillance tests performed on fire prevention/protection equipment in accordance with Appendix "A" to License Nos. DPR-50 and DPR-73. He sampled the following test reports for the calendar year 1978: 1303-12.14, 1301-12.2, 1303-12.13, 1301-4.1, 2331-M1, 3301-W1, 2333-SA2, 2333-A1, 2331-SA2, 3301-W2 and 3303-A1.

The inspector noted that the September 18, 1978 issue of surveillance report 3303-M1 indicated a failure to complete steps 3.a, b and c (the manual I start function test for the fire pump diesel engine). Work Request No. 25237 was issued, which indicated that the diesel engine was repaired. However, it did not indicate that steps 3.a, b and c were then satisfactorily performed. The inspector noted that neither the shift supervisor nor the test coordinator had signed the front page of the September 18 report to indicate that they had evaluated the test results. He thereupon rechecked the surveillance report file, but did not find any retest report for the month of September.

The inspector considered this contrary to the licensee's procedure AP-1010, "Technical Specification Surveillance Program," (Rev. 12) which states, in paragraph 6.6.1: "A retest is required when initial test results fail to meet the acceptance criteria or when the test could not be entirely performed. Retest results will be recorded on another set of data sheets or in the retest section of a Work Request. Retest results will be...evaluated, along with the original data sheets, by the Test Coordinator to determine that the surveillance requirement has been satisfied."

The inspector cited the licensee for a Deficiency to Appendix A to License No. DPR-73, paragraph 4.7.10.1.2(a)2, which states: "Each fire pump diesel engine shall be demonstrated operable at least once per 31 days: ...The diesel starts from ambient conditions and operates for at least 20 minutes." (78-38-02)

(The next (October, 1978) surveillance report 3303-M1 indicated satisfactory completion of steps 3.a, b and c, verifying a satisfactory repair of the diesel engine).

10. Fire Protection Safety Evaluation Report (SER)

The inspector examined the implementation of the modifications for additional fire protection that were specified in the SERs for Units 1 and 2.

For Unit 1, the completed modifications that were examined included (Reference Amendment 44 to the Operating License DPR-50):

- . Administrative controls to prohibit smoking in safety-related areas (Paragraph 3.1.18 of SER).
- . Administrative controls to control combustibles (Paragraph 3.1.19 of SER).

For Unit 2, the completed modifications that were examined included (Reference Paragraph G of Attachment 2 to the Operating License DPR-73):

- . Relocating existing fire detectors in the control room.
- . Providing a grease filter and portable extinguisher in the control room kitchen area.
- . Prohibit smoking in safety related areas.
- . Provide fire fighters with protective clothing.
- . Provide additional emergency lighting.

The inspector noted that, although there were two emergency-light units in the cable spreading room (above the doorways), neither served to illuminate the remote shutdown panel. The inspector considered this contrary to the requirements of the Operating License, which states in Attachment 2, paragraph G.9: "By July 31, 1978: Provide additional fixed sealed-beam emergency lights to facilitate emergency operation at remote shutdown panels and facilities..." The inspector then cited the licensee for an Infraction to Attachment 2 to License No. DPR-73. (78-38-03)

11. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance or deviations. Unresolved items reviewed during the inspection are discussed in Paragraph 4.

12. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection. The inspector summarized the purpose and scope of the inspection and the findings. The licensee acknowledged the inspector's findings.