

U. S. ATOMIC ENERGY COMMISSION  
DIRECTORATE OF REGULATORY OPERATIONS  
REGION I

RO Inspection Report No. 50-289/72-10  
50-320/72-02

Subject: Metropolitan Edison Company  
Three Mile Island 1 and 2

License No. CPPR-40  
CPPR-66

Location: Middletown, Pennsylvania

Priority Unit 1 - B  
Category Unit 2 - A

Type of Licensee: PWR - 1700 MWe (total)

Type of Inspection: QA Program, Unannounced

Dates of Inspection: May 30-June 1, 1972

Dates of Previous Inspection: May 4, 1972

Reporting Inspector: Wm. M. Hayward  
W. M. Hayward, Reactor Inspector

July 27, 1972  
Date

Accompanying Inspectors: A. A. Varela  
A. A. Varela, Reactor Inspector

"  
Date

R. B. Glasscock  
R. B. Glasscock, Reactor Inspector

Date

Other Accompanying Personnel: None

Date

Reviewed By: E. M. Howard  
for E. M. Howard, Chief, Reactor Construction Br.

7/28/72  
Date

Proprietary Information: None

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SECTION I

Enforcement Action

The quality program omits controls required by 10 CFR 50, Appendix B, as follows:

Criterion I	(Section II, Paragraph 2)
Criterion II	(Section II, Paragraph 3)
Criterion XVI	(Section II, Paragraph 4)
Criterion XVIII	(Section II, Paragraph 5)

Licensee Action on Previously Identified Enforcement Matters

Not applicable.

Unresolved Items

None

Status of Previously Reported Unresolved QA Program Items

None resolved.

Design Changes

The ring girder section on Unit 2 containment structure has been re-designed to relieve the excessive congestion of reinforcing steel experienced in the Unit 1 ring girder section.

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Unusual Occurrences

None

Persons Contacted

General Public Utilities (GPU)

W. A. Verrochi, Vice President, Design and Operations  
G. F. Trowbridge, Attorney (Shaw, Pittman, Potts & Trowbridge)  
W. H. Hirst, Manager of Projects  
R. Heward, Project Manager  
B. G. Avers, Quality Manager  
J. P. Moore, Mechanical Engineering Manager  
H. Stewart, Construction Manager  
J. R. Thorpe, Manager, Safety and Licensing  
W. Gunn, Project Engineer, Unit No. 1  
M. J. Stromberg, Site QA Supervisor  
J. Wright, Civil Engineer  
J. Connelly, Assistant Civil Engineer  
R. N. Moyer, QAE Site  
L. Zabey, Engineer

Jersey Central Power & Light

R. H. Sims, Vice President

Metropolitan Edison Company

J. G. Miller, Vice President  
J. F. Fritzen, Assistant Production Superintendent

Mandil, Panoff and Rockwell Associates (MPR)

H. Mandil, Partner  
N. Cole, Project Manager  
S. R. Ward, Engineer  
J. Gorman, Engineer

Gilbert Associates (GAI)

W. F. Sailer, Project Manager  
R. Fleming, Site Quality Supervisor  
N. Barker, Quality Engineer  
T. Heish, QA Engineer  
J. M. Smith, Electrical Engineer

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United Engineers and Construction (UE&C)

E. C. Nagle, Construction Manager  
F. L. Reed, Chief QC Supervisor  
R. Moyer, Field QC Supervisor  
P. Dailey, UE&C QC Inspector

Management Interview

The details of the findings were discussed at meetings held at the site at the conclusion of the inspection on June 1, 1972, at the General Public Utilities Corporate offices on August 8, 1972, and at the Region I Office on August 9, 1972. Those present at these meetings are listed above.

The following subjects were identified by the inspectors as quality program deficiencies in that they do not conform to the requirements of Appendix B, 10 CFR 50.

1. There is no evidence of intent to revise/correct the QC Inspection Instructions for future inspections of complex critical construction tasks or configurations to verify specific detailed requirements. (Criterion XVI)
2. The GPU plan does not include requirements for the periodic appraisal and reporting of the effectiveness of the Three Mile Island quality program. (Criterion II and XVIII)
3. There is no evidence of revisions to the project program document(s) to include and promulgate the intent stated in the February 15, 1972 letter, Nagle to Heward, as project policy and instruction. (Criterion II)
4. There was no indication that important information verbally presented to supervisors and craft foreman in the Saturday lectures, will be included in the training/indoctrination programs for replacement supervisors and foremen assigned to this project during the remaining years of construction. (Criterion II)
5. Technical support and authority delegated to the inspector of concrete placements appears to have been misunderstood. He accepted unacceptable pre-pour conditions under duress. His instructions did not identify the inspector's responsibilities to prevent violations of specifications for placement of concrete. (Criterion I)
6. The GPU quality plan omits provisions for training/qualification of personnel performing audits. (Criterion XVIII)
7. The GAI written controls for design review were not available for in-

pection at the reactor site. GAI engineering stated they would make the documents available at a time and place acceptable to the RO inspector. The inspector stated these would be examined during subsequent inspections. (Criterion III)

No further comment was offered by those present regarding these findings.

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## SECTION II

Prepared By: W. M. Hayward, A. A. Varela, and R. B. Glasscock

Additional Subjects Inspected, Not Identified in Section I, Where No Deficiencies or Unresolved Items Were Found.

### 1. General

This inspection was directed at the quality assurance program as it relates to the concrete placement problems experienced at this facility. Training, although not a part of a formal program, was provided to the craft supervision subsequent to the concrete placement problems.

Details of Subjects Discussed in Section I

### 2. Criterion I - Organization

The GPU and UE&C quality assurance and quality control personnel at the site were not aware of their authority and their organizational freedom from construction personnel, as described in Criterion I.

### 3. Criterion II - QA Program

The GPU quality program does not appear to provide for the training/indoctrination of persons performing quality-affecting activities, nor did the onsite program demonstrate the regular assessment of the status and effectiveness of the quality program, as required by Criterion II.

### 4. Criterion XVI - Corrective Action

Documents relating to program assessment and the description of corrective measures were not available for review. Lack of written deficiency identification and procedural requirements for corrective action to preclude repetition is not consistent with the requirements of Criterion XVI.

### 5. Criterion XVIII - Audits

The audit program appears to be oriented towards hardware rather than systems. Sixty-seven audits were performed in the period from July 22, 1970, to May 25, 1972. Of those, thirty-eight audit subjects were listed. However, no major deficiencies were identified by this audit program. The requirements for qualification of audit personnel have not been included in audit controls in the GPU QA program.

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