U. S. ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I

CO Inspection Report No. 50-289/72-05

Subject: Metropolitan Edison Company

Three Mile Island 1 License No. CPPR-40

Location: Middletown, Pennsylvania Priority

Category B

Type of Licensee: Power Reactor (PWR)

Type of Inspection: Routine, Unannounced

Dates of Inspection: March 20-22, 1972

Dates of Previous Inspection: March 8 & 9, 1972

Principal Inspector: B. K. McLeod, Reactor Inspector — 5-3-72 Date

Accompanying Inspectors: None — Date

Date

Other Accompanying Personnel: None — Date

Reviewed By: E. J. Brunner, Senior Reactor Inspector — 5-3-72 Date

Proprietary Information: None

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Section I

Enforcement Action

None

Licensee Action on Previously Identified Enforcement Matters

No enforcement items were identified in the previous Startup and Testing Program Inspection Report.

Unresolved Items

None

Status of Previously Reported Unresolved Items

No unresolved items were identified in the previous Startup and Testing Program Inspection Report.

Unusual Occurrences

None

Persons Contacted

Metropolitan Edison Company

J. L. Wise, Station Superintendent
J. Colitz, Supervisor of Operations
R. W. Zechman, Training Coordinator

General Public Utilities Service Company

J. J. Barton, Startup and Test Manager
T. W. Hawkins, Startup Engineer

Burns & Roe, Inc

N. E. Dickinson

Management Interview

On March 21, 1972, a management interview was held with Mr. J. J. Barton. The following items were discussed:

Administrative Controls and Quality Assurance for the Test and Startup Program

The inspector stated that no items of nonconformance or noncompliance were observed. He expressed concern about the schedule for development of the Quality Assurance Program and Administrative Controls, relative to the test schedule. Mr. Barton stated that maximum effort is being expended to get these programs developed as rapidly as possible. (Paragraphs 7 & 8)

On March 22, 1972, a management interview was held with Mr. J. L. Wise. The following items were discussed:

On-Site Training Program

The inspector stated that no items of noncompliance or nonconformance were observed. He indicated that the lack of administrative controls for the On-Site Training Program, while not a citeable item due to the fact that this program was almost entirely complete prior to the effective date of Appendix B to 10 CFR 50, was a cause for concern. He further stated that any subsequent training program must be conducted in accordance with the requirements of 10 CFR 50, Appendix B. (Paragraph 10)

Station Operating Procedures

The inspector stated that no items of nonconformance or noncompliance were observed. He indicated that the CO review of the Station Operating Procedures Program would continue and any deficiencies noted would be brought to the licensee's attention for resolution. (Paragraph 5)

Section II

Additional Subjects Inspected, Not Identified In Section I, Where No Deficiencies Or Unresolved Items Were Found

1. General

The licensee (Mr. Barton) provided the following information regarding target dates for major plant milestones:

Commence Preoperational Testing - 5/72
Ready for Core Loading - 3/73
Ready for 20% power - 5/73
Ready for 100% power - 7/73

2. Use of Membranes in Water Storage Tanks

The inspector inquired if Three Mile Island had any membranes in water storage tanks. Mr. Wise stated that there are membranes in the condensate storage tanks. He also stated that there are no membranes installed in any other water storage tanks. The inspector inquired as to what surveillance program is planned to monitor the condition of these membranes. Mr. Wise indicated that at this point in time plans for equipment surveillance had not been developed. The inspector stated that he would raise this question again at a later date.

3. On-Site Training Program

a. The following items were reviewed in conjunction with the inspection of the on-site training program:

(1) Schedule of classes for the on-site training program. These classes covered the period of 10-20-69 to 9-18-70.

(2) Schedule of examinations covering the period of 10-20-69 to 9-18-70.

(3) Examination grade records for the period of 10-20-69 to 9-18-70.

(4) Reactor physics examinations dated 4-3-70 and 4-17-70.

(5) Nuclear instrumentation examination dated 8-21-70.

4. Administrative Controls for the Test and Startup Program

a. Personnel

Mr. Barton stated that Mr. Baker, previously the Test Superintendent, had resigned and had not yet been replaced. In the interim, Mr. Barton stated that he is filling in for Mr. Baker and that GPU has contracted with Burns & Roe to have N. E. Dickinson assigned to the Three Mile Island Site to prepare the documents governing the conduct of the test program.

b. Documentation

The inspector reviewed the following partially complete draft documents:

(1) Three Mile Island - 1 Test Manual

The master administrative control document which will be used to control the TMI-1 Test Program.

(2) Three Mile Island -1 Master Test Index (Format outline)

This document will list each system, the testing to be done on that system, and the documents controlling each test.

(3) Test Procedure (Format outline)

This document will specify what items must be tested during the individual test and will be used by the author of the individual test procedure to guide him in preparation of that document.

(4) Individual Test Procedure (Format outline)

This will be the procedure for the step by step conduct of each test.

(5) Test Instruction (Format outline)

This will define the administrative controls particular to an individual test.

Details of Subjects Discussed in Section I

5. Station Operating Procedures

a. General

The licensee does not presently have any operating procedures in final form nor is the procedure index complete; however, draft procedures

were available in some catergories. The inspector reviewed the following draft procedures:

(1) Emergency Procedure - 1202-36, Loss of Instrument Air

(2) Auxiliary System Operating Procedure 1104-11, Nuclear Service c closed cooling water system.

(3) Auxiliary system operating procedure 1104-32, Decay Heat River Water System.

The inspector reviewed his findings with Messrs. Colitz and Wise. The deficiencies identified and the licensee's response to these items were as follows:

b. EP 1202-36 Loss of Instrument Air

(1) Deficiency - The procedure contains no provision for signatures of the persons approving the procedure.

Licensee Comment - Mr. Wise stated that final drafts of all procedures will contain signatures of the persons approving the procedure.

(2) Deficiency - The procedure contains no requirement that the operator verify that automatic actions have taken place and to manually initiate any action that fail to function automatically.

Licensee Comment - Mr. Wise stated that the emergency procedure format will be modified to include this item.

(3) Deficiency - The procedure does not identify the plant response to the failure. Such information as the direction and probable magnitude of major paramater changes should be included in brief form.

Licensee Comment - Mr. Wise stated that consideration would be given to modifying the emergency procedure format to include this information.

(4) Deficiency - This procedure does not cover the total loss of instrument air situation. The procedure assumes that instrument air pressure decreases slowly and that specified corrective actions return system pressure to normal.

Inspector's Comment - The inspector stated that a total and abrupt loss of instrument air pressure is a realistic occurrance and that this procedure should cover that possibility.

Licensee Comment - Mr. Wise stated that the procedure will be modified to cover this possibility.

c. OP 1104-32 - Decay Heat River Water System

Deficiency - This procedure does not have provisions for including limits imposed by Technical Specifications.

Licensee Comment - Mr. Wise stated that operating procedures will include appropriate Technical Specifications limits.

d. OP 1104-11 - Nuclear Service Closed Cooling Water System

Deficiency - Item 14.2.2.2, which deals with water quality for Nuclear Service closed cooling water system, references a GAI specification which may not be readily available for operating personnel.

Inspector's Comment - The inspector stated that if this information is important it should be in the procedure; if not, it should be eliminated.

Licensee Comment - Mr. Wise stated that this reference will be eliminated from the procedure since all water quality requirements will be in the plant water chemistry procedures.

6. Preoperational Test Program

The inspector reviewed an index of preoperational tests entitled:

Test Procedure List - Three Mile Island - Unit 1.

The inspector discussed the results of this review with Messrs. Barton and Dickinson. The deficiencies noted and the licensee's response were as follows:

Deficiency - It was not apparent that the licensee planned to conduct the following pre-operational tests:

Solid Waste Disposal System
Charcoal and Particulate Filter Tests
Plant Response to Loss of Instrument Air

Licensee Comment - Mr. Barton stated that these tests will be conducted.

7. Administrative Controls for the Test and Startup Program

The inspector inquired as to the status of development of the Administrative Controls for the test program. Messrs. Barton and Dickinson indicated that work on these was in progress and that the bulk of these controls would be in place by the start of preoperational testing in May, 1972. The inspector stated that it was his position that the Administrative Controls required to assure adequate testing of components and systems must be instituted prior to commencement of preoperational testing. He indicated that this area was of particular concern to CO and that he would follow it closely. He further stated that failure t have adequate Administrative Controls would most certainly result in appropriate enforcement action being initiated.

8. Quality Assurance for the Test and Startup Program

The inspector inquired as to the status of development of the licensees QA Program covering the preoperational and startup testing phases. Mr. Barton indicated that a Quality Assurance Program designed to comply with Appendix B to 10 CFR 50 is in the development stage. Mr. Barton also stated that the QA Program should be ready in June or July. He indicated that while this di not coincide with the scheduled date for commencement of preoperational testing, any further slippage in the construction schedule will move back the preoperational testing dates and allow the QA Program to be functional when testing is commenced. The inspector stated that it was his position that the entire testing program must be covered by a functioning QA Program and that failure to have the program in place at a time consistent with the schedule for performing the activities would be a violation of Criterion II of Appendix B to 10 CFR 50. Mr. Barton indicated that he was aware of the inspectors position on this matter.

9. Post Erection Flushing

The inspector inquired as to the status of development of post erection flushing procedures. Mr. Barton stated that none were yet in final form. Mr. Barton described plans for post erection flushing procedures as follows:

Generic procedures for the different types of flushing will be written and approved by the Test Working Group (TWG). From these generic procedures individual flush procedures will be written and used in conjunction with marked up flow diagrams to control the conduct of the individual tests. These will not be approved by the TWG but

rather by representatives of GAI, B&W, UE&C and GPU.

The inspector reviewed a draft Individual Flush Procedure for the Decay Heat Closed Cycle Cooling Water System. The inspector noted that the acceptance criteria did not define the flow velocity required to produce an adequate flush. After discussion with the inspector, Mr. Barton agreed that minimum flow velocities would be defined in flush procedures for major piping runs.

10. On-Site Training Program

The inspector stated that he wished to review the Administrative Controls for the Operator Training Program. He stated that he was specifically interested in documentation which defines:

Responsibilities for the preparation and conduct of training lectures

Responsibilities and guidelines for the evaluation of training effectiveness

Record requirements

Mr. Zechman stated that there were no administrative control documents for the Operator Training