

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

RO Inspection Report No.: 50-289 73-06

Docket No.: 50-289

Licensee: Metropolitan Edison Company

License No.: CPPR-40

Three Mile Island I

Priority: --

Category: B.1

Location: Middletown, Pennsylvania

Type of Licensee: B&W 871 MWe PWR

Type of Inspection: Routine, Unannounced/Announced

Dates of Inspection: June 12, 13, 14, 26, 27 and 28, 1973

Dates of Previous Inspection: May 8, 9, 16, 17 & 18 and June 4, 5,
19, 20 & 21, 1973

Reporting Inspector: T. A. Rebelowski for
R. L. Spessard, Reactor Inspector

8/10/73
DATE

DATE

Accompanying Inspectors: T. A. Rebelowski
T. A. Rebelowski, Reactor Inspector

8/10/73
DATE

DATE

Other Accompanying Personnel: None

DATE

Reviewed By: E. J. Brunner

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8/10/73
DATE

E. J. Brunner, Chief, Facility Test and Startup Branch

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SUMMARY OF FINDINGS

Enforcement Action

None

Licensee Action on Previously Identified Enforcement Items

None required relative to test and startup activities

Design Changes

None

Unusual Occurrences

None

Other Significant Findings

A. Current

1. The Plant Operations Review Committee (PORC) has not always had a quorum, as specified in the FSAR, during their meetings to review test procedures in accordance with the Test Manual. This item remains unresolved pending amendment of the FSAR to reflect the present PORC quorum established by the licensee. (Management Interview Item G.1 and Paragraph 4.b)
2. The site QA organization had not completely finalized a detailed audit schedule encompassing all aspects of the QA Program for Startup and Test Activities. This item remains unresolved pending further review by RO:I during a subsequent RO inspection. (Management Interview Item G.3 and Paragraph 4.d)
3. The UE&C Instrument Shop did not have a means for cleaning test gauges or for verifying their cleanliness, as required by Test Instruction No. 19. This item remains unresolved pending correction by the licensee prior to using the test gauges and it will be reviewed during a subsequent RO inspection. (Management Interview Item G.4 and Paragraph 4.f)
4. The licensee has developed and implemented a new formalized system for documenting PORC activities concerning review of test procedures. (Management Interview Item G.2 and Paragraph 4.b)

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5. Several preoperational test procedure deficiencies, which were identified during previous RO inspections, have been resolved. (Management Interview Item F and Paragraph 5.d)
6. A significant personnel change has occurred in the Met Ed site organization. (Paragraph 2)

B. Status of Previously Reported Unresolved Items

1. Test program for primary coolant leak detection and measurement systems (RO Inspection Reports No. 50-289/72-17 and 73-01) - Item remains open pending review of the approved preoperational test procedure by RO:I (Management Interview Item A)
2. Scope of the core flow flood test (RO Inspection Report No. 50-289/73-01) - Not inspected.
3. Functional testing of safety related alarms (RO Inspection Report No. 50-289/73-01) - Item is considered resolved based on further review of the licensee's program. (Management Interview Item B and Paragraph 3)

Management Interview

A management interview was conducted with Messrs. Herbein, Barton, Miller, Toole, Nelson, Stromberg, and Renshaw on June 28, 1973. The following items were discussed:

A. Primary Coolant Leak Detection and Measurement

With respect to the licensee's proposed program for testing the primary coolant leak detection and measurement systems during the preoperational test program which had been described during a previous RO inspection*, the inspector stated that he had no questions relative to the scope of this program, but that this matter would remain an unresolved item pending review of the approved preoperational test procedure (TP 600/10) during a subsequent RO inspection. The inspector reminded the licensee representatives that it was RO:I's position that all primary coolant leak detection and measurement systems must be pre-operationally tested, to the extent practicable, to determine that these systems meet the accuracies and sensitivities indicated in the FSAR. The licensee representatives indicated their understanding with respect to this matter.

* RO Inspection Report No. 50-289/73-01, Paragraph 6.c

B. Functional Testing of Safety Related Alarms

The inspector discussed his understandings relative to the licensee's program for testing and calibrating safety related alarms which had been provided by a licensee representative during this RO inspection. A licensee representative indicated the inspector's understandings concerning this program were correct. The inspector stated that he had no further questions of this matter at this time and that it was considered resolved.* (Paragraph 3)

C. Fuel Transfer Canal Fill and Drain Operations

The inspector stated that a review of TP 203/7 and TP 203/4 during this RO inspection revealed that the Decay Heat Removal System function of Fuel Transfer canal fill and drain would be tested and that this matter was considered closed.** (Paragraph 5.d.(8))

D. Observed Erratic Performance of Differential Pressure Transmitters

A licensee representative stated that the D/P cells in question (Barton Model Nos. 368, 384 and 386) were not utilized at Three Mile Island 1. The inspector stated that this matter was considered closed.***

E. Test Change to the Master Test Index (MTX)

With respect to the commitment contained in a Met Ed letter of November 10, 1972 to the Directorate of Licensing, a licensee representative stated that test requirements for the condenser pit level switches and the circulating water pumps master trip switch on the console would be added to the MTX and that these tests would be performed after installation of the Field Change. The inspector stated that he had no further questions on this matter at this time.

F. Preoperational Test Procedures

The inspector stated that RO:I review of selected preoperational test procedures had revealed certain deficiencies which required resolution. These deficiencies and their proposed resolution, which had been previously discussed with licensee representatives during this RO inspection, were reviewed. The licensee representatives concurred with the previously obtained commitments for resolution for these deficiencies. (Paragraph 5.c)

* RO Inspection Report 50-289/73-01, Management Interview Item D.
** RO Inspection Report 50-289/73-04, Management Interview Item G.
*** RO Inspection Report 50-289/73-01, Management Interview Item C.

The inspector stated that RO:I review of previously identified procedure deficiencies revealed that several deficiencies had been resolved and that others would apparently be resolved upon final approval of the test procedure. (Paragraph 5.d)

G. Preoperational Test Program

The inspectors discussed their findings regarding the licensee's implementation of selected requirements of the QA Program for Startup and Test Activities, the Test Manual, and Test Instructions. (Paragraph 4)

The inspector's and licensee's comments relative to resolution of these findings, as appropriate, were as follows:

1. With respect to the Plant Operations Review Committee's (PORC) failure to always have a quorum, as specified in the FSAR, during their meetings to review test procedures in accordance with the Test Manual, the inspector stated that this matter was considered to be an unresolved item pending amendment of the FSAR to reflect the present PORC quorum established by the licensee. The inspector stated that it was his understanding, based on discussions with a licensee representative during this RO inspection, that this matter would be included in the licensee's forthcoming amendment to Section 15 (Technical Specifications) of the FSAR to be submitted on or about July 15, 1973. A licensee representative acknowledged the inspector's understanding of this matter. (Paragraph 4.b)
2. With respect to the new formalized system for documenting PORC activities concerning review of test procedures which was developed and implemented during this inspection, the inspector stated that this system, if properly implemented, would assure that PORC functions, as specified in the Test Manual, were fully met and documented during the remainder of the preoperational testing and startup program. The inspector stated that he had no further questions on this matter at this time. (Paragraph 4.b)
3. With respect to a detailed audit schedule encompassing all aspects of the QA Program for Startup and Test Activities, a licensee representative stated that the schedule would be completed in the near future. The inspector stated that this matter was considered to be an unresolved item pending further review by RO:I during a subsequent RO inspection. (Paragraph 4.d)
4. With respect to the finding that the UE&C instrument shop did not have a means for cleaning test gauges or for verifying their cleanliness, as required by Test Instruction No. 19, the

inspector stated that this matter was considered to be an unresolved item which must be corrected prior to using the test gauges. A licensee representative stated that this matter was generally known and that steps were being taken to correct it. The inspector stated that separation of test instrumentation as to system medium use was not being practiced and that a method of instrument-to-system medium use should be developed prior to entering preoperational testing of safety related systems to insure the required cleanliness criteria are met. A licensee representative indicated that this matter would be considered. The inspector stated that this area would be reviewed during a subsequent RO Inspection. (Paragraph 4.f)

5. With respect to approval and issuance of the remaining Test Instructions, the inspector stated that it was his understanding, based on discussions with a licensee representative during this RO inspection, that Test Instructions No. 5, 8, 9, and 13 would be approved and issued by July 2, 9, 23, and 30, 1973, respectively. A licensee representative acknowledged this commitment to RO:I. The inspector stated that he had no further questions on this matter at this time. (Paragraph 4.f)

H. Technical Specification Surveillance Requirements

The inspector stated that it was RO's position that surveillance tests must be performed in accordance with the schedule specified by the Technical Specifications regardless of plant conditions unless specific relief is authorized by the Technical Specifications. The inspector indicated that it would be prudent for Met Ed to review their surveillance test requirements for compatibility with plant conditions and for Met Ed to submit a Technical Specification change request to the Directorate of Licensing to permit waiving certain tests under certain plant conditions. A licensee representative indicated his understanding of this matter, and he stated that such a review was in progress and waivers would be included, as appropriate, in future Technical Specification submittals (FSAR Amendments).

I. Met Ed Commitments to RO:I

The inspector discussed Met Ed commitments to RO:I relative to surveillance of the membranes in the condensate storage tanks, protection for reactor vessel closure head studs, inservice inspection program for detection of the effects of reactor coolant leakage, overhead and gantry cranes, and Met Ed Corporate Office

correspondence to the AEC which were obtained during this RO inspection. A licensee representative acknowledged these commitments, and he stated that the action control system relative to Met Ed Corporate Office correspondence to the AEC should be established in about one month. (Paragraphs 7, 8, 9, 10, and 11)

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DETAILS

1. Persons Contacted

Metropolitan Edison Company

R. Klingaman, Superintendent
J. Herbein, Assistant Superintendent
J. Colitz, Station Engineer

General Public Utilities Service Corporation

J. Barton, Startup and Test Manager
G. Miller, Test Superintendent
R. Toole, Assistant Test Superintendent
M. Nelson, Technical Engineer
R. Claussen, Lead Engineer
M. Stromberg, Site QA Auditor
J. Renshaw, QA Specialist
C. Gatto, Shift Test Engineer

2. Personnel Changes

A licensee representative informed the inspector of the following change in the Met Ed site organization:

Mr. G. Larizza, formerly the Nuclear Engineer, left the company on June 15, 1973 to accept another position. Mr. J. O'Hanlon has been hired to fill this position and is scheduled to report to the site during August 1973. The licensee representative stated that Mr O'Hanlon's qualifications meet or surpass the minimum qualifications set forth in ANSI-N18.1-1971, as required by the FSAR. During the interim, the position of Nuclear Engineer is being filled by Mr. T. Baer, the Nuclear Engineer for Unit No. 2.

3. Functional Test of Safety Related Alarms

During a previous RO inspection*, a licensee representative was informed that based on a review of TP 203/1 Decay Heat Removal System, Borated Water Storage Tank Functional Test and TP 264/4 Decay Heat Closed Cooling System Functional Test, it was not apparent to RO:I that the functional testing of safety related alarms was being included in preoperational test procedures to the extent practicable. At that time the licensee representative agreed to review his program for further discussion with RO:I. During this RO inspection, this matter was discussed with the licensee representative, who described his program as follows:

* RO Inspection Report No. 50-289/73-01, Management Interview Item D and Paragraph 7.c(3) & 7.c(5)

- a. All safety related alarms are checked and calibrated after field installation, and this information is documented in the system turnover package which is reviewed by Met Ed prior to preoperational testing of the system.
- b. All of the safety related alarms which have an automatic actuation function are functionally tested during the preoperational testing program.
- c. All of the safety related alarms which provide annunciation only are not functionally tested during the preoperational testing program for practical reasons, e.g., draining large water volumes just to check an alarm set point; however, some of these alarms will annunciate during preoperational testing of systems, and for these cases proper operation will be verified.

The licensee representative was informed by the inspector that this matter was considered to be resolved. This matter was discussed at the Management Interview.

4. Preoperation Test Program

During this RO inspection, the inspectors reviewed the licensee's implementation of selected requirements of the QA Program for Startup and Test Activities, the Test Manual, and Test Instructions. The scope of this review and the findings were as follows:

- a. Test Working Group (TWG) - The organization and functions of the TWG are described in the QA Plan and the Test Manual, which is an implementing document of the plan.

The inspector reviewed TWG meeting minutes covering the period January 18 through May 29, 1973 (meeting Nos. 45-51), conducted discussions with different TWG members and alternates relative to TWG functions, and reviewed test program documents. The inspector observed that TWG review and approval of safety related test procedure scopes, test procedures and test results, Test Change Notices (TCN's) to the Master Test Index (MTX), and Test Instructions had been performed in accordance with the Test Manual.

The inspector traced an individual test procedure (TP-267/4 Nuclear Service Closed Cooling Water Functional Test), which required TWG review and approval, through the preparation, review and approval for performance chain, as specified in the Test Manual and Test Instruction No. 18. The resolution of comments to TP-267/4 made by TWG members, the Met Ed Test Auditor and an RO:I inspector* was included in the inspector's review. No deficiencies were observed by the inspector with the exception of the documentation of the PORC review (Refer to Paragraph 4.b).

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* RO Inspection Report No. 50-289/73-01, Paragraph 7.c(b)

- b. Plant Operations Review Committee (PORC) - The organization and functions of the PORC are described in the FSAR, and the functions of the PORC, as a participating group in the test program organization, are described in the QA Plan and the Test Manual.

The inspector reviewed PORC meeting minutes covering the period September 28, 1972 through June 22, 1973 (Meetings No. 140-178) and conducted discussions with PORC members relation to PORC functions. The inspector observed that the PORC had been reviewing and approving safety related test procedures and scopes, operating procedures, emergency procedures, surveillance procedures, response to alarm procedures, maintenance procedures, administrative procedures, and proposed Technical Specification Changes (FSAR Amendments) in accordance with the Test Manual and the FSAR with the exceptions described below.

During discussions with a licensee representative concerning Met Ed's system for obtaining PORC review of safety related test procedures and for resolving PORC's comments on these procedures, the inspector was informed of the following system:

- (1) Test procedures requiring TWG approval are assigned to a Met Ed representative for review by the Met Ed Unit No. 1 TWG member.
- (2) Following review of the Test Procedure, the Met Ed representative reviews the procedure and his comments with the PORC.
- (3) After resolution with the PORC which is documented in meeting minutes, the Met Ed representative presents the procedure comments to the GPU Test Engineer for resolution.
- (4) Resolution of the Met Ed representative's comments, as well as comments from other TWG members, are documented and reviewed by TWG members during the procedure review process.

The inspector noted, that with the exception of what was documented in PORC minutes, Met Ed management had no other system to assure that when Met Ed's TWG members signed test procedures requiring TWG approval, PORC review was complete and their comments were satisfactorily resolved. While tracing TP-267/4 through the preparation, review, and approval for performance chain (refer to paragraph 4.a), the inspector observed that the Met Ed representative's comments on this procedure had been resolved prior to TWG approval of the procedure; however, PORC meeting minutes (prior to meeting No. 177) did not indicate that this procedure had been presented to the PORC. This matter was discussed with the licensee representative, and the following actions were taken during this RO inspection:

(1) A new formalized system was developed and implemented to assure adequate documentation of PORC activities concerning review of test procedures, as specified in the Test Manual. Met Ed's system, as previously described, remains unchanged; however, each test procedure requiring TWG approval, will have a cover sheet that documents the PORC's activities, and Met Ed's TWG members will not sign a test procedure requiring TWG approval unless this cover sheet is with the procedure.

(2) The PORC reviewed TP 267/4 during Meeting No. 177.

The inspector observed that the PORC did not always have a quorum, as specified in the FSAR (Chairman plus three members), during their meetings; for example, Meetings No. 177, 176, 175, 174, 173 and 160. The inspector informed the licensee representative, that activities reviewed and approved by the PORC during these meetings, which included safety related test procedures, did not constitute a satisfactory PORC function as described in the FSAR and Test Manual. The licensee representative stated that the FSAR would be amended to change the PORC quorum to chairmen plus 2 members. This matter was discussed at the Management Interview.

- c. Met Ed Test Auditor - The functions of the Met Ed Test Auditor are described in the QA Plan and the Test Manual.

The inspector reviewed facility records pertinent to the auditor's function covering the period July, 1972 through May, 1973 and conducted discussions with GPU personnel relative to the auditor's input to the preoperational testing program. The inspector observed that the auditor had been attending TWG meetings and reviewing safety related test procedures and scopes, test results, the MTX and changes thereto, and Test Instructions in accordance with the QA Plan and the Test Manual.

- d. GPUSC Audits of Startup and Test Activities - The requirements and responsibilities for auditing all aspects of the Startup and Test Program are delineated in the QA Plan and the Test Manual.

The inspector reviewed facility records pertinent to audit schedules and agenda, audit checklists, audit findings and resolution of these findings, and audit reports to management covering the period February 27 through June 27, 1973. Additionally the inspector conducted discussions with a QA representative relative to QA functions during the Startup and Test Program. The inspector observed that the audits conducted or scheduled within the scope of his review were performed and documented in accordance with the QA Plan and the Test Manual. The inspector determined

during discussions with the QA representative that a detailed audit schedule encompassing all aspects of the QA Program for Startup and Test Activities had not been completely finalized. This matter was discussed at the Management Interview.

- e. Test Plan - The requirements for Test Plans are delineated in the Test Manual and Test Instruction No. 2.

The inspector reviewed the Test Plan covering the period from May 24 to June 7, 1973 with a licensee representative. Test plans are approved during Test Planning Meetings by the assigned representative of each voting TWG member and the UE&C representative. No deficiencies were noted with respect to preparation, review, and approval of this Test Plan, as specified in the Test Manual and Test Instruction No. 2.

- f. Test Instructions - The requirements for Test Instructions are delineated in the Test Manual.

As described in the Test Manual, Test Instructions provide procedures for the administrative control of the test program, and a total of sixteen (16) Test Instructions, five (5) of which require TWG approval, are specified. Based on a review of records and discussions with a licensee representative, the inspector determined that twelve (12) Test Instructions, four (4) of which require TWG approval, had been approved and issued in accordance with the Test Manual and that the remaining four (4) Test Instructions, one (1) of which requires TWG approval, were in the draft stage. The licensee representative stated that the remaining Test Instructions, No. 5, 8, 9, and 13, would be approved and issued by July 2, 9, 23, and 30, 1973, respectively. This commitment was discussed at the Management Interview.

The inspectors reviewed Test Instruction No. 1 Repair Removal Authorization, Test Instruction No. 2 Test Plan, Test Instruction No. 10 Prerequisite List, Test Instruction No. 11 Test Index, Revisions 1 and 2 of Test Instruction No. 18 Test Procedure Documents, and Test Instruction No. 19 Control of Test Equipment. No deficiencies were observed by the inspectors with respect to the requirements of the Test Manual.

The inspector reviewed the method of implementation of Test Instruction No. 19 Control of Test Equipment at the UE&C Instrument Shop. The inspector's findings were as follows:

- (1) Cleanliness Grade of Instruments - The UE&C Instrument Shop lacked the equipment necessary to ascertain the cleanliness of inline test instrumentation that would be used during the forthcoming preoperational test program. A licensee

representative indicated his awareness of this matter, and he was fabricating a system to clean dead-end instruments (bourdon tube gauges, etc.). The licensee representative stated that gauges requiring cleanliness grade of B and C would meet this criteria before the gauges would be needed. This matter was discussed at the Management Interview.

- (2) Method of Instrument Recall - The UE&C Instrument Shop had established a monthly instrument recall form which lists the description, serial number, and due date of the instrument. The contents of this form are derived from a card index that has similar test instrument data and is filed under the month due. At the present stage of testing the system appeared to meet the requirements of Test Instruction No. 19.
- (3) Separation of Instruments - System Medium Use - The inspector determined during discussions with a licensee representative that separation of test instrumentation as to system medium use, such as oil, gases, or water was not being used. This matter was discussed at the Management Interview.

5. Preoperational Test Procedures

a. Status of Test Procedure Preparation, Review, and Approval*

Preoperational Test Procedures Approved for Performance	- 34%
Preoperational Test Procedures Awaiting Final Approval	- 20%
Preoperational Test Procedures Under Review by TWG & DOT	- 11%
Preoperational Test Procedures Written and Undergoing In-house Review	- 12%
Preoperational Test Procedures Not Started	- 23%

b. Status of Preoperational Testing*

Preoperational Tests Completed and Accepted	- 7%
Preoperational Tests Completed and Under Review	- 1%
Preoperational Tests in Progress	- 7%
Preoperational Tests Not Started	- 85%

c. RO Review of Preoperational Test Procedures

The inspectors conducted a review of the following preoperational test procedures:

SP 320/1 ICS Preoperational Calibration

TP 200/1 Reactor Internals Vent Valve - Inspection Test

TP 305/1A Reactor Protection System Initial Power Application

During this review, the inspectors identified a number of apparent deficiencies which required resolution. The deficiencies identified and the licensee representative's and inspector's comments were as follows:

(1) SP 320/1 ICS Preoperational Calibration

- (a) Deficiency - In paragraph 8.1 it was not apparent how wiring status would be indicated during reconnection of leads for testing.

Licensee Comment - Changes in wiring status will be indicated in right hand column of Enclosure 4 to the test procedure, and the procedure will be revised to include this requirement.

- (b) Deficiency - In paragraph 9.2 reinstallation of the wiring leads was not addressed.

Licensee Comment - The procedure will be revised to include an additional sentence indicating that verification of the restoration of these leads will be performed under SP 320/3.

During this RO inspection, TCN-2 to this procedure was approved and issued by the licensee. The inspector reviewed TCN-2, and he observed that the two (2) previously described deficiencies had been resolved. The inspector has no further comments on SP 320/1 at this time.

(2) TP 200/1 Reactor Internals Vent Valve - Inspection Test

- (a) Deficiency - Paragraph 6.1 calls for manufacture of suitable containment prior to scribing, to prevent foreign material from entering the reactor vessel. Development of this containment and method of operation should be defined under caution note.

Licensee Comment - The method of forming containment and the precautions will be expanded.

- (b) Deficiency - The cleanliness criteria of tools entering reactor vessel is not indicated.

Licensee Comment - The grade of cleanliness of tools will be specified under prerequisites.

- (c) Deficiency - Paragraph 9.9.2 addresses the fully open dimension of tool jaws; however, this dimension is not specified.

Licensee Comment - Procedure will indicate 5".

- (d) Deficiency - The procedure is lacking drawings necessary to assemble tool and manipulate the jack screws.

Licensee Comment - The drawings will be available during the test.

Inspector Comment - The inspector has no further questions on this item at this time.

- (e) The inspector inquired as to whether testing or dry run of the valve handling equipment was to be performed. A licensee representative stated that a test of the assembled tool would be performed prior to entering the reactor vessel. The inspector stated that he had no further questions on this item at this time.

(3) TP 305/1A Reactor Protection System Initial Power Application

- (a) Deficiency - Paragraph 4.3 does not indicate Normal Control Room Ambient.

Licensee Comment - Unit Calibration will be between $75-105^{\circ} +30^{\circ}\text{F}$, and the Control Room Ambient should fall within these parameters.

- (b) Deficiency - In paragraph 9.2.9 the description of what power indication lights will sequence requires clarification.

Licensee Comment - The second sentence of paragraph 9.2.9 will be revised to indicate that the AC Power Lamps, indicating AC Power to both ± 15 VDC Power Supplies, should remain extinguished.

- (c) Deficiency - In paragraph 9.2.13 the second sentence which specifies a 15 minute hold time should be emphasized.

Licensee Comment - Sentence will be underlined.

Licensee resolution of the above deficiencies, as indicated by their comments, will be verified during subsequent RO inspections.

(d) RO Review of Previously Identified Test Procedure Deficiencies

The following is a report of the status or the resolution of previously identified deficiencies in test procedures as discussed with the licensee's representatives.

(1) TP 180/3 Fire Protection System*

Additional information on valve lineups and fuseable link identification have been included in this test procedure. The Deluge and Halon 1307 Systems will be tested using SP 102.6. RO:I has no further questions on this test procedure at this time.

(2) TP 266/4 Nuclear Service River Water Functional Test**

Additional information on flow instrument identification, a note following appropriate procedure steps, and O.P. identification have been included in this test procedure. The ΔP for the strainer will not be specified, but rather base line data will be obtained. RO:I has no further questions on this test procedure at this time.

(3) TP 267/4 Nuclear Service Closed Cooling Water Functional Test*

The component cooling capacity will be determined during plant operation. The ability to meet parameters of operational limits, as set forth in operating procedures under loads, will be monitored. A licensee representative

* RO Inspection Report 50-289/73-01, Paragraph 7.c.(1)
** RO Inspection Report 50-289/73-04, Paragraph 9.c.(2)
*** RO Inspection Report 50-289/73-01, Paragraph 7.c.(6)

stated that it was not feasible to determine flow under no load conditions to such components as spent fuel coolers and air coolers in the spent fuel pump area. The method used to determine restart capability following a station blackout was reviewed. RO:I has no further questions on this test procedure at this time.

(4) TP 276/3 Condensate System Functional Test*

Additional information on O.P. identification, checking pressure of deionized water supply line, and status of CO-P2 has been included in this test procedure. RO:I has no further comments on this test procedure at this time.

(5) TP 263/4 Decay Heat River Water System Functional Test**

Revised pump flow curves have been included in this test procedure, and RO:I has no further questions on this item at this time. TP 600/21 Integrated E.S. Actuation Test will be reviewed during a subsequent RO inspection to verify testing the features of automatic start of the DHRW Pumps and automatic opening of the DHRW pump discharge valves on an E.S. actuation signal. TP 600/24 Unit Cooldown Test will be reviewed during a subsequent RO inspection to verify the heat removal capacity is demonstrated.

(6) TP 264/4 Decay Heat Closed Cooling System Functional Test***

The high and low level alarms on the DHCCS surge tanks will be checked and calibrated after field installation, and RO:I has no further questions on this item at this time. TP 600/24 Unit Cooldown Test will be reviewed during a subsequent RO inspection to verify heat removal capability is demonstrated. TP 600/21 Integrated E.S. Actuation Test will be reviewed during a subsequent RO inspection to verify testing of the feature of automatic start of the DHCCW pumps on an E.S. actuation signal.

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* RO Inspection Report 50-289/73-04, Paragraph 9.c.(3)
** RO Inspection Report 50-289/73-01, Paragraph 7.c.(4)
*** RO Inspection Report 50-289/73-01, Paragraph 7.c.(5)

(7) TP 203/1 Decay Heat Removal System, Borated Water Storage Tank Functional Test*

The BWST low temperature alarm will be checked and calibrated after field installation, and RO:I has no further questions on this item at this time. The remaining deficiencies were not reviewed, and these will be reviewed during a subsequent RO inspection.

(8) TP 203/4 Decay Heat Removal System Functional Test**

The function of draining the Fuel Transfer Canal is included in this test procedure, and a review of TP 203/7 disclosed that the function of filling the Fuel Transfer canal was included. RO:I has no further questions of this item at this time. The remaining deficiencies were not reviewed, and these will be reviewed during a subsequent RO inspection.

Additionally, previous deficiencies relative to TP 250/4, TP 273/3, TP 301/3A and TP 401/1 were discussed with a licensee representative. These deficiencies remain open pending further review by RO:I during a subsequent RO inspection.

6. RO Review of the Performance of TP 263/4 Decay Heat River Water System Functional Test

During this RO inspection, TP 263/4 was performed. The following observations were made by the inspector with respect to the performance of this test:

a. References

The inspector matched drawing revision numbers to those contained in the Master File Index. No deficiencies were identified.

b. Prerequisite Tests

The status of all prerequisite tests were reviewed by licensee representatives and were determined to meet requirements to support testing of DHRWS. Based on a review of facility records, the inspector concurred.

* RO Inspection Report No. 50-289/73-01, Paragraph 7.c.(3)

** RO Inspection Reports No. 50-289/73-04, Paragraph 9.c.(1) & 50-289/72-13, Paragraph 7.a

c. Special Test Equipment

A typographical error as to test instrumentation MTE number was corrected by a licensee representative.

d. Required Plant Status

The required plant status was identified as being established prior to performance of test procedure.

e. Prerequisite System Conditions

The flow element was installed and vented prior to start of test.

f. Test Method

The inspector noted the following during his witnessing of portions of DHRWS testing:

- (1) The lead test engineer and operational test personnel reviewed the status of the test procedure prior to test performance.
- (2) Communications were rechecked with control room.
- (3) The portions of this test witnessed by the inspector included initial start of DHRW lubricating booster pump, automatic strainer operation, and starting one of the two DHRW pumps with its associated discharge valve operation. During the test a leaking check valve from the Nuclear Service River Water System that supplies bearing lubrication and flushwater to the idle DHRW pump was identified by the licensee. The line was isolated and was indicated on test procedure as an exception.
- (4) The manner of test conduct by supervisory personnel was observed by the inspector, and no deficiencies were identified.

The approved test results for TP 263/4 will be reviewed during a subsequent RO inspection.

7. Use of Membranes in Water Storage Tanks

During a previous RO inspection*, it was determined that there is a membrane in each condensate storage tank, and at that time a licensee representative indicated that a surveillance program to

* RO Inspection Report No. 89-298/72-05, Paragraph 2

monitor the condition of these membranes had not been developed. During this RO inspection this matter was discussed with a licensee representative, who indicated that a surveillance procedure, which included inspection and inspection frequency requirements, would be developed. This commitment was discussed at the Management Interview.

8. Reactor Vessel Closure Head Studs

The need to provide some sort of protection for reactor vessel studs during refueling to isolate them from potentially corrosive media, e.g., vapor or moisture from borated water was discussed with a licensee representative, who indicated that appropriate instructions would be developed to provide the necessary protection for these studs. This commitment was discussed at the Management Interview.

9. Inservice Inspection Program for Detection of the Effects of RC Leakage

The commitment contained in a Met Ed letter of February 28, 1972 to the Directorate of Licensing relative to a proposed inservice inspection program to be used by Met Ed to detect the effects of reactor coolant leakage at an early stage was discussed with a licensee representative, who indicated that a surveillance procedure, which delineated this commitment, would be developed. This commitment was discussed at the Management Interview.

10. Overhead and Gantry Cranes

Operating and maintenance practices for overhead and gantry cranes relative to the requirements of ANSI B30.2.0 were discussed with a licensee representative, who indicated that operating and maintenance procedures would be reviewed for conformance to this standard. This commitment was discussed at the Management Interview.

11. Met Ed Corporate Office Correspondence to AEC

The inspector determined through discussions with a licensee representative that Met Ed site management did not have a formal action control system covering commitments contained in Met Ed Corporate Office correspondence to the AEC. The licensee representative indicated that the site would develop a formal action control system covering such correspondence to insure these commitments would be met. This commitment was discussed at the management interview.

MEMO ROUTE SLIP Form AEC-93 (Rev. May 14, 1947) AECM 0240		See me about this. Note and return.	For concurrence. For signature.	For action. For information.
TO (Name and unit) RO Chief, Field Support and Enforcement Branch, HQ RO:HQ (5) RO Files DR Central Files ✓		INITIALS	REMARKS METROPOLITAN EDISN COMPANY	
		DATE	THREE MILE ISLAND 1	
			INSPECTION RPT. NO. 50-289/73-06	
TO (Name and unit) Central Mail & Files Regulatory Standards (3) Regional Directors (4) Directorate of Licens		INITIALS (3)	REMARKS The above inspection report is forwarded	
		DATE (13)	for information. Distribution will be	
			made by this office to the PDR, Local PDR,	
TO (Name and unit)		INITIALS	REMARKS NSIC, DTIE, and State Representatives	
		DATE	after review by the licensee for	
			proprietary information.	
FROM (Name and unit) <i>E. Brunner</i> E. Brunner Region I		REMARKS		
PHONE NO.	DATE 8/10/73			

USE OTHER SIDE FOR ADDITIONAL REMARKS

GPO : 1971 O - 445-469

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