

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

Region I

NOTICE
MAY 6 - 1977
AS OF
REGION I HAS NOT OBTAINED PROPRIETARY
CLEARANCE IN ACCORDANCE WITH 10 CFR 2790

Report No. 77-14

Docket No. 50-289

License No. DPR-50 Priority - Category C

Licensee: Metropolitan Edison Company

P. O. Box 542

Reading, Pennsylvania 19603

Facility Name: Three Mile Island Unit 1

Inspection at: Middletown, Pennsylvania

Inspection conducted: April 15, 18-22, 1977

Inspectors: A. N. Fasano
A. N. Fasano, Reactor Inspector

5/3/77
date

signed

_____ date signed

_____ date signed

Approved by: A. B. Davis
A. B. Davis, Chief, Reactor Projects Section No. 1
RO&NS Branch

5/5/77
date signed

Inspection Summary:

Inspection on April 15, 18-22, 1977 (Report No. 50-289/77-14)

Areas Inspected: Routine, unannounced inspection of plant operations; followup on IE Circulars; general plant cleanliness; and a tour of plant areas. The inspection involved 45 inspector-hours on site by one NRC inspector.

Results: No items of noncompliance or deviations were found.

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DETAILS

1. Persons Contacted

Mr. S. Bailey, Mechanical Engineer
Mr. K. Bryan, Shift Foreman
*Mr. J. J. Colitz, Unit 1 Superintendent
*Mr. W. W. Cotter, Supervisor, Quality Control
Mr. T. Crouse, Control Room Operator
Mr. D. Deiter, Control Room Operator
Mr. J. Fritzen, Senior Engineer
Mr. J. Hall, Inservice Inspection Engineer
Mr. C. E. Hartman, Lead Electrical Engineer
*Mr. G. A. Kunder, Unit 1 Supervisor of Operations
Mr. W. M. Metzger, Mechanical Foreman
Mr. L. Noll, Shift Foreman
*Mr. J. P. O'Hanlon, Unit Superintendent of Technical Support
Mr. D. Pilsitz, Shift Foreman
Mr. W. E. Potts, Supervisor of Licensing
*Mr. M. A. Shatto, Engineer Associate III
Ms. P. Stoner, Chemist
Mr. J. Thunstedt, Control Room Operator

* Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance 289/77-05-01: Reference the following:

- IE Letter dated March 23, 1977.
- Licensee response letter dated April 12, 1977.
- Licensee Memos dated April 1, 1977, April 4, 1977 and April 5, 1977 on the subject of training given to Electrical Maintenance and I&C maintenance personnel.
- Administrative Procedure 1001, Document Control, Revision 8, April 12, 1977.

The inspector reviewed the licensee's response to the noncompliance, failure to establish measures to assure that conditions adverse to quality are promptly identified and corrected. The actions taken by

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the licensee were verified and contained in the memos and procedures referenced above. The documentation includes the initials of the maintenance personnel in acknowledgement of their training on AP 1013, Bypass of Safety Function and Jumper Control. The inspector contacted the Electrical Maintenance Supervisor and discussed the use of jumpers for further verification of training. Revision 8 of AP 1001 specifies the review frequency for safety facility related procedures.

(Closed) Unresolved Item 289/77-05-07: Failure to revise AP 1001 for Review of Procedures. The corrective action has been completed. The change has been reviewed by the inspector and the change is included in procedure AP 1001.

(Closed) Unresolved Item 289/77-05-08: Completion of I&C and Electrical Maintenance Personnel Training on AP 1013. Referenced closed Noncompliance 289/77-05-01 above. The reviewed memos indicate that training for the Electrical Maintenance Personnel and for I&C maintenance personnel was completed on March 10, 1977 and March 3, 1977 respectively. Documentation of completed training is accomplished by having acknowledgment by initialing an attachment to the memos.

(Closed) Unresolved Item 289/77-05-10: Record storage inadequacies. This item concerned the delay in completion of corrective action to the licensee's audit 77-10 finding number 2. The corrective action has been completed and is contained in procedure change request 77-210 for AP 1007, Control of TMI Records, Revision 0. The procedure, AP 1007, Revision 1, was reviewed and it contains changes required by Audit 75-10 finding number 2.

(Closed) Unresolved Item 289/77-05-11: Housekeeping procedure. The inspector reviewed the completed procedure, AP 1008, Good Housekeeping, Revision 0, March 30, 1977. The procedure provides guidance to establish a level of plant cleanliness which should facilitate clean, safe operating conditions for equipment and personnel.

(Closed) Unresolved Item 289/77-05-04: Special Test Procedure for Testing the Reactor Building Spray System. Reference the following;

- ASME Boiler and Pressure Vessel Code, Section XI, Rules for In-service Inspection of Nuclear Power Plant Components, July 1, 1974 Edition, ICW 5220 Pressure, paragraph (c).
- QC Surveillance Report, No. TMI 77-44, Building Spray - Hydro Test of "A" and "B" Sides, April 1, 1977.
- SOP 476, Pressure Test of RB Spray System.

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The test procedure has been written and performed. The test was performed on the Reactor Building Spray System to detect any presence of stress corrosion cracks in stagnant/low flow stainless steel piping containing boric acid solution. The test was completed on March 18, 1977 with satisfactory results.

(Closed) Unresolved Item 289/77-05-09: Review of NRC:I Inspection 50-289/76-08, Item of Noncompliance by GORB. The inspector reviewed GORB meeting No. 26 minutes. The GORB addressed the inspection item and concurred on the action taken.

(Closed) Unresolved Item 289/77-03-01: Replacement of BFD relays during the 1977 refueling outage. A visual inspection was made of the Relay Box located in the Unit 1 Diesel Generator Room. The new 34 BFD relays have been installed.

(Closed) Unresolved Item 289/77-03-02: Procedure change to assure that the term nominal 20% is within a 2% range. Reference Procedure Change Notice (PCN) No. 77-238, Procedure 1104-5, Revision 7, Reactor Building Spray System. The PCN has been written and approved. The change should provide guidance to assure that precipitation of NaOH does not occur for nominal weight percent up to 23% based on a minimum of 15,000 pounds of NaOH.

(Closed) Unresolved Item 289/77-03-03: Inspection of bearings on AH-VIA, 1B and 1C to be completed during the 1977 refueling outage. Reference Work Request No. 17783, AH Containment Isolation, April 13, 1977. The inspector reviewed the Work Request and discussed the work done with the Maintenance Foreman. Inspection of Valves 1A and 1B has been completed. Documentation indicates that the bearings were found to be clean but needing grease. The bearings were greased. Completion of inspection on Valve 1C was suspended pending completion of the ILRT. Valve 1C is scheduled to be completed this week.

(Closed) Unresolved Item 289/76-24-09: Cause for and evaluation of pressure transmitter being out of calibration. The transmitter was sent to the vendor for checks and tests. The inspector reviewed the document, Nuclear Transmitter Failure Report, W, February 3, 1977. The cause of the failure was traced to a faulty capacitor, C-10.

(Closed) Unresolved Item 289/77-03-04: Modification 569 for Radiation Monitor, RM-A2, to be completed during the March 1977 outage. The inspector reviewed Work Request 13673 and the GAI drawing C-302-721.

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The change has been completed. This required a change allowing sample inlet air to take suction near the Reactor Building Fan discharge. This air should have a lower moisture content.

(Closed) Unresolved Item 289/77-05-03: Replacement of oil pressure level switch, OPLS. New switches have been received. The inspector visually inspected the installed new switch for Diesel Generator "A". The calibration was done April 20, 1977. Work Request 19597 was reviewed. The Work Request is for both Diesel Generators. Discussions with the maintenance personnel indicate that the removed OPLS was checked for cause of the malfunction. It was found that there was a loose microswitch. Once the microswitch was tightened the test performed indicated consistent satisfactory operation. Procedure 1301-8.2, Diesel Generator Annual Inspection, Revision 4, has been modified to include a 9 second delay time for the OPLS.

(Closed) Inspector Followup Item 289/77-05-12: Status of procedure change request, PCR, completions. Reference Met Ed memo GEM 1256, dated April 12, 1977 which lists the remaining PCRs for 1976 that remain to be completed. The remaining PCR's are: 76-785, 786, 787, 788, 794, 808 and 810. The CTSS is on schedule for the 1977 reviews. The status of the remaining 1976 PCRs will be reviewed during subsequent inspections.

This item will be re-examined during a subsequent inspection (289/77-14-1).

(Closed) Inspector Followup Item (289/77-05-13: Log sheet notation reference to Technical Specification. Based on discussions with cognizant plant personnel, the inspector determined that the current Shift and Daily Check sheet is being re-evaluated for content and format. The inspector has no further questions on this item at this time.

(Closed) Inspector Followup Item 289/77-05-14: Protective clothing distribution point problem. Reference Met-Ed memo dated April 11, 1977, Subject, PORC Action Item IR77-05, Item 14. The licensee has evaluated this matter and is considering the overall problem of clothing pickup and disposal. The inspector has no further questions on this item at this time.

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(Closed) Unresolved Item 289/77-08-01: Revise procedure 1106-1, Turbine Generator, to require procedural step check off and procedural section signoff. The inspector reviewed Revision 16, dated April 7, 1977, of this procedure. The revision includes instructions for the initialing of procedural steps and includes lines along the side of the steps to be addressed.

(Closed) Unresolved Item 289/77-08-02: Write alarm response procedure for alarm added by C/M 518. The inspector reviewed alarm response procedures PRF 3-6 and PRF 3-7, CRD System AC Trip Confirm and CRD System DC Trip Confirm, respectively. Both procedures are Revision 0, April 8, 1977.

(Closed) Unresolved Item 289/77-09-01: Revise Refueling Procedures RP 1501 and 1504-14. The inspector verified that both procedures have been modified to include sign off lines to assure initialing of procedural steps. Reference RP 1502-1, Refueling Operations, Rev. 4, April 5, 1977 and RP 1504-14, Removal and Installation of Fuel Transfer Tube Blank Flange, Revision 2, April 8, 1977.

(Closed) Unresolved Item 289/76-25-02: Safety Cabinets for Storage of Flammable Material in the D/G room or their removal. Metal safety cabinets have been installed in the D/G room hall. The cabinets were in place and found closed by the inspector.

(Closed) Unresolved Item 289/77-05-02: DH-VI Supplemental Engineering Report and valve repair schedule. Reference Met-Ed memo GEM 0715, Continued Operation of DHV-1 utilizing Furmanite, March 4, 1977. This report was reviewed. The conclusions contained in the report in part are based on a low level of chloride leaching from the Furmanite. The licensee plans to operate until the 1978 refueling outage. During the interim the licensee will review the longer term effects created by the use of Furmanite. The NRC has requested and received samples of Furmanite and independent analyses are being performed to determine the amount of leachable chlorides in the Furmanite. The final NRC position will be based on the results of the independent analysis.

This is unresolved item 289/77-14-2.

(Closed) Unresolved Item 289/77-10-01: Code requirements to identify the ultrasonic test frequency. Data sheet weld number NID-018, April 11, 1977 was reviewed. The data indicates that the Reactor Building Spray System pipe welds were tested using a transducer frequency and control setting frequency of 5 MHz. This satisfies the code requirements to identify the ultrasonic test frequency used.

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3. Licensee Actions on IE Circulars

The inspector examined licensee PORC meeting No. 77-10 minutes, March 7-11, 1977 and interviewed a licensee representative to verify that considerations were given to action recommended in IE Circular 77-02A.

77-02A: The documentation reviewed indicates that the circular contents were reviewed. The licensee concluded that no special procedures or barriers were necessary pertaining to ice related flooding. Diesel fuel on hand was considered adequate. The potential spring flood has passed.

No items of noncompliance were identified.

4. Cleanliness

The following procedures were reviewed:

- Administrative Procedure AP 1008 Good Housekeeping, Revision 0, March 30, 1977
- Welding and Cutting Procedure for Fire Safety, 1410Y-26, Revision 1
- AP 1020 Cleanliness Requirements, Revision 3
- Control of Material/Equipment in Exclusion Areas (open Manways and Reactor Vessel), 1410-Y-30, Revision 0, Change Bearings in Reactor Building
- Personnel Access Door Operating Mechanism, 1410-Y-14, Revision 0.
- Maintenance Department Order No. 7, Revision 1, Material Cleanliness.

The following was verified as acceptable:

- Written administrative controls have been established to assure adequate housekeeping and cleanliness.
- Requirements have been established for material accountability in critical clean areas such as openings in primary system components and refueling area.
- Requirements for cleaning primary system components.
- Requirement that excess equipment or material is removed.
- Requirement for the removal from the facility of combustible material and debris.

Based on tours of the facility, observation of maintenance work on CIV-4, Control Intermediate Valve on the Turbine re-heat steam line, and discussion with personnel, it appears that the program as described in the administrative control procedures is being implemented.

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Maintenance personnel questioned were cognizant of the procedures referenced above.

No items of noncompliance or deviations were identified.

5. Plant Operations

The inspector made unannounced observations of activities being performed in the control room on April 18, 19 and 20, 1977. The inspector also reviewed the records listed below and held discussions with plant staff members.

The plant was in a cold shutdown status following a refueling outage. The ILRT was in progress.

The Foreman's Log, March 28 to April 18, 1977, Daily Check Sheet, March 12 to March 31, 1977, and the Control Room Log Sheet, March 12, to March 31, 1977 were reviewed to verify that the log sheets were completed properly and that operations were in compliance with technical specifications.

No items of noncompliance or deviations were identified.

The Jumper and Lifted Lead Log for tags 36 through 40, April 12, 1977, was checked. These leads were found to be required for the conduct of the on-going ILRT in accordance with SP 1303-6.1. The inspector made a visual inspection to confirm that the leads were in place in the ESAS Panel. A similar check was made for lifted leads in the Reactor Protection System panel for tags 32 through 39, April 13, 1977. These lifted leads were required to perform Work Request 14322. The work was related to the removal of the reactor pressure transmitters (4) for test purposes. The transmitters have had drift problems related to temperature changes. The inspector made a visual check of the RPS cabinet to verify the proper tagging of the lifted leads. The inspector also visually checked the bench testing of the transmitters. No discrepancies with Technical Specifications were observed. No items of noncompliance or deviations were identified.

The Primary Auxiliary Log, Liquid Waste Discharge System, LWDS Panels, March 26 through April 14, 1977 were reviewed for completeness and details adequate to communicate equipment trends and status.

No items of noncompliance or deviations were identified.

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Operating Orders: The active SOP Book was reviewed and it contains SOP's 462, 463, 465, 467, 469, 472, 474, 475, 476, 477, 478, 480, 482, 483, and 484. No conflicts with Technical Specification requirements were observed.

The inspector observed that the operating shift was staffed in accordance with the requirements of TS 6.2.2.a and in compliance with 19 CFR 50.54(k).

6. Plant Tour

The inspector made an unannounced visit to the ILRT test panel. Data on leak rate measurements were being collected and recorded. The inspector made an unescorted visit to the suppressor test stand where testing of the hydraulic snubbers was in progress. Discussions with the test stand operators and review of documentation indicated that over 50 units had been tested.

Monitoring instrumentation: The inspector recorded the Reactor Building pressure readings at the ILRT Test panel and compared the reading with the control room console readings. The Test panel reading was 50.67 psig vs. 51 psig on the panel.

Control room indications and/or records for BWST level, temperature; Sodium Hydroxide level, temperature; Sodium Thiosulfate level, temperature; and River Water ΔT recordings were independently read and checked by the inspector. No discrepancies with Technical Specification LCO's were observed. Comparisons of control room river water ΔT recordings were made with local MDCT readings. It was noted that there could be some confusion on what temperature readings should be compared to validate the CR readings from this local readout point. The licensee stated that this item is being reviewed. This is URI 289/77-14-3. The Contact Monitor Lights for the 4 Reactor Coolant pumps located two levels below the control room were checked. The lights were found to be in the de-energized state as indicated on the control room check sheet.

The inspector continued the escorted tour of the Auxiliary Building. Visual checks were made with respect to cleanliness, fluid leaks and radiation postings. No adverse conditions of immediate safety concern were identified.

No excessive pipe vibrations were observed.

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The inspector checked the Waste Gas Disposal System locked valve status against the required lock valve listing. The following valves were checked:

WDG - 30	Locked	Closed
WDG - 31	Locked	Closed
WDG - 32	Locked	Closed
WDG - 67	Locked	Open
WDG - 68	Locked	Open
WDG - 69	Locked	Closed
WDG - 70	Locked	Closed
WDG - 103	Locked	Closed (RM-A7 Test Connection)

The valves were locked and in the listed required position. Also, Do Not Operate Tague #7 was checked and located on WDL-P-16 Suction Valve (closed). Do Not Operate Tag on Breaker for CFV 3B was found unlocked and in the closed position. A check was made and this position was allowed and so recorded in the Locked Valve Log. Tag 17 was checked and found on WDL-V269. The valve was in the required position to allow miscellaneous waste recirculation.

Personnel protection tags were checked against control room documentation and CR panel tags. Tag 28 used for 1A, 1B and 1C make up pumps was checked. The breakers for these pumps at the 4.16 KV E and D Bus MCC were found disengaged and properly tagged. No items of noncompliance or deviations were identified.

The inspector toured the Reactor Building and visually inspected Valve DH-V1. The inspector witnessed maintenance personnel being instructed to assemble scaffolding in preparation for preventive maintenance on valve AH-V1C (See Closed Unresolved Item 289/77-03-03, paragraph 3 above).

7. Followup on an Event That Occurred During the Inspection

The plant was being made ready for return to operation status. The circulating pumps were being checked and cycled preparing to pull a vacuum on the condenser. At about 12:18 p.m. on April 19, 1977 Circulating Pump 1D, after about 3 seconds of on time, failed. The pump casing split 360° and allowed water to come into the circulating water pump house. The six circulating water pumps and motors were flooded. The stop log for pump 1D was put in place but only provided a partial seal. The breakers were de-energized to the pump house. There were no adverse plant safety consequences or personnel injuries. The event is expected to delay startup by about one week. The cause of the failure has not yet been determined. The inspector has no further question on this item at this time.

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8. 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 disclosed during the inspection are discussed in paragraph 2 and paragraph 5.

9. Exit Interview

The inspector met with licensee representatives, denoted in paragraph 1 by an asterisk, at the conclusion of the inspection on April 22, 1977. The inspector summarized the scope and the findings of the inspection.

The licensee representative acknowledged the following:

- A new Inspector Followup Item 289/77-14-1 will require a close out of 1976 PCR's (paragraph 2).
- A new Unresolved Item 289/77-14-2 will require results from Furmanite samples being determined through an NRC independent analysis.
- Consideration is required to assure that the Mechanical Draft Cooling Tower, MDCT, readings (if and when used) are consistent among operators when used for a ΔT comparison. This is a new Unresolved Item 289/77-14-3).

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