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

Region I

NOTICE

[illegible] JAN 1979

[illegible] THIS NOT OBTAINED FOR [illegible] ANCE IN ACCORDANCE WITH 10 CFR 2.790

Report No. 50-289/78-23
50-320/78-36

Docket No. 50-289
50-320

License No. DPR-50
DPR-73

Priority --

Category C
B2

Licensee: Metropolitan Edison Company

P.O. Box 542

Reading, Pennsylvania 19640

Facility Name: Three Mile Island Nuclear Station, Units 1 and 2

Inspection at: Middletown, Pennsylvania

Inspection conducted: December 4-8 and 12-14, 1978

Inspectors: D. R. Haverkamp, Reactor Inspector — 1/4/79 date signed

J. R. Johnson, Reactor Inspector Trainee — 1/4/79 date signed

P. D. Graham, Reactor Inspector Trainee — 1/4/79 date signed

Approved by: R. R. Keimig, Chief, Reactor Projects Section No. 1, RO&NS Branch — 1-3-79 date signed

Inspection Summary:

Inspection on December 4-8 and 12-14, 1978 (Combined Report Nos. 50-289/78-23 and 50-320/78-36)

Areas Inspected: Routine, unannounced inspection by three regional based inspectors of plant operations including facility tour during backshift; Technical Specification Safety Limits, Limiting Safety System Settings and Limiting Conditions for Operation compliance during reactor operations (Unit 2 only); plant cleanliness (Unit 2 only); RPS grounding system testing; stem mounted limit switches environmental qualification; and previous inspection findings. The inspection involved 7 inspector-hours onsite for Unit 1 and 54 inspector-hours onsite for Unit 2 by one NRC regional based inspector and 44 hours onsite by two inspector-trainees.

Results (Unit 1): No items of noncompliance were identified.

Results (Unit 2): Of the five areas inspected, one item of noncompliance was found in one area (Deficiency - failure to perform surveillance of containment isolation valves located inside containment, Paragraph 4).

Region I Form 12
(Rev. April 77)

DETAILS

1. Persons Contacted

Metropolitan Edison Company

Mr. R. Barley, Unit 1 Lead Mechanical Engineer
Mr. R. Bensel, Unit 2 Lead Electrical Engineer
* Mr. M. Bezilla, Unit 2 PORC Secretary
Mr. J. Chwastyk, Shift Supervisor
Mr. J. Floyd, Unit 2 Supervisor of Operations
Mr. C. Hartman, Unit 1 Lead Electrical Engineer
Mr. J. Hilbish, Station Lead Nuclear Engineer
Mr. G. Hitz, Shift Supervisor
Mr. K. Hoyt, Unit 2 Shift Foreman
Mr. F. Huwe, Unit 2 Radiation Protection Foreman
* Mr. G. Kunder, Unit 2 Superintendent - Technical Support
* Mr. J. Logan, Unit 2 Superintendent
Mr. V. Orlandi, Unit 1 Lead Instrumentation and Controls Engineer
Mr. T. Porter, Unit 2 Lead Instrumentation and Controls Engineer
* Mr. M. Ross, Unit 1 Supervisor of Operations
Mr. F. Scheimann, Jr., Unit 2 Shift Foreman
Mr. J. Seelinger, Unit 1 Superintendent
Mr. M. Shatto, Unit 1 PORC Secretary
Mr. R. Warren, Unit 2 Lead Mechanical Engineer
Mr. W. Zewe, Shift Supervisor

General Public Utilities Service Corporation

Mr. C. Gatto, Lead Mechanical Test Engineer
Mr. R. Toole, Test Superintendent

The inspector also interviewed several other licensee employees during the inspection. They included control room operators, technical and engineering staff personnel, and general office personnel.

* denotes those present at the exit interviews on December 14, 1972.

2. Licensee Action on Previous Inspection Findings

(Closed) Inspector Followup Item 289/73-02-01: LER 77-25/3L Corrective Action. Installation of permanent piping for seal water makeup to the RC evaporator was completed per C/M No. 455 and Work Requests T0829 and T0830. The inspector had no further questions concerning this item.

(Closed) Inspector Followup Item 289/73-13-02: LER 78-17/1T Corrective Action. Reduced RCS High Pressure Trip setpoints were approved by NRC:NRR per Technical Specification Amendment No. 45. The inspector had no further questions concerning this item.

(Closed) Inspector Followup Item 320/73-22-01: Proper Approval of Temporary Changes Common to Units 1 and 2. Effective temporary changes applicable to both Unit 1 and Unit 2 were reviewed. The inspector verified that a Senior Reactor Operator licensed for each unit approved the temporary changes to the associated facility procedures. The inspector had no further questions concerning this item.

(Closed) Noncompliance 320/78-24-01: Electrode Storage Oven Temperature Less Than Required. The licensee's corrective measures were completed as described in MEC Letter to NRC Region I, Serial GQL 1532, dated September 18, 1978. The overall program for weld rod control was reviewed by GPUSC QA personnel and discussed with appropriate construction contractor representatives. During frequent QC inspections of work in progress, the storage and distribution of weld rods and the temperatures of holding and baking ovens were found to be acceptable. In addition, the use of weld rod at out-of-specification temperature conditions was evaluated. GPUSC memorandum PE/COS dated November 10, 1978, concluded that the welds made with the weld rods held at 1900F are sound, and the susceptibility to hydrogen cracking is no greater than if normal holding temperatures were employed. The inspector had no further questions concerning this item.

(Closed) Unresolved Item 320/78-24-06: IEB 78-01 Corrective Actions. Valoz type contact arm retainers were installed in applicable GE CR 120A and CR 122 relays per C/M 2-035. The modified relays were satisfactorily tested per Work Request No. 4133. The inspector had no further questions concerning this item.

(Closed) Unresolved Item 320/78-29-02: TP 272/1, Main Feed Pump, Exception E-27. During performance of TP 800/23, Unit Load Transient Test, the plant attained 74% power with one operating main feed pump, which met the intent of resolving TP 272/1, E-27. No specific flow data were required to be annotated in TP 272/1. The inspector had no further questions concerning this item.

(Closed) Unresolved Item 320/78-29-03: TP 330/5, Control Rod Drive Trip Test, Exception E-13. The acceptance of TP 330/5, E-13, was based on four previous acceptable tests performed per TP 330/5. No problem report was required to be written for additional operability verification of the in-limit lights for Control Rods 5-9 and 6-7. The inspector had no further questions concerning this item.

(Closed) Unresolved Item 320/78-29-04: GRC Quorum Requirements. Two additional GRC members were appointed by MEC Letter Serial GQ1 4343, dated September 22, 1978 to assure that GRC quorum requirements for members and alternates are met. The inspector reviewed recent Unit 2 GRC Meeting Minutes and identified no inadequacies concerning quorum requirements. The inspector had no further questions concerning this item.

(Closed) Unresolved Item 320/78-29-05: Preparation and Review of PORC Meeting Minutes. Written PORC minutes have been prepared through Unit 2 PORC Meeting No. 292 (October 30-November 3, 1978). The GRC review of PORC meeting minutes has been completed through PORC Meeting No. 275 (July 11-14, 1978). Subsequent written PORC meeting minutes have been submitted for GRC review. The inspector noted that the preparation and review of PORC meeting minutes had improved and had no further questions concerning this item.

(Closed) Unresolved Item 320/78-29-07: Control of Portable Fire Extinguishers. The inspector reviewed Procedure PM-M-8, Portable Fire Extinguisher Inspection, Revision 0, which provides requirements to insure that portable fire extinguishers are properly inspected on a monthly frequency. The inspector noted that PM-M-8 appears adequate for future control of fire extinguishers. The inspector toured portions of the auxiliary building and turbine building at various times during this inspection and found no examples of missing portable fire extinguishers. The inspector had no further questions concerning this item.

(Closed) Inspector Followup Item 320/78-29-08: Unplugged Piping Penetration. The fuel oil storage tank cross-connect pipe penetration has been plugged per ECM 5-9085. The inspector had no further questions concerning this item.

(Closed) Unresolved Item 320/78-32-01: Runback Rate Test. The acceptance criteria of TP 200/31 for runback rate testing was revised such that unit load demand called for a runback rate of 30±2% per minute. The revised acceptance criteria was met during a retest completed on October 26, 1978. The inspector had no further questions concerning this item.

(Open) Inspector Followup Item 320/78-32-07: LER 73-54/3L Corrective Action. The qualification of Siemans-type operators used with CA-V3, CA-V4A and CA-V4B has not yet been determined by the licensee. MEC Letter Serial GCM 5305, dated November 15, 1978 stated that the Siemans operators are considered adequately qualified for temporary use inside containment, based on licensee review of documentation provided by the valve vendor. The A-E is attempting to determine the extent of "temporary". Because these operators use Class B insulation, the long-term temperature effects are not sufficiently known to allow the operators to be left inside containment permanently. Replacement of these operators is planned for the earliest convenient outage. Final licensee evaluation of Siemans operators usage and replacement will be reviewed during a subsequent inspection.

3. Plant Tour (Units 1 and 2)

Upon arrival at the site at 6:15 a.m. on December 4, 1978, the inspector proceeded directly to the Unit 1 and Unit 2 Control Rooms to observe plant operations during off-normal hours. Control Room manning and control board monitoring instrumentation and equipment controls were observed for conformance with applicable Technical Specification requirements. The inspector then conducted a tour of the Unit 2 Auxiliary Building to check for general cleanliness and housekeeping conditions, potential fire hazards and adequacy of radiation controls. The tour was completed at 8:30 a.m. Findings were acceptable, except as noted below.

-- Several radiation control discrepancies were observed by the inspector during the Unit 2 Auxiliary Building tour. Used protective clothing was laying on the floor and used rubber boots and gloves were laying on the step-off pad at the control point entry to the B Decay Heat Vault. No barricade was in place at the entry to the A Decay Heat Vault, which was posted as a radiation area. No radiation area signs were posted at the entries to the MU-P-1C and MU-T-1A cubicles, which were identified by radiation work permits as radiation areas. The radiation work permit for the seal return cooler cubicle was laying on the floor at the entry to the cubicle.

The Unit 2 radiation protection foreman also identified the above discrepancies during a facility tour conducted at the same time as, but not in company with, the inspector. Although these items were promptly corrected, the inspector expressed concern over the apparent degradation in proper radiation protection control during the preceding weekend. The discrepant conditions resulted from a combination of inadequate training and insufficient designation of responsibilities regarding operations and radiation protection personnel. Licensee representatives stated that appropriate corrective action would be taken to ensure adequate radiation protection controls are maintained in the future.

The inspector conducted two subsequent tours of the Unit 2 Auxiliary Building during this inspection and noted that radiation protection controls were acceptable. The effectiveness of licensee actions to maintain proper controls for protective clothing disposal and radiation area posting/barricading will continue to be reviewed during routine NRC inspections. The inspector had no further questions concerning this item at this time.

4. Review of Safety Limits, Limiting Safety System Settings and Limiting Conditions for Operation

The inspector observed process instrumentation monitoring current operations on December 4-6 and 13-14, 1978 and reviewed records of reactor operations during February-December 1973. The following logs and records were reviewed on a sampling basis.

-- Shift Foreman Log

-- Control Room Log Book

- Operating Procedure (OP) 2102-1.1, "Unit Heatup," Revision 16; completed December 1, 1978
- OP 2102-1.2, "Approach to Criticality," Revision 5 (TCN 2-78-669); completed December 3, 1978
- OP 2102-1.3, "Unit Startup," Revision 10 (TCNs 2-78-665, 2-78-667, 2-78-670, 2-78-700, 2-78-709); in progress on December 7, 1978
- OP 2102-2.1, "Power Operations," Revision 9 (TCN 2-78-701); control room file copy
- OP 2102-3.1, "Unit Shutdown," Revision 6 (TCNs 2-78-612, 2-78-654, 2-78-683); completed October 29, 1978
- OP 2102-3.2, "Unit Cooldown," Revision 10 (TCNs 2-78-615, 2-78-671); completed September 23, 1978
- OP 2102-4.1, "Reactor Building Purge and Purification," Revision 3; partially completed February 17, 1978
- OP 2103-1.1, "Filling and Venting the Reactor Coolant System," Revision 8 (TCN 2-78-694); partially completed September 24, 1978
- OP 2103-1.2, "Soluble Poison Concentration," Revision 4; control room file copy
- OP 2103-1.3, "Pressurizer Operation," Revision 3; partially completed September 16, 1978
- OP 2104-1.1, "Core Flooding System," Revision 8; partially completed August 22, 1978
- OP 2104-1.2, "Makeup and Purification System," Revision 11 (TCN 2-78-668); completed November 19, 1978
- OP 2104-1.4, "Reactor Building Spray," Revision 3; Appendix A Valve Lineup completed July 14, 1978
- OP 2104-3.3, "Decay Heat Closed Cooling Water System," Revision 5; completed August 22, 1978

-- OP 2104-6.2, "Emergency Diesels and Auxiliaries," Revision 8; completed May 30 and December 8, 1978

-- OP 2T04-6.3, "Emergency Feedwater," Revision 4; Appendix A Valve Lineup completed November 17, 1978

-- OP 2104-6.4, "Hydrogen Recombiner Operation," Revision 2; control room file copy

-- OP 2104-6.5, "Hydrogen Control System," Revision 1; control room file copy

-- OP 2105-1.1, "Nuclear Instrumentation," Revision 2; completed October 9, 1978

-- OP 2105-1.2, "Reactor Protection System," Revision 4; partially completed August 25, 1978

-- OP 2105-1.3, "Safety Features Actuation System," Revision 2; partially completed October 9, 1978

-- OP 2105-1.9, "Control Rod Drives," Revision 5; completed (undated)

-- OP 2107-1.2, "Class 1E Electrical System," Revision 5; completed November 18, 1978

-- Surveillance Procedure (SP) 2301-S1, "Shift and Daily Checks," Revision 12 (TCNs 2-78-661, 2-78-687, 2-78-690); completed August 27-September 3, September 12-25, October 3-15, November 3-10, and December 1-6, 1978

-- SP 2301-B01, "RCS Inventory," Revision 2; completed during October 1-December 11, 1978

-- SP 2301-W1, "Weekly Surveillance Checks," Revision 4 (TCNs 2-78-657, 2-78-711); completed during October 5-December 7, 1978

-- SP 2301-W2, "Station Storage Batteries and Chargers Weekly Check," Revision 2; completed during October 4-December 6, 1978

-- SP 2301-M2, "Boron Injection System Valve Lineup Verification," Revision 2; completed during July 26-December 8, 1978

-- SP 2301-M4, "Remote Shutdown Instrumentation," Revision 3; completed during August 28-December 5, 1978

-- SP 2301-M5, "RCP Seal Return Measurement," Revision 1; completed during August 28-December 6, 1978

-- SP 2301-M6, "Core Flood Tank - Isolation Valve Breaker Position Verification," Revision 2; completed during August 28-December 4, 1978

-- SP 2301-M8, "Containment Integrity Verification," Revision 6 (TCN 2-78-673); completed during August 23-December 7, 1978

-- SP 2301-M11, "CHCCW Valve Lineup Verification," Revision 3; completed during August 10-November 10, 1978

-- SP 2301-Q1, "Station Storage Batteries," Revision 2; completed August 16 and November 22, 1978

-- SP 2303-M13, "Hydrogen Purge Cleanup System," Revision 1; completed during March 22-November 17, 1978

-- SP 2303-M14A/B/C/D/E, "Emergency Feed System Valve Lineup Verification and Operability Test; and Turbine Driven E.F. Pump Operability Test," Revision 8; completed during July 20-December 2, 1978

-- SP 2303-M16A/B/C/D, "Emergency Diesel Generator and Cooling Water Valve Operability Test," Revision 8; completed during October 2-December 11, 1978

-- SP 2303-M37, "Hydrogen Mixing System - Remote Start and Operability Check," Original; completed during August 10-December 10, 1978

-- SP 2303-Q3, "Hydrogen Recombiner Functional Test," Revision 2; completed October 11, 1978

-- SP 2304-W1, "Borated Water Source Concentration Test," Original; completed during August 7-December 12, 1978

-- SP 2304-M1, "Core Flood Tank Boron Concentration," Revision 1; completed during July 25-December 8, 1978

-- SP 2304-SA1, "Building Spray NaOH Tank Concentration and Volume," Revision 2; completed September 26, 1978

-- SP 2311-2, "Minimum Temperature for Criticality," Original; control room file copy

-- SP 2311-6, "Containment Integrity," Revision 5 (TCN 2-78-718); completed during August 25-December 6, 1978

-- SP 2601-M1, "Reclaimed Boric Acid Tank Temperature," Original; completed during August 2-December 2, 1978

The observations and records review were conducted to verify that startup, power and/or shutdown reactor operations were in conformance with Technical Specification safety limits, limiting safety system settings, and limiting conditions for operation.

Acceptance criteria for the above items included selected requirements of facility operating procedures and the following Technical Specifications (listed according to their respective systems).

-- Reactivity Control and Power Distribution Technical Specifications 3.1.1.2, 3.1.1.4, 3.1.2.2, 3.1.2.4, 3.1.2.7, 3.1.2.9, 3.1.3.1, 3.1.3.3, 3.2.1, and 3.2.4

-- Instrumentation Technical Specifications 2.2.1 (Table 2.2-1 items 2,3,5,6 and 9), 3.3.1.1 Table 3.3-1 items 2, 3, 5, 6 and 9), 3.3.2.1 (Tables 3.3-3 and 3.3-4 items 1.b and 2.b), 3.3.3.5 (Table 3.3-9 meter items 1 and 3; indicator item 1 and patch point items 1 and 4)

-- Reactor Coolant System Technical Specifications 2.1.1, 2.1.3, 3.4.1, 3.4.4, 3.4.6.2, and 3.4.9.1

-- Emergency Core Cooling Systems Technical Specifications 3.5.1 and 3.5.4

-- Containment Systems Technical Specifications 3.6.1.4, 3.6.1.5, 3.6.1.7, 3.6.2.2, 3.6.3.1, 3.6.4.2 and 3.6.4.4

-- Plant and Electrical Power Systems Technical Specifications 3.7.1.2, 3.7.1.3, 3.7.3.2, 3.8.1.1 and 3.8.2.3

The items observed and reviewed by the inspector were acceptable, unless otherwise noted below.

-- The inspector noted the following examples of improperly or inadequately completed operating procedures:

a. OP 2102-1.3 (in progress on December 7, 1978) - Step 4.1.40 and subsequent steps were performed, but were not initialed as being completed;

b. OP 2102-3.2 (completed September 23, 1978) - Steps 3.6, 3.7, 4.2.2 and 4.6.a were not initialed as being completed;

c. OP 2102-4.1 (partially completed February 17, 1978). All prerequisite steps were not initialed as being completed and Appendix A Valve Lineup was not fully completed;

d. OP 2103-1.1 (partially completed September 24, 1978) - Section 3.1 step 8, Section 3.2 steps 10-35, 41-49 and 51 and Section 4.2 steps 2 and 4 were not initialed as being completed;

e. OP 2103-1.2 - Various procedural evolutions had been performed, but no completed procedures were in the control room files;

f. OP 2103-1.3 (partially completed September 16, 1978) - Steps 4.1.5.7 and 4.1.5.8 were performed, but were not initialed as being completed;

g. OP 2104-1.1 (partially completed August 22, 1978) - Steps 3.1 and 3.2 were not initialed as being completed;

h. OP 2104-1.2 (completed November 19, 1978) - Appendix A Valve Lineup was not fully completed;

i. OP 2104-1.4 (Appendix A Valve Lineup completed July 14, 1978) - No prerequisite or startup procedure steps were initialed as being completed;

j. OP 2104-6.2 (Undated) - Many steps were not initialed as being completed, and the partially completed procedure was not annotated with the date of performance;

k. OP 2104-6.2 (portions completed on May 30 and December 8, 1978) - Procedure excerpts for diesel generator manual start evolutions were in the control room files vice the entire procedure;

l. OP 2104-6.3 (Appendix A Valve Lineup completed November 17, 1978) - No prerequisite or startup procedure steps were initialed as being completed;

m. OP 2105-1.2 (partially completed August 25, 1978) - Steps 4.4, 4.5.8(1)-(14) and 4.5.8(18)-(26) were not initialed as being completed;

n. OP 2105-1.3 (partially completed October 9, 1978) - Section 4.2 steps were not initialed as being completed; and,

o. OP 2105-1.9 (Undated) - Steps 4.2.1.17, 4.2.1.18, 4.2.8.1, 4.2.8.2.1 and 4.2.8.2.2 were not initialed as being completed and the partially completed procedure was not annotated with the date of performance.

The inspector stated that, based on the number of discrepancies noted above, corrective action was necessary to assure conformance with licensee administrative controls for operating procedure implementation and review. Licensee representatives stated that operators would be reminded of their responsibilities for proper procedure completion. This item is unresolved pending review of licensee corrective actions and selected, completed operating procedures during a subsequent inspection. (320/78-36-01)

-- The inspector noted the following examples of improperly annotating unused control room controlled file and/or working copies of operating procedures:

a. OP 2102-3.2 - File and working copy steps 4.27.1 and 4.28 were initialed as being completed;

b. OP 2102-4.1 - Several working copy prerequisite and purge procedure steps were initialed as being completed; and,

c. OP 2103-1.2 - Working copy Page 36.0 was annotated with numbers.

The above file and working copies of operating procedures were stored in control room file cabinets for controlled use. These procedures should have no annotations, except references to effective TCNs or cancelled TCNs. Licensee representatives stated that a full page audit of file and working copies of control room procedures was scheduled to be performed. In addition to page checking for procedure completeness, the pages will be reviewed for improper annotations. This item is unresolved pending completion of the scheduled procedure audit. (320/78-36-02)

— SP 2301-S1 incorporates various Technical Specification surveillance requirements to be performed at once per shift, 12 hour or daily frequencies. The inspector noted the following examples of improperly implementing SP 2301-S1:

a. Boron reductions were made on 5 occasions without completing Appendix H, as required by SP 2301-S1;

b. Performer and/or approver signatures were missing on several occasions;

c. Various parameters were not recorded or were incorrectly recorded on several occasions, including containment atmosphere and gaseous monitoring system channel checks, RPI/API/group control rod positions, condensate storage tank level, operational mode, R.B. purge valve accumulated time, RPS channel check, source range flux, BWST temperature, R.B. pressure deviations and pump/flux contact monitors; and,

d. Unapproved minor changes were made to required data, i.e. "NR" to "NR", of SP 2301-S1 on six occasions.

The inspector stated that except as described above, all portions of the SPs 2301-S1 had been fully and properly completed. Licensee representatives stated that appropriate action would be taken to assure that SP 2301-S1 is properly implemented in the future. This item is unresolved pending review of licensee corrective actions and selected completed SPs 2301-S1 during a subsequent inspection. (320/78-36-03)

-- SP 2301-M4 incorporates Technical Specification Surveillance Requirement 4.3.3.5 monthly channel checks of remote shutdown monitoring instrumentation. Completed SP 2301-M4, dated December 5, 1978, listed several remote shutdown instrument values, which were at or slightly exceeded the acceptance criteria of within 2% of corresponding control room instrument values. Prior to the end of the inspection, SP 2301-M4 was performed again with the results being acceptable. The inspector noted that the prescribed acceptance criteria was not appropriate for all instrument comparisons. In some cases, the acceptance criteria appeared more stringent than necessary; in other cases, the 2% tolerance did not provide a meaningful comparison of parameters. Licensee representatives stated that SP 2301-M4 would be revised to provide appropriate acceptance criteria. This item is unresolved pending revision of SP 2301-M4. (320/78-36-04)

-- SP 2301-M5, Revision 1, was issued on September 29, 1978 to provide an improved method of calculating RCP seal return flow. The inspector noted that the revised procedure omitted a square root sign in the equation used for the flow computation. This error resulted in higher than actual calculated seal return flows from each pump for the past three months. The error was conservative with respect to Technical Specification RCS leakage limits. Prior to the end of the inspection, a TCN was prepared to provide the correct equation. The inspector had no further questions concerning this item.

-- The inspector noted two inadequacies with SP 2303-M12, Revision 1, dated August 9, 1977. The procedure requires recording of the time on Appendix C of OP 2102-4.1, when R.B. purge exhaust isolation valve AH-V2A is opened in Modes 1 and 2. Technical Specification 3.6.1.7, which became effective on February 8, 1978, requires the accumulated time with any containment purge supply and/or exhaust valve open, when in Modes 1, 2, 3 and 4, to be $\leq$ 90 hours for the preceding 365 days. In addition, OP 2102-4.1 Revision 3, dated April 18, 1978, deleted Appendix C and required recording of the time, when these valves are open, in a log book kept at control room panel 25 where the valves are operated. SP 2303-M13 requires revision to be consistent with T.S. 3.6.1.7 and OP 2102-4.1 requirements. The log book requires review to ensure that the accumulated time is correct with respect to completing SP 2303-M13, as well as Reactor Building purge and depressurization operations. This item is unresolved pending completion of the above corrective actions. (320/78-36-05)

-- Technical Specification Surveillance Requirement 4.6.1.1.a.1 states that, for certain valves, blind flanges and deactivated automatic valves which are located inside containment, these penetrations shall be verified closed during each cold shutdown (Mode 5) except that verification of these penetrations being closed need not be performed more often than once per 92 days. SP 2311-5 incorporates this requirement to verify that containment isolation valves and flanges inside containment are closed, and, in addition, incorporates separate requirements to verify that airlock door seal leakage is within limits. The valves inside containment were verified closed during performance of SP 2311-5 on August 26, 1978, while in Mode 5. The plant entered Mode 4 on August 28, 1978 and was subsequently in Mode 5 during November 10-20 and 23-30, 1978. The plant has been in Mode 4 or above since December 1, 1978. The air lock door seal leakage portion of SP 2311-5 has been properly performed throughout this period, but the valve verification portion of SP 2311-5 has not been completed since August 26, 1978. Failure to perform surveillance of valves inside containment is considered an Item of Noncompliance at the Deficiency level of severity. (320/78-36-06)

5. Cleanliness (Unit 2)

a. Program Review

The inspector reviewed the following procedures.

-- Station Administrative Procedure (SAP) 1008, "Good Housekeeping," Revision 4

-- SAP 1020, "Cleanliness Requirements," Revision 6

-- SAP 1030, "Control of Access to Primary System Openings," Revision 2

-- SAP 1034 (Unit 2 Only), "Control of Combustible Materials," Original

The procedures were reviewed to verify that written administrative controls have been established to assure adequate housekeeping and cleanliness and that the procedures used included requirements for the following items.

-- Material accountability in critical clean areas such as openings in the primary system, work on primary system components, and the refueling area

-- Cleaning primary system components that have been repaired or replaced

-- Returning excess equipment or material to applicable storage areas of the facility

-- Prompt removal from the facility of combustible material and debris

Acceptance criteria for this review included applicable requirements of Technical Specifications, ANSI N18.7-1972 and Regulatory Guide 1.39.

Findings were acceptable.

b. Implementation Review

The inspector interviewed selected licensee personnel to verify that they are cognizant of and use the above procedures for the control of housekeeping and cleanliness. Additionally, at various times during the inspection, the inspector conducted tours of the Reactor Building, Auxiliary Building, Turbine Building and Control Building to verify that the program for housekeeping and cleanliness control is effective.

The inspector's findings regarding these items were acceptable. Areas which needed housekeeping improvements were discussed with licensee representatives. The conditions observed did not cause an immediate fire or safety problem.

6. Reactor Protection System Grounding System Testing (Units 1 and 2)

On March 8, 1978, B&W notified the NRC about a potential RPS grounding safety concern, pursuant to 10 CFR Part 21. The B&W letter to the NRC, dated March 9, 1978 documented the evaluation of this concern, wherein it was postulated that a loss of ground could cause the NI/RPS to fail to perform its intended function.

The preliminary safety concern proposed the following hypothesis: a NI/RPS channel may experience a loss of ground to its instrument common without the loss of ground being evident; given this condition, a single postulated failure in one channel can leave the RPS in an unanalyzed condition. The concern exists for those plants that utilize a ground as an active return path, including TMI Units 1 and 2. B&W recommended that applicable facilities institute a periodic test of the NI/RPS to assure that ground has not been lost.

NRC:NRR determined that this matter does not represent a significant problem. However, the applicable licensees should review the grounding system for their plants in accordance with the recommendations of B&W and should have an ongoing test program to verify, on a periodic basis, the ground continuity of the NI/RPS.

As stated in MEC Letter to NRC:NRR, Serial GQL 0752, dated April 25, 1978, the licensee has reviewed the concern raised by B&W and disagrees with the B&W finding. The possibility of losing ground within the NI/RPS was evaluated by Unit 1 and Unit 2 PORCs and by MEC's Generating Engineering Section, which agreed that a double failure would be required to cause the system to be degraded. Therefore, the B&W concern was not considered to represent a substantial safety hazard. Nonetheless, a loss of RPS ground continuity check has been implemented for TMI Unit 1. Surveillance Procedure 1303-4.1 "Reactor Protection System," Revision 29, dated October 16, 1978, includes checks for a loss of ground continuity during performance of weekly protective channel coincidance logic surveillance. These checks will identify the loss of connection of the plant ground system to one or more NI/RPS channel instrument commons. Licensee representatives stated that similar ground continuity checks will be implemented for TMI Unit 2 by January 31, 1979. The inspector had no further questions concerning this matter at this time.

7. Stem Mounted Limit Switches - Environmental Qualification (Units 1 and 2)

NRC:NRR/DSS has established that power operated containment isolation valve position indication to the control room operator is essential during and following a LOCA. At other nuclear stations certain environmentally unqualified stem mounted limit switches (SMLSs) were used inside containment to provide such indication. Those facilities have been required to replace the unqualified NAMCO-type SMLSs.

The inspector reviewed the applicability of this problem at both TMI units. With respect to Unit 1, no NAMCO-type SMLSs are used inside containment for containment isolation valve position indication. Relative to Unit 2, eight NAMCO-type Model EA 740 20000 SMLSs are used inside containment for position indication of RB purge supply and exhaust valves. The inspector verified that these NAMCO SMLSs were a different model than those identified as environmentally unqualified. Licensee representatives stated that the limit switches were qualified but no documentation was available for the inspector's review onsite. The licensee is conducting a generic review of the environmental qualification of safety-related electrical equipment at both units in response to IE Circular 78-08 (Reference: Inspector Followup Item 320/78-29-06). This item is unresolved pending verification that the above Unit 2 NAMCO-type SMLSs are qualified. This will be accomplished during a subsequent inspection at the corporate office. (320/78-36-03)

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 Paragraphs 4 and 7.

9. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on December 14, 1978. The inspector summarized the purpose and scope of the inspection and the findings.