

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

Region I

Report No. 289/78-09
320/78-18
Docket No. 50-289
50-320
License No. DPR-50 Priority -- Category C
DPR-73 B-2
Licensee: Metropolitan Edison Company
P. O. Box 542
Reading, Pennsylvania 19603

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

Inspection at: Middletown, Pennsylvania

Inspection conducted: May 9-12, 1978

Inspectors: *R. R. Keimig for* 5-25-78
D. A. Beckman, Reactor Inspector date signed

_____ date signed

_____ date signed

Approved by: *R. R. Keimig* 5-25-78
R. R. Keimig, Chief Nuclear Support date signed
Section No. 2, ROINS Branch

Inspection Summary:

Inspection on May 9-12, 1978 (Combined Report Nos. 50-289/78-09 and 50-320/78-18)
Areas Inspected: Routine, unannounced inspection of licensed operator requalification training, general employee training, craft personnel training, quality assurance for the Startup Test Program, startup test records, and licensee action on previous inspection findings. The inspection involved 33.5 inspector-hours onsite by one NRC inspector.
Results: No items of noncompliance were identified.

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DETAILS

1. Persons Contacted

- *T. Block, Site Lead QA Auditor (GPUSC)
- N. Brown, Training Administrator
- *W. Cotter, QC Supervisor
- E. Daniels, QC Group Leader
- J. Everhart, Repairman
- R. Harper, Supervisor of Instrument and Control Maintenance
- D. Kinter, Instrument Man
- C. Korchnak, Clerk-Typist
- J. Madaras, Associate Engineering (Babcock and Wilcox)
- J. McGarry, Supervisor of Mechanical Maintenance
- J. Moyer, Repairman
- C. Nixdorf, Administrative Supervisor
- *J. O'Hanlon, Unit 1 Superintendent
- J. Plott, Clerk-Typist, Manpower Services, Inc.
- J. Powell, QC Assistant
- D. Shovlin, Superintendent of Maintenance
- A. Stowe, Record Retention Administrator
- *R. Toole, Test Superintendent (GPUSC)
- R. VanStry, Training Administrator
- W. Yeager, Instrument Man
- *R. Zechman, Supervisor - Training

The inspector also interviewed other licensee employees during the conduct of this inspection. They included operations, maintenance, quality control, and office personnel.

*denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (289/77-29-03):* Review training records for station Fire Brigade Members. The inspector reviewed a "Staff Training Status" computer printout, a sample of individual Fire Brigade member training records, and the course outline for the station's fire fighting training. The inspector determined that all personnel currently assigned to the fire brigade have completed

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the licensee's training program. At the time of the inspection, five newly assigned Auxiliary Operators were participating in a full time training program which will include the above training. The licensee stated that these individuals are scheduled to receive the fire fighting training during the week of May 30, 1978, and such training will be completed prior to their assignment to shift work as Fire Brigade members.

3. Licensed Operator Requalification Training

a. Program Review

The licensee has implemented the accepted program for requalification training of licensed operators common to both Units 1 and 2. The program for Unit 1 has been in place and functioning since 1974 and that program, appropriately revised, was implemented for Unit 2 on May 8, 1978. The inspector determined, through review of records and interviews with licensee personnel, that the combined program includes:

- a preplanned lecture schedule which provides for both dual unit and single unit lectures on a regular and continuing basis;
- documentation of lecture attendance including a followup system for administering makeup training for individuals absent from required lectures; and,
- identification of specific training aids and/or self-study methods to be used in lieu of an instructor.

The first annual requalification program written examination for the operators licensed on Unit 2 is scheduled for approximately March 1, 1979 (based upon the operators' license issue dates and the date of program implementation). Until that time, the licensee is basing lecture attendance requirements and mandatory self-study assignments on the results of the individual operators' NRC administered licensing examination. Lecture attendance and completion of self-study assignments are being required for each operator in those subject areas in which the need to upgrade the individual's knowledge was identified.

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The program, as currently established, includes on the job training requirements listed below and methods of documenting their accomplishment;

- required reactivity control manipulations;
- discussions/reviews of changes in facility design, procedures, and facility license; and,
- review of abnormal/emergency procedures.

The inspector noted that, while the accepted requalification training program for Unit 2 had not been formally implemented until May 1978, a lecture based training program had been established in coordination with the Unit 1 program. This training was administered during the period between issuance of the new Unit 2 operators' licenses and implementation of the mandatory requalification program and included the general subject matter required by the mandatory program.

No items of noncompliance were identified.

b. Record Review

The inspector selected and reviewed the records of three licensed operators to verify that each contained the following documentation:

- completed course and yearly examinations with answers;
- manipulation of controls for reactivity changes required by the program;
- simulation and/or discussion of emergency/abnormal procedures and responses; and,
- the results of supervisory evaluations.

The inspector also reviewed individual records for proper completion of remedial training required by the program for those operators scoring less than 80% on one or more sections of the annual examination. The remedial training was being accomplished as required and oral re-examinations were being administered and documented in accordance with the accepted program.

No items of noncompliance were identified.

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4. General Employee Training

a. Program Definition

The inspector reviewed the licensee's program with respect to the program definition requirements of: 10 CFR 50, Appendix B, Criterion II; 10 CFR 19.12; 10 CFR 73.50; and ANSI N18.1. The program, as currently established, provides for formal training of: new employees; temporary personnel; nonlicensed personnel; technicians; and craft personnel. The established training curricula provide, as appropriate to job category, training which includes: administrative controls and procedures; radiological health and safety; controlled access and security; industrial safety; emergency plans and procedures; and quality assurance orientation. Formal training is also provided for female employees on the contents of Appendix A to Regulatory Guide 8.13.

No items of noncompliance were identified.

b. Program Participation

The inspector reviewed the licensee's records to assure that the required training had been given. In addition, the inspector conducted interviews with those individuals whose records were reviewed. The interviews verified that: the scope of the training was similar to that contained in the licensee's records; the training as conducted was meaningful to those attending; and, that the subjects presented were covered accurately and sufficiently from the participant's point of view. Records were reviewed for and interviews conducted with:

- two relatively new employees;
- two employees with more than one year of service;
- two temporary employees; and,
- two female employees.

In all cases, the interviews substantiated the licensee's records.

No items of noncompliance were identified.

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c. Fire Fighting Training

In addition to the fire fighting training provided to members of the Fire Brigade, the licensee administers fire fighting training to those personnel whose work normally takes place in-plant. Each station department assigns their employees to attend the scheduled training sessions at the discretion of the department's supervision. A review of records for this activity indicated that nearly all of the nonclerical staff has received this training and that a continuing schedule for training of the remainder of the staff and new hires has been established. The fire fighting training for such personnel includes:

- chemistry, development and classes of fires;
- station fire fighting apparatus (portable and permanently installed);
- station procedure review;
- fire fighting techniques including application of water on energized electrical fires; and,
- field training which includes "hands-on" use of fire fighting apparatus and live fires.

No items of noncompliance were identified.

5. Craft and Technician Training

a. Program Review

The inspector reviewed the licensee's program for training and retraining of craft and technician personnel who are available for assignment to either unit. A portion of this review was directed at determining whether the licensee has satisfied the requirements for providing appropriate training for craft and technician personnel as stated in the Unit 2 FSAR. Defined and documented training programs covering classifications from probationary periods through job foremen are established for all I&C, Mechanical, and Electrical maintenance personnel and are included in the job specifications for each position. Review of licensee records indicated that the following types of training are provided:

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- related technical training and vendor familiarization;
- intermediate health physics training;
- on-the-job training in maintenance procedures and techniques;
- on-the-job and formal training in administrative procedures; and,
- specific familiarization training prior to the performance of sensitive or complex tasks (e.g. containment leak rate testing).

No items of noncompliance were identified.

b. Record Review and Personnel Interviews

The inspector reviewed the records for and conducted interviews with the employees listed below to verify that the required training had been conducted; that the selected individuals understood the information which had been presented; and, that they were able to describe how these instructions applied to their job positions. Interviews were conducted with:

- two repairmen; and,
- two instrument men.

The inspector identified no discrepancies or inconsistencies between interview results and licensee's documentation.

No items of noncompliance were identified.

6. Overall Training Program Administration

The Supervisor-Training is responsible for the conduct and administration of the station training program. Review of the various course outlines, lesson plans, and other related documentation indicate that the programs are receiving periodic evaluation and are revised when necessary to include new material or increase their scope.

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The licensee is currently developing and has partially implemented a new, company-wide training program which will be administered at the station for all job classifications. The inspector reviewed a portion of the documentation which has already been developed for this program. When implemented, the program will be based upon a two year, cyclic curriculum for each individual (by job classification) and will include both on- and off-site instruction and schools, correspondence courses, and vendor presentations. The curricula reviewed included specific courses, appropriate to specific job classifications, in the following general subject areas:

- general technical or job skill related courses or instruction;
- radiological safety and health;
- general safety;
- Quality Assurance;
- specialized technical training;
- job related fundamental education (mathematics, physics, etc.); and,
- professional and managerial development.

The licensee stated that this program was being implemented for the Quality Control and Operations Departments at the time of this inspection, with implementation for other departments to follow as their respective segments of the program were completed. The portions of the above training program, which will supplant existing required training programs, will be reviewed during future inspections.

7. Quality Assurance for the Startup Test Program - Unit 2

a. Inspection Responsibilities

The inspector reviewed the below listed documents to ascertain that requirements have been established and procedures developed for inspection of startup test activities on a regular basis. The following documents were reviewed:

- FSAR, Section 17.3, Quality Assurance for Startup and Test, Paragraph 17.3.10;

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- FSAR, Section 14, Initial Tests and Operation;
- QA Plan for Startup and Testing including Appendix A;
and,
- Three Mile Island Nuclear Generating Station Test Manual
and associated Test Instructions.

The inspector determined that requirements and procedures have been established, consistent with the licensee's FSAR commitments, for the performance of inspection of the following activities by the licensee's Startup Test and QA organizations:

- conduct of testing;
- tracking of test deficiencies; and,
- test documentation.

The measuring and test equipment used for the performance of startup testing is being provided by the licensee's maintenance department and is controlled under the Operational Quality Assurance Program. The responsibilities for inspection of activities related to the control of measuring and test equipment have been assigned to the licensee's Quality Control Department and are implemented via station Administrative Procedures. The inspector reviewed AP-1022, Control of Measuring and Test Equipment, and determined that procedural direction exists for performance of QC surveillances, QC processing of out-of-calibration equipment, and QC determination of the need to retest based on the use of out-of-calibration test equipment. The inspector additionally reviewed completed QC surveillance checklists that documented the results of surveillances performed on equipment calibrated by service vendors after its return to the station. The QC organization's schedule for performance of periodic surveillance also includes surveillance of site performed calibrations.

The inspector determined, by interviews, that the key personnel in the licensee's startup test and quality assurance organizations understand their basic responsibilities as applied to the Startup Test Program.

No items of noncompliance were identified.

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b. Corrective Action

The licensee's Startup Test Program utilizes "Problem Reports" to identify and document nonconformances and other deficiencies identified during testing. The Problem Reports are controlled in accordance with Test Instruction No. 4 and provide the vehicle for obtaining and documenting corrective action. The inspector selected and reviewed the Problem Reports listed below (including the documentation of their resolution, correction and retest) in order to determine that corrective action was taken as required by the QA program. The following were reviewed:

- Problem Report 5309, Reactor Building Purge and Exhaust System Low Flows
- Problem Report 5315, RCS Loop delta-T Out of Specification during TP 800/32
- Problem Report 5335, AH-C-19A & B Failure to Meet Test Acceptance Criteria
- Problem Report 5336, Radwaste Gas Valves not controlling pressure as required

No items of noncompliance were identified.

c. Audits

The General Public Utilities Service Corporation (GPUSC) Quality Assurance Department is responsible for performing audits of all aspects of the Startup Test Program. The audits are conducted in accordance with the Quality Assurance Plan for Startup and Test, Appendix A, titled "Procedure for Performance of Audits of Startup and Test Activities."

The inspector reviewed the current audit schedule and interviewed the GPU Lead QA Auditor. The inspector determined that all scheduled audits had been completed up to, but not including, those pertaining to the Zero Power Physics Test Sequence and Power Escalation Test Sequence. The audit of Zero Power Physics Test Sequence activities is still in progress due to slippage in the test program schedule.

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The inspector selected and reviewed three recently performed audits of the test program to determine that: they were performed in accordance with the requirements of the FSAR and the Quality Assurance Plan for Startup and Test; they were performed on a predetermined schedule; and that adequate, timely resolution was effected for all identified deficiencies. The inspector reviewed the following audits performed by the GPUSC Audit Group:

- 77-21, Audit of Startup and Test Compliance with Test Instructions Nos. 1-5, 7-11, 14, 18, 19, and Various Test Procedures.
- 77-16, Audit of Startup and Test - Control of Test Records, STE Log, Repair Removal Authorizations, Conduct of Test, Test Procedure Documents, and Test Briefing and Dry Run.
- 77-11, Audit of Selected Administrative Controls for Reactor Coolant System Hydrostatic Test.

The inspector noted that the scope of each of the above audits was quite broad and that audit performance spanned one or more months. Audit corrective action, however, was initiated promptly after identification of an unacceptable audit finding, preceding the issuance of the complete audit report when circumstances dictated. The inspector determined that, for the sample selected, audit findings were being closed out in a timely manner with adequate resolutions being provided. The inspector additionally reviewed the status of outstanding audit findings for all previous GPUSC Test Program audits and determined that audit corrective action and followup were consistent with the requirements of the QA program.

No items of noncompliance were identified.

8. Startup Test Records - Unit 2

a. Maintenance of In-Process Test Records

The inspector reviewed the following documents to determine that administrative controls have been established for maintaining records of startup test procedures, test results, power level plateau data analysis, and QA/QC audits and surveillances prior to their turnover to the licensee from GPUSC:

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- Quality Assurance Plan for Startup and Test;
- FSAR, Section 17.3, Quality Assurance for Startup and Test; and,
- GPU Test Instruction No. 4, Control of Test Records.

The above documents provide for the GPUSC Startup and Test Group to retain completed test procedures and other quality related test documents, in accordance with Test Instruction No. 4, until completion of the unit's test program. At that time, the original copies of all such documents will be transmitted to the station Superintendent for retention. During the period prior to this transfer, all such records are assigned to the responsibility of the GPU Technical Engineer. Test Instruction No. 4 establishes requirements for: temporary storage of records in fireproof cabinets; controlled access of personnel; periodic audits of records; and, controlled distribution of specific record types.

Records of GPUSC Quality Assurance audit activities are retained by the auditing organization until the unit is placed in commercial operation. At that time, these records will be transmitted to the licensee's Operational Quality Assurance Department.

The inspector determined that the records above were being maintained and controlled in accordance with the requirements of the Quality Assurance Plan for Startup and Test.

No items of noncompliance were identified.

b. Maintenance and Storage of Records - Post-Turnover

As documented in NRC:RI Inspection Report No. 50-320/78-10, the licensee has notified the Commission of their inability to satisfy the requirements of ANSI N45.2.9, "Requirements for Collection, Storage, and Maintenance of Quality Assurance Records for Nuclear Power Plants" prior to June 1, 1979 and has requested an extension until that date for implementation. Inspection of the licensee to the requirements of ANSI N45.2.9 is pending NRC disposition of that request and is the subject of a previous Unresolved Item (320/78-10-03).

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In view of the above, the inspector reviewed the licensee's plan for turnover, accountability/inventory, and interim storage of the test program related records to be received from GPUSC. Discussion with licensee representatives indicated that informal planning is taking place, particularly with regard to the interim storage location and physical facilities. Final arrangements, however, have not yet been made for the turnover and interim storage for these records. This item is unresolved pending NRC:RI inspection of the turnover of test program related records and the arrangements for their storage until permanent facilities are available. (320/78-18-01)

9. 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. An unresolved item identified during this inspection is discussed in Paragraph 8.

10. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on May 12, 1978. The inspector presented the purpose, scope, and findings of the inspection as stated in this report.

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