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THREE MILE ISLAND NUCLEAR STATION  
STATION ADMINISTRATIVE PROCEDURE #1006  
METROPOLITAN EDISON OPERATOR REQUALIFICATION PROGRAM

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Cognizant Dept. Head

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Unit 1 PORC Recommends Approval

J. P. O'Hanlon Date 4-4-77  
Chairman of PORC

PORC comments of \_\_\_\_\_ included  
(date)

By \_\_\_\_\_ Date \_\_\_\_\_

Approval NA Date 10/6/77  
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J. L. Seelinger Date 4/6/77  
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By 189 212 Date \_\_\_\_\_

Approval [Signature] Date 4-7-77  
Unit Superintendents

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# THREE MILE ISLAND NUCLEAR STATION

## ADMINISTRATIVE PROCEDURE #1006

### Metropolitan Edison Operator Requalification Program

**CAUTION:** Prior to changing attached procedure - FSAR submittal must be made since Admin. 1006 has been submitted as a portion of the FSAR.

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Metropolitan Edison Operator Requalification Program

1.0 GENERAL

1.1 Purpose

The Metropolitan Edison Requalification Program, as set forth in this document, applies to the Three Mile Island Nuclear Generating Station. All licensed personnel will participate in the applicable portion of the requalification program. The basis of the requalification program is the need to maintain operator competence and proficiency in the quest for continued safe operation. The guidelines for the requalification program are found in 10CFR55 Appendix A. In addition, the implementation of this program conforms to 10CFR50.

1.2 Scope

The following section of the requalification program covers:

- I. Program Schedule
- II. Pre-planned Lectures
- III. On-the-job-training
- IV. Annual Evaluation Examination
- V. Records
- VI. Accelerated Requalification Program
- VII. Four Month Absence Program
- VIII. Newly Licensed Operators
- IX. Requalification Program Administration

1.3 Program Schedule

The requalification program described herein will be implemented at a specified date within 90 days after receipt of an operating



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license. March 1, and subsequent anniversaries of this date, will be considered to be the starting date of each annual cycle of requalification program operation.

The Metropolitan Edison Requalification Program consists of four interrelated segments which run concurrently. These segments are:

- 1) Operational Review Lecture Series (OR)
- 2) Fundamentals and System Review Program (FSR)
- 3) On-the-job-training
- 4) Annual Evaluation Examinations

The OR Series is a classroom lecture presentation which provides the licensed personnel with the details of operational information related to the Three Mile Island Station. As part of the OR Series, selected FSR topics are presented. FSR topics are selected in areas where annual operator and senior operator written examinations indicate that emphasis in scope and depth of coverage is needed.

OR lectures are scheduled for a minimum of 60 hours per year.

On-the-job-training is designed to insure that all licensed personnel operate reactor controls and participate in major plant evolutions.

Records of all on-shift performance are maintained and periodically reviewed by supervisory personnel. The annual evaluation examinations simulate the written and oral examinations administered by the Nuclear Regulatory Commission. Performance on these annual evaluation examinations determine the extent of the FSR program during the following twelve month requalification period.

Each license holder will complete all OR and FSR requirements on an annual cycle. The On-the-job-training is conducted throughout the two year term of the individual's license. All required on-the-job-training will be completed prior to license renewal.

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A statement of Requalification program participation will be submitted with each license renewal application. The requalification program is designed with fixed performance standards and specified remedial actions. The program results and records are fully auditable.

## 2.0 REQUIREMENTS

### 2.1 Operational Review (OR) Lectures Series

During each year, personnel shall attend the Operational Review (OR) Lecture Series on the following basis:

- (a) Licensed station administrative and technical personnel will participate in the OR Lecture Series as either students or instructors, except to the extent that their normal duties preclude the need for specific retraining in particular areas.
- (b) OR Lecture Series attendance is required of all licensed operators and senior operators who are normally on shift assignments.

The following topics shall be covered as a minimum during the OR Lecture Series each year:

- (a) Reportable Occurrences
- (b) Unit Modifications
- (c) Operating History and Problems
- (d) Procedure Changes
- (e) Abnormal and Emergency Procedure Review
- (f) Technical Specifications
- (g) Major Operational Evolutions (such as refueling)
- (h) Applicable portions of Title 10, Chapter I, Code of Federal Regulations

(i) FSR Program Material

Additional topics which may be presented include: (but are not limited to)

- (a) Operational Q/A
- (b) Standing Orders
- (c) Operating Experiences - Reactor Safety and other pertinent NRC publications

Lectures shall be held on a continuing basis and consist of a minimum of 60 scheduled hours per requalification program cycle.

The program for each session will be determined by unit operations or projected operations. Records of the topics covered in each session will be maintained by the Training Department. Attendance of all licensed personnel will be recorded. Absences will be made up by reviewing lecture materials and/or discussions with on-shift supervisory personnel or the technical staff. Periodic evaluation quizzes covering the content of the OR lecture series will be administered. The quizzes may be administered in either the closed book or open book format, as class room, or on-shift quizzes. If an unsatisfactory grade (less than 80%) is received, makeup sessions with assigned instructors will be conducted. The makeup session will conclude when an oral evaluation is satisfactorily completed. The content of the quiz will be different for RO and SRO license holders and will reflect the topic areas and degrees of responsibility needed by the license holder. Examples of the materials to be used during the OR lecture series are:



- (a) Unit Records and Logs
- (b) Pertinent Communications to and from the NRC
- (c) Unit Procedures and Changes
- (d) Test Results
- (e) Applicable Training Program Materials

## 2.2 Fundamentals and System Review (FSR) Program

During each year, licensed personnel shall participate in the Fundamentals and Systems Review (FSR) Program based on their annual written examination scores as identified in Section IV - Evaluations. The FSR Program may consist of pre-planned lecture series, self study assignments, possible tutorial sessions with designated technical instructors and evaluation quizzes. The study assignments and pre-planned lectures will be in keeping with the license level of the individual license holder. Individual study assignments, films, and video tapes will consist of no more than 50% of the FSR Program.

Pre-planned FSR lectures shall be scheduled in those areas where annual operator and senior operator written examinations indicate that emphasis in scope and depth of coverage is needed.

Any or all of the following topics may be included in a particular year's FSR Program:

- (a) Principles of Operation
- (b) Features of Facility Design
- (c) General Operating Characteristics
- (d) Instrumentation and Control
- (e) Safety and Emergency Systems Including Unit/Station Protection Systems

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(f) Normal and Emergency Operating Procedures

(g) Radiation Control and Safety

For Senior Operators the FSR Program will also include:

(h) Reactor Theory

(i) Radioactive Material Handling, Disposal, and Hazards

(j) Specific Operating Characteristics

(k) Fuel Handling and Core Parameters

(l) Administrative Procedures, Conditions, and Limitations

Performance of FSR assignments will be determined through written evaluation quizzes. These quizzes will be specifically directed toward RO or SRO knowledge requirements. The quizzes may be administered in either the closed book, or open book format, as classroom or on-shift quizzes.

A satisfactory grade on the FSR evaluation quiz will be 80%. If a grade below 80% is achieved by a license holder, a deficiency is assigned and the license holder will be assigned an accelerated requalification program as per Section 2.6.

### 2.3 On-the-job-training

During the two-year term of his license, each licensed operator shall participate in on-the-job-training which has the following goals:

- (a) Each licensed reactor operator or senior operator shall participate in a minimum of 10 reactivity manipulations as defined in this section of the requalification program.
- (b) Each licensed reactor operator or senior operator shall participate as appropriate, in applicable surveillance testing, system checkout and equipment operation based on license level and relevance to the area of license responsibility.

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- (c) Each licensed reactor operator or senior operator shall review procedure changes, unit modifications, technical specification changes, reportable occurrences and incidents either on-the-job or during sessions of the OR Lecture Series.

Each licensed reactor operator shall manipulate the unit controls to effect reasonable reactivity changes. Each licensed senior reactor operator shall either manipulate or direct the manipulation of the unit controls to effect reasonable reactivity changes.

Reactivity manipulations which demonstrate skill and or familiarity with reactivity control systems and which are credited to meeting on-the-job-training will include, but are not limited to:

1. Power change of greater than 10% full power with the reactor control station in manual.
2. Control rod manipulation from subcritical condition to point of adding nuclear heat.
3. Boration and deboration maneuvers involving control rod manipulation.
4. Turbine startup and shutdown.
5. Reactor trips and subsequent actions.

The participation of licensed personnel in the on-the-job program will be reviewed quarterly by appropriate supervisors to insure that operators participate in a variety of evolutions. If diversity of operations is lacking, specific assignments may be made to ensure wide operator experience.

Included in the following list are examples of additional operations which may be considered in this category. These samples are not to be considered for reactivity manipulation credit.

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1. Surveillance Testing Including:
  - a. Containment Spray System
  - b. Safety Injection
  - c. Emergency Diesel Generators
  - d. Chemical Addition System
2. Makeup and Purification System Operation
3. Decay Heat Removal System Operation
4. Feedwater System Operation
5. Reactor Coolant System
6. Turbine Valve Testing
7. Pressurizer Operation
8. Incore Monitoring System Operation
9. Control Room Calculations Including:
  - a. Heat Balance
  - b. Quadrant Tilt/Imbalance/Rod Withdrawal Index
  - c. Reactivity Balance
10. Portable HP Instrument Use.

Licensed personnel, whose job assignments are not directly related to unit operations will actively participate in control room operation an average of 4 hours per month. During this period these licensed personnel will participate in whatever activities are in progress. A simulator may be used in meeting the requirements of this section. The use of a simulator to meet the on-the-job training section of the program must be reviewed by the NRC prior to implementation. The following standards apply to the evaluation of on-the-job performance:

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1. Quarterly review of operations participation will be made by the appropriate supervisors. The review must indicate a diversity of experience. If this is not demonstrated, the operator will be scheduled for additional operating experience.
2. Quarterly review of reactivity control manipulation (RO) or direction (SRO) must show satisfactory progress toward the minimum of 10 operations as defined in this section. If satisfactory progress is not indicated, an operator will be assigned additional control room operations or may accomplish the required reactivity changes on a simulator.
3. Annual review of licensed personnel whose job assignments are not directly related to unit operations must show a minimum of 48 hours of unit operation assignments per year. If this is not complete, personnel will be assigned to active control room duty until the time is made up. A simulator may be used to complete control room time.

#### 2.4 Annual Evaluation Examination

Evaluations will be conducted on an annual basis as follows:

- (a) An annual written evaluation examination will be given to all licensed operators and senior operators prior to the completion of each annual cycle.
- (b) An annual oral evaluation will be administered to all licensed operators and senior operators prior to completion of each annual cycle.

The annual written evaluation examination will be administered to all licensed personnel as set forth in the following guidelines:



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1. The examination will simulate the examination normally administered by the Nuclear Regulatory Commission.
2. Reactor Operators will take Sections A through G of the examination while the Senior Reactor Operators will take Sections H through L and answer selected questions in Sections A through G.
3. The examination, examination answers and a grading key will be prepared in advance.
4. The examination results will be used to identify specific FSR lecture series topic to be covered by each licensed individual during the subsequent annual requalification program cycle.
5. The examination will be administered and graded by a member of the station technical staff, station management staff, training department supervisor, or consultant.
6. The persons responsible for the preparation of the examinations and answers will be given credit for passing the examination.

The annual oral evaluation examination, using a checklist, will be administered to all licensed personnel. The oral examination will cover the following areas:

- (a) Action in event of abnormal conditions
- (b) Action in event of emergency conditions
- (c) Response to unit transients
- (d) Instrumentation signal interpretation
- (e) Procedure modification
- (f) Unit modifications
- (g) Technical specifications
- (h) Emergency plans

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The following standards apply to the annual evaluation examinations:

1. A license holder who scores higher than 80% in all sections of the annual written evaluation will not be required to participate in the FSR program.
2. If a license holder scores less than 80% on any sections of the annual written examination, the license holder will attend the FSR program related to failed sections.
3. If a license holder scored below 80% in two or more sections of the annual written examination, the license holder will be given an oral examination and evaluation by the Supervisor of Operations, Supervisor of Training, or other suitable qualified persons designated by the Unit Superintendent. This examiner will, based on the results of his examination, make a recommendation in writing to the Unit Superintendent, that the Operator either - (1) be relieved of his responsibilities and enter an accelerated training program or (2) be permitted to remain on shift while participating in the appropriate requalification FSR program with suitable tutorial assistance.
4. An unsatisfactory evaluation on the annual oral examination will require that discussions of deficiencies take place between the license holder and either the Supervisor of Operations, Supervisor of Training, or other suitable qualified person designated by the Unit Superintendent. A second oral evaluation examination will be administered. If performance is again unsatisfactory, the license holder will be relieved of responsibilities and placed into an accelerated requalification program.



5. If an individual receives a grade of less than 70% overall on the annual examination it will be mandatory that (1) he be relieved of his licensed duties and (2) enter an accelerated requalification program. Upon (1) successfully passing a second written and oral examination and (2) certification of satisfactory rating being sent to the NRC, the individual will be returned to his licensed duties.

## 2.5 Records

Records of licensed personnel performance on all written evaluation examinations and quizzes shall be available for NRC examination for the two annual requalification cycles prior to license renewal application. These records shall include:

1. Examination and quiz questions
2. Answer sheets and grade keys
3. Examination papers and work sheets

Records of participation in all OR lecture and FSR programs will be available for NRC review for the two annual requalification cycles prior to license renewal application. These records shall include:

1. Attendance Records
2. OR Lecture Content
3. FSR Assignment
4. Absences and Makeup Sessions
5. Assignment Checkoff Lists
6. Document Review Lists

Records of annual oral evaluation examinations shall be made available for NRC review for the two annual requalification cycles prior to license renewal application.



Records of all on-the-job activities shall be available for NRC review for the two annual requalification cycles prior to license renewal applications. These records shall include:

1. Reactivity Control Manipulation
2. Equipment Operation
3. Simulator Participation

A summary record will be maintained on each license holder for the duration of his employment.

#### 2.6 Accelerated Requalification Program

An operator who does not clear deficiencies assigned due to performance below standards on either the annual written or oral evaluations will be relieved of responsibilities and enter a full time accelerated requalification program.

The program duration and content will be dictated by the nature of the deficiency. Program duration will be determined by individual performance. When the license holder is (1) able to satisfactorily pass an equivalent written or oral examination and (2) certification of his satisfactory rating is sent to the NRC, he shall resume his on-shift responsibilities. During the period of accelerated requalification, attendance at the OR lecture series is required. If the license holder is off-shift for more than 4 months, Section 2.7 dealing with lengthy absences applies.

#### 2.7 Four Month Absence Program

If a licensed person has not actively carried out the functions of his license for a period in excess of four months he shall:

- (a) Review all material presented or scheduled to have been presented in the OR lecture series for the period of inactivity.

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- (b) Be given an oral examination on the applicable Section of the OR lecture series and current unit status.

If performance on the oral evaluation is unsatisfactory, the individual will be placed in an Accelerated Requalification Program in accordance with Section 2.6.

Upon receipt of a satisfactory rating the licensed person shall be certified by the Supervisor of Operations, Supervisor of Training or other suitably qualified person designated by the Unit Superintendent. The certification of satisfactory rating will be transmitted to the NRC and only after approval by the NRC shall the operator be returned to normal licensed duties.

## 2.8 Newly Licensed Operators

Newly licensed operators, upon receipt of their license, shall enter the program and participate in the annual program cycle. New operators receiving their NRC license less than six months prior to the annual evaluation examination will be required to attend the appropriate OR and FSR Programs but will be excused from taking the current annual evaluation examination. However, he will be responsible for taking all other annual evaluation examinations.

## 3.0 RESPONSIBILITIES - REQUALIFICATION PROGRAM ADMINISTRATION

### 3.1 The Supervisor of Training and his staff are responsible for:

1. Assigning instructors for the OR lecture series.
2. Determining FSR assignments for individual operators.
3. Maintaining and reviewing all records.
4. Assigning deficiencies, determining appropriate action to clear deficiencies and clearing deficiencies upon satisfactory completion of assigned action.

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5. Arranging accelerated requalification programs as may be necessary.
  6. Defining oral evaluation procedures.
  7. Scheduling necessary simulator time.
  8. Prepare license applications for license renewal.
- 3.2 The Supervisor of Operations, Supervisor of Training, or other suitably qualified person designated by the Unit Superintendent is responsible for:
1. Evaluation of on-the-job performance of all license holders.
  2. Meeting with license holders who receive unsatisfactory annual evaluation examination grades.
  3. Certifying operator qualification when returning from a four month absence from operation.
  4. Constructing annual written evaluation examination, answers and grade key.
  5. Grading of the annual written examination.



TMI DOCUMENTS

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