

Title Operator Training Instructor Indoctrination/  
Qualification Training Program

Revision No.

1-00

Applicability/Scope

Operator Training Instructors and Supervisors

Responsible Office

TMI Training

This document is important to safety ☐ Yes ☒ No

Effective Date

4/26/83

## List of Effective Pages

Page	Revision
1.0	1-00
2.0	1-00
3.0	1-00
4.0	1-00
5.0	1-00
6.0	1-00
7.0	1-00
8.0	1-00
9.0	1-00
10.0	1-00
11.0	1-00
12.0	1-00
13.0	1-00
14.0	1-00
15.0	1-00
16.0	1-00

	Signature	Concurring Organizational Element	Date
Originator	<i>J.L. Newton</i>	<i>Operator Training Manager</i>	<i>4/26/83</i>
Concurred by			
Approved by	<i>PA Kueh</i>	<i>Manager, Plant Training TMI</i>	<i>4/26/83</i>

FORM 1000 POL-1218-01 112-821

Title Operator Training Instructor Indoctrination/  
Qualification Training Program

Revision No.

1-00

### 1.0 PURPOSE

The purpose of this procedure is to provide the requirements for indoctrination, training and certification of instructors involved in training licensed and non-licensed operators and Shift Technical Advisors.

### 2.0 SCOPE/APPLICABILITY

This procedure applies to all Instructors and Supervisors permanently assigned to the Operator Training Section of the Three Mile Island Training Department. Individuals temporarily assigned may be considered for all or portions of this program based on length of assignment, as determined by the Manager, Plant Training annotating Attachment I.

### 3.0 DEFINITIONS

- 3.1 Qualification Card - Attachment 1 of this procedure.
- 3.2 Certifier - that individual assigned in sections of Attachment 1 to provide certification that the instructor has demonstrated satisfactory knowledge in that particular section.

### 4.0 RESPONSIBILITIES

- 4.1 The Manager, Plant Training, TMI is responsible for certification of instructors prior to teaching of their first class, and as such, is responsible for ensuring adherence to the requirements established by this procedure. As part of his certification process, he shall conduct an extensive interview with each instructor.
- 4.2 The Operator Training Manager is responsible for the implementation of this procedure. Specific responsibilities include:
  - 4.2.1 Designation of appropriate reference documents for the indoctrination section.
  - 4.2.2 Acceptance of alternate qualification where applicable.
  - 4.2.3 Designation of advanced instructor development modules as part of continuing training.
  - 4.2.4 Acting as a certifier for designated portions of the qualification card.
- 4.3 The respective Supervisors of Operator Training are responsible for monitoring the progress of instructors assigned under them, for acting as certifiers for designated portions of the qualification

Title Operator Training Instructor Indoctrination/  
Qualification Training Program

Revision No.

1-00

card, and for ensuring that all instructors are qualified in accordance with this procedure for areas they are assigned to instruct.

- 4.4 The Operator Training Administrative Assistant is responsible for maintaining a training record on each instructor assigned to the Operator Training Section.

## 5.0 REFERENCES

- 5.1 6210-ADM-1340.01 Training Department Indoctrination.

## 6.0 ATTACHMENTS

- 6.1 Operator Training Instructor Qualification Card (Att. 1)  
(6210-ADM-1340.05-1)(12/82)
- 6.2 System Categorization (Att. 2)
- 6.3 Instructor Technical Qualifications Validation Criteria (Attachment 3)

## 7.0 PROCEDURE

### 7.1 Initial Indoctrination and Training

- 7.1.1 Prerequisites - Prerequisites are detailed in the appropriate job description and position specification, as listed in the Training Department Administrative Manual.
- 7.1.2 Assignment

When a new instructor is assigned to the Operator Training Section, the Operator Training Manager shall explain this procedure, indicate the unit assigned, and provide a copy of Attachments (1) and (2). At the same time, he shall review the individual's record for prior education and experience in both instructional and technical areas in order to determine when qualifications already exist. Any areas where certification is made based on the individual record will be documented by the Operator Training Manager on Attachment (1) at this time. The Operator Training Manager may certify items in sections VA.1.b and VB.1.b based on an interview with the individual and a review of the individuals records. The qualification criteria outlined in attachment three (3) may be used for validation of certification requirements along with the interview. The capabilities in the theoretical, technical material prerequisite for each of the areas is determined to be completed due to previous education or experience under those qualifications where an "x" appears. Neither this certification, nor any other, relieves the instructor from the preparation for instruction including use of approved lesson

- plans and examination questions in conducting instruction or evaluations. This is merely a statement of appropriate technical background to deal with the complex technologies involved in the operation of nuclear power plants.
- 7.1.3 Process - Prior to commencing instruction in any area, instructors shall complete Sections I, II, III, IVa. or IVb., the applicable portion(s) of Section V, and Section VI of Attachment (1). These sections shall be completed within six months of employment or transfer to the Training Department.

The purpose of Section IVb is to provide the opportunity for individuals who have completed all other prerequisites to commence instruction, provided they demonstrate instructional competence, without waiting for the semi-annual Basic Instructor Development School. To achieve this interim certification, the new instructor shall present a practice lecture which is evaluated as satisfactory by the TMI Training Department Staff, including the Manager, Plant Training, Operator Training Manager, and a representative from the Training and Educational Development Section. The respective unit Training Coordinator shall also be notified and may attend as desired. Interim certification is valid for a maximum of six months.

Completion of additional portions of Sections VA.1.b. and VB.1.b. beyond those sections originally certified by the Operator Training Manager, shall be similarly documented by the Operator Training Manager including the method by which completion is achieved.

Completion of portions of Section VA.2.b. shall be certified by an oral checkout by an SRO-licensed individual from the assigned unit. This checkout shall be documented using the oral examination summary sheet from the appropriate unit Auxiliary Operator Training Program Description. Attachment (2) lists the systems as they are grouped for the checkouts.

The Manager, Plant Training's certification per Section VI of Attachment (1) is necessary only prior to initial instruction and need not be completed with each succeeding qualification. The appropriate supervisor is responsible for ensuring that continuing progress towards qualification is made and that instructors are qualified via the procedure for those areas in which they are assigned to teach.

### 7.2 Continuing Training

Following the completion of Section IV of Attachment (1), instructors shall complete Advanced Instructor Development Modules as assigned by the Operator Training Manager.

All instructors assigned to the Operator Training Section are expected to progress towards ultimate qualification as Senior Reactor Operators on schedules provided by their Supervisors. This requirement may be excused by the Manager, Plant Training on a case-by-case basis.

Failure to meet scheduled dates for completion of Advanced Instructor Development Modules or to obtain an RO or SRO license or certificate on schedule shall necessitate a review of the situation by the cognizant supervisor, with a recommended plan of action forwarded to the Operator Training Manager. The Operator Training Manager shall determine the corrective action to be taken up to and including suspension from instructional duties and shall so advise the Manager, Plant Training.

Any changes in the Reference Documentation Indoctrination shall be reflected by revisions to Attachment I for new hires and shall be completed for the present staff through the required reading process as described in Training Department Procedure 6210-ADM-1340.02.

### 7.3 Records

The Operator Training Administrative Assistant shall maintain copies of Attachment (1) and supporting documentation for all instructors currently assigned to the Operator Training Section. Upon transfer, their records shall be turned over to the Administrative Section of the Training Department for retention in accordance with Department procedures for quality assurance records.

Title Operator Training Instructor Indoctrination/  
Qualification Training Program

Revision No.

1-00

Page 1 of 6

## ATTACHMENT 1

## OPERATOR TRAINING INSTRUCTOR QUALIFICATION CARD

Name \_\_\_\_\_ DATE STARTED \_\_\_\_\_

## I. Briefing

Initial briefing on qualification procedure completed.

Unit Assigned \_\_\_\_\_ Operator Training Manager \_\_\_\_\_ Date \_\_\_\_\_

## II. GET/RWP Training Completed

\_\_\_\_\_  
Operator Training Manager \_\_\_\_\_ Date \_\_\_\_\_

## III. Reference Documentation Indoctrination

Read and discuss the following reference material with your Supervisor:

## A. Training Department Administrative Manual

1. Vol. I - 6210-ADM-1010.01 Organization
2. Vol. II - Operator Training Program Descriptions for Unit Assigned. (STA Training Program Description for STA instructors.)
3. Vol. III - Training Department Administrative Procedures

\_\_\_\_\_  
Supervisor \_\_\_\_\_ Date \_\_\_\_\_

## B. External References

1. 10 CFR 55
2. ANSI 3.1 1978 Unit I Only
3. ANSI 3.1 1981 Unit I Only
4. ANSI 18.1 1971 Unit II Only
5. Reg. Guide 1.8 Effective Revisions
6. Nuclear Energy Technology, Chapter 18 and 19
7. ASLB PID on Management - Initial - Operator (STA) Training Section Only

Title Operator Training Instructor Indoctrination/  
Qualification Training Program

Revision No.

1-00

Page 2 of 6

8. ASLB PID on Management - Reopened Hearing
  9. Additional Material
- 
- 
- 
- 

\_\_\_\_\_  
Supervisor\_\_\_\_\_  
Date

- C. Nuclear Assurance/Corporate Procedures
  1. 6200-ADM 2600.1 - Administration of Examinations
  2. AP 1058 - Unit I only
  3. AP 1066 - Unit II only
  4. Operational Quality Assurance Plan

\_\_\_\_\_  
Supervisor\_\_\_\_\_  
Date

## IV. Instructional Knowledge Requirements

- A. Complete Basic Instructor Development Program

\_\_\_\_\_  
Supervisor, TE&D\_\_\_\_\_  
Date

- B. Interim Certification

\_\_\_\_\_  
Manager, Plant Training\_\_\_\_\_  
Date

## V. Technical Qualifications

- A. Non-Licensed Operator Training
  1. Power Plant Fundamentals & Theory Subjects
    - a. SRO Licensed or Certified

\_\_\_\_\_  
Operator Training Manager  
OR\_\_\_\_\_  
Date

- b. Satisfactory completion of training or education in subjects taught at or above level of Auxiliary Operator C.



Title Operator Training Instructor Indoctrination/  
Qualification Training Program

Revision No.

1-00

Page 3 of 6

	How Satisfied	Op Trng Mgr	Date
1) Reactor Theory & Principles			
2) Heat Transfer, Fluid Flow & Thermodynamics			
3) Chemistry & Water Waste Treatment			
4) Mathematics			
5) Radiological Fundamentals			
6) Basic Electrical			
7) Basic Mechanical			
8) Materials			

2. Systems and Components, Operating Procedures and Practices  
a. AO"A", RO or SRO qualified

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Operator Training Manager

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Date

or

- b. Interim System certification
- 1) Electrical Systems
  - 2) Primary Systems
  - 3) Primary Auxiliary Systems
  - 4) River Water Systems
  - 5) Radwaste Systems
  - 6) Primary Protection/  
Instrumentation/Control
  - 7) Secondary Systems
  - 8) Turbine/Condenser Systems

SRO Licensed Ind. Date




Title Operator Training Instructor Indoctrination/  
Qualification Training Program

 Revision No.  
1-00

Page 4 of 6

- 9) Secondary Auxiliary Systems
- 10) Chemistry Systems
- 11) Plant Protection Systems
- 12) Heating & Ventilation  
Systems
- 13) Miscellaneous Systems
- 14) Temporary Systems (Unit II  
Only)


- B. Licensed Operator (STA) Training
  1. Power Plant Fundamentals & Theory Subjects
    - a. SRO Licensed or Certified

Operator Training Manager

Date

or

- b. Satisfactory completion of training or education in subjects taught at or above SRO (STA) level.

- 1) Reactor Theory & Principles
- 2) Heat Transfer, Fluid Flow & Thermodynamics
- 3) Chemistry & Water Waste Treatment
- 4) Mathematics
- 5) Radiological Fundamentals
- 6) Basic Electrical
- 7) Basic Mechanical
- 8) Materials

How Satisfied Op Trng Mgr Date


Title Operator Training Instructor Indoctrination/  
Qualification Training Program

Revision No.

1-00

Page 5 of 6

2. Systems and Components, Transient and Integrated Plant Response, Operating Procedures, Simulator Instructor.

SRO Licensed or Certified

Operator Training Manager

Date

# VI. Manager, Plant Training Certification

I have interviewed this instructor and hereby certify that the importance of the instructor's role in affecting students' attitudes and behavior towards rules, regulations, and regulatory bodies is understood and that this individual is ready in all respects to commence instruction.

Manager, Plant Training

Date

# VII. Continuing Training

- A. Instructional Knowledge Requirements - Complete Advanced Instructor Development Modules as assigned by Operator Training Manager.

MODULE	SCHEDULE COMPLETION DATE	ACTUAL COMPLETION DATE	COMPLETION CERTIFICATION (Op Trng Mgr) (or Supv. T&ED)

Page 6 of 6

B. Technical Knowledge Requirements  
1. Non-Licensed Operator Training

	SCHEDULE COMPLETION DATE	ACTUAL COMPLETION DATE	COMPLETION CERTIFICATION (Op Trng Mgr)
a. Obtain RO License (Note 1)			
b. Obtain SRO License or Certificate			

NOTE 1 - Not required for SRO Certificate.

	YEAR	COMPLETION CERTIFICATION (Op Trng Mgr)	DATE
c. Maintain license/ certificate annual basis in accordance with Applicable Requalification Program Requirements			

2. Licensed Operator Training

	SCHEDULE COMPLETION DATE	ACTUAL COMPLETION DATE	COMPLETION CERTIFICATION (Op Trng Mgr)
a. Obtain SRO License or Certificate			

	YEAR	COMPLETION CERTIFICATION (Op Trng Mgr)	DATE
c. Maintain SRO license/ certificate on annual basis in accordance with Applicable Requalification Program Requirements			

Attachment 2  
System Categorization

- 1) ELECTRICAL SYSTEMS
  1. BOP
  2. Class IE-Inc. Diesel Gen. (Elect)
  3. AC/DC Vital
  4. Emerg. Diesel Gen. (Mech.) & Aux.
  5. Main Turbine - Generator
  6. Generator Gas & Vents
  7. Generator Seal Oil
  8. Generator Stator Cooling
  9. Isolated Phase Bus Duct Cooling
  10. Generator Core Monitor
  11. Substation
- 2) PRIMARY SYSTEMS
  12. Reactor Coolant System
  13. Reactor Coolant Pumps/Motors
  14. Reactor Vessel Construction
  15. Makeup & Purification (HPI)
  16. Decay Heat Removal (LPI)
  17. Decay Heat Closed Cooling
  18. Core Flood
  19. Reactor Building Spray
  20. Intermediate Closed Cooling
  21. Nuclear Srv. Closed Cooling
- 3) PRIMARY AUXILIARY SYSTEMS
  22. Spent Fuel Cooling
  23. Chemical Addition - Nuclear
  24. Fluid Block (Environmental Barrier - U2)
  25. Penetration Pressurization
  26. Reclaimed Chemical Water
  27. Primary Sampling (liq. & gas)
  28. Penetration Cooling
  29. Hydrogen Purge & Recombiner
  30. Nitrogen & Hydrogen Supply
- 5) RADWASTE SYSTEMS
  37. Rad Waste Evaporators
  38. Waste Disposal - Liquid
  39. Waste Disposal - Solid
  40. Waste Disposal - Gas
- 6) RX/PRIMARY PROTECTION/  
INSTRUMENTATION/CONTROL
  41. Control Rod Drive - Mechanical
  42. Control Rod Drive - Electrical (including control)
  43. Reactor Protection System
  44. Integrated Control System (ICS)
  45. Nuclear Instrumentation
  46. Non-Nuclear Instrumentation
  47. Engineered Safeguards Actuation System (ESAS)
  48. Radiation Monitoring System
- 7) SECONDARY SYSTEMS
  49. Condensate
  50. Feedwater
  51. Main Steam
  52. Secondary Srv. Closed Cooling
  53. Condenser Circ. Water
- 8) TURBINE/CONDENSER
  54. Main Turbine-Turbine/Condenser
  55. Condenser Air Extraction
  56. Electro Hydraulic Control (EHC)
  57. Gland Seal Steam
  58. Turbine Lube Oil
- 9) SECONDARY AUXILIARY SYSTEMS
  59. Emergency Feedwater
  60. Auxiliary Boilers (U-1 only)
  61. Auxiliary Steam
  62. Extraction Steam
  63. Stage Heater Vents & Drains
  64. Amertap

## 4) RIVER WATER SYSTEMS

- 31. Decay Heat R.W. (U-1 only)
- 32. Nuclear Service R.W.
- 33. Secondary Service R.W.
- 34. Rx Bldg. Emergency Cooling R.W.
- 35. Screen Wash & Sluice
- 36. Bars & Rakes

## 65. Secondary &amp; Aux. Boiler Sampling

## 10) CHEMISTRY

- 66. Cycle Makeup Pretreatment
- 67. Cycle Makeup Demineralizers
- 68. Condensate Chemical Feed
- 69. Powdex Condensate Filters (Condensate Polishers U-2)
- 70. River Water Chlorination
- 71. Circ Water Chlorination and Chemical Feed
- 72. Chem. Feed - Aux. Boilers (Unit 1 Only)

## 11) FIRE PROTECTION

- 73. Fire Service
- 74. Deluge
- 75. CO<sub>2</sub>
- 76. Halon

## 12) HEATING AND VENTILATION

- 77. Rx Bldg. - Normal cooling (incl. industrial coolers)
- 78. Control Bldg. (H&V & chill water)
- 79. Aux. and F.H. Bldg.
- 80. Turbine Bldg.
- 81. Service Bldg. (H&V & chill water)
- 82. Out Bldgs.

## 13) MISC. SYSTEMS

- 83. Fuel Handling
- 84. Instrument & Control Air
- 85. Station Service Air
- 86. Industrial Waste Treatment
- 87. Industrial Waste Filter
- 88. Island Flood Control (dike, flood gates, etc.)
- 89. Domestic Water
- 90. Sumps & Drains

Title Operator Training Instructor Indoctrination/  
Qualification Training Program

Revision No.

1-00

- 14) TEMPORARY SYSTEMS (Unit II only)
- 91. Submerged Demineralizer System
  - 92. Standby Pressure Control
  - 93. Mini-Decay Heat Removal
  - 94. Long Term "B" Cooling
  - 95. Temporary Nuclear Sampling
  - 96. Epicore II
  - 97. Recovery Instrumentation
  - 98. Other (to be specified by  
Supervisor Licensed Op. Training,  
TMI-2)

### Instructor Technical Qualifications Validation Criteria

\* Degreed individuals shall be evaluated on a case basis, based on degree discipline and course study, for additional qualifications.



Non Licensed Operator Instructor

\* Degreeed individuals shall be evaluated on a case basis, based on degree discipline and course study, for additional qualifications.