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MC-1

SP Number 12.014.07
Revision 3
Date Eff. 8/10/84
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LICENSED OPERATOR REQUALIFICATION PROGRAM

1.0 PURPOSE

To establish a method of implementation for the licensed operator requalification program.

2.0 RESPONSIBILITY

The Nuclear Plant Training Supervisor shall be responsible for ensuring proper implementation of the requirements set forth by this procedure.

SR2-1021.100-6.421

3.0 DISCUSSION

3.1 Periodic requalification for all operators and senior operators is necessary for the personnel to maintain competence, particularly to respond to abnormal and emergency situations.

3.2 This procedure describes the method to periodically relicense NRC licensed Reactor Operators (RO's) and Senior Reactor Operators (SRO's), and to meet the requirements of References 11.1, 11.2, and 11.3.

3.3 Licensed RO's and SRO's who have been actively and extensively engaged as RO's or SRO's shall participate in the requalification program. Individuals who maintain RO/SRO licenses for the purpose of providing backup capability to the operating staff shall also participate in the requalification program.

3.4 Definitions related to the SNPS Licensed Operator Requalification Program are contained in Appendix 12.1.

3.5 The following topics are contained in this procedure:

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4.0 PREREQUISITES

N/A

5.0 PRECAUTIONS

N/A

6.0 LIMITATIONS AND ACTIONS

N/A

7.0 MATERIALS AND/OR TEST EQUIPMENT

N/A

8.0 PROCEDURE

8.1 Schedule

8.1.1 The SNPS Licensed Operator Requalification Program shall be repetitive and completed on a one year basis, resulting in license renewal every two years. The program shall consist of preplanned classroom lectures, on-the-job training, simulator training, plant drills and examinations as necessary to document operator proficiency and annual evaluations.

8.1.2 A minimum of 60 hours of reasonably spread, preplanned lectures shall be scheduled each year.

8.1.3 The lectures will be scheduled throughout the year. Each license holder should participate in the training schedule one week out of every six.

8.1.4 Individuals who maintain licenses for the purpose of providing backup capability to the operating staff shall participate in the requalification program to the extent that their normal duties preclude the need for specific retraining in particular areas. Waivers will only be granted for areas in which an individual received a grade of greater or equal to 80% on his/her annual exam.

8.1.5 Personnel assigned to license requalification training shall be assigned no concurrent duties during the periods that they are actually engaged in training activities.

8.2 Lectures

8.2.1 Preplanned classroom lectures shall be scheduled and should provide, as a minimum, training in the following subjects:

.1 Theory and Principles of Operation

.2 General and Specific Plant Operating Characteristics

.3 Plant Instrumentation and Control Systems

.4 Plant Protection Systems

.5 Engineered Safety Systems

.6 Normal, Abnormal, and Emergency Operating Procedures

.7 Radiation Control and Safety

.8 Technical Specifications

.9 Applicable Portions of Title 10, Chapter I, Code of Federal Regulations

.10 Mitigation of Core Damage

.11 Fundamentals of Thermodynamics, Heat Transfer and Fluid Flow

8.2.2 Each license holder shall review the abnormal and emergency operating procedures on a regularly scheduled basis.

Compliance with this requirement may be met by:

8.2.2.1 Actual performance under abnormal or emergency operating conditions.

8.2.2.2 Walkthrough of the procedural steps necessary to cope with the situation.

8.2.2.3 Drills utilizing a training simulator or on-site preplanned drill scenario.

8.2.2.4 Preplanned lectures.

8.2.2.5 Supervised self study. All self study will be under supervision of the training section and documentation will include examinations to verify effectiveness of the self study.

8.2.2.6 Procedure review and/or rewrite as part of normal job function.

8.2.3 No more than 50% of the lecture series outlined in this section may be presented by videotape or film presentation. All lectures should be a balanced presentation of live instruction with related training aids.

8.2.4 A written examination shall be administered at the completion of each week of on-site requalification training and each individual should also participate in plant drill scenarios each training week.

8.3 On The Job Training

8.3.1 Control Manipulations (Reference - Appendix 12.2)

8.3.1 Ten reactivity control manipulations are required to be performed annually by each licensed operator and senior operator. Reactivity control manipulations performed at SNPS or at the Limerick simulator can be used to fulfill this requirement.

8.3.2 Until the SNPS-specific simulator becomes available, the SNPS requalification training program will utilize the Limerick plant simulator for retraining licensed operators. Use of the Limerick Simulator will include the following: |<3

a) SNPS normal, abnormal, and emergency operating procedures as well as the appropriate SNPS alarm response procedures will be used by SNPS operators during simulator requalification training at the Limerick Simulator.

b) Simulator requalification training will be conducted using a crew concept; the students will be required to duplicate to the extent practical the functions and responsibilities of the normal SNPS control room staff.

c) Each SNPS licensed RO and SRO will undergo at least five days of training at the simulator every six months. During these five days of simulator training, each student will spend at least three days operating the simulator controls as part of the training crew.

d) Individual performance on the simulator will be evaluated by use of a drill scenario form. Drill scenario forms will be completed for each licensed operator during each week of simulator training and evaluated. |<3

8.3.2 Methods of Training |<3

8.3.2.1 All licensed personnel shall be kept cognizant of SNPS design, procedural and facility license changes using one or more of the following methods:

.1 Brief lectures conducted by section supervision or other appropriate personnel.

.2 Staff meetings (also includes Review of Operations Committee meetings).

.3 Written communications to each licensed individual.

.4 Pre-planned lecture series.

.5 Required reading list.

8.3.2.2 Other on-the-job training such as cross job training and on-shift discussion may be used to increase the individuals proficiency.

8.3.2.3 On an annual basis, each license holder shall participate in plant drills and control manipulations covering the evolutions listed in Appendix 12.2. Participation in a plant drill involves responding to drill conditions or being an evaluator who observes and evaluates drill response. <3

All SNPS licensed evaluators must also participate as responders and be evaluated during the course of the requalification program.

Plant drills will be conducted on a crew basis and will involve reviewing plant procedures steps, action identification, equipment control location, expected instrumentation response, plant communications and Technical Specification action identification.

Each drill will be planned in a drill scenario as indicated in Appendix 12.3 and will include the following:

.1 Plant Condition

.2 Initiating Indication

.3 Expected Response

.4 Individual Evaluation

.5 References

.6 Objectives <3

The Training Supervisor or designee will review drill critiques that are evaluated as unsatisfactory and initiate corrective remedial action if necessary.

8.3.2.4 Backup licensed reactor operators and senior reactor operators not permanently assigned to an operating shift shall stand one 8 hour watch per quarter.

8.3.2.5 Persons holding a currently valid NRC license, but not in an active status for a period of four months or more, shall be refamiliarized and examined prior to resuming licensed activities. This refamiliarization shall consist of changes or incidents that occurred during the inactive period and shall include:

.1 Procedural changes

.2 License changes

.3 Plant system modifications

.4 Plant incidents

The completion of the refamiliarization program shall include written and/or oral examinations, as directed by the Operations Manager to document that the license holder is currently familiar with the plant. The Training Supervisor shall document the satisfactory completion of the refamiliarization program, and the NRC shall be notified in accordance with Reference 11.2. A result of less than 80% on the written exam and/or a failure on an oral exam shall require the individual to receive additional training in those designated areas and to observe station operations for a minimum of 16 hours prior to re-examination.

8.4 Evaluation

8.4.1 Actual performance is evaluated on an annual basis, as a minimum, for all on shift licensed personnel. These performance evaluations are reviewed by the Operations Section and training needs are identified. In general these needs will be used to identify topics to be presented in the requalification program. However, accelerated retraining for an individual license holder can also be identified. Back-up licensed holders will be evaluated during their reactivity manipulations by a member of the training section.

8.4.2 An annual written examination comparable in scope and degree of difficulty to an NRC examination, consistent with the level of license held, will be given to each license holder. Exam topics will be selected from material covered as part of the requalification program. Oral one-on-one walkthrough examinations will also be used to supplement this examination.

8.4.3 A licensed individual who receives an overall grade of less than 80% or receives a grade of less than 70% in any one category of the annual written exam administered by the SNPS Training Section shall be relieved of his license duties and placed in an accelerated Requalification Program prior to retesting.

8.4.3.1 Training provided to personnel participating in an accelerated requalification program may include preplanned lectures, self study, on the job instruction, or other training as required and will be evaluated via written and/or oral examination.

8.4.4 A grade of less than 70% on any lecture series examination shall require that individual to be rescheduled for re-examination and upgrading in that area.

8.4.5 A licensed individual who receives a failing grade on the annual oral exam shall be placed in an accelerated requalification program. <3

8.4.6 Licensed individuals who are directly involved with the preparation and grading of examinations are required to take one full written and one full oral examination in a 2 year period. This may be accomplished by a waiver of a full exam for one year or by partial waivers in each year for identified sections. Waivers should not be allowed for any one exam section in consecutive years. <3

8.5 Administration of Requalification Examination

8.5.1 Administration of Requalification examinations shall be in accordance with Appendix 12.4.

8.6 Records <3

8.6.1 Records for each individual shall be maintained for a minimum of two years by the Training Division and should include the following:

8.6.1.1 Copies of written examinations administered and answer keys that contain point values for each correct answer.

8.6.1.2 Answers given by the licensee to written examinations.

8.6.1.3 Results of performance evaluations (drill scenarios).

8.6.1.4 Documentation of additional training administered to licensed individuals in areas where deficiencies have been demonstrated.

8.6.1.5 Records of attendance at preplanned lectures.

8.6.1.6 Documentation of licensed personnel cognizance of changes made to station design, appropriate procedures, and the station license.

8.6.1.7 Documentation of the annual review of abnormal and emergency procedures.

8.6.1.8 Documentation of participation in reactivity control manipulations (including use of simulator training if applicable).

9.0 ACCEPTANCE CRITERIA

N/A

10.0 FINAL CONDITIONS

N/A

11.0 REFERENCES

11.1 SP 12.014.01, Personnel Training Requirements

11.2 Code of Federal Regulations, Title 10, Part 55

11.3 FSAR, Section 13.2.2

11.4 FSAR, Table 13.5.1-1, Sections B.1, B.2, B.3 and B.4

11.5 INPO Guidelines for Requalification Training and Evaluation, GPG 02-10-80

11.6 ANSI/ANS 3.1 - 1978

11.7 NUREG - 0660, Vol. I, 1980

11.8 NUREG - 0737, 1980

11.9 NRC Generic Letter 83-17

11.10 TITLE 10 CFR Part 50 - Section 50.54, Conditions of License

11.11 Appendix A of 10 CFR Part 55

11.12 NUREG-1021, Operator Licensing Examiner Standards

11.13 Regulatory Guide 1.8 - Personnel Selection and Training

11.14 Regulatory Guide 1.149 - Nuclear Power Plant Simulators for use in Operator Training

12.0 APPENDICES

12.1 SNPS Requalification Program Definitions

12.2 SNPS Requalification Control Manipulations

12.3 SPF 12.014.07-1, Drill Scenario Form

12.4 Administration of Requalification Exams.

12.5 SPF 12.014.07-2, Time On Shift Record for Backup License Holders

SNPS REQUALIFICATION PROGRAM DEFINITIONS

1. JOB CROSS-TRAINING

Job cross-training for shift personnel shall consist of assuming the duties and performing the functions of other shift classifications.

2. ON-SHIFT DISCUSSIONS

On-shift discussions may include review of procedures, discussions of plant operations and/or other specific material assigned by the Training Supervisor or Ops. Supervision. These discussions should include review of Reactor Operating Experiences.

3. ACTIVE STATUS

Licensed individuals whose normal duties are at the station on a day-to-day basis and who are involved in the daily activities at the station shall be considered on "active status".

4. BACK-UP PERSONNEL

These are personnel holding an NRC Reactor Operator or Senior Reactor Operator license but not permanently assigned to an operating shift. The Operations Engineer and Assistant Operations Engineer are not considered backup personnel.

5. LICENSED OPERATOR (RO)

Any individual who possesses an operator's license pursuant to Title 10, CFR, Part 55, "Operators' Licenses".

6. LICENSED SENIOR OPERATOR (SRO)

Any individual who possesses a senior operator's license pursuant to Title 10, CFR, Part 55, "Operators' Licenses".

7. NORMAL OPERATING PROCEDURES

Normal Operating Procedures are those procedures which cover those operating activities defined in Appendix 12.1.1.

8. ABNORMAL OPERATING PROCEDURES

Abnormal Operating Procedures are those procedural actions included in the appropriate system operating procedures for the activities listed in Appendix 12.1.1.

9. EMERGENCY OPERATING PROCEDURES

Emergency Operating Procedures are those procedural actions provided for combating the potential emergency conditions listed in Appendix 12.1.2.

SYSTEM OPERATING PROCEDURES

1. Automatic Depressurization System
2. Control Rod Drive System
3. Core Spray System
4. Diesel Generator
5. 4,160 V System
6. 480 V System
7. 120 V AC Instrument Bus
8. 120 V AC Reactor Protection System Bus
9. 120 V AC Uninterruptable Power Supply
10. 125 V DC System
11. Fuel Pool Cooling
12. HPCI
13. LPCI (Mode of RHR)
14. Offgas (Incl. SJAE, HOGGER)
15. Primary Containment Inerting
16. HVAC-Drywell Cooling
17. Reactor Bldg Closed Loop Cool. System
18. Reactor Bldg Normal Ventilation System (RBNVS)
19. RCIC
20. RHR System
21. Reactor Recirculation System
22. Service Water
23. Reactor Bldg Standby Ventilation System (RBSVS)

24. Standby Liquid Control System
25. Condensate System
26. Feedwater System
27. HVAC - Control Room
28. HVAC - Turbine Building
29. Generator Seal Oil System
30. Main Steam System
31. Reactor Water Cleanup System
32. Station Air System
33. Turbine Bldg, Closed Loop Cooling System
34. Turbine Generator
35. Turbine EHC
36. Turbine Lube Oil System
37. Containment Area Leakage Detection System
38. RBSVS & CRAC Chilled Water

EMERGENCY PROCEDURES

1. Acts of Nature
2. Abnormal Radiation Release - Off Gas
3. Abnormal Radiation Release - Liquid
4. Abnormal Radiation Release - Station Ventilation
5. Control Rod Drop
6. Emergency Use of S.L.C.
7. Loss of SRM and IRM Systems
8. Fuel Cladding Failure
9. Fuel Handling Accident
10. Emergency Shutdown
11. Hotwell Salt Water Intrusion
12. Loss of Condenser Vacuum
13. Loss of Primary Containment Integrity
14. Loss of Secondary Containment Integrity
15. Loss of Offsite Power
16. Loss of all AC Power
17. Loss of Instrument Air
18. Loss of Reactor Building Closed Loop Cooling Water
19. Loss of Service Water
20. Loss of Shutdown Cooling
21. Loss of Turbine Building Closed Loop Cooling Water
22. Shutdown from Outside Control Room
23. Level Control

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24. Cooldown
25. Containment Control
26. Level Restoration
27. Rapid RPV Depressurization
28. RPV Flooding
29. Transient with Failure to Scram
30. Intrusion of Resin into the Reactor Coolant System

SNPS REQUALIFICATION CONTROL MANIPULATIONS

The following control manipulations and plant evolutions are acceptable for meeting the reactivity control manipulations required by Appendix A, paragraph 3.a of 10 CFR Part 55. The starred items shall be performed on an annual basis; all other items shall be performed on a two-year cycle. However, each individual should participate in as many reactivity changes as plant conditions permit. Those control manipulations which are not performed at the plant may be performed on a simulator or as part of the plant drill program. Personnel with SRO licensees are credited with the activities if they direct or evaluate control manipulations as they are performed.

*A. Approach to critical from subcritical on the source range instrumentation to the point of adding nuclear heat verified by establishing a predetermined heatup rate.

B. Plant shutdown.

*C. Manual control of feedwater during plant startup and shutdown.

*D. Any power change of 10% or greater using control rods or manual recirculation flow control.

*E. Loss of coolant including, leak rate determination.

1. Inside and outside primary containment.

2. Large and small

F. Loss of instrument air (must be performed via drill at SNPS).

G. Loss of electrical power (and/or degraded power sources).

*H. Loss of recirculation flow.

I. Loss of condenser vacuum.

J. Loss of Reactor Building service water.

K. Loss of RBCLCW to individual components.

*L. Loss of feed water/feedwater system failure.

M. Loss of a protective system channel.

N. Mispositioned or dropped control rod or rods.

O. Inability to move control rods.

P. Conditions requiring use of the standby liquid control system.

Q. Fuel cladding failure or high activity in reactor coolant or offgas.

R. Turbine or generator trip.

S. Malfunction of automatic control system(s) which affect reactivity.

T. Malfunction of reactor pressure control system.

U. Reactor Trip.

V. Main steam line break (inside or outside containment).

W. Nuclear instrumentation failure(s).

X. Operation of the fuel handling bridges during refueling or core loading or unloading (licenses fuel handling personnel only).

Y. Moving control rods in response to a xenon transient.

Z. Manual rod control prior to and during generator synchronization.

AA. Turbine - Generator startup.

BB. Recirculation Flow control malfunction.

CC. Abnormal reactor water level.

DD. Loss of shutdown cooling.

**EE SDV Rupture.

FF Station Blackout.

**GG SRV Open.

**HH ECCS Initiation at Power.

**II Loss of Feedwater Heating

** Not required by 10 CFR 55 or NUREG 0737, but desirable for operator experience.

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SAMPLE
DRILL SCENARIO

PLANT CONDITIONS:

ACTUAL PROBLEM:

INITIAL INDICATIONS:

OBJECTIVES:

CREW _____ WEEK _____ DATE _____

EVALUATION:	SAT	UNSAT
Watch Engineer		
Watch Supervisor		
Nuclear Station Operator		
Nuclear Assistant Station Operator		
Nuclear Assistant Station Operator		
Equipment Operator		
Other - Title		

Please write comments on reverse.

EVALUATOR SIGNATURE: _____ REVIEWED BY: _____
Oper. Trng Specialist
or Designee

REFERENCE:
SP: _____
ARP _____
T.S. _____

Drill Title and Number: _____

Suffolk County Reference: _____

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ADMINISTRATION OF REQUALIFICATION EXAMS

1. As a minimum, students will be separated by as least the width of a chair during all exams. When class size and room size is such that the students can be seated at separate tables they shall be.

2. All materials not required for exam purposes shall be removed from the students table or desk.

3. Materials required for exam purposes shall be handed out by the training section (i.e., Tech. Specs, Steam Tables, Procedures).

4. An exam proctor shall be in the room during all times that exams are in the possession of the students. The exam proctor shall have no concurrent duties that would detract from his proctor responsibilities.

5. Only one person at a time will be permitted to leave the exam classroom.

6. If students are suspected, by the proctor of receiving or giving help on the exam the following action shall be taken:

   Student giving and/or receiving help shall have exams marked void by the instructor after the exams have been turned in.

7. All voided exams will be hand-carried to the Training Supervisor or his alternate.

8. As a minimum any student that has an exam voided shall be scheduled for re-examination (different exam) in that area.

In order that all students are aware of these guidelines the following statement should be included on the cover sheet of all exams:

All work done on this exam is my own, I have neither given nor received aid.

_____
(Signature)

In addition the students shall be informed that if they do not comply with the above statement they are subject to displinary action.

SNPS

LICENSED OPERATOR REQUALIFICATION PROGRAM

TIME ON SHIFT RECORD FOR BACKUP LICENSE HOLDERS

Name: _____

Date and Time of Shift

0000 - 0800 ☐ 1600 - 2400 ☐

0800 - 1600 ☐ Date _____

Plant Operational Condition _____

_____

Significant Evolutions/Events: _____

_____

_____

_____

_____

Surveillances: (Indicate all surveillances performed or observed during shift)

_____

_____

_____

Backup License Signature _____
Date

Watch Engineer _____
Date

Return Completed Form to Training Section

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