

LICENSED OPERATOR REQUALIFICATION PROGRAM



Approved by: *M. J. Kirby* Date: 11-6-84
M. J. Kirby
Unit 1 Operations Training Administrator

Approved by: *W. C. Kingsley* Date: 11-6-84
W. C. Kingsley
Units 2/3 Operations Training Administrator

Approved by: *R. J. Mette* Date: 11/6/84
R. J. Mette
Supervisor of Operations Training

Approved by: *H. L. Mathis* Date: 11/6/84
H. L. Mathis
Manager, Nuclear Training

Reviewed by: *J. L. Reeder* Date: 11/8/84
J. L. Reeder
Unit 1 Superintendent

Reviewed by: *W. C. Marsh* Date: 11/7/84
W. C. Marsh
Units 2/3 Superintendent

Reviewed by: *H. E. Morgan* Date: 11/7/84
H. E. Morgan
Site Operations Manager

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LICENSED OPERATOR REQUALIFICATION PROGRAM**1.0 PURPOSE**

1.1 The purpose of this training program description is to:

- 1.1.1** Define the applicability for the Licensed Operator Requalification and the Shift Technical Advisor Requalification Programs.
- 1.1.2** Define those areas of Formal Classroom Instruction required for the program.
- 1.1.3** Define those areas of Licensed Operator Manipulations required for the program.
- 1.1.4** Define those areas of On-Shift Training assignments required for the program.
- 1.1.5** Define those areas of Simulator Training required for the program.
- 1.1.6** Define documentation required to record the satisfactory completion of the program.
- 1.1.7** Establish the method by which performance related to training of program participants is evaluated.
- 1.1.8** Establish the method by which Accelerated Requalification Training is provided.
- 1.1.9** Define criteria for granting exemptions to individual program participants for any of the program requirements.

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)**2.0 REFERENCES****2.1 Federal Regulations**

- 2.1.1 10CFR50.54 "Conditions of Licenses" Paragraph (i-1).
- 2.1.2 10CFR55.33 "Renewal of Licenses"
- 2.1.3 10CFR55 Appendix A "Requalification Programs for Licensed Operators of Production and Utilization Facilities."
- 2.1.4 10CFR55.31, "Conditions of the Licenses" paragraph (e).

2.2 USNRC Nuclear Reactor Regulation Guides

- 2.2.1 NUREG 0094, "A Guide For the Licensing of Facility Operators, Including Senior Operators."
- 2.2.2 NUREG 0737, "Clarification of TMI Action Plan Requirements."
- 2.2.3 NUREG 1021, "Operator Licensing Examiner Standards."

2.3 American National Standards

- 2.3.1 ANSI/ANS 18.1 "Selection and Training of Nuclear Power Plant Personnel," 1971, Section 5.5.

2.4 INPO Guidelines

- 2.4.1 Guidelines GPG-02 "NUCLEAR POWER PLANT REQUALIFICATION PROGRAM FOR LICENSED PERSONNEL Guidelines for Requalification Training and Evaluation."

2.5 SONGS Station Orders

- 2.5.4 S01-14-16, "Acknowledgement of Information"

2.6 Unit 1 Technical Specifications

- 2.6.1 Section 6.4 "Administrative Controls - Training."

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)2.0 REFERENCES (Continued)

2.7 Units 2/3 Technical Specifications

2.7.1 Section 6.4 "Administrative Controls - Training."

2.8 Nuclear Generation Site Directives

2.8.1 NGS-D014, "Licensed Operator Requalification and Replacement Training." (Draft)

3.0 DEFINITIONS

3.1 Active Participation in License Duties

Active participation in License Duties is the regular on shift assignment as an operator or supervisor or exercise of an SRO license through direction of plant operations by supervision in a position such as Plant Superintendent, Assistant Plant Superintendent, Supervisor of Plant Coordination, or Assistant Operations Manager. All other licensed personnel will require assignment to shift work a minimum of 24 hours per calendar quarter to achieve Active Participation in License Duties.

3.2 Licensed Reactor Operator

Any individual who possesses an operator's license pursuant to Title 10, Code of Federal Regulations, Part 55, "Operating Licenses."

3.3 Licensed Senior Reactor Operator

Any individual who possesses a Senior Operators License pursuant to Title 10, Code of Federal Regulations, Part 55, "Operators Licenses."

3.4 Exam

An evaluation tool used to determine knowledge of subjects covered in the requalification program and to determine areas in which retraining is needed to upgrade the knowledge of program participants.

3.5 Oral Exam

An evaluation tool used to determine the knowledge and ability of a program participant to interface with and operate the plant.

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)**3.0 DEFINITIONS (Continued)****3.6 Simulator Evaluation**

An evaluation tool involving systematic observation and evaluation of the performance and competency of licensed operators and senior operators to determine their ability to operate the plant during normal, abnormal, or emergency conditions.

3.7 Appropriate Simulator

An appropriate simulator shall have the same operating characteristics as the applicable Unit. As a minimum this shall be a simulator of a plant of the same NSSS vendor as the applicable Unit. In addition simulator software shall be modified to reflect the applicable Unit as closely as is practical. For SONGS Units 2&3 this should be the SONGS Unit 2 Simulator.

3.8 Shall, Should, May

The word "shall" is used to denote a requirement; the word "should" to denote a recommendation; and the word "may" to denote permission, neither a requirement nor a recommendation.

3.9 Formal Classroom Instruction

Structured instruction under the guidance of Nuclear Training Instructors that may include lectures, class discussion, guest speakers, media, or instructor directed study sessions.

3.10 Directed Study Session

Self study training periods for which prescribed training materials are to be used and a qualified instructor is available to provide assistance and feedback. Directed study sessions shall include an examination on the materials reviewed.

3.11 Licensed Individuals

Those persons participating in this program who are licensed Operators or licensed Senior Operators.

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)**3.0 DEFINITIONS (Continued)****3.12 Qualified Instructors**

Those instructors who teach systems, integrated responses, transient and simulator courses, who have demonstrated their competence to the NRC by successful completion of a senior operator examination. Instructors or guest lecturers in areas of science and engineering fundamentals, or systems experts need not have passed a NRC senior operator examination, but should meet requirements of the NTD Instructor Training Program. (NUREG 0737 I.A.2.3, I.A.2.d, and the NTD Instructor Training Program)

3.13 Examination Area

Examination areas for the Annual Written Requalification Examination for licensed operators and senior operators correspond to the categories on the NRC written examination as identified in reference 2.2.3.

4.0 PROGRAM APPLICABILITY

4.1 All qualified Shift Technical Advisors, qualified instructors, and individuals holding NRC Operators or Senior Operators licenses shall participate and complete the requirements of the Licensed Operator Requalification Program. (10CFR55 App. A Introduction)

4.1.1 Newly licensed individuals shall be enrolled in the Operator Requalification Program within 60 days of receiving an NRC license.

4.1.2 Licensed individuals who are no longer actively participating in licensed duties shall have a memo placed in their file documenting their removal from requalification training.

4.1.3 Other program participants who are no longer performing duties requiring participation in this program, shall have a memo placed in their file documenting their removal from requalification training.

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)4.0 PROGRAM APPLICABILITY (Continued)

4.2 Exemptions should be granted to individual license holders for program requirements as stated in the subsections below and shall be documented in the training records management system (TRIMS).

4.2.1 Program participants who prepare, approve, or grade an Annual Written Requalification Examination should be granted an exemption from taking the examination.

4.2.2 Licensed individuals who successfully pass an NRC License Written Examination should be granted an exemption from taking the Annual Written Requalification Examination in the calendar year in which they were issued a license by the NRC.

4.2.3 Program participants should attend all scheduled training, however those who score 80% or greater on an examination area of the annual written requalification examination may be granted an exemption from attending lectures on that area.

4.2.4 Individuals holding NRC operators' licenses and participating in the SRO/CRS training program should be granted an exemption from the requirements of this requalification program while participating in the SRO/CRS training. The Audit Exam or the NRC Senior Operator Written Examination shall serve in lieu of the Annual Written Requalification Examination for the individuals during this period.

4.2.5 Program participants who prepare, instruct, review, or approve lesson materials should be given an exemption from those aspects of the requalification program in which they have participated. This includes lectures and periodic written or oral exams.

4.2.6 Any exemptions granted under the above provisions shall be approved by the Unit Operations Training Administrator or the Supervisor of Operations Training and shall be documented.

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)**5.0 PROGRAM DESCRIPTION****5.1 Program Outline**

- 5.1.1 Formal Classroom Instruction (10CFR55 App. A.1,2)
 - .1 Theory and Principles of Operation.
 - a. Heat Transfer, Fluid Flow, and Thermodynamics
 - b. Nuclear Physics and Reactor Theory
 - .2 General and specific plant operating characteristics.
 - .3 Plant instrumentation and control systems.
 - .4 Plant protection systems.
 - .5 Engineered safety systems.
 - .6 Core Damage Recognition/Mitigation.
 - .7 Normal, abnormal, and emergency operating procedures.
 - .8 Radiation Control and Safety.
 - .9 Technical Specifications.
 - .10 Applicable portions of Title 10, Chapter I, Code of Federal Regulations.
 - .11 Administrative Topics.
 - .12 Special Training in Response to Identified Needs.
- 5.1.2 Licensed Operator Manipulations (10CFR55 App. A.3a,b)
 - .1 Reactivity Manipulations
- 5.1.3 On-Shift Training (10CFR55 App. A.3c,d)
 - .1 Facility Design Changes
 - .2 Procedure Changes
 - .3 Facility License Changes
 - .4 Abnormal and Emergency Procedures

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)5.0 PROGRAM DESCRIPTION (Continued)5.1.4 Simulator Training (10CFR55 App. A.3e; NUREG
0737 enclosure 4)

- .1 Annual Manipulations
- .2 Biennial Manipulations

5.1.5 Accelerated Requalification Program (10CFR55
App. A.4e)

- .1 Applicability
- .2 Program Description
- .3 Program Evaluation

5.1.6 Inactive License Reinstatement Training

- .1 Applicability
- .2 Program Description
- .3 Program Evaluation

5.2 Program Administration

5.2.1 Formal Classroom Instruction

- .1 Training shall include instruction from topics listed in section 5.1.1. Training from all topics shall be given within the two year cycle of this program. (10CFR55 App. A,1,2)
- .2 An individual must attend a minimum of 80% of the training presentations on topics listed in section 5.1.1. An individual requires a specific exemption in accordance with section 4.2 to miss greater than 20% of the training presentations on topics listed in 5.1.1.
- .3 Training in this area shall be instructor guided and shall not rely solely upon the use of films, videotapes, or individual study. (10CFR55 App. A.2)
- .4 Credit for lectures missed may be given for attendance at a later scheduled lecture by viewing of a video taped lecture, by computer aided instruction, directed study session, or other comparable training.

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)5.0 PROGRAM DESCRIPTION (Continued)

- .5 The Unit Operations Training Administrator shall determine the frequency of periodic written examinations used to determine knowledge of subjects covered in this area.
- .6 Training in this area may include special topics that are identified or requested by Operations personnel. Operations requests for training shall come through the Unit Superintendent.
- .7 All program participants shall be trained on the contents of all abnormal and emergency procedures on a biennial cycle by lecture, individual review, use of simulator, or any combination of these. (10CFR55, App. A.3.d)

5.2.2 Licensed Operator Manipulations

- .1 Each licensed operator and senior operator shall, as normal operations permit, perform or direct a combination of at least ten reactivity control manipulations during each two year requalification program to demonstrate their knowledge of the reactivity control systems. (See Asterisked items on Attachment 1.) (10CFR55 App. A.3.a)
- .2 Each licensed operator and senior operator shall demonstrate satisfactory understanding of the operation of plant apparatus and mechanisms and knowledge of the applicable operating procedures for his licensed position by performance evaluation pursuant to section 5.3.4. (10CFR55 App. A.3.b)
- .3 An appropriate simulator may be used to satisfy the requirements of paragraphs 5.2.2.1 and 5.2.2.2. (10CFR55 App. A.3.e)
- .4 Licensed reactor operators shall perform these manipulations. Licensed senior operators and shift technical advisors shall perform, direct, or evaluate performance of these manipulations. (10CFR55 App. A.3.a, NUREG 0737 I.A.2.1 enclosure 4)

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)5.0 PROGRAM DESCRIPTION (Continued)

5.2.3 On-Shift Training

- .1 On-Shift Training shall include:
(10CFR55, App. A.3.c.d)
 - .1.1 Facility Design Changes
 - .1.2 Procedure Changes
 - .1.3 Facility License Changes
 - .1.4 Abnormal and Emergency Procedures Review
- .2 As an alternative to the On-Shift requirement, training in the above topics may be given in Formal Classroom Instruction at the discretion of the Unit Operations Training Administrator.
- .3 Successful completion of On-Shift Training shall be completion of 80% of the On-Shift Study assignments per requalification cycle.

5.2.5 Simulator Training

- .1 Program participants should complete at least 32 hours of simulator instruction annually, including classroom and machine time.
- .2 Licensed operator manipulations may be performed under this section.
- .3 Training shall include topics found in section 5.1.4. (See Attachment 1) (NUREG 0737 enclosure 4)

5.3 Program Evaluation

5.3.1 Annual Written Examination

- .1 All program participants, unless exempted under the provisions of section 4.2 shall take a comprehensive written requalification examination annually.
(10CFR55 App. A.4.a)
- .2 The annual written requalification examinations shall be used to determine the scope and depth of coverage of lesson objectives for training materials used in the program. (10CFR55 App. A.2)

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)5.0 PROGRAM DESCRIPTION (Continued)

- .3 The annual written examination should be based primarily on the learning objectives stated in the materials used in the requalification program. Content and format of this examination should be similar in scope and nature to the NRC written examinations for the level of license held. (NUREG 1021 ES-601 D.3)
- .4 Program participants who score below 70% on any section or 80% overall average on the examination shall be placed in an accelerated requalification program. (10CFR55 App. A.4.e)

5.3.2 Oral Requalification Examination

- .1 Individual license holders should be given a comprehensive Oral Examination at least once during each two-year requalification period. (NUREG 1021, ES-601)
- .2 This Oral Examination should be similar in nature to the NRC Oral Examination for the applicable license.
- .3 Program participants who fail this oral examination shall be placed in an accelerated requalification program. (10CFR55 App. A.4.e)
- .4 Oral examinations shall be conducted by senior operators (licensed or certified) who are supervisors, or training staff members (including vendors). (NUREG 0737 enclosure 1.A.2.d)

5.3.3 Additional Written Examinations

- .1 In addition to the annual written requalification examination, additional written examinations shall be given at a frequency determined by the Unit Operations Training Administrator. (10CFR55 App. A.4.b)
- .2 These additional written examinations shall be used to determine knowledge of subjects covered in the requalification program and provide a basis for evaluating knowledge of abnormal and emergency conditions. (10CFR55 App. A.4.b)

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)5.0 PROGRAM DESCRIPTION (Continued)

.3 Successful completion of this section shall be constituted as the completion of 80% of the additional written exams administered during the requalification cycle.

.4 Additional training and/or retesting shall be provided for licensed individuals who score less than 80% on any of these additional written exams. (10CFR55, App. A.4.e)

5.3.4 Performance Evaluation

.1 Systematic observation and evaluation of license holders shall be made to determine their performance and competency during actual or simulated abnormal or emergency conditions. (10CFR55 App. A.4.c)

.2 The oral examination of section 5.3.2 may be used to meet the requirement of the above paragraph.

.3 Performance Evaluations shall be conducted by senior operators (licensed or certified) who are supervisors, or training staff members (including vendors). (NUREG 0737 enclosure 1.A.2.d)

.4 Where response to simulated conditions are to be evaluated on the control panel of the plant, the actions to be taken for the emergency or abnormal condition shall be discussed. (10CFR55 App. A.4.d)

.5 An appropriate simulator may be used for the Performance Evaluation. (10CFR55 App. A.4.d)

.6 Performance Evaluations shall be conducted at least once during each two year requalification period.

.7 Program participants who fail this Performance Evaluation examination shall be placed in an accelerated requalification program. (10CFR55, App. A.4.e)

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)5.0 PROGRAM DESCRIPTION (Continued)

5.4 Program Duration

- 5.4.1 This requalification program shall be conducted for a continuous period not to exceed two years and upon conclusion shall be immediately followed by successive requalification programs.
- 5.4.2 The program shall be conducted on a calendar year schedule and shall not be individualized for program participants except as provided for in this program.
- 5.4.3 A program participant shall be considered current in the program if the individual has completed those portions of the program scheduled from the time of enrollment to the present.

6.0 ACCELERATED REQUALIFICATION PROGRAM

6.1 Applicability

- 6.1.1 Program participants who score below 70% on any section of their Annual Written Requalification Examination shall be assigned to an Accelerated Requalification Program. (10CFR55, App. A.4.e; NUREG 0737 I.A.2.1 enclosure 1)
- 6.1.2 Program participants who score below 80% overall average on their Annual Written Requalification Examination shall be assigned to an Accelerated Requalification Program. (10CFR55, App. A.4.e; NUREG 0737 I.A.2.1 enclosure 1)
- 6.1.3 Program participants who fail to demonstrate knowledge and ability to interface with and operate the plant during their Oral Requalification Examination shall be assigned to an Accelerated Requalification Program. (10CFR55, App. A.4.e)
- 6.1.4 Program participants who fail their Performance Evaluation shall be assigned to an Accelerated Requalification Program. (10CFR55, App. A.4.e)
- 6.1.5 Any licensed individual who is assigned to the Accelerated Requalification Program shall receive an oral examination to determine competence. Failure of the oral examination will result in the individual's prompt removal from licensed duties in a period not to exceed 7 days.

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)6.0 ACCELERATED REQUALIFICATION PROGRAM (Continued)

6.2 Program Description

- 6.2.1 The scope and duration of the Accelerated Requalification Program shall be based on the individual deficiencies of the licensed individual.
- 6.2.2 The program participant should normally commence the prescribed accelerated requalification program within thirty days of meeting the applicability criteria of section 6.1.
- 6.2.3 Prescribed accelerated requalification programs shall be approved by the Unit Operations Training Administrator or his designated alternate and a written copy sent to the Unit Superintendent or to the individual's supervisor for non-operations personnel.

6.3 Program Evaluation

- 6.3.1 Successful completion of the Accelerated Requalification shall be demonstrated by passing an examination similar in scope and nature to the failed examination which caused placement within the Accelerated Requalification Program.
- 6.3.2 Criteria for determining passing or satisfactory performance shall be the same as the requalification exam which was failed.
- 6.3.3 Program participants who scored over 80% overall average on their annual written requalification examination, need only retake those sections on which they scored less than 70%.

7.0 INACTIVE LICENSE REINSTATEMENT TRAINING

7.1 Applicability

- 7.1.1 Licensed Individuals who have not had active participation in license duties for a period of four months or longer shall undergo special retraining before assuming license duties. (10CFR55.31, (e))
- 7.1.2 Determination of Licensed Individuals who are required to participate in this program should be made by the individual's cognizant functional manager and the Unit Operations Training Administrator.

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)7.0 INACTIVE LICENSE REINSTATEMENT TRAINING (Continued)

7.2 Program Description

- 7.2.1 Prescribed special retraining programs shall be approved by the Unit Operations Training Administrator and a written copy should be sent to the licensed individual's supervisor.
- 7.2.2 Deficiencies should be determined by the extent that the licensed individual participated in Operator Requalification during the preceding 12 months.
- 7.2.3 The scope and duration of the special retraining program shall be based on the individual's deficiencies of the licensed individual.

7.3 Program Evaluation

- 7.3.1 Prior to resuming license duties the licensed individual shall pass or shall have passed an Annual Written Requalification Examination within the past twelve months pursuant to section 5.3.1.
- 7.3.2 Prior to resuming license duties, the licensed individual shall pass or shall have passed within the past twenty-four months an Oral Requalification Examination pursuant to section 5.3.2.
- 7.3.3 Prior to resuming license duties, the licensed individual shall pass or shall have passed within the past twelve months a Performance Evaluation pursuant to section 5.3.4.

7.4 Recertification

- 7.4.1 Prior to resuming license activities, a certification letter signed by the Vice President and Site Manager, shall be sent to the NRC.
(10CFR55.31 (e))
- 7.4.2 This letter shall certify that the individual's knowledge and understanding of facility operation and administration are satisfactory.
(10CFR55.31 (e))

LICENSED OPERATOR REQUALIFICATION PROGRAM (Continued)8.0 RECORDS

8.1 Applicability

- 8.1.1 All requalification training and evaluation records shall be permanently documented. (ANSI 18.1 - 1971, section 5.6)
- .1 The Nuclear Training Division shall maintain duplicate hardcopy of documentation for a period of two years. (10CFR55, App. A.5.a)
 - .2 Original documentation should be transferred to SCE Corporate Document Management Division (CDM) for archival.
- 8.1.2 Requalification training and evaluation records shall include the following documents. (10CFR55, App. A.5.a)
- .1 Written Examinations including the examination results, student answers, and the scoring key.
 - .2 Oral Examination Results
 - .3 Performance Evaluation Results (Including Simulator Training)
 - .4 Individual Accelerated Requalification Program documentation including results of Program Outlines, and requalification letters.
 - .5 Inactive License Reactivation Training documentation including individual program outlines, and recertification letters.
 - .6 Attendance of all formal classroom instruction including lectures and directed study sessions.
 - .7 Documentation certifying completion of Unit on-shift training, including applicable acknowledgement of information forms.

8.2 Record Administration

- 8.2.1 Documentation should be recorded on appropriate forms.

PLANT/SIMULATOR MANIPULATIONS

A. The following reactivity manipulations and plant evolutions shall be performed annually at the plant or on an appropriate simulator. The use of the Technical Specifications should be maximized during the simulator control manipulations. Items indicated with an asterisk (*) may be used to meet the requirement of ten reactivity manipulations. (10CFR55, App. A.3a; NUREG 0737, attachment 4)

- *1. Reactor Startups to a point where heatup rate is established.
- *2. Manual control of steam generators and/or feedwater during startup and shutdown.
- *3. Manual Rod Control for power changes greater than 10%.
4. LOCA with significant S/G leakage.
5. LOCA inside primary containment.
6. LOCA outside primary containment.
7. Large LOCA with leak-rate determination.
8. Small LOCA with leak-rate determination.
9. Saturated RCS response.
10. Loss of coolant flow/natural circulation.
11. Loss of all feedwater (normal and emergency).

PLANT/SIMULATOR MANIPULATIONS (Continued)

B. The following reactivity manipulations and plant evolutions shall be performed biennially at the plant or on an appropriate simulator. The use of the Technical Specifications should be maximized during the simulator control manipulations. Items indicated with an asterisk (*) may be used to meet the requirement of ten reactivity manipulations. (10CFR55, App. A.3a; NUREG 0737, attachment 4)

- *1. Plant Shutdown
- *2. Boration and/or dilution during power operation.
- *3. Any reactor power change of 10% or greater where load change is performed with load limit control.
- *4. Reactor trip
5. Turbine or generator trip
6. Main Steam line break (inside or outside containment)
7. Loss of normal feedwater
8. Loss of shutdown cooling (RHR)
9. Nuclear Instrumentation System Failure
10. Loss of Reactor Protection System Channel
- *11. Misaligned Control Rod(s) or dropped rod(s)
12. Inability to drive control rods or stuck rod
13. Automatic Control Malfunctions
- *14. Conditions requiring emergency boration
15. RCS or CVCS pressure control system failure
16. Loss of Offsite Power
17. Loss of Vital bus
18. Loss of condenser vacuum
19. Loss of Saltwater Cooling
20. Loss of Component Cooling Water (system or component)
21. Loss of Instrument Air
22. Fuel Cladding failure or high activity in reactor coolant.