

DUKE POWER COMPANY  
OCONEE NUCLEAR STATION  
REQUALIFICATION PROGRAM  
FOR  
NRC LICENSED PERSONNEL  
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1.0 Introduction

Appendix A to 10 CFR 55 requires all licensed operators to participate in an approved requalification program. The requalification program for the Oconee Nuclear Station is designed to maintain and demonstrate the continued competence of all licensed operators and senior operators. This program will be conducted on an annual basis and will include a comprehensive exam, formal requalification lectures, on-the-job training and simulator operation. The program will be implemented so as to minimize scheduling difficulties that will be incurred by site management.

2.0 Definitions

2.1 Reactivity Change

A licensed Reactor Operator that performs, or a licensed Senior Reactor Operator that performs, evaluates, or directs, ten (10) reactivity changes from those listed below, in accordance with Section 4.0, On-The-Job Training, Subsection 4.2, meets the requirements of 10 CFR 55, Appendix A, Section 3 (a).

- a. Plant or reactor startups to include a range that reactivity feedback from nuclear heat addition is noticeable and heatup rate is established.
- b. Plant shutdown.
- c. Manual control of steam generators and/or feedwater during startup and shutdown.
- d. Boration and or dilution during power operation.
- e. Any significant (>10%) power changes in manual rod control.

- f. Loss of coolant including:
  - 1. significant PWR steam generator leaks .
  - 2. inside and outside primary containment
  - 3. large and small, including leak-rate determination
  - 4. saturated Reactor Coolant response (PWR).
- g. Loss of instrument air (if simulated plant specific).
- h. Loss of electrical power (and/or degraded power sources).
- i. Loss of core coolant flow/natural circulation.
- j. Loss of condenser vacuum.
- k. Loss of service water if required for safety.
- l. Loss of shutdown cooling.
- m. Loss of component cooling system or cooling to an individual component.
- n. Loss of normal feedwater or normal feedwater system failure.
- o. Loss of all feedwater (normal and emergency).
- p. Loss of protective system channel.
- q. Mispositioned control rod or rods (or rod drops).
- r. Inability to drive control rods.
- s. Conditions requiring use of emergency boration or standby liquid control system.
- t. Fuel cladding failure or high activity in reactor coolant or offgas.
- u. Turbine or generator trip.
- v. Malfunction of automatic control system(s) which affect reactivity.
- w. Malfunction of reactor coolant pressure/volume control system.
- x. Reactor trip.
- y. Main steam line break (inside or outside containment).
- z. Nuclear instrumentation failure(s).

## 2.2 Licensed Operator

Individuals who maintain Operator or Senior Operator licenses and who are actively and extensively engaged in the day-to-day operation of the plant.

Any licensed operator who has not been actively performing the functions of an operator or senior operator for a period of four months or longer, shall, prior to resuming licensed activities, participate in an appropriate requalification program pursuant to 10 CFR 55.31(e).

## 2.3 Backup Licensee

Individuals who maintain operator or senior operator licenses for the purpose of providing backup capability to the operating staff and not routinely assigned to normal shift rotation.

## 2.4 Training Staff

Supervisors normally assigned no other duties except instructing, coordinating, and record keeping for pre-license operator training programs and licensed operator requalification program.

Instructors shall be enrolled in appropriate portions of the requalification program to assure they are cognizant of current operating history, problems, and changes to procedures and administrative limitations.

## 3.0 Examinations/Lectures

Annually, all SRO and RO licensed personnel will take a written examination. The examination will be given in multiple segments approximately five weeks apart following the lecture series for that segment.

Any operator who scores less than 80 percent overall or 70 percent on a category on the Annual Requalification Exam shall be removed from licensed duties and placed in an Accelerated Requalification Program. An Accelerated Requalification Program will be instituted for anyone scoring less than 70% on a category or 80% overall to enable the individual to increase his knowledge level for that category in a timely fashion. The individual will be reevaluated by a comprehensive written exam paralleling the annual exam in format to determine his knowledge level. The results of the written exam will be forwarded to the Operations Superintendent for determination of return to licensed duties.

Requalification lectures are intended to be given on an annual basis for all licensed operators in six segments of approximately 3 days duration each (approximately 5 hours lectures and 3 hours group discussion or self study per day). The lecture schedule prior to each annual examination segment will be selected from the areas listed below such that material selected from each area will be covered.

#### Annual Requalification/Lecture Topics

1. Reactor Principles
2. Operating Characteristics
3. Radiation/Radiation Protection
4. Instruments and Controls
5. Safety and Emergency Systems
6. Design Characteristics
7. Procedures and Technical Specifications
8. Heat transfer, Fluid flow, and Thermodynamics
9. Mitigation of Core Damage
10. Quality Assurance for Operations

Following the completion of all the annual exam segments, Remedial Requalification lectures will be determined by the results of the annual exam (i.e., categories in which individuals received less than 80 percent on a category requires mandatory attendance at lectures on topics of that category).

Contingency meetings are an integral part of nuclear plant operation and are normally scheduled as the need arises by plant management.

Backup licensees by virtue of their job assignments come into more intimate contact with various aspects of power plant operation. Thus they may be excluded from participation in the requalification lectures preceeding the annual examination segments. These individuals will be afforded the time and necessary materials to review the material presented in the lecture series prior to the annual exam. They will however be obligated and judged by the same criteria as everyone else relative to exam scores and need for remedial or individualized study programs (i.e., any B.U.L. scoring < 80% on a category will attend Remedial Requal lectures on that category and be re-examined; any B.U.L. scoring < 70% on a category will be placed in an Accelerated Requal Program and re-examined; and any B.U.L. scoring < 80% overall will be removed from license duties and placed in an accelerated Requal Program). B.U.L. participation in all other phases of the Requalification Program will be as herein described.

#### 4.0 On-the-Job Training

4.1 In order to insure the continued proficiency of licensed operators in meeting all operating situations, on-the-job training will play a major role in the Oconee requalification program. Technical Specifications, selected Operating Procedures and Emergency Procedures will be reviewed on shift according to a formal schedule. The effectiveness of this review will be evaluated by testing as a category on the annual exam. All applicable changes to Oper-

ating Procedures, facility design changes and revision to Technical Specifications will be reviewed on shift also. Documentation of the specified reviews is filed in the individual's training records as per Section 6.0, Records.

4.2 All licensed Operators will participate, to the maximum extent possible, in plant evolutions involving reactivity changes. These will include those items defined as reactivity changes in Section 2.0, Definitions. During the two-year license term, a minimum of ten such evolutions shall be conducted or directed by each licensed Senior Operator, conducted by each licensed Operator, and conducted, directed or evaluated by each Shift Technical Advisor and Senior Licensed Members of the Instructor Training Staff.

4.3 All licensed personnel will participate in a one-week (40 hours) simulator training course, consisting of 20 hours classroom and 20 hours simulator, at an approved facility such as the B&W simulator, Lynchburg, Virginia, during the two-year license term.

The B&W simulator is considered the only existing simulator appropriate for use by Oconee personnel in meeting the requirements of Appendix A to 10 CFR Part 55. However, we retain the option to use other simulators that become available in the future and are approved by the NRC for use by Oconee personnel. (NOTE: Oconee will have a replica simulator at the site for training in 1982 at which time this requirement will be expanded.)

This training will include operation during emergency or abnormal conditions selected from the list of Reactivity Changes in Section 2.0, Definitions, Subsection 2.1, Reactivity Changes.

4.4 Control manipulations at the simulator will be credited the same as manipulations on the Oconee Units.



4.5 Backup licensees will maintain proficiency by any of the following:

- a) Assignment as Duty Engineer (SRO's)
- b) Supervising activities covering control room operation, testing, radioactive waste releases (SRO's)
- c) Standing watch as an Assistant Shift Supervisor or Shift Supervisor (SRO's) or as an Assistant Control Operator or Control Operator (RO's).
- d) Conducting drills or instruction in control room systems and procedures (Training Staff only).
- e) Supervising Refueling Operations (SRO's)
- f) Supervising Fuel Handling Teams (SRO's)
- g) Conducting Oral Audit Examinations of Licensed Operators or candidates for NRC License Exams (Training Staff only).

The backup licensees shall satisfy proficiency requirements by performing the above an average of 4 hours every two (2) months.

#### 5.0 Evaluations

- 5.1 The performance and competency of Operators and Senior Operators will be evaluated by the annual written exam as well as with personal evaluations from supervisors.
- 5.2 Annually each Shift Supervisor will submit a report to the Operating Superintendent, evaluating the performance of each licensed man under his supervision during normal and abnormal operating conditions.
- 5.3 The performance at simulator training of Operators and Senior Operators will be evaluated by the Station Supervisory Staff attending simulator training. Evaluations of personnel will be made by several sources as noted above. The ultimate evaluation will be based on operators performance of his licensed duties at the Oconee Nuclear Station.

5.4 The Operating Superintendent will review these reports annually. On the basis of the evaluations, the Operating Superintendent can recommend special training classes and removal from shift duties if necessary. Prior to the license renewal date, the Operating Superintendent will review each Operator's training record. Based on this evaluation, he will make recommendations for license renewal or specialized training prior to license renewal.

#### 6.0 Records

6.1 Training records for each Operator and Senior Operator will be maintained and shall contain the following:

- a) Copies of the graded annual exam
- b) Re-examinations given after requalification lectures
- c) Documentation of all training participation
- d) Records of the number and type of reactivity changes

6.2 Training Records will be retained for a minimum of six years.

6.3 Evaluations made by Supervisors will be retained in personnel file for a minimum of six years.