DUKE POWER COMPANY

CATAWBA NUCLEAR STATION

REQUALIFICATION PROGRAM

FOR

NRC LICENSED PERSONNEL

August 21, 1984

REVISION 1

NOVEMBER 27, 1984

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1.0 INTRODUCTION

Appendix A to 10CFR55 requires all licensed operators to participate in an NRC approved requalification program. The requalification program for Catawba Nuclear Station was generated using the INPO Guidelines as a reference. This requalification program consists of pre-planned lecture series, skills training and evaluation, operational review, and an annual examination and evaluation.

The operator requalification program shall be conducted on a cyclical basis so that all program requirements are completed in a period not to exceed two years.

2.0 PRE-PLANNED LECTURE SERIES

2.1 The requalification program will include two types of lecture series as follows:

A. Fundamental Review Lecture Series

B. Operational Proficiency Lecture Series

2.2 Lecture Series Topics

2.2.1 The Fundamentals Review lecture topics are selected on as-needed basis to reflect the results of the annual exam, as well as past performance of licensed personnel, and will include the following topics:

A. Theory and Principles of Reactor Operation

B. Heat Transfer, Fluid Flow and Thermodynamics

C. Features of Facility Design, including Plant Systems

D. General and Specific Plant Operating Characteristics including Expected Response to Equipment Failure

E. Plant Instrumentation and Control Systems

F. Plant Protection Systems

G. Radiation Control and Safety

H. Engineered Safety Systems

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

J. Fuel Handling and Core Parameters

K. Plant Chemistry

2.2.2 The Operational Proficiency lecture topics are selected to ensure coverage of essential plant operational guidelines, and to reflect operational changes and experiences. The following topics are typical of what will be covered during this lecture series:

A. Normal, Abnormal and Emergency Operating Procedures

B. Technical Specifications

C. Administrative Procedure, Conditions and Limitations

D. Major Operational Evaluations

E. Facility Design and License Changes

F. Procedure Changes

G. Operating History and Problems

H. Related Nuclear Industry Operating Experience

I. Accident Mitigation of Degraded Core

2.3 REQUALIFICATION TRAINING TIME COMMITMENTS:

The total annual Pre-planned lecture series training time for each licensed operator will consist of a minimum of 100 contact hours of classroom instruction.

3.0 SKILLS TRAINING AND EVALUATION

3.1 Each licensed individual shall demonstrate operational proficiency by participating in the following skill phases of requalification training.

A. Reactivity Manipulations

B. Plant Evolutions

C. Nuclear Plant Simulator Exercises

3.2 Reactivity Manipulations

On an annual basis, each licensed operator will participate in evolutions selected from the following list, either on the Catawba Plant or at the McGuire Simulator or Catawba Simulator (when the the Catawba Simulator is available). A minimum of any five (5) evolutions per year are required for satisfying this requirement. Items with an asterisk shall be performed on the Simulator annually.

*1. Plant or reactor startup and power escalation to a range where reactivity feedback from nuclear heat addition is noticeable and heatup rate is established.

*2. Plant shutdown to Source Range.

*3. Manual control of steam generator water level and/or feedwater flow during plant startup and/or shutdown.

*4. Boration and/or dilution during power operation.

*5. Reactor power changes of 10% or greater where rod control is in manual, or where feedwater flow is controlled manually.

6. Reactor power changes of 10% or greater where load change is performed with the DEH turbine control in manual.

7. Operation of turbine controls in manual during turbine startup.

8. Decay Heat Removal System (ND) Operation.

9. Operation of Manipulator Crane during refueling over the core.

3.3 Plant Evolutions (Abnormal/Emergency)

3.3.1 On an annual basis, each licensed operator will participate in exercises covering the following plant abnormal/emergency conditions either at a Catawba operating unit or on the McGuire Simulator, or the Catawba Simulator when it becomes available.

1. Reactor trip
2. Turbine generator trip
3. Loss of reactor coolant flow
4. Load Rejection
5. Loss of Steam Generator Feedwater (CF/CA)
6. Leakage Calculation (LOCA)
7. Plant Operations during natural circulation
8. Loss of Natural Circulation
9. NCS at Saturation
10. Inadvertent NC system depressurization
11. Actions required for ATWS event
12. Loss of control room
13. Significant Steam Generator Tube Leaks
14. Small LOCA (Inside and Outside Containment)
15. Large LOCA

3.3.2 On a two-year cyclical basis, each licensed operator will participate in exercises covering the following plant abnormal conditions at an operating unit of Catawba or at the McGuire Simulator, or on the Catawba Simulator when it becomes available.

1. Malfunction of Nuclear Instrumentation System
2. Boron Dilution - Conditions Requiring Emergency Boration
3. Control Failures Affecting Reactivity
4. Inoperable Control Rod (Control Rod Misalignment, Control Rod Drop, Inability to Drive Control Rods)
5. Loss of Makeup or Letdown
6. High Activity in Reactor Coolant
7. Loss of Instrument Air System
8. Loss of Electrical Power
9. Loss of Condenser Vacuum
10. Loss of Nuclear Service Water System
11. Loss of Component Cooling Water System
12. Hi Activity in Off Gas
13. Secondary Line Rupture (Inside & Outside Cont.)
14. Loss of Residual Heat Removal
15. Loss of Protective System Channel
16. Malfunction of NC Pressure/Volume Control Systems
17. Feedwater System Failures

3.4 Nuclear Plant Simulator Exercises

3.4.1 Licensed operators are required to participate in a structured simulator training program on an annual basis, and the following guidelines apply:

1. The use of Catawba Technical Specifications should be maximized during the simulator control manipulations.

2. Team concept utilized, emphasizing individual roles in reporting, assignment of operational duties, use of plant procedures and use of technical specifications.

3. No more than four (4) licensed operators will be assigned to participate in a requalification training session which requires direct interaction with the simulator control panel.

3.4.2 Personnel with senior licenses are credited with reactivity control manipulations as though they had performed them if they:

1. Direct these control manipulations as they are performed.

2. Evaluate these control manipulations as they are performed (Training Staff Only).

3.4.3 Simulator Training will consist of a minimum of twenty (20) simulator hours per year, which includes all simulator training consisting of reactivity manipulations, plant evolutions, and an annual simulator examination.

4.0 REQUALIFICATION SCHEDULE

4.1 The requalification schedule for Catawba consists of 5 ten week segments. Each shift is scheduled for approximately two (2) weeks of training during each segment.

4.1.1 The last segment will be utilized for administration of an annual requalification examination on subjects covered throughout the year, as well as general subjects as specified in Section 6.2.

4.1.1 Licensed personnel are required to achieve a grade of 80% of each segment quiz. A grade of less than 80% but greater than or equal to 70% will result in management counseling with the individual concerned. A grade of less than 70% will require remedial self study, and a new quiz retake for than segment.

4.2 Licensed Training Staff are not required to attend the segment training but should participate in appropriate sections of requal to assure they are cognizant of current operating history problems, station modifications, etc.

4.3 Newly licensed personnel shall enter the Requalification Program upon receipt of their license.

4.4 Licensed Reactor Operators (RO's) who are in training for a Senior license (SRO) will be exempt from all requalification requirements for the duration of their training. They will continue to be updated on changes to the facility design, procedure changes, and facility license changes in accordance with station administrative procedures. They will also receive training on emergency and abnormal procedures. Any RO who fails the SRO exam will be evaluated by Operations Department Managers (i.e. Superintendent of Operations, Operating Engineers, SRO's, Shift Supervisors) on their past and present job performance. A recommendation will be made based on this evaluation regarding the individual's return to licensed duties.

5.0 OPERATIONAL REVIEW PROGRAM

5.1 The Operational Review Program provides a system for review of selected operationally related events, reportable occurrences, nuclear industry information, and changes to existing operational guidance or equipment to maintain continued update of licensed personnel.

5.1.1 An Update Documentation Form (Typical example in Enclosure 1) is utilized to allow all licensed personnel continued update of the following information.

1. Plant design changes
2. Station modifications
3. Procedure changes
4. Technical Specification changes
5. Pertinent IE Bulletin Information
6. Incident Reports (Station and Industry)
7. Audit, evaluation and inspection reports
8. Publications covering nuclear industry information
9. NSAC/INPO significant event reports

5.1.2 The annual reading and review of Emergency Procedures, Abnormal Procedures and Controlling Operating Procedures will be documented.

6.0 ANNUAL REQUALIFICATION EXAMINATION

6.1 An annual requalification written examination and simulator examination will be administered to all licensed individuals to determine their knowledge of topics covered in the segmented requal program.

6.2 The written examination will be grouped into at least six (6) categories for evaluation purposes, and will contain questions covering topics which were presented during the yearly requal training segments, as well as from general topics requiring operator knowledge. Some typical examples are as follows:

1. Theory and Principles of Reactor Operations
2. Heat Transfer, Fluid Flow and Thermodynamics
3. Features of Facility Design
4. General and Specific Plant Operating Characteristics
5. Plant Instrumentation and Control Systems
6. Plant Protection Systems
7. Engineered Safety Systems
8. Radiation Control and Safety
9. Applicable Portions of Title 10, Chapter I, Code of Federal Regulations
10. Fuel Handling and Core Parameters
11. Normal, Abnormal and Emergency Operating Procedures
12. Technical Specifications
13. Administrative Procedures, Conditions and Limitations
14. Nuclear Industry Operating Experience
15. Accident Mitigation of Degraded Core
16 Electrical Theory

6.3 A licensed operator receiving a grade of less than 70% on any examination category, or an overall grade of less than 80% shall be placed in an accelerated requal program consisting of self-study with instructor guidance and support, followed by an exam re-take. Failure of one category with less than 70% will require a category retake only, provided an 80% overall average is maintained. A licensed operator placed in accelerated requal shall not perform licensed duties until successfully completing the program.

6.4 An annual examination will be conducted on the McGuire Simulator or the Catawba Simulator (when it becomes available) for each licensed operator during the last segment. A licensed operator reveiving a grade of less than 80% on the Simulator exam shall receive accelerated requal training. A licensed operator placed in accelerated requal shall not perform licensed duties until successbully completing the program

6.5 Newly licensed individuals successfully completing their NRC licensing examination less than six (6) months prior to an annual requalification written examination, may be excused from taking the current annual requalification examination and the simulator examination.

7.0 ADMINISTRATION OF REQUALIFICATION

7.1 Introduction

This section will define specific responsibilities and provide guidance in the implementation of the Catawba Requalification Program.

7.2 Reactivity Manipulations

1. A minimum of five (5) manipulations as defined in Section 3.0 will be accomplished per year with no more than two being of the same type.

2. Documentation of Reactivity Manipulations will be made at the Plant or during simulator training with documentation forms transmitted to the Station Training Unit for formal record keeping of each licensed operator's performance.

7.3 Plant Evolutions

1. Training exercises as referred to in Section 3.3 are actual planned plant training drills, actual plant transients or simulated transients provided during the simulator phase of the requalification program.

2. Documentation of the exercises will be accomplished in the Control Room at the time of the event, or at the Training Center during the simulator phase of requalification training.

7.4 CLASSROOM/SIMULATOR TRAINING RECORDS

7.4.1 All classroom and simulator training will be documented and transmitted to the Station Training Unit reflecting completion of each Requalification Segment.

7.4.2 All records must be of aduitable quality and shall include the following:

1. Written examination results for each individual.

2. Simulator training participation and team evaluation.

7.4.3 Records of training and qualification for current members of the station staff will be retained for the life of the station in accordance with Technical Specification 6.10.2.g. These records will include copies of written examinations administered, the answers, results of evaluations and documentation of any additional training administered in areas in which an operator or senior operator has exhibited deficiencies.

7.5 OPERATIONAL REVIEW PROGRAM (Sec. 5.0)

7.5.1 An Update Documentation Form will be utilized to allow immediate update of all licensed personnel on important information that may affect plant safety.

7.5.2 The Operating Engineer Document Development will be responsible to disseminate priority information from material described in Section 5.1.1 of the Requal Program, and route to all licensed personnel utilizing an Update Documentation Form.

Various informational areas defined under 5.1.1 which may not be priority information, will be provided to all licensed personnel during the classroom phase of each requal segment.

7.5.3 The Operating Engineer Document Development will be responsible to disseminate the Operator Update for the annual reading and review of Emergency Procedures, Abnormal Procedures and Controlling Operating Procedures to all licensed personnel.

7.5.4 Supervisory (SRO) personnel should provide the guidance to On-Shift Operators in interpreting and reviewing related information, and ensure all shift personnel initial an Update Documentation Form, acknowledging their understanding of associated information.

7.5.5 All completed Update Documentation Forms should be returned to the Operating Engineer Document Development for review and filing.

7.6 CHANGES TO REQUAL PROGRAM

Any changes to the Requal Program will be mutually agreed on and approved by the Superintendent of Operations and the Senior Instructor.

7.7 NOTIFICATIONS TO PLANT MANAGEMENT

Observations made by Training Services Staff of personnel with less than acceptable performance will result in notification of plant management.

Enclosure 1
Typical Example
Update Documentation Form

TO: "A" SHIFT SUPERVISOR

ISSUED DATE: _____

SUBJECT: _____

COMPLETION DATE: _____

RETURNED TO JOHN KNUTI

NAME	ITEM _____ _____ _____	INIT.	ITEM _____ _____ _____	INIT.	ITEM _____ _____ _____	INIT.
SKINNER, CHARLES HALLIE						
BRADSHAW, SCOTTY LYNN						
LONG, LARRY BENTON						
CRISP, EDWIN ANSEL						
ELLINGWOOD, RODGER WAYNE						
RAMSEUR, TIMOTHY SCOTT						
SMITH, GRAHAM ALLEN						
YON, JOHN LARRY						
ARERNATHY, MARCUS GLENN						
ALCORN, KENNETH I.						
ARINGTON, STEVEN THOMAS						
BRASCH, COLSON L.						
CALDWELL, IRIS E.						
CAWLEY, JAMES P.						
HAMILTON, GARY WILLIAM						
JENKINS, TERRY R.						
JONES, DWIGHT B.						
KEEVER, MARTHA JEAN						
NODINE JR., CHARLES WAYNE						
ROBINSON, JOHN W.						
RUDD, WILLIAM G.						
SORROW, RICHARD D.						

NOTES:

1) THIS FORM IS USED TO NOTIFY YOU, AND DOCUMENT YOUR RECEIPT OF PERTINENT INFORMATION.

2) THIS FORM MAY BE USED BY S.S. TO DOCUMENT INFORMATION HE DESIRES.

FORM DATE: 19 JAN 1984
VAX FILE: DIR:PROCEDURE:SIGNOFF