

QUALIFICATION GUIDE
SIGNIFICANT CONTROL MANIPULATIONS FOR RO/SRO INITIAL LICENSE

OPERATIONS
QUALIFICATION GUIDE
AND
IMPLEMENTATION PLAN

APPROVAL PAGE

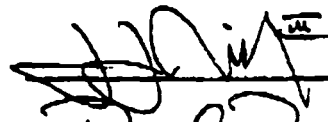
PROGRAM: INITIAL LICENSE TRAINING
REACTOR OPERATOR OR SENIOR REACTOR OPERATOR

MODULE: N/A

TITLE: REACTIVITY MANIPULATIONS DOCUMENTATION GUIDE

REVISION: 2

PREPARED BY:



DATE: 9/4/97

REVIEWED BY:

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DATE: 9/9/97

APPROVED BY:

Mark Raven
MANAGER - SALEM OPERATIONS

DATE: 9/4/97

APPROVED BY:


SUPERVISOR - LICENSED OPERATOR
TRAINING

DATE: 9/4/97

IMPLEMENTATION PLAN:

A minimum of five signatures are required to meet the conditions for your license. Significant control manipulation methods contained in the tables allow for two repeat performances of the same method. The initial conditions associated with the PERFORMANCE STANDARD shall be entered in the "INITIAL CONDITION" block prior to performing the manipulation, and entered in the "FINAL CONDITION" block at completion.

TRG CHAIRPERSON:

Mark Raven

DATE: 9/4/97

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QUALIFICATION GUIDE
SIGNIFICANT CONTROL MANIPULATIONS FOR RO/SRO INITIAL LICENSE

SECTION I
GENERAL

NAME: _____ SSN: _____
CARD TITLE REACTIVITY MANIPULATIONS DOCUMENTATION GUIDE REV# 2
PROGRAM 0502 / 0304

OBJECTIVE

This Guide is utilized to document the 10CFR55.31 (a) (5) requirements for significant manipulations at the controls which states in part "Provide evidence that the applicant, as a trainee, has successfully manipulated the controls of the facility for which a license is sought. At a minimum, five significant control manipulations must be performed which affect reactivity or power level."

REFERENCES

1. NUREG-1021, EXAMINER STANDARDS
2. 10CFR55
3. IN 97-67

TASK

1. COMPLETE REQUIREMENTS OF 10CFR55.31 (a) (5)

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SECTION II
KNOWLEDGE REQUIREMENTS

A. PREREQUISITES COURSES/QUALIFICATIONS

Significant control manipulations must be supervised by a licensed operator. To obtain credit for a given manipulation, you must be "at the controls." An SRO in training is not qualified to supervise a significant control manipulation, therefore no credit for supervision can be given. Satisfactory completion of the following items is required prior to performing ANY significant control manipulations.

SATISFACTORY COMPLETION OF STARTUP
CERTIFICATION AS DESCRIBED IN TP-302.

SUPERVISOR - LICENSED OPERATOR TRAINING	DATE
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YOUR NAME MUST APPEAR ON THE
"MANIPULATION OF FACILITY CONTROLS"
LETTER ISSUED BY THE MANAGER OF SALEM
OPERATIONS.

SUPERVISOR - LICENSED OPERATOR TRAINING	DATE
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B. PRE-EVOLUTION BRIEF

Prior to performing ANY significant control manipulation, a pre-evolution brief shall occur. At a minimum, this brief will cover the following:

1. Intent of the evolution to be performed.
2. Precautions, prerequisites and initial conditions applicable to the evolution.
3. Termination criteria applicable to the evolution.
4. Identification of the Licensed Operator in charge of the evolution.
5. Any knowledge items (such as the importance of doubling, indications of POAH, control characteristics of the main turbine for time of core life) important to the evolution.

The Licensed Operator in charge of the evolution will maintain constant surveillance of the trainee during the evolution, and terminate the evolution if plant conditions warrant.

C. POST-EVOLUTION DE-BRIEF

At the completion of the evolution, the Licensed Operator in charge will formally relieve the trainee of the watch ensuring positive control of the reactor and plant.

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METHOD	PERFORMANCE STANDARD	DATE	INITIAL CONDITION	FINAL CONDITION	LICENSED OPERATOR
REACTOR STARTUP	WITH THE REACTOR IN MODE 2 OR LESS, A REACTOR STARTUP TO GREATER THAN 2% POWER				
	WITH THE REACTOR IN MODE 2 OR LESS, A REACTOR STARTUP TO GREATER THAN 2% POWER				
PLANT STARTUP	WITH THE TURBINE AT 1800 RPM OR LESS, SYNCHRONIZE THE GENERATOR AND RAISE LOAD TO A FINAL ELECTRICAL OUTPUT OF GREATER THAN 120 MWe				
	WITH THE TURBINE AT 1800 RPM OR LESS, SYNCHRONIZE THE GENERATOR AND RAISE LOAD TO A FINAL ELECTRICAL OUTPUT OF GREATER THAN 120 MWe				
REACTOR SHUTDOWN	WITH THE REACTOR AT GREATER THAN 2% POWER, SHUTDOWN THE REACTOR TO MODE 3				
	WITH THE REACTOR AT GREATER THAN 2% POWER, SHUTDOWN THE REACTOR TO MODE 3				
PLANT SHUTDOWN	WITH THE GENERATOR AT GREATER THAN 60 MWe, SHUTDOWN TURBINE-GENERATOR TO OFF-LINE				
	WITH THE GENERATOR AT GREATER THAN 60 MWe, SHUTDOWN TURBINE-GENERATOR TO OFF-LINE				
REACTOR DOWN-POWER MANEUVER - CONTROL RODS	WITH ROD CONTROL IN MANUAL, A REACTOR POWER REDUCTION OF 5% OR GREATER USING CONTROL ROD INSERTION ONLY.				
	WITH ROD CONTROL IN MANUAL, A REACTOR POWER REDUCTION OF 5% OR GREATER USING CONTROL ROD INSERTION ONLY.				
REACTOR DOWN-POWER MANEUVER - BORATION	REACTOR POWER REDUCTION OF 5% OR GREATER USING CVCS BORATION CONTROL ONLY.				
	REACTOR POWER REDUCTION OF 5% OR GREATER USING CVCS BORATION CONTROL ONLY.				

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METHOD	PERFORMANCE STANDARD	DATE	INITIAL CONDITION	FINAL CONDITION	LICENSED OPERATOR
PLANT DOWN-POWER MANEUVER - TURBINE	GENERATOR OUTPUT REDUCTION BY 5% UTILIZING REFERENCE INCREASE/DECREASE OR TURBINE MANUAL CONTROL				
	GENERATOR OUTPUT REDUCTION BY 5% UTILIZING REFERENCE INCREASE/DECREASE OR TURBINE MANUAL CONTROL				
REACTOR UP-POWER MANEUVER - CONTROL RODS	WITH ROD CONTROL IN MANUAL, REACTOR POWER RISE OF 5% OR GREATER USING CONTROL ROD WITHDRAWAL ONLY.				
	WITH ROD CONTROL IN MANUAL, REACTOR POWER RISE OF 5% OR GREATER USING CONTROL ROD WITHDRAWAL ONLY.				
REACTOR UP-POWER MANEUVER - DILUTION	REACTOR POWER RISE OF 5% OR GREATER USING CVCS DILUTION CONTROL ONLY.				
	REACTOR POWER RISE OF 5% OR GREATER USING CVCS DILUTION CONTROL ONLY.				
PLANT UP-POWER MANEUVER - TURBINE	GENERATOR OUTPUT RISE BY 5% UTILIZING REFERENCE INCREASE/DECREASE OR TURBINE MANUAL CONTROL				
	GENERATOR OUTPUT RISE BY 5% UTILIZING REFERENCE INCREASE/DECREASE OR TURBINE MANUAL CONTROL				
FEEDWATER CONTROL IN MANUAL DURING STARTUP	WITH AT LEAST ONE S/G IN MANUAL CONTROL, MAINTAIN REQUIRED S/G LEVEL DURING A PLANT STARTUP FROM MODE 2 TO GREATER THAN 2% REACTOR POWER.				
	WITH AT LEAST ONE S/G IN MANUAL CONTROL, MAINTAIN REQUIRED S/G LEVEL DURING A PLANT STARTUP FROM MODE 2 TO GREATER THAN 2% REACTOR POWER.				

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METHOD	PERFORMANCE STANDARD	DATE	INITIAL CONDITION	FINAL CONDITION	LICENSED OPERATOR
FEEDWATER CONTROL IN MANUAL DURING SHUTDOWN	WITH AT LEAST ONE S/G IN MANUAL CONTROL , MAINTAIN REQUIRED S/G LEVEL DURING A PLANT SHUTDOWN FROM GREATER THAN 2% REACTOR POWER TO MODE 3.				
	WITH AT LEAST ONE S/G IN MANUAL CONTROL , MAINTAIN REQUIRED S/G LEVEL DURING A PLANT SHUTDOWN FROM GREATER THAN 2% REACTOR POWER TO MODE 3.				
FEEDWATER CONTROL IN MANUAL DURING A PLANT DOWN POWER MANEUVER	WITH AT LEAST ONE S/G IN MANUAL CONTROL , MAINTAIN REQUIRED S/G LEVEL DURING A PLANT DOWN POWER MANEUVER OF 5% OR GREATER				
	WITH AT LEAST ONE S/G IN MANUAL CONTROL , MAINTAIN REQUIRED S/G LEVEL DURING A PLANT DOWN POWER MANEUVER OF 5% OR GREATER				
FEEDWATER CONTROL IN MANUAL DURING A PLANT UP POWER MANEUVER	WITH AT LEAST ONE S/G IN MANUAL CONTROL , MAINTAIN REQUIRED S/G LEVEL DURING A PLANT UP POWER MANEUVER OF 5% OR GREATER				
	WITH AT LEAST ONE S/G IN MANUAL CONTROL , MAINTAIN REQUIRED S/G LEVEL DURING A PLANT UP POWER MANEUVER OF 5% OR GREATER				

ATTACHMENT 1

(Page 3 of 3)

- Transient and Accident Analysis
- Operational Experience and Modifications
- Pre-License Audit Examination (prepared and conducted by trainers other than the instructors who taught the course and given at the end of the module.

The trainee will spend a minimum of 13 weeks on-shift comprised of a minimum of 520 hrs of the operating experience module as extra person on shift in training for that position. During this time, the trainee shall be under the direct supervision of on-shift licensed personnel. Additionally, each trainee will be responsible for completing Checkout Cards performance items and system checkouts as scheduled. Scheduling of checkouts by NTC instructors should have the concurrence of the SNSS and should not impact trainee involvement in plant operations. The remainder of this module, will be divided between the classroom and the simulator. Satisfactory progress must be maintained by the trainee as stated in section 4.5.

MODULE IV - NRC Examination Preparation (Duration 4 Weeks)**Prerequisites**

1. Completion of the appropriate Salem or Hope Creek NEO program.

Topics

The audit examination results are to be analyzed to identify any individual or generic weaknesses. The NRC Examination Preparation Module addresses these weaknesses prior to the NRC Examination. The contents of this module will be developed by the Lead Instructor - Salem or Hope Creek Replacement License Training, as appropriate, and will be approved by the Training Supervisor - Salem or Hope Creek License Operator Training, as appropriate. Plant management should evaluate each candidate regarding these problem areas. This evaluation shall occur prior to submission of the NRC license application (Form NRC-398). It should ensure that performance problems have been corrected, and it shall re-establish the need for the candidate to perform license duties at the plant. Documentation of all Post-Audit training should be maintained with the course record.

QUALIFICATION CHECKOUT CARD (Continuation)

Hope Creek Senior Reactor Operator Training Program
 Hope Creek SRO ILT Operating Experience
 Hope Creek SRO QCC

Name: _____

SSN: _____

QCC: NOH04IPTSROG

SECTION IV WATCHSTANDING REQUIREMENTS

WATCHSTANDING ITEMS

Action Code

Given the assignment, COMPLETE a minimum of 13 weeks or 520 hours (which ever is longer) with a minimum of 6 weeks at greater than 20% reactor power as an extra person on shift in the training program for the senior reactor operator position. P

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Total hours/weeks On-Shift:							

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