

Original Issue: 112873  
Revisions: 1: 031075 2: 111389

MICHIGAN MEMORIAL-PHOENIX PROJECT  
THE UNIVERSITY OF MICHIGAN

REQUALIFICATION PROGRAM  
FORD NUCLEAR REACTOR

Licensed Reactor Operators  
Licensed Senior Reactor Operators

The University of Michigan  
Ann Arbor, Michigan

License R-28  
Docket 50-2

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OPERATOR REQUALIFICATION PROGRAM

1. INTRODUCTION

During each calendar year, a comprehensive written requalification examination is administered to all NRC licensed operators at the Ford Nuclear Reactor. The examination is of equal scope and difficulty to the license examinations administered by examiners from the Operator Licensing Branch of the NRC. Annually, an operator performance evaluation is made of each operator during a reactivity manipulation. If any deficient areas are discovered during the requalification examination or operational performance evaluation, a retraining program is initiated for licensed operators in the areas of deficiency.

2. REQUALIFICATION PROGRAM

2.1 Annual Written Requalification Examination. A comprehensive annual written requalification examination is given to all licensed operators. The examination includes questions on subjects as specified in 10CFR55.21 for operators and 10CFR55.22 for senior operators. Examination questions are of comparable complexity to questions given at the facility during NRC administered license examinations.

2.2 Operator Performance Evaluation. Annually, the performance and competence of licensed operators is observed and evaluated during a reactor reactivity manipulation. In preparation for the performance evaluation, licensed operators are required to review abnormal and emergency procedures. The evaluation includes an oral examination on abnormal and emergency procedures and the operator's actions and responsibilities during emergency conditions. | 2  
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2.3 Examination and Performance Standards.

2.3.1 A licensed operator who scores 80% or higher in all areas of the annual written requalification examinations and demonstrates the ability to operate the reactor safely in the operator performance evaluation is thereby requalified.

2.3.2 A requalification examination score below 80% in any area requires the licensed operator to participate in a retraining program in the areas of deficiency.

2.3.3 An overall requalification examination score below 70% requires that management review all aspects of the operator's performance and complete an Operator Performance Evaluation within one week to determine his competence to operate the reactor safely and whether removal from licensed duties is warranted. in and successful completion of an accelerated retraining program is required.

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2.3.4 A licensed operator who is evaluated as overall unsatisfactory during the operator performance evaluation is reviewed within one week by management to determine his competence to safely operate the reactor and whether removal from licensed duties is warranted. The licensed operator is given a repeat operator performance evaluation or is removed from licensed duties until he successfully completes an accelerated retraining program.

2.4 Retraining Program. The licensed operator retraining program consists of:

- a. Self-study; and
- b. Preplanned lectures or tutoring sessions; followed by;
- c. Written or oral examination.

in the areas of deficiency from the requalification examination. Retraining is scheduled by the Nuclear Reactor Laboratory Manager or the Assistant Manager for Operations. An operator must score 80% or higher on an examination in each area of deficiency in order to satisfactorily complete retraining.

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2.5 Accelerated Retraining Program. The accelerated retraining program for licensed operators consists of:

- a. Self-Study; and
- b. Preplanned lectures or tutoring sessions; followed by;
- c. Written examination.

in the areas of deficiency from the requalification examination and operator performance evaluation. The accelerated retraining program is scheduled by the Nuclear Reactor Laboratory Manager or the Assistant Manager for Operations to be conducted within 90 days following determination of deficient areas. An operator must score 80% or higher on a written examination in each area of deficiency in order to satisfactorily complete accelerated retraining. | 2

2.6 Retraining Study Materials. A complete set of study and reference materials is provided for use by the licensed operators. The Nuclear Reactor Laboratory Manager or the Assistant Manager for Operations reviews the materials regularly to ensure that they are current, adequate, and that they accurately reflect operations, conditions, and design features of the facility. Licensed operators are informed by memorandum or meeting of changes to study materials. Retraining study materials include as a minimum the following: | 2

- a. A reference text on reactor physics.
- b. Copies of the operating procedures for the facility.
- c. Copies of the Technical Specifications for the facility.
- d. Copies of emergency procedures for the facility.
- e. A summary description of facility characteristics.
- f. Building and control drawings for the facility.
- g. Copies of 10CFR20, 50, and 55.
- h. Reference materials on health physics principles and techniques.

### 3. SPECIAL CONDITIONS

3.1 Reactivity Manipulations. Semi-annually, each licensed operator is reviewed with regard to the number of reactivity manipulations performed or directed over the previous six month period to assure that five or more manipulations are completed in a distributed fashion over each annual requalification period. Reactivity manipulations may be any combination of reactor start-ups, shutdowns or other manipulations that demonstrate skill and familiarity with reactivity control systems and procedures.

- 3.2 NRC License Renewal. An operator whose license is due for renewal while he is in a requalification program is provided with a letter of certification indicating that he is currently enrolled in the requalification program. The letter of certification indicates the anticipated date when that requalification program will be completed for the individual.
- 3.3 Extended Absence from Operation. A licensed operator who has not participated in reactor operation for four or more months is given an oral examination by the Nuclear Reactor Laboratory Manager or the Assistant Manager for Operations on facility and procedure changes and performs a reactivity manipulation before being reassigned regular operational duties at the facility, provided the operator is up to date on the annual requalification examination. The results of the oral and performance examination provide the basis for recertification of competence to the NRC as required by 10CFR55.31(e). | 2
- 3.4 NRC License Examination. Successful completion of the initial NRC licensing examination satisfies the licensee's annual retraining requirements. Such an individual's retraining program is started with the next comprehensive examination scheduled at least 6 months after the licensee's initial licensing date.
- 3.5 Requalification Examination Exemptions. The Nuclear Reactor Laboratory Manager, and the Assistant Managers are responsible for the preparation, grading, and evaluation of the results of the requalification examination, operator performance evaluation, and any subsequent retraining effort. They are thereby considered as having satisfactorily completed the examination and performance evaluation. | 2

#### 4. RECORDS

The following records are retained at the facility for a period of five years.

- 4.1 Examinations. Written examinations taken by licensed operators during each requalification period including the requalification examination, retraining examinations, and accelerated retraining examinations.
- 4.2 Examination Review Sheet. Examination review sheets that indicate the licensed operator's score for each area of the requalification examination and scores on retraining and accelerated retraining examinations in areas of deficiency.

- 4.3 Operator Performance Evaluation Record. Observational records completed when observing the licensed operator's operational performance including a description of the reactor reactivity manipulation performed and the areas covered in the oral examination on abnormal and emergency procedures.
- 4.4 Retraining Schedule. Retraining and accelerated retraining schedules developed for each licensed operator requiring retraining or accelerated retraining.
- 4.5 Reactivity Manipulation Summary. Summaries of the reactivity manipulations for licensed operators involved in the requalification program.

