



PULSTAR REACTOR (R-77) REQUALIFICATION PROGRAM

for

LICENSED REACTOR OPERATORS

and

LICENSED SENIOR REACTOR OPERATORS

REVISION 5

March 12, 1975

Revision 4 of this plan was approved by the NRC on 3/12/75. Approval was with the provision that 2 changes be made in the text. Revision 5 incorporates those mandated changes and is thus an approved part of our operating license.

This training program will be in effect from March 12, 1975 until it is superseded by a revised plan approved by the Nuclear Regulatory Commission (NRC).

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## I Introduction

The purpose of this requalification program is to take into account the requirements of 10 CFR 50.54(i-1) while recognizing the problems associated with a requalification program for research reactors which have a limited training staff available. This requalification program meets these purposes while providing flexibility which enables a small facility with minimum staff to complete the program annually.

## II General Conduct of Program

The first half of each calendar year will be used to upgrade the skills and knowledge of all licensed reactor operators. This will be done through the use of study guides, question and answer sessions, and lectures, used in any combination. Near mid year, a comprehensive examination will be given, covering all subject areas. The last half of the year will be used to retrain operators who were deficient in specific parts of the comprehensive examination.

The comprehensive examination will be of a complexity equivalent to the examination given at this facility by the examiners from the Operator Licensing Branch of the NRC. The comprehensive exam may be given in parts; however, each person taking the exam will complete it within a time span of two weeks or less.

The Operation Manager is responsible for implementation of this retraining program. The Operations Manager may delegate retraining responsibilities for specific topics to other qualified individuals. The person responsible for a topic area will be considered as having completed retraining in that specific topic for that year. If some or all topics are delegated to others for retraining, the Operations Manager still has overall responsibilities for the program, and must review and approve all exams and evaluations.

Subsequent to determining any deficiencies indicated by the examination, a retraining program will be initiated which consists of a combination of preplanned lectures, self-study by the licensee, tutoring of licensees, and appropriate examination on the material covered. The final selection of the combination of the retraining technique to be employed and the subjects appropriate for these retraining sessions will be dependent upon the performance of employees on the written examinations. This program of retraining will be accelerated if operator deficiencies are noted which are considered serious.

In each calendar year, the facility personnel responsible for the retraining program will review all study materials being used at the facility as part of the retraining program to assure that the materials are current. All study materials appropriate to the retraining program will be collected and made available to all operational personnel throughout the course of the year.

Those aspects of the program which relate to observation of operator performance and manipulative experience will be distributed throughout

the year. The status of each licensed operator will be reviewed tri-annually to ensure that his reactivity manipulations and operating performance exceeds minimum requirements.

Twice each year, all operators will be required to review the Facility's abnormal and emergency operating procedures.

### III Program Detail

The Annual Written Examination given to all licensed personnel will include questions taken from the following topics:

- a. Theory and principles of operation;
- b. General and specific plant operating characteristics;
- c. Plant instrumentation and control systems;
- d. Plant design features and mechanical systems;
- e. Normal, abnormal and emergency operating procedures;
- f. Radiation control and safety;
- g. Technical specifications and safety analysis;
- h. Applicable portions of Title 10, Chapter 1, CFR;
- i. Facility security and requalification programs.

The annual comprehensive exam will be given near the middle of the calendar year. The exam may be given in groups of several topics at a time, distributed over a period of time not to exceed two weeks. All examinations will be given under closed book conditions.

When the examinations are completed, they will be reviewed and graded. These graded examinations will be retained at the Facility. For each licensee, a review form will be prepared which indicates the grade obtained by the licensee on each category. The areas of deficiency and the retraining which is to be followed in improving the competency of the licensee in that area will then be determined. A grade of less than 80% in a category will be considered substandard and will require retraining in that area.

#### Retraining Program

The retraining program will consist of an appropriate series of:

1. Preplanned lectures and/or
2. Tutoring sessions and,
3. Self-study of reference material.

as may be indicated to correct any deficiencies noted during the review of the written examinations.

The reexamination will meet the general criteria outlined for the comprehensive examinations as indicated previously, however, the scope of the exam may be narrowed to the specific areas of weakness exhibited by the operator. At the discretion of the training officer, the re-exam may be given orally. Such oral exams must be documented. Written reexams will be graded and included in the licensee's file. Retraining

will continue until the licensee scores at least 80% in the deficient category.

If an operator scores less than 70% in the overall comprehensive examination, then that operator will be subjected to an oral examination and an operation evaluation within one week after the determination of his grade. The operator will then be summoned to a hearing before the Operating Committee. The Committee will consider the results of the written and oral exams and the operation evaluation to judge the competence of the operator. Based on their findings, the Committee will recommend a course of action. The course to be taken would be selected from a broad range of options such as - removal from duty, removal from supervisor status, intense personal tutoring, physical examination, self-study with a short deadline for reexam, etc.

#### Operator Performance Observation

Once each year, the performance and competency of licensed operators will be observed and evaluated during one of their reactivity manipulations. The observation will include a discussion of the licensee's actions and responsibilities during simulated emergency conditions. The observed performance will be done approximately six months from the comprehensive exam in order to spread the training activity over the year. If the Operator Performance Observation is unsatisfactory, the Operating Committee will review the results within one week. Based on their findings the Committee will recommend removal from duty, removal from supervisor status, intense personal tutoring, physical examination, or self-study with a short deadline for reexamination.

If an actual emergency situation should occur, the response of all associated operators and senior operators will be evaluated to the extent possible. This will be in addition to the annual evaluations.

The evaluations of the operator's performance will be included in his files.

#### Operator Information Provisions

The licensed operators will be informed of any changes made to the Facility license, changes in procedures, or alteration of Facility conditions. The information will be in the form of a written memo with a copy given to each operator. An additional copy will be filed as a permanent record.

#### Retraining Study Materials

A complete set of study and reference materials will be provided for use by the operator licensees during their retraining program. It will be the responsibility of the Facility retraining personnel to review regularly the contents of these reference materials to ensure that they are adequate and that they accurately reflect operations, conditions, and design characteristics of the Facility. These materials shall include as a minimum the following items:

- A. A suitable general 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 10 CFR 20, 50 and 55.
- H. Reference material on Health Physics principles and techniques.

#### IV Special Conditions

- 1. Only the Operations Manager will be entirely exempted from the provisions of this training program. Duly-appointed training assistants may be exempted from parts of the program for which they are responsible.
- 2. An operator whose license is due for renewal while he is in a requalification program will be provided with a letter of certification indicating that he is currently enrolled in the requalification program. This letter of certification will indicate the anticipated date when that requalification program will be completed for the individual.
- 3. All licensed Facility personnel who do not participate in Facility operation for four or more months will be given an oral examination on Facility and procedure changes and perform a reactivity manipulation under the observation of a member of the Facility retraining group before being re-assigned regular operational duties at the Facility, provided he is up to date on the current training program. The results of the oral and performance examinations provide the basis for recertification of competence to the NRC as required by 10 CFR 55.31 (e).
- 4. Successful completion of the initial NRC licensing examinations will be considered to satisfy the licensee's annual comprehensive exam requirement for that year.

#### V Records

The following records will be retained at the Facility for a period of four years:

- 1. All examinations and answers, and required reexaminations which were taken by the licensee during each yearly requalification period.
- 2. The operator observational records completed when observing the operating competence of that licensee plus documentation of any retraining required as a result of the observed performance.

3. Summaries of control manipulations for licensees involved in the requalification program.

OPERATING COMMITTEE APPROVAL:

Administration *E. E. Howard*

Operations *Philip M. Olesky*

Radiation Protection *J. M. Wickhorst*