

Nuclear Reactor Laboratory  
College of Engineering  
Michigan State University

Requalification Program for Licensed Operators

A. Purpose

Pursuant to 10 CFR Parts 50 and 55, all operating personnel for the Michigan State University reactor must be licensed by the Nuclear Regulatory Commission. Said licenses are for a two-year period and are renewable if the holder maintains technical competence and suitable physical abilities to enable him/her to safely operate the reactor.

B. Scope

The requalification program is designed to evaluate and update the competence of existing licensed reactor operators on a continuing basis not to exceed two years. The conduct of the program shall be the responsibility of the Reactor Supervisor. He may delegate to various members of the reactor operating staff the responsibility of preparing sections of the bi-annual examination (see below) and conduct lectures, training and/or tutoring sessions for those sections. The staff members preparing the specific sections may be exempt from the participation in these sections other than as lecturers as outlined above.

C. Content

The requalification program will consist of the following:

- a. Written examinations will be administered to all licensed operators and senior operators during the Fall Academic Quarter of even numbered years. These examinations must include representative questions on the following subjects:
  1. Theory and principles of reactor planning
  2. General and specific plant operating characteristics
  3. Plant instrumentation and control systems
  4. Engineered safety systems

5. Normal, abnormal and emergency operating procedures
6. Radiation control and safety
7. Technical specifications
8. Other pertinent legal and technical subjects.

> 9. Facility safety systems

Evaluation of the performance of the licensed operators will be in accordance with the following rating scale:

1. Less than 70% grade on the overall examination will necessitate the termination of the performance of any licensed duties by the operator and the immediate conduct of such training as may be needed to upgrade the skills of the operator as demonstrated by further examinations.
2. Greater than 80% grade on any sections of the examination will eliminate the need of further classroom training.
3. Inadequate performance on any part of the operating evaluation specified in section d below may result in a training requirement outlined in sections 1 or 2 above.
  - b. Lecture, film demonstrations, or tutoring sessions will be prepared and given to those personnel demonstrating weaknesses in the various sections of the bi-annual examination. These classes will be set up by appointment through the Reactor Supervisor. Periodically during the training period, written examinations will be given by the instructor to assure that the students are learning the materials.
  - c. On the job training of each operator will include at least 10 reactivity control manipulations per year under the supervision of > a licensed senior reactor operator, in any combination of reactor start-ups, reactor shutdowns, or significant reactivity changes. This training shall include an evaluation of the operator's performance under normal and simulated emergency operations. Individual exceptions will be allowed when approved by the Reactor Safety Committee and the Nuclear Regulatory Commission, Division of Operator Licensing.
  - d. Changes in facility design, procedures and license will be documented by memo to all operators within one week of their implementation. Understanding of these changes will be evaluated as part of the bi-annual examination.

- e. An annual review of the facility emergency procedures will be undertaken by all licensed operators. This will include, where practical, participation in education and re-entry drills. Knowledge of the emergency procedures will be evaluated as part of the bi-annual examination.

D. Records will be kept of the following phases of the requalification program for 2 years (10 CFR 55, Appendix A requires that these records must be maintained for a period of two years from the date of the recorded event.)

- a. Bi-Annual examination questions, answers, and grades.
- b. Results of on-the-job evaluation for each operator.

E. Operator Absences

Pursuant to 10 CFR 55 Para 55.3(e), "If a licensee has not been actively performing the functions of an operator or senior operator for a period of four months or longer, he shall, prior to resuming activities licensed pursuant to this part, demonstrate to the Commission that the knowledge and understanding of facility operation and administration are satisfactory. The commission may accept as evidence a certification by an authorized representative of the facility licensee by which the licensee is employed."