

Manhattan College Zero Power Reactor
Operator Requalification Program
(Rev. 3, June 1, 1984)

Since the Manhattan College Zero Power Reactor is a research and test reactor licensed only for 0.1 watt maximum, the requalification program is guided by paragraph 7 of 10CFR55, Appendix A. In accordance with paragraph 7 of 10CFR55, Appendix A, the requalification program will conform generally but will not be identical to paragraphs 1 through 6 of 10CFR55, Appendix A. The program will be operated by the current Chief Reactor Supervisor.

1. Schedule. The requalification program will be conducted continuously over two year cycles. Each cycle will begin on September 1 of even numbered years. The program will be revised as needed for each succeeding cycle to account for changes in equipment or operating procedures. Any revisions shall be submitted to the Nuclear Regulatory Commission for approval and authorization prior to implementation. For any individual whose Reactor Operator or Senior Reactor Operator license approaches expiration during the two year cycle, a written examination illustrating the effectiveness of the program will be administered.
2. Lectures. In consideration of the primary use of the Manhattan College Zero Power Reactor (MCZPR) as a teaching and demonstration tool for nuclear engineering courses, each licensed operator or senior operator normally must prepare and present lectures each semester on the theory, operation, and safety features of the MCZPR and nuclear facility. As part of the requalification program, the preparation and presentation of at least one lecture with a laboratory demonstration each semester on these subjects will be required of each licensed operator or senior operator.
3. On-the-Job Training. Since the MCZPR is a small research and test reactor, the requalification program requirements for production or utilization facilities do not strictly apply. However all licensed operators and senior operators will be required to make a complete checkout of the reactor and bring it to criticality at least once every four months. All licensed operators and senior operators will be required to perform at least 10 reactivity control manipulations during the two year licensed period.

3. (continued)

As has been the practice, all licensed operators and senior operators will serve on the Reactor Operations Committee. This insures that each licensed operator and senior operator is cognizant of facility design changes, procedure changes, facility license changes and is aware of emergency procedures. The Reactor Operations Committee meets at least once each semester and maintains complete records of its meetings and activities.

4. Evaluation. Each licensed operator and senior operator shall be required to submit biennially to a written examination. The examination will include the following topics:

- (1) Nuclear Theory and Principles of Operation
- (2) Design and Operating Characteristics
- (3) Facility Instrumentation and Control Systems
- (4) Facility Safety Systems and Engineered Safety Features
- (5) Normal, Abnormal, and Emergency Procedures
- (6) Radiation Control and Safety
- (7) Technical Specification and Bases

Any licensed operator or senior operator who scores less than 80% overall or 70% in a category will be required to have additional training and required to take a makeup examination. All examinations will be kept on file for at least two years.

As administrator of the requalification program, the Chief Reactor Supervisor will be exempt from the requirement to submit to the biennial examination. However, a newly appointed Chief Reactor Supervisor must submit to a written examination (administered by the outgoing Chief Reactor Supervisor) at some time during the first three months of his appointment.

Licensed operators or senior operators shall be observed by the Chief Reactor Supervisor, at least once every four months, in checking out the reactor and bringing the reactor to criticality. A newly appointed Chief Reactor Supervisor, upon certification by the previous Chief Reactor Supervisor that his performance in checking out and operating the reactor is satisfactory, shall be exempt from further observation.

4. (continued)

Any licensed operator or senior operator who has not checked out and operated the reactor for a period of four months shall be required to pass the written examination in Section 4 above and be certified by the Chief Reactor Supervisor that his performance in checking out and operating the reactor is satisfactory. Any operator or senior operator who has not checked out and operated the reactor for a period of four months and wishes to resume licensed duties shall also meet all other requirements of this Requalification Program. The Regional Administrator, Region I, shall be informed of the resumption of duties.

5. Records. Records documenting the participation of each licensed operator and senior operator in the requalification program will be maintained for a minimum of two years from the date of each recorded event. The records shall contain copies of all examinations and evaluations.

6. Alternative training programs. Such programs are not required for the MCZPR.