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March 9, 2011

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: Docket 50-156, License R-74
University Of Wisconsin Nuclear Reactor
Approved Requalification Program

Dear Sirs:

At the request of Commission staff, the following historical documents are being submitted for archiving in ADAMS.

Document	Issue Date
Operator Proficiency Maintenance Program	02/07/1974
NRC Program Approval	03/29/1974

Sincerely,

Robert J. Agasie
Reactor Director

A020
NRR

The University of Wisconsin

NUCLEAR ENGINEERING DEPARTMENT
PHONE 262-3391, AREA CODE 608

ADDRESS:
MECHANICAL ENGINEERING BUILDING
MADISON, WISCONSIN 53706

February 7, 1974

Paul F. Collins, Chief
Operator Licensing Branch
Directorate of Reactor Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Docket 50-156
Operator Proficiency
Maintenance Program

Dear Sir:

The additional information requested by your letter of 31 January 1974 has been incorporated in a revised draft of our October 24, 1973 submittal. A new Section D, Accelerated Training Program, has been added and changes have been made in several other sections to concur with your comments or to clarify intent.

This submission replaces the October submission.

Very truly yours,

R. J. Cashwell
Reactor Supervisor

RJC:eh

CC: All licensed personnel
Reactor Safety Committee
Reactor Director

Revised 2/7/74

UNIVERSITY OF WISCONSIN NUCLEAR REACTOR OPERATOR PROFICIENCY MAINTENANCE PROGRAM

INTRODUCTION

Operation of the University of Wisconsin Nuclear Reactor is presently of such a nature that all operating personnel are exposed to large numbers of significant reactivity changes, low power physics testing, critical experiments, and the like. In addition to the program described below, laboratory experiments performed for University classes include aspects of operator cognizance which assist in maintaining operator competence.

Since the program will be administered by senior operator level personnel, some deviations from the standard program are necessary for those personnel. In particular, the senior operator preparing and grading the examinations will be credited with successfully passing the examination. Likewise, the individual preparing and presenting a lecture will be credited with full participation in that lecture. Finally, the reactor supervisor will perform evaluations of operator performance and the assumption must be made that his own performance is satisfactory.

A. LECTURES

Subjects covered in lectures and the order of priority are listed below:

Lecture Priorities

1. License, Technical Specification, and Facility Design changes;

2. New procedures and procedure changes;

3. Emergency procedures;

4. Areas of deficiency as shown by examinations and operator evaluations.

All licensed personnel must attend lectures in the first three priorities, while lectures in the fourth priority are required only for those individuals scoring examination grades below 80 per cent on the category of the annual comprehensive exam covered by the lecture. Attendance of priority four lectures by other operators will be permitted and encouraged. It is expected that the lecture time required for categories 1 through 3 will be about twelve hours per year unless substantial facility changes are made. Additional

lectures on subjects such as experiments to be conducted or university laboratory courses in which operators act as assistant instructors will provide the equivalent of eight to twelve lecture hours.

Unless examination results indicate a need for remedial training, then, lectures will average about two hours per month with most of the lectures distributed through the period September through May.

Lectures in the Operator Proficiency Maintenance Program may be combined with training programs for non-licensed personnel (e.g., qualification of unlicensed personnel, applicable departmental college level classes, or operator training courses conducted for other organizations).

Lectures on emergency and abnormal procedures may be incorporated into semi-annual Emergency Procedure Drills.

B. ON THE JOB TRAINING

Operator responsibilities at UWNR include items of maintenance, sampling, and health physics monitoring. In general one operator is given responsibility for such an area. In order to assure cross-training on the auxiliary assignments, a system of rotation of operators between such assignments will assure that each operator will, during each two-year cycle, work in each of the other areas of responsibility under the tutelage of the operator responsible for that area. There cannot be complete cross-training, however, due to specific skills required in some areas (e.g., Electronic corrective maintenance activities will not be included in cross-training, while calibration or preventive maintenance conducted by detailed checklist procedures may be included.)

Training and drills in Emergency Procedures are conducted semi-annually.

Reactor operation schedules at UWNR are such that each licensed operator and senior operator experiences many significant reactivity change manipulations during the term of his license. In order to assure that such operating experience is distributed throughout the license term, however, the program will require each licensed operator and senior operator to manipulate the controls for at least one significant reactivity change each calendar quarter.

Significant reactivity changes are defined as:

(1) Reactor startup from a substantially subcritical condition;

(2) Reactor shutdown;

(3) Power level changes of more than 100 KW;

(4) Pulse sequences (level the reactor, fire a pulse, and recover or complete shutdown;

(5) Rising period control element calibration sequence, (control element withdrawal for desired positive period, stop power rise by control element swapping, level reactor at original power level;

(6) Any other control operation of similar nature (square wave, rod drop measurements of shutdown margin, etc.).

C. PERFORMANCE EVALUATION

1. Written examinations

An annual comprehensive written examination will be administered and graded to determine whether remedial lectures are needed. A grade of less than 80% on a category will require the attendance of the individual at a lecture on the material constituting the area of weakness. A grade of less than 70% on the entire exam will be considered to indicate less than acceptable competence and will be cause for the individual to be removed from licensed duties and enrolled in an accelerated training program (See Section D.).

The annual written examination will cover at least the following areas:

(a) Theory and principles of operation;

(b) General and specific plant operating characteristics;

(c) Plant instrumentation and control systems;

(d) Plant protection systems (fire and intrusion alarms, external alarms);

(e) Normal, abnormal, and emergency operating procedures;

(f) Radiation control and safety;

(g) License provisions and technical specifications, University Radiation Safety Regulations;

(h) Applicable portions of Title 10, Chapter 1, Code of Federal Regulations.

In addition to the annual comprehensive examinations, examinations will be used to check the effectiveness of remedial lectures and to assure that new material presented is retained by operating personnel. Further, written examinations will be used in coordination with emergency procedure drills to evaluate knowledge of emergency procedures.

In general the same examination will be administered to operators and senior operators, although the requirements for a satisfactory response may be different for the two types of licensed personnel.

2. Oral Examinations and Performance Evaluations

Performance evaluations will be conducted quarterly, including observation and rating of operator performance during operation of the reactor. The quarterly evaluation will also include oral examination of responses to annunciators, instrument malfunctions, or other abnormal or emergency conditions. A rating form will be used for these evaluations and retained in the training file. As for written examinations, areas of deficiency revealed by performance evaluations will be covered by remedial lectures. An unsatisfactory evaluation will result in removal of the individual from his licensed duties and his enrollment in an accelerated training program (Sect. D).

In the event licensed personnel have not performed licensed functions in a period exceeding four months, a satisfactory evaluation as described above will be required before the individual may resume licensed activities.

D. ACCELERATED TRAINING PROGRAM

Should an individual receive an annual comprehensive written examination grade of less than 70% or an unsatisfactory performance evualuation, he will be relieved of licensed duties and immediately enrolled in an intensive retraining program. This program will be scheduled to allow completion and re-evaluation within six months or before expiration of his current license, whichever occurs first. The content of the accelerated program will be selected according to the indicated areas of deficiency.

Documentation of removal of an individual from licensed duties will be in the form of a letter to the individual, with copies to members of the operating organization and the individual's training file.

At the conclusion of the accelerated training program, an evaluation will be performed, based on examinations covering the areas of deficiencies. The evaluation will include an oral examination and performance evaluation similar to the quarterly evaluations, and it will also be based on written examinations administered in the course of remedial training. Upon satisfactory evaluation, a letter--distributed as indicated in the paragraph above--will be prepared stating the evaluation results and informing the operating organization of reinstatement to licensed duties.

F. RECORDS

A file will be maintained for each licensed individual, containing:

(1) Graded written examinations, and

(2) Completed performance evaluation check sheets, including oral examination abstracts, and

(3) Any documents reflecting removal from licensed activities or restoring to normal licensed activities.

A master training file will contain outlines of all formal lectures and copies of examinations and answers.

A Training Status Record will be maintained, showing for each licensed individual:

(1) Grades on written examinations;

(2) Attendance at lectures (whether required or not);

(3) Number of significant reactivity changes he has accomplished each month;

(4) That quarterly evaluation has been accomplished.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

MAR 29 1974

Docket No. 50-156

The University of Wisconsin
ATTN: Mr. R. J. Cashwell,
Reactor Supervisor
Mechanical Engineering Building
Madison, Wisconsin 53706

Gentlemen:

We have received and reviewed the proposed University of Wisconsin Operator Requalification Program submitted on October 24, 1973 and the revised Requalification Program submitted on February 7, 1974.

Based on our review we have determined the program meets the requirements of Section 50.54(i-1) of 10 CFR Part 50 and Appendix A of 10 CFR Part 55.

The program adequately describes:

1. The lecture series to be administered, including subjects and duration.

2. The specific manipulation of controls to meet the requirements of Section 3.a of Appendix A.

3. The methods to be employed to assure individual review of design, procedure and license changes.

4. The methods to be employed to assure individual review of abnormal and emergency procedures.

5. The specific evaluation criteria for determining attendance at a specific lecture, required participation in an accelerated requalification program and other additional training, as applicable.

MAR 29 1974

6. The records to be maintained to document each individual's participation in the program.

Sincerely,

Paul F. Collins

Paul F. Collins, Chief
Operator Licensing Branch
Directorate of Licensing