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November 06, 1995

Director
Division of Licensee Performance and Quality Evaluation
Attn: Operator Licensing Branch
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Ref: License Number: R59, Docket Number: 50-116, RIS:ZKB

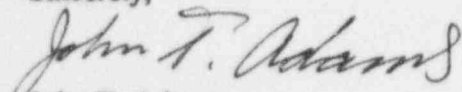
Subj: Licensed Operator Requalification Program

Dear Director:

Enclosed you will find three copies of Iowa State University's (revised) Licensed Operator Requalification Program which we are providing for NRC approval per 10 CFR 50.59. Paragraphs that have been changed from the May 31, 1995, version are underlined. The changes were made in response to the request for clarification of questions contained in Theodore S. Michaels letter dated October 05, 1995 (TAC. NO. M92577).

If there are any questions with the Licensed Operator Requalification Program provided, please feel free to contact me at 515-294-0539 during normal working hours. Thank you for your assistance.

Sincerely,



John T. Adams
Reactor Manager
Iowa State University

Enclosures

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**REQUALIFICATION PROGRAM FOR LICENSED OPERATORS
OF THE UTR-10 FACILITY
November 6, 1995**

1. Introduction

The requalification program for licensed operators of the UTR-10, facility license R-59, has been designed in accordance with the requirements found in Appendix A of 10 CFR Part 55 and has been submitted for review and approval to the Nuclear Regulatory Commission.

2. Schedule

This program shall be satisfactorily completed by licensed operators for requalification. The requalification program shall be conducted continuously over a period not to exceed two years. A statement shall be included in the application for licensee renewal that the operator has satisfactorily completed this requalification program. The schedule for the annual written exam is based on availability of operators and staff, target dates for all other items are based on the effective date of the individual's operating license.

Academic schedules and other extenuating circumstances may require adjustment of target dates. A waiver request to deviate from the prescribed schedule shall be submitted in writing by the license holder to the Reactor Manager and the Facility Director.

3. Training Staff

The Reactor Manager shall appoint two individuals holding valid senior reactor operator licenses for facility license R-59, to the positions of Training Coordinator and Training Assistant Coordinator. The Facility Director must approve the appointments. The term of appointments shall be one year and may be renewed. The Reactor Manager may hold either position. The Training Coordinator or Training Assistant Coordinator shall be jointly responsible for:

- a. The overall administration of this program.
- b. Scheduling of the annual written exam.
- c. Grading the annual written exams and reviewing the exams with the operators.
- d. Creating remedial programs for operators as required.
- e. Periodically reviewing all operator's on-the-job training checklists to ensure that they are making satisfactory progress.
- f. Scheduling the annual operator performance evaluations and arranging for an examiner to conduct the evaluation.
- g. Maintaining all qualification and requalification records required by Section 4.
- h. Insuring that all newly licensed operators are aware of the requalification requirements of this program.
- i. Annually reviewing the content of this program.

The Training Coordinator and Training Assistant Coordinator are independently responsible for creating and grading separate annual written exams. The Training Coordinator and Training Assistant Coordinator shall take the annual written exam written by their counterpart.

4. **Records**

Records of each license holders participation in the requalification program shall be maintained through entries in the Nuclear Engineering Laboratory Training log and in the operator's training file. Copies of written examinations and the operator's answers along with operating test and routine observation data shall be retained in the operator's training file. Records shall be adequate to document that the operator has made satisfactory progress in the requalification program or that the operator has been routed into a retraining program.

5. **Training**

This program phase describes specifications for maintaining proficiency in operation of the UTR-10. The completion of the activities listed below shall be recorded in the Nuclear Engineering Laboratory Training log.

- 5.1 Each licensed operator shall manipulate the facility controls, and each licensed senior operator shall either manipulate the facility controls or direct the activities of individuals during facility control manipulations, so that ten reactivity control manipulations, in any combination, from the following list are accomplished annually:
- a. Reactor startup and attainment of criticality.
 - b. A minimum of a two-decade power change in the manual control mode, steady-state power must be achieved before and after the power change.
- 5.2 Each licensed operator shall be briefed as soon as practicable after any of the following changes have been instituted:
- a. Procedure changes.
 - b. Facility design changes.
 - c. Facility license changes.
- 5.3 Each licensed operator shall review the abnormal and emergency procedures on a biannual basis, the frequency of which is not to exceed seven months. These intervals begin with the effective date of the operator's license.
- 5.4 Each licensed operator shall attend preplanned lectures annually on the following subject areas:
- a. Reactor Theory and Principles of Operation
 - b. Plant Operating Characteristics
 - c. Plant Instrumentation and Control Systems
 - d. Nuclear Instrumentation, Reactor Protection System, and Alarms
 - e. Normal, Abnormal, and Emergency Procedures
 - f. Radiation Control and Safety
 - g. Technical Specifications
 - h. Emergency Plan

6. Evaluation and Retraining

This program phase specifies the scope and minimum performance criteria to evaluate operator proficiency. In addition, retraining requirements are established for operators deficient in recency of experience and for operators who fail to meet minimum proficiency standards.

6.1 Annual Written Examination

A comprehensive written examination shall be administered annually (the interval between exams shall not exceed 15 months) to all operators and senior operators who have been licensed for more than three months {see 10 CFR 50.54(i-1)}. The examination will consist of a representative sample of questions from the categories found in 10 CFR 55.41 (b) (1) through 10 CFR 55.41 (b) (14) and 10 CFR 55.43 (b) (1) through 10 CFR 55.43 (b) (7), to the extent they are applicable to the facility.

This examination will be of equivalent scope and complexity to the license examinations given by the N.R.C. The examination's function is to establish the operator's knowledge level in all areas applicable to the operator's licensed activities. Examination scores will reflect areas in which the operator needs remediation. An overall score of 70%, as well as a score of 70% in each individual section, is required to pass the exam. Operators with non-passing overall scores shall be required to successfully complete a remediation program before resuming licensed activities. Operators failing one section of the exam, but achieving an overall passing grade, may continue their duties during remediation.

Minimum performance criteria and retraining requirements are as follows:

- a. An operator achieving a total score of greater than or equal to 70% and a score of less than 80% in any subject area shall attend lectures on all subject areas in which less than 80% score was attained. The operator shall be re-tested in each of these areas by written examination, with the 80% criterion in effect for satisfactory completion.
- b. An operator achieving a total score of less than 70% shall be removed from all licensed duties, and shall be required to successfully complete a remediation program, including the satisfactory completion of written exam that is equivalent in scope and complexity to the license examinations given by the N.R.C. before resuming licensed activities. Satisfactory completion criterion for the retest is 80% in all sections.

6.2 Annual Operating Test

The operating test shall consist of manipulations of the facility controls while a Training Staff member observes and evaluates the performance of the licensed operator. The scope of the test shall include, to the extent applicable, the areas listed in 10 CFR 55.45 (a) (1) through 10 CFR 55.45 (a) (13). The test shall be scheduled on an annual basis (the interval between exams shall not exceed 15 months) beginning with the effective date of the operator's license.

Simulations, through discussion questions, of abnormal and emergency conditions may be used to assess the operator's response. The operator's verbal response will be sufficient to simulate their reaction to the abnormal or emergency condition.

The operator's performance shall be evaluated as satisfactory or unsatisfactory. The latter result will require that the operator be relieved of all licensed duties and attend lectures on the subject areas in which unsatisfactory performance was detected. After retraining, an oral

examination shall be administered on the same subject areas and when appropriate, another performance evaluation at the facility controls shall be required.

6.3 Routine observation by Supervisor and/or Training Staff.

Whenever the performance of an operator acting under normal, abnormal, or emergency conditions is unsatisfactory, the same procedure as given 6.2 above shall apply.

6.4 Recency of Experience

Whenever an operator fails to maintain an experience record as specified in 55.53(e) of 10 CFR Part 55, mainly performing the functions of an operator or senior operator for a minimum of four hours per calendar quarter, and the time period since the last manipulation is:

- a. Greater than three months but less than or equal to one year, the operator shall complete six hours of operator or senior operator functions under the instruction of an operator or senior operator, respectively and shall review any changes enumerated in 5.2.
- b. Greater than one year, the operator shall take the annual written examination, the annual operating examination, and complete the requirements listed in 6.4(a).

In the event that the entire reactor operations staff fails to maintain the required recency of experience, all of the operators shall attend six hours of lectures presented by the Training Staff on topics pertaining to reactor operations in addition to the requirements in 6.4(a) and (b).

Prior to the resumption of licensed duties, a member of the facility's Training Staff shall certify that the operator's qualifications and status of the license are current and valid. A member of the facility's Training Staff shall also verify that the licensee has completed 6 hours of licensed functions under the supervision and direction of a reactor operator or senior reactor operator as appropriate and in the position to which the individual will be assigned.

In all cases, a member of the Training Staff shall document the completion of the requirements found in section 6 of this document. Appropriate documentation shall be kept in the operator's file and/or in the Nuclear Engineering Laboratory Training log.

7. Medical Certification

Operators shall be examined biennially (not to exceed 24 months) for continued medical qualification as defined in ANSI/ANS 15.4-1988 section 7. Additional examinations may be conducted if conditions warrant as determined by the Reactor Manager or Facility Director. The Reactor Manager shall receive from the examining physician confirmation that the reactor operator meets the requirements of 10 CFR 55.33(a)(1) and ANSI/ANS 15.4-1988 section 7. The physician shall maintain records of the most recent examination.

8. **Expiration and Renewal of License**

Each operator and senior operator license expires six years after the date of issuance. Application for renewal must be completed and placed in the mail at least 30 days prior to expiration of the existing license. The Training Staff shall be responsible for ensuring that the renewal candidate has met the requirements set forth in 10 CFR 55.59 and for completing and filing with the Nuclear Regulatory Commission the items required for license renewal as described in 10 CFR 55.55 and 55.57.