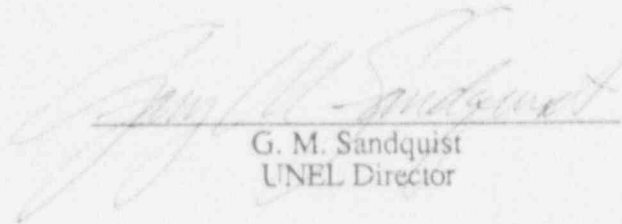



REACTOR OPERATOR REQUALIFICATION PLAN
FOR THE UNIVERSITY OF UTAH
TRIGA NUCLEAR REACTOR

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I. Purpose

This document sets forth the requirements for the Reactor Operator and Senior Reactor Operator Qualification Program for the University of Utah's TRIGA Research Nuclear Reactor (R-126) in accordance with the 10CFR55.59. The purpose of the qualification training program is to ensure that all operations personnel maintain proficiency at a level equal to or greater than that required for initial licensing.

II. Schedule

A complete qualification training program shall be offered biennially. The program consists of lectures, on the job training, and written, oral, and console evaluations. The classroom retraining includes eight different lectures to be offered at least once during the biennium. The evaluations shall be conducted annually. Each operator shall be required to perform shift duties for at least four hours during each quarter.

Each operator licensee shall complete the program biennially. The licensee shall enter the qualification program on the date the Nuclear Regulatory Commission issues either a new license or a renewal of an existing license. The licensee shall continue in the qualification program until either the expiration date of the current license or the date at which the current license is terminated.

III. Lectures

The lecture program shall include coverage of the following eight topics which shall be offered at least once during the qualification training period:

<u>Topic</u>	<u>*Reference</u>
A. Nuclear Reactor Theory	Standard Nuclear Engineering Text
B. Radiation Control and Safety	10CFR20, SOP Ch. 7
C. Governing Regulations	10CFR19, 50, 55, 70
D. Reactor Design	SAR
E. Reactor Control and Safety Systems	SAR, MA
F. Reactor Operating Characteristics	SAR, EA
G. Normal, Abnormal, and Emergency Operating Procedures	SOP Ch. 2-9 EP, PSP
H. Technical Specifications and License	TS, R-126 License

Each lecture shall include a brief review of the last Reactor Safety Committee Meeting Minutes with an emphasis on approved changes to the UNEL procedures. All of the ML entries since the last lecture shall also be reviewed. The frequent updates shall ensure that the operators are current on all UNEL activities. Any operator may be assigned to present a lecture.

* Lectures shall reference the following documents: Code of Federal Regulations (CFR), Standard Operating Procedures (SOP) for the University of Utah Nuclear Engineering Laboratory (UNEL), UNEL Safety Analysis Report (SAR), UNEL Experimental Authorizations (EA), UNEL Modification Authorizations (MA), UNEL Maintenance Log (ML), UNEL Technical Specifications (TS), UNEL Emergency Plan (EP), and the UNEL Physical Security Plan (PSP).

IV. On the Job Training

- A. Each operator shall perform licensed functions for at least four hours per quarter to satisfy 10CFR55.53(e).
- B. Each operator shall demonstrate familiarity with the following activities at least once during the biennial period;
 - 1. prestart checks,
 - 2. startup, and
 - 3. termination.
- C. Each senior operator shall perform or directly supervise the performance of the above activities with the same frequency required of an operator.

V. Evaluations

The ability of the operator to perform licensed duties shall be determined through evaluations which shall be conducted annually. The evaluations shall include written and console examinations. These examinations may be administered in any order, at any time during the year, and on different dates.

A. Written Examinations

The written examination shall be administered as a closed book exam in a controlled area. The operators shall reference only retained knowledge and shall have only paper, pencils, erasers, and calculators to complete exam. The content of the examinations shall satisfy the requirements of 10CFR55.41 and may include requirements of 10CFR55.43. The Reactor Supervisor and the Facility Director shall be responsible on an alternating yearly basis for preparing, administering and grading the written examination for all other licensed operators. The Director and the Reactor Supervisor will prepare, administer and grade the written examination to each other on a biennial basis.

B. Console Examinations

Each operator and senior operator shall demonstrate familiarity with the following operator activities during the console examination:

- 1. prestart checks,
- 2. startup,
- 3. operation at power, and
- 4. termination.

The console examinations are required only during those years in which reactor operation is possible. Console examinations may be evaluated by any senior operator. Every licensee shall participate in the console examination.

C. Grading

The criteria for grading and the assignment of pass/fail are established as follows:

- 1. Written Examination. The licensee shall be assigned a rating of either SATISFACTORY or UNSATISFACTORY. In order to obtain a rating of

SATISFACTORY, the licensee shall attain a minimum score of 70% in each section of the examination. If the licensee fails to attain a rating of SATISFACTORY, the licensee shall be removed from his licensed duties and enrolled in an accelerated training program in the deficient area.

2. Console Examination. The licensee shall be assigned a rating of either SATISFACTORY or UNSATISFACTORY. In order to attain a rating of SATISFACTORY, the licensee should demonstrate an understanding of the operation of all apparatus and mechanisms. This is evaluated through the ease and smoothness the operator performs the prestart checks, startup, power operation, and termination. If the licensee fails to attain a rating of SATISFACTORY, the licensee shall be removed from his licensed duties and enrolled in an accelerated training program in the deficient area.

VI. Operator Reinstatement

An operator may be removed from active status by failing to actively perform the functions of an operator for a period of more than three months or by failing to attain a satisfactory grade on an evaluation exam. 10CFR55.53(f) outlines the requirements for operator reinstatement.

If an operator has not actively performed the functions of an operator for a period of more than three months, he shall satisfactorily demonstrate his competence before resuming his duties. This is accomplished by performing at least six hours of licensed functions under the direction of a licensed operator or senior operator. Upon completion of this activity, the operator shall be certified for operation by the Reactor Supervisor.

If an operator has failed to attain a satisfactory grade on any evaluation, he shall demonstrate his competence before resuming his duties. This is accomplished through participation in an additional training in the area of deficiency. Upon completion of the training, the operator shall be certified for operation by the Reactor Supervisor after successfully completing another evaluation in the area of deficiency.

VII. Records

Program tracking shall be maintained through a number of logs and forms. Attendance for the lectures shall be maintained on Form NEL-032 (see appendix) as well as the date, the instructor, and the topic. In addition, the review of facility changes shall be documented in sections of NEL-032 for Maintenance Log Entries and Updated Procedures. The annual written examination key shall be kept with this information.

A record shall be maintained for each licensee and shall contain a current copy of either the licensee's reactor operator or senior reactor operator license, copies of all written examinations administered to the licensee during the requalification period, and the licensee's requalification program progress checklist Form NEL-025 (see appendix). This form shall contain the record of attended lectures, on the job training, written and console examination evaluations, a record of operator reinstatement, and medical examination completion date. Additional forms may be kept in the licensee's record to provide supporting documentation and may include medical examination forms (10CFR55.53(i)) and license applications or renewals.