

REACTOR OPERATOR REQUALIFICATION PROGRAM

FOR THE IDAHO STATE UNIVERSITY

REACTOR

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I. Purpose

This document sets forth the requirements for the Reactor Operator and Senior Reactor Operator Requalification Program for Idaho State University's (ISU) AGN-201 Nuclear Reactor (Docket #50-284) in accordance with Title 10 of the Federal Code of Regulations Part 55.59 (10CFR55.59). The purpose of the requalification 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 requalification 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 licensed functions for at least four hours during each quarter. The performance of licensed functions entails:

- 1) Performance of corrective maintenance.
- 2) Performance of preventive maintenance or surveillance.
- 3) Radiological work under the reactor license.
- 4) Making preparations to the facility to perform an experiment with the reactor.
- 5) Securing from an experiment with the reactor.
- 6) Reactor console run time.
- 7) Administering reactor console exams to senior reactor and reactor operators.

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

III. Lecture

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

<u>Topic</u>	<u>Reference</u>
A. Nuclear Reactor Theory	Standard Nuclear Engineering Text
B. Radiation Control and Safety	10CFR Parts 20 and 30, ISU Radiation Safety Manual
C. Governing Regulations	10CFR Parts 19, 50, 55, and 70
D. Reactor Design	Reactor Facility Study Material
E. Reactor Control and Safety Systems	Reactor Facility Study Material

III. Lecture (Continued)

	<u>Topic</u>	<u>Reference</u>
Rev. 2	F. Reactor Operating Characteristics	Reactor Facility Study Material
	G. All Reactor Facility Procedures, Plans, Policies, and Rules	Operating Procedures, Emergency Plan, Physical Security Plan, Maintenance and Surveillance Procedures, etc.
	H. Technical Specifications and License Conditions	Technical Specifications and License Conditions

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

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.

This training shall be evaluated by any licensed operator.

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- C. As a minimum, to demonstrate proficiency at manipulating the reactor facility controls, each operator will perform at least one complete Operating Procedure #1 (O.P. #1) Startup and Shutdown per quarter, provided that reactor operation is possible. Senior reactor operators may not take credit for their required O.P. #1 Startup and Shutdown per quarter by directing another operator in reactor facility manipulations. Operators may not take credit for their one required O.P. #1 Startup and Shutdown per quarter by directing an operator for the purposes of reinstatement.

V. Evaluations

The ability of the operator to perform licensed functions shall be determined through evaluations which shall be conducted annually. These 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 the exam. The content of the examinations shall satisfy the requirements of 10CFR55.41 and may include requirements of 10CFR55.43. The Reactor Supervisor (RS) and the Reactor Administrator (RA) shall be responsible to prepare, administer, and grade the written examination. Therefore, the RS and the RA are exempt from the written examination.

B. Console Examinations

Each operator shall demonstrate familiarity with the following operator activities during the console examination.

1. prestart check,
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** reactor operator. Every licensee shall participate in the console examination.

C. Grading

The criteria for grading 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/her licensed duties and enroll in an accelerated training program in the deficient area.

V. Evaluations (Continued)

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/her licensed duties and enrolled in an accelerated training program in the deficient area.

VI. Operator Reinstatement

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An operator may be removed from active status by failing to actively perform the functions of an operator during any calendar quarter or by failing to attain a satisfactory grade on an evaluation exam. The calendar quarters are as follows: January through March, April through June, July through September, and October through December. 10CFR55.53(f) outlines the requirements for operator reinstatement.

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If an operator has not actively performed the functions of an operator for a period of more than one calendar quarter, he/she shall satisfactorily demonstrate his/her competence before resuming his/her licensed functions. This is accomplished by performing at least six hours of licensed functions, including at least one O.P #1 Startup and Shutdown, under the direction of a licensed operator. Part of these six hours of licensed functions may be from the hours from the previous calendar quarter. 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/she shall demonstrate his/her competence before resuming his/her duties. This is accomplished through participation in 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

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Operator Requalification tracking shall be maintained through a number of logs and forms. Lecture attendance shall be maintained on the Requalification/Training Lecture Forms. Each operator will record their performance of licensed functions upon completion on the Individual Operator Licensed Function Tracking Form. The annual written examination key shall be kept as part of the Operator Requalification records.

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A record shall be maintained for each licensee and shall contain a current copy of the licensee's reactor operator license, copies of all written examinations administered to the licensee during the requalification period, the medical examination form from the licensee's last medical exam, and the licensee's Requalification Program Progress Checklist.

VII. Records (Continued)

The checklist shall contain the record of attended lectures, on the job training, written and console examination evaluations, a record of operator reinstatement, medical examination completion date, and medical examination due date. Additional forms may be kept in the licensee's record to provide supporting documentation and may include license applications and renewal.

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**IDAHO STATE UNIVERSITY
NUCLEAR ENGINEERING LABORATORY
REQUALIFICATION PROGRAM PROGRESS CHECKLIST**

Operator _____ License No. _____

License Effective Date: __/__/__ License Expiration Date: __/__/__

Training period (2 years): Beginning: __/__/__ Ending: __/__/__

<u>Lecture Program</u>	<u>Date</u>	<u>Instructor</u>
1. Nuclear Reactor Theory	__/__/__	_____
2. Radiation Control and Safety	__/__/__	_____
3. Governing Regulations	__/__/__	_____
4. Reactor Design	__/__/__	_____
5. Reactor Control and Safety Systems	__/__/__	_____
6. Reactor Operating Characteristics	__/__/__	_____
7. All Reactor Facility Procedures, Plans, Policies, and Rules	__/__/__	_____
8. Technical Specifications and License Conditions	__/__/__	_____
	__/__/__	_____

On the Job Training

LICENSED FUNCTIONS

	<u>Date</u>	<u>Hours</u>	<u>Date</u>	<u>Hours</u>	<u>Date</u>	<u>Hours</u>	<u>Total</u>
Qtr. 1	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
2	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
3	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
4	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
5	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
6	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
7	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
8	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____
	__/__/__	_____	__/__/__	_____	__/__/__	_____	_____

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On the Job Training (cont.)

Prestart Check completed: ___/___/___ Examiner: _____
Startup completed: ___/___/___ Examiner: _____
Termination completed: ___/___/___ Examiner: _____

Evaluations (satisfactory/unsatisfactory)

Written Year One Date Administered ___/___/___ Evaluation _____
Year Two Date Administered ___/___/___ Evaluation _____

Console Year One	Date	Examiner	Evaluation
1. Prestart Check	___/___/___	_____	_____
2. Reactor Startup	___/___/___	_____	_____
3. Power Operation	___/___/___	_____	_____
4. Termination	___/___/___	_____	_____

Console Year Two	Date	Examiner	Evaluation
1. Prestart Check	___/___/___	_____	_____
2. Reactor Startup	___/___/___	_____	_____
3. Power Operation	___/___/___	_____	_____
4. Termination	___/___/___	_____	_____

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Operator Reinstatement

Failure to complete calendar quarter licensed functions requires certification for operation by the Reactor Supervisor. This is accomplished by serving 6 hours of supervised licensed functions and performing one O.P. #1 Startup and Shutdown.

Quarter _____ Date _____ Rx. Supervisor _____
Quarter _____ Date _____ Rx. Supervisor _____
Quarter _____ Date _____ Rx. Supervisor _____

An unsatisfactory grade in the evaluations require certification for operation by the Reactor Supervisor. This is accomplished through additional training.

Topic _____ Date _____ Rx. Supervisor _____
Topic _____ Date _____ Rx. Supervisor _____
Topic _____ Date _____ Rx. Supervisor _____

Medical Examination Completion Date: ___/___/___
Medical Examination Due Date: ___/___/___

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REQUALIFICATION/TRAINING LECTURE FORM

Topic _____

Instructor _____

Date _____

Names of lecture attendees

Maintenance and Surveillance Log entries covered in training session:

Log

Entry Date

Log

Entry Date

Updated Procedures covered in training session:

Procedure

Approval Date

Procedure

Approval Date

