

Reed Reactor Facility Requalification Plan

Explanation and Comments

1.0 INTRODUCTION

This Requalification Plan is developed in compliance with the requirements of 10CFR55.59, as revised and published in the Federal Register on **September 29, 1995** ~~March 27, 1987~~.

This is changed to refer to the most recent Federal Register.

2.0 SCHEDULE

2.1 The Requalification Program shall be continuous and operate on a **two year** ~~an annual~~ cycle. For purposes of this Plan, a year begins on **July 1** and ends on **June 30** ~~July 1~~; calendar quarters are as follows:

First Quarter:	July 1 — September 30
Second Quarter:	October 1 — December 31
Third Quarter:	January 1 — March 31
Fourth Quarter:	April 1 — June 30

This revises the requalification cycle to a two year cycle rather than a one year cycle and clarifies when each cycle starts and finishes. This is the major change in the plan and is reflected in many of the following paragraphs.

3.0 LECTURES AND MEETINGS

3.1 A minimum of five lectures shall be scheduled during each school year (**i.e., ten each requalification cycle**), with a minimum of two each semester. These shall be designated by the Director as Requalification Lectures. The subjects of these lectures may be drawn from the topics listed below with the specific content to be based on items identified as weaknesses in the training program or operator knowledge as identified in the results on NRC licensing exams, facility administered Requalification exams described in this Plan, and/or observations of operator knowledge and performance by the Reactor Director. It is not required that all topics listed below be covered in any given **requalification cycle year**.

- Theory and principles of reactor operation
- Reactor instrumentation, control, and safety systems
- Radiation control and safety; use and handling of radioactive materials
- Facility and Regulatory requirements including License, Technical Specifications, Requalification and Emergency Plans, Administrative Procedures, and applicable portions of Title 10 Code of Federal Regulations.
- Standard and Emergency Operating Procedures
- General and specific plant operating characteristics**

This reflects the revision of the requalification cycle to a two year cycle. The actual number of required lectures does not change. This also adds General and specific plant operating characteristics as a topic for requalification lectures.

3.2 Reviews of Facility Changes: At least twice each year (**i.e., four times each requalification cycle**), a meeting of Reactor Operators and Senior Reactor Operators shall be held to make them aware of facility design changes, and changes in procedures and administrative requirements. This meeting may be held in conjunction with a Requalification lecture or may be held separately, at the discretion of the Director.

This reflects the revision of the requalification cycle to a two year cycle. The actual number of required meetings does not change.

3.3 Any operator who is ~~unavoidably~~ absent from any required meeting shall review any notes, handouts, tape recordings, or other reference material from the meeting. This material shall be discussed with the Director (or his designate) to assure the Facility that the operator has understood the material and this discussion shall be documented.

This clarifies that operators need to review the material even if their absence was avoidable. This has no practical effect.

4.0 ON-THE-JOB TRAINING

4.1 Each Reactor Operator and Senior Reactor Operator must actively perform the functions for which they are licensed for a minimum of 4 hours per calendar quarter. The Director shall maintain a list of those activities which may and may not be counted towards this requirement.

No changes.

4.2 Each licensed operator and senior reactor operator shall demonstrate an ability to conduct a variety of reactivity manipulations during the course of the school year. A minimum of 10 reactivity manipulations shall be completed during each school year (**i.e., 20 each requalification cycle**). The Director shall maintain a list of those operations ~~and the number of each,~~ which qualify towards meeting this requirement.

This reflects the revision of the requalification cycle to a two year cycle. The actual number of required reactivity manipulations does not change. This also deletes a redundant phrase, "and the number of each".

4.3 Each Reactor Operator and Senior Reactor Operator shall be responsible for maintaining records, in a format approved by the Director, to verify compliance with sections 4.1. and 4.2.

No changes.

5.0 OBSERVATION

5.1 Reactor administration, supervisory, training, and/or health physics personnel shall conduct periodic observations of the performance and competency of licensed Reactor Operators and Senior Reactor Operators during routinely scheduled operations. These observations should normally be unannounced and shall be documented.

This clarifies that any of the people can conduct the observations, not that all must conduct observations.

5.2. Documented observation of each operator shall occur at least once each year.

No changes.

6.0 EVALUATION

6.1 A comprehensive written **exam and operating test** shall be administered **during each requalification cycle** ~~annually~~ to each Reactor Operator and Senior Reactor Operator. **An operating exam shall be administered annually to each Reactor Operator and Senior Reactor Operator.** The results of the **exams test** will be used to determine the areas in which retraining is needed to upgrade licensed operator and senior operator knowledge.

This reflects the revision of the requalification cycle to a two year cycle. A written exam is given once in the cycle. An operational exam is given every year, i.e., twice in a cycle.

6.2 The written exam(s) shall be prepared by the Director or a Senior Reactor Operator assigned by the Director. **The person who prepares the exam will be exempt from taking the exam during that requalification cycle; preferably this is someone who is exempt under section 6.5 below. The same person shall not be exempted for two consecutive cycles.**

This is the other major change other than the length of the requalification cycle. This allows an exemption from the written exam for the person who writes the exam. This has been a problem in the past where we have had to make two exams, one just for the person who wrote the exam for everyone else. No one is exempt for two consecutive cycles.

6.3 All written examinations shall be administered on the same day and the exam shall be proctored. If any RO or SRO ~~unavoidably~~ misses the exam, a different exam shall be administered **to that person.**

This clarifies that operators need an exam even if their absence was avoidable. This has no practical effect.

6.4 The operating exam shall be administered by a Senior Reactor Operator assigned by the Director. **This may be in conjunction with the operator observation required by section 5.0.**

This clarifies that the operating exam and observation may be simultaneous, which is our practice.

6.5 The Senior Reactor **Operator** exam administered by the NRC shall suffice to satisfy the ~~annual~~ requalification **written exam requirement for that cycle and the operational exam requirement for that year.**

This reflects the revision of the requalification cycle to a two year cycle. The NRC SRO exam satisfies the written exam requirements for the current cycle and satisfies the operational exam requirements for the current year. This is consistent with our current policy to avoid giving two exams in the same year.

6.6 The Reactor Operator exam administered by the NRC shall suffice to satisfy the requalification written exam requirement for that cycle and the operational exam requirement for that year.

This is a new section to reflect the revision of the requalification cycle to a two year cycle. The NRC RO exam satisfies the written exam requirements for the current cycle and satisfies the operational exam requirements for the current year. This is consistent with our current policy to avoid giving two exams in the same year.

7.0 ACCELERATED REQUALIFICATION PROGRAM

7.1 Any operator who has an identified weakness as described in this section shall be entered into an Accelerated Requalification Program.

No changes.

7.2 Any Reactor Operator or Senior Reactor Operator who fails to achieve a score of **at least 70%** overall on the written exam OR **at least 70%** on the operating exam OR who, in the opinion of the Director, is clearly deficient in operating knowledge or skills shall not operate the reactor except under the direct supervision of a Senior Reactor Operator until completion of an Accelerated Requalification Program.

This clarifies the intent of the paragraph. This makes no changes.

7.3 Any operator who achieves an overall score of **at least 70%** on the written exam AND **at least 70%** on the operating test may continue to operate the reactor. However, if any Reactor Operator or Senior Reactor Operator who fails to achieve a score of **at least 80%** on one or more sections of the annual exam, **may continue to operate, but must also complete an Accelerated Requalification Program** ~~must be completed~~

This clarifies the intent of the paragraph. This makes no changes.

7.4 The content of any Accelerated Requalification Program shall be determined on a case-by-case basis by the Director in consultation with the operator, and shall be documented prior to initiation. It may include, but need not be limited to, attending or presenting lectures on the areas of weakness, **revising facility documentation**, individual or group study sessions, or tutorials.

This clarifies that the Accelerated Requalification Program may include revising facility documentation, which is often our practice.

7.5 Successful completion of the Accelerated Retraining Program shall be based on the passing of an additional exam. This exam shall be administered within six months of the date of the original requalification exam. The extent of this additional exam will normally be limited to areas of identified weakness.

No changes.

8.0 RECORDS

8.1 Originals of all records relating to the requalification requirements in this Plan shall be retained by the facility. Copies shall be provided to the RO or SRO at their request.

No changes.

END OF COMMENTS

Reed Reactor Facility Requalification Plan

1.0 INTRODUCTION

This Requalification Plan is developed in compliance with the requirements of 10CFR55.59, as revised and published in the Federal Register on September 29, 1995 .

2.0 SCHEDULE

2.1 The Requalification Program shall be continuous and operate on a two year cycle. For purposes of this Plan, a year begins on July 1 and ends on June 30 ; calendar quarters are as follows:

First Quarter:	July 1 — September 30
Second Quarter:	October 1 — December 31
Third Quarter:	January 1 — March 31
Fourth Quarter:	April 1 — June 30

3.0 LECTURES AND MEETINGS

3.1 A minimum of five lectures shall be scheduled during each school year (i.e., ten each requalification cycle), with a minimum of two each semester. These shall be designated by the Director as Requalification Lectures. The subjects of these lectures may be drawn from the topics listed below with the specific content to be based on items identified as weaknesses in the training program or operator knowledge as identified in the results on NRC licensing exams, facility administered Requalification exams described in this Plan, and/or observations of operator knowledge and performance by the Reactor Director. It is not required that all topics listed below be covered in any given requalification cycle .

- a) Theory and principles of reactor operation
- b) Reactor instrumentation, control, and safety systems
- c) Radiation control and safety; use and handling of radioactive materials
- d) Facility and Regulatory requirements including License, Technical Specifications, Requalification and Emergency Plans, Administrative Procedures, and applicable portions of Title 10 Code of Federal Regulations.
- e) Standard and Emergency Operating Procedures
- f) General and specific plant operating characteristics

3.2 Reviews of Facility Changes: At least twice each year (i.e., four times each requalification cycle), a meeting of Reactor Operators and Senior Reactor Operators shall be held to make them aware of facility design changes, and changes in procedures and administrative requirements. This meeting may be held in conjunction with a Requalification lecture or may be held separately, at the discretion of the Director.

3.3 Any operator who is absent from any required meeting shall review any notes, handouts, tape recordings, or other reference material from the meeting. This material shall be discussed with the Director (or his designate) to assure the Facility that the operator has understood the material and this discussion shall be documented.

4.0 ON-THE-JOB TRAINING

4.1 Each Reactor Operator and Senior Reactor Operator must actively perform the functions for which they are licensed for a minimum of 4 hours per calendar quarter. The Director shall maintain a list of those activities which may and may not be counted towards this requirement.

4.2 Each licensed operator and senior reactor operator shall demonstrate an ability to conduct a variety of reactivity manipulations during the course of the school year. A minimum of 10 reactivity manipulations shall be completed during each school year (i.e., 20 each requalification cycle). The Director shall maintain a list of those operations which qualify towards meeting this requirement.

4.3 Each Reactor Operator and Senior Reactor Operator shall be responsible for maintaining records, in a format approved by the Director, to verify compliance with sections 4.1. and 4.2.

5.0 OBSERVATION

5.1 Reactor administration, supervisory, training, and/or health physics personnel shall conduct periodic observations of the performance and competency of licensed Reactor Operators and Senior Reactor Operators during routinely scheduled operations. These observations should normally be unannounced and shall be documented.

5.2. Documented observation of each operator shall occur at least once each year.

6.0 EVALUATION

6.1 A comprehensive written exam shall be administered during each requalification cycle to each Reactor Operator and Senior Reactor Operator. An operating exam shall be administered annually to each Reactor Operator and Senior Reactor Operator. The results of the exams will be used to determine the areas in which retraining is needed to upgrade licensed operator and senior operator knowledge.

6.2 The written exam(s) shall be prepared by the Director or a Senior Reactor Operator assigned by the Director. The person who prepares the exam will be exempt from taking the exam during that requalification cycle; preferably this is someone who is exempt under section 6.5 below. The same person shall not be exempted for two consecutive cycles.

6.3 All written examinations shall be administered on the same day and the exam shall be proctored. If any RO or SRO misses the exam, a different exam shall be administered to that person.

6.4 The operating exam shall be administered by a Senior Reactor Operator assigned by the Director. This may be in conjunction with the operator observation required by section 5.0.

6.5 The Senior Reactor Operator exam administered by the NRC shall suffice to satisfy the requalification written exam requirement for that cycle and the operational exam requirement for that year.

6.6 The Reactor Operator exam administered by the NRC shall suffice to satisfy the requalification written exam requirement for that cycle and the operational exam requirement for that year.

7.0 ACCELERATED REQUALIFICATION PROGRAM

7.1 Any operator who has an identified weakness as described in this section shall be entered into an Accelerated Requalification Program.

7.2 Any Reactor Operator or Senior Reactor Operator who fails to achieve a score of at least 70% overall on the written exam OR at least 70% on the operating exam OR who, in the opinion of the Director, is clearly deficient in operating knowledge or skills shall not operate the reactor except under the direct supervision of a Senior Reactor Operator until completion of an Accelerated Requalification Program.

7.3 Any operator who achieves an overall score of at least 70% on the written exam AND at least 70% on the operating test may continue to operate the reactor. However, any Reactor Operator or Senior Reactor Operator who fails to achieve a score of at least 80% on one or more sections of the exam, may continue to operate, but must also complete an Accelerated Requalification Program.

7.4 The content of any Accelerated Requalification Program shall be determined on a case-by-case basis by the Director in consultation with the operator, and shall be documented prior to initiation. It may include, but need not be limited to, attending or presenting lectures on the areas of weakness, revising facility documentation, individual or group study sessions, or tutorials.

7.5 Successful completion of the Accelerated Retraining Program shall be based on the passing of an additional exam. This exam shall be administered within six months of the date of the original requalification exam. The extent of this additional exam will normally be limited to areas of identified weakness.

8.0 RECORDS

8.1 Originals of all records relating to the requalification requirements in this Plan shall be retained by the facility. Copies shall be provided to the RO or SRO at their request.

Reed Reactor Facility Requalification Plan

1.0 INTRODUCTION

This Requalification Plan is developed in compliance with the requirements of 10CFR55.59, as revised and published in the Federal Register on September 29, 1995 .

2.0 SCHEDULE

2.1 The Requalification Program shall be continuous and operate on a two year cycle. For purposes of this Plan, a year begins on July 1 and ends on June 30 ; calendar quarters are as follows:

First Quarter:	July 1 — September 30
Second Quarter:	October 1 — December 31
Third Quarter:	January 1 — March 31
Fourth Quarter:	April 1 — June 30

3.0 LECTURES AND MEETINGS

3.1 A minimum of five lectures shall be scheduled during each school year (i.e., ten each requalification cycle), with a minimum of two each semester. These shall be designated by the Director as Requalification Lectures. The subjects of these lectures may be drawn from the topics listed below with the specific content to be based on items identified as weaknesses in the training program or operator knowledge as identified in the results on NRC licensing exams, facility administered Requalification exams described in this Plan, and/or observations of operator knowledge and performance by the Reactor Director. It is not required that all topics listed below be covered in any given requalification cycle .

- a) Theory and principles of reactor operation
- b) Reactor instrumentation, control, and safety systems
- c) Radiation control and safety; use and handling of radioactive materials
- d) Facility and Regulatory requirements including License, Technical Specifications, Requalification and Emergency Plans, Administrative Procedures, and applicable portions of Title 10 Code of Federal Regulations.
- e) Standard and Emergency Operating Procedures
- f) General and specific plant operating characteristics

3.2 Reviews of Facility Changes: At least twice each year (i.e., four times each requalification cycle), a meeting of Reactor Operators and Senior Reactor Operators shall be held to make them aware of facility design changes, and changes in procedures and administrative requirements. This meeting may be held in conjunction with a Requalification lecture or may be held separately, at the discretion of the Director.

3.3 Any operator who is absent from any required meeting shall review any notes, handouts, tape recordings, or other reference material from the meeting. This material shall be discussed with the Director (or his designate) to assure the Facility that the operator has understood the material and this discussion shall be documented.

4.0 ON-THE-JOB TRAINING

4.1 Each Reactor Operator and Senior Reactor Operator must actively perform the functions for which they are licensed for a minimum of 4 hours per calendar quarter. The Director shall maintain a list of those activities which may and may not be counted towards this requirement.

4.2 Each licensed operator and senior reactor operator shall demonstrate an ability to conduct a variety of reactivity manipulations during the course of the school year. A minimum of 10 reactivity manipulations shall be completed during each school year (i.e., 20 each requalification cycle). The Director shall maintain a list of those operations which qualify towards meeting this requirement.

4.3 Each Reactor Operator and Senior Reactor Operator shall be responsible for maintaining records, in a format approved by the Director, to verify compliance with sections 4.1. and 4.2.

5.0 OBSERVATION

5.1 Reactor administration, supervisory, training, and/or health physics personnel shall conduct periodic observations of the performance and competency of licensed Reactor Operators and Senior Reactor Operators during routinely scheduled operations. These observations should normally be unannounced and shall be documented.

5.2. Documented observation of each operator shall occur at least once each year.

6.0 EVALUATION

6.1 A comprehensive written exam shall be administered during each requalification cycle to each Reactor Operator and Senior Reactor Operator. An operating exam shall be administered annually to each Reactor Operator and Senior Reactor Operator. The results of the exams will be used to determine the areas in which retraining is needed to upgrade licensed operator and senior operator knowledge.

6.2 The written exam(s) shall be prepared by the Director or a Senior Reactor Operator assigned by the Director. The person who prepares the exam will be exempt from taking the exam during that requalification cycle; preferably this is someone who is exempt under section 6.5 below. The same person shall not be exempted for two consecutive cycles.

6.3 All written examinations shall be administered on the same day and the exam shall be proctored. If any RO or SRO misses the exam, a different exam shall be administered to that person.

6.4 The operating exam shall be administered by a Senior Reactor Operator assigned by the Director. This may be in conjunction with the operator observation required by section 5.0.

6.5 The Senior Reactor Operator exam administered by the NRC shall suffice to satisfy the requalification written exam requirement for that cycle and the operational exam requirement for that year.

6.6 The Reactor Operator exam administered by the NRC shall suffice to satisfy the requalification written exam requirement for that cycle and the operational exam requirement for that year.

7.0 ACCELERATED REQUALIFICATION PROGRAM

7.1 Any operator who has an identified weakness as described in this section shall be entered into an Accelerated Requalification Program.

7.2 Any Reactor Operator or Senior Reactor Operator who fails to achieve a score of at least 70% overall on the written exam OR at least 70% on the operating exam OR who, in the opinion of the Director, is clearly deficient in operating knowledge or skills shall not operate the reactor except under the direct supervision of a Senior Reactor Operator until completion of an Accelerated Requalification Program.

7.3 Any operator who achieves an overall score of at least 70% on the written exam AND at least 70% on the operating test may continue to operate the reactor. However, any Reactor Operator or Senior Reactor Operator who fails to achieve a score of at least 80% on one or more sections of the exam, may continue to operate, but must also complete an Accelerated Requalification Program

7.4 The content of any Accelerated Requalification Program shall be determined on a case-by-case basis by the Director in consultation with the operator, and shall be documented prior to initiation. It may include, but need not be limited to, attending or presenting lectures on the areas of weakness, revising facility documentation, individual or group study sessions, or tutorials.

7.5 Successful completion of the Accelerated Retraining Program shall be based on the passing of an additional exam. This exam shall be administered within six months of the date of the original requalification exam. The extent of this additional exam will normally be limited to areas of identified weakness.

8.0 RECORDS

8.1 Originals of all records relating to the requalification requirements in this Plan shall be retained by the facility. Copies shall be provided to the RO or SRO at their request.