

DAIRYLAND POWER COOPERATIVE
LA CROSSE BOILING WATER REACTOR

OPERATOR-SENIOR OPERATOR REQUALIFICATION PROGRAM

I. SCHEDULE

A requalification training program is presented to enable individuals licensed as Operators or Senior Operators in accordance with 10 CFR Part 55 to demonstrate at least every two years their continued competence in manipulating LACBWR controls or directing the licensed activities of licensed operators.

The training cycle is of twelve months duration and it is repeated successively each year. Normally, the conduct of formal lectures and on-the-job training will take place during the first ten months of the year. The eleventh month is intended for review assignments and make-up while the twelfth month would be utilized for administration of annual examinations and possible retraining.

Operators who miss a portion of their scheduled training for reasons such as personal illness, vacation, or plant operational requirements will be required to attend make-up sessions unless on the preceding annual requalification examination they demonstrated proficiency in the topic. A score of 80% or greater in the section of the annual examination covering the training session missed shall constitute proficiency.

II. LECTURES

The program includes series of preplanned lectures and video tape presentations conducted on a regular basis. The series includes the following subjects:

A. Principles of Reactor Operation

1. Nuclear Properties and Reactions
2. Neutron Properties and Reactions
3. Operating Reactor Properties and Characteristics

B. Features of Facility Design

1. Reactor Vessel and Core Construction
2. Reactor Auxiliary Systems

C. General Operating Characteristics

1. Reactor Performance and Control
2. Plant Response to Transients

D. Instruments and Controls

1. Nuclear Instrumentation
2. Process Instrumentation
3. Control Systems

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E. Safety and Emergency Systems

1. Plant Protective Systems
2. Engineered Safety Systems
3. Emergency Power Systems

F. Standard and Emergency Operating Procedures

1. Normal Operating Procedures
2. Abnormal and Emergency Procedures
3. Security Procedures

G. Radiation Control and Safety

1. Basic Health Physics and Protection Standards
2. Radiation Monitoring

H. Technical Specifications and Title 10, Chapter 1, Code of Federal Regulations

1. Technical Specifications Review
2. Applicable 10 CFR Parts Review
3. QA Procedures and ACNP's

I. Reactor Thermodynamics

1. Heat Transfer
2. Fluid Flow
3. Thermodynamics

III. ON-THE-JOB TRAINING

On-the-job training requirements specify that:

- A. The Operator or Senior Operator will be involved in the performance of or the direction of at least 10 control manipulations in a safe and competent manner. The starred items will be performed on an annual basis; all other items shall be performed on a two-year cycle. Personnel with senior licenses are credited with these activities if they direct or evaluate control manipulations as they are performed. Control manipulations during abnormal or emergency operations must be walked through with, and evaluated by, a holder of a senior license. Control manipulations acceptable are:

- *1. Reactor startup to the heating range.
2. Manual control of feedwater pumps.
3. Turbine and/or generator trip.

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4. Reactor shutdown and/or scram.
5. Plant and reactor operations that involve emergency or abnormal procedures where reactivity is changing.
- *6. Changing power level with control rods greater than 10%, or changing power level greater than 10% by varying the speed of the forced circulation pumps.
- *7. Loss of core flow.
8. Refueling operations where fuel is moved over the core.
9. Loading of the turbine generator.
10. Operation of the main steam bypass valve greater than 10% reactor power.
- *11. Loss of coolant, including:
 - a. inside and outside primary containment
 - b. large and small, including leak-rate determination
12. Loss of instrument air (if simulated plant specific.)
13. Loss of electrical power.
- *14. Loss of core coolant flow/natural circulation.
15. Loss of condenser vacuum.
16. Loss of service water, if required for safety.
17. Loss of shutdown cooling.
18. Loss of component cooling system or cooling to an individual component.
- *19. Loss of all feedwater.
20. Mispositioned control rod or rods (or rod drops.)
21. Inability to drive control rods.
22. Conditions requiring use of emergency boration.
23. Fuel cladding failure or high activity in reactor coolant or offgas.
24. Malfunction of AGS system.
25. Malfunction of IPR system.

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26. Main steam line leak (inside or outside containment.)
 27. Nuclear instrumentation failure(s).
- B. Each Operator and Senior Operator must demonstrate satisfactory understanding of the operation of all equipment and know the operating procedures in each area for which he is licensed. This understanding will be documented by the individual's immediate supervisor.
 - C. Each Licensed Operator and Senior Operator is cognizant of Facility Design Changes, procedure changes and facility license changes. This will be accomplished through on-crew review and documentation.
 - D. Each Licensed Operator and Senior Operator will also review all abnormal and emergency procedures on a regular basis. This also will be accomplished within the operating crew and will be documented.

IV. EVALUATION

Written examinations which evaluate Licensed Operators' and Senior Operators' knowledge of subject matter covered in the requalification program sections listed previously will be administered at the completion of lectures in the specified subjects. If the individual receives a grade of less than 80% on the examination, he will be scheduled for additional instruction and will be re-examined for satisfactory subject knowledge.

A comprehensive annual written examination will be administered for the purpose of evaluating where retraining is needed to upgrade Licensed Operator and Senior Operator knowledge. The examination will be comprehensive in scope covering all the subject areas of the requalification program. The examination preparation will include a separate test for Reactor Operator and Senior Reactor Operator. This will permit evaluation of Senior Licensed Operators based on standards higher than that used to evaluate Licensed Operators.

If any Operator or Senior Operator fails to attain a grade of 80% overall, or 70% on any section of the comprehensive annual written examination, he shall be prohibited from performing the function of a Licensed Operator or Senior Operator as defined in 10 CFR 55, except that he may manipulate the controls of the facility as part of his training under the direction of, and in the presence of, a competent Licensed Operator or Senior Operator.

Licensed personnel who fail the annual written examination will receive additional instruction in the subject areas of exhibited deficiency. A re-examination in the sections which require retraining will be administered within a reasonable time.

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A passing grade on the re-examination will remove restrictions in the conduct of licensed activities.

Observation of performance and competency will be accomplished through monthly review of the individual's lecture attendance record, quiz grades and on-the-job training performance by supervisory personnel. Appropriate documentation of the review will be established by records of the above items. The evaluation of the individual's actions during actual or simulated abnormal and emergency conditions is included in the on-the-job training records.

V. RECORDS

A training record for each individual will be maintained by the Training Supervisor. Retention time of these records will be in accordance with LACBWR Technical Specifications. The record shall include a record of written examination results as well as practical experience and evaluations. The results of all written examinations shall be made available to the individual operator to permit his own assessment of areas of weakness.

With regard to the use of a nuclear power plant simulation, we have determined that suitable equipment does not exist at this time to conform to the requirements of Paragraph e3, Appendix "A", Section 55.61, 10 CFR 55. In reviewing the past operating history of LACBWR, we have determined that outages, testing requirements, and other operational occurrences have produced a sufficient number of changes in reactor power to permit us to forecast that Licensed Operators and Senior Operators will attain the prerequisite on-the-job training experience to satisfy regulations.