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 COLLINS, P.E. Operator Licensing Branch

SUBJECT: Forwards revised licensed operator requalification program,  
 per NRC 800328 request. Only major change is in control  
 manipulation section now requiring annual simulator training  
 as well as increased manipulation requirements.

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**INDIANA & MICHIGAN ELECTRIC COMPANY**

DONALD C. COOK NUCLEAR PLANT  
P.O. Box 458, Bridgman, Michigan 49106  
(616) 465-5901

July 25, 1980

Mr. Paul F. Collins, Chief  
Operator Licensing Branch  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Collins:

Attached please find a copy of the revised Donald C. Cook Nuclear Plant licensed requalification training program for your review and approval.

This program was revised to incorporate the requirements contained in Mr. Harold R. Denton's letter of March 28, 1980 and to reflect current practice. The only major change in this program is in the control manipulation section which now requires annual simulator training as well as the increased manipulation requirements.

All changes are identified by marginal markings.

If you have any questions regarding this document, please contact the undersigned (Extension 1311) or Mr. D. D. Nelson (Extension 1330) at the Cook Plant.

If you approve the program please provide me with a letter so stating, such that an FSAR amendment may be made.

Sincerely,

D. V. Shaller  
Plant Manager

/pk

cc: R. W. Jurgensen  
B. A. Svensson  
R. S. Lease  
D. D. Nelson

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INDIANA & MICHIGAN ELECTRIC COMPANY  
DONALD C. COOK NUCLEAR PLANT  
LICENSED OPERATOR REQUALIFICATION PROGRAM

Licensed Operator Requalification Program

A licensed operator requalification program designed to maintain a continuing high degree of knowledge and proficiency as required by 10CFR50 and 10CFR55, Appendix A shall be established for the Donald C. Cook Nuclear Plant Units 1 and 2. It shall apply to all NRC licensed operators and senior licensed operators, including operator and senior operators who perform such duties on an infrequent basis. A site appointed Training Coordinator has been assigned to administer this program.

The Training Coordinator is responsible for implementing the Licensed Operator Requalification Program. Licensed training personnel are exempt from those provisions of the requalification program for which they have primary responsibility for administering. For example, an individual who prepares, administers, and grades a written examination need not take the examination. This exemption provision applies to a maximum of two individuals for a particular lecture, examination, or course.

The licensed operator requalification program shall be conducted on a two year cycle. The two year requalification cycle is divided into requalification

year one and requalification year two. Subsequent cycles will be designated year three and four, etc. Each requalification year runs from Memorial Day to Memorial Day.

The requalification program shall consist of:

1. Formal classroom lectures
2. On-the-job training (including simulator training)
3. An annual evaluation
4. Training documentation

1. Formal Classroom Lectures

Formal classroom lectures shall be conducted each requalification year on a school-year schedule running from Labor day to Memorial Day. Lectures shall be conducted in the following areas with emphasis on identified weak or problem areas:

- a. Theory and Principles of Operation (includes Thermodynamics, Heat Transfer and Fluid Flow)
- b. General and Specific Plant Operating Characteristics
- c. Plant Instrumentation and Control Systems
- d. Plant Protection Systems
- e. Engineered Safety Systems
- f. Normal, Abnormal and Emergency Operating Procedures
- g. Radiation Control and Safety

- h. Technical Specifications
- i. Applicable portions of Title 10, Chapter 1, Code of Federal Regulations

The use of training aids such as videotapes or films may be used in lieu of an instructor. However, no more than 50% of the lecture series shall be solely videotape or film.

The annual lecture series will be of an estimated length of 40 hours but, in no case, less than 30 hours. Lectures shall be evenly spaced throughout the period, taking infrequent operations such as refueling operations into account. Licensed operators may be exempted from attendance in a particular subject area if they have attained a grade of  $\geq 80\%$  in the related areas of the previous year's annual written examination.

Written quizzes will be administered after each lecture topic for the evaluation of individual knowledge level and progress. A minimum grade of 80% is acceptable. A grade of less than 80% will require additional training in the identified areas of weakness.

## 2. On-The-Job Training

On-the-job training shall consist of:

- a. Performance of control manipulations (simulator training)
- b. On-shift abnormal and emergency procedure review
- c. Keeping abreast of all facility and procedure changes

#### A. Control Manipulations

Each licensed operator shall, during each two-year requalification training cycle, perform a minimum of plant control manipulations which demonstrate his skill and/or familiarity with plant control systems. Each licensed senior operator shall either manipulate the controls or direct or evaluate the activities of others during these control manipulations. Credit for a manipulation shall be limited to the one operator performing the task and one senior operator engaged in directing the operation.

Normal control manipulations, such as plant or reactor startups, must be performed. Control manipulations during abnormal or emergency conditions may be walked through with and evaluated by a member of the training staff; however, preference is to perform these manipulations at an appropriate simulator.

The following control manipulations shall be performed during each two-year requalification cycle. The starred items shall be performed annually.

#### PWR

- \*1. Plant or reactor startups to include a range that reactivity feedback from nuclear heat addition is noticeable and heatup rate is established
2. Plant shutdown
- \*3. Manual control of steam generators and/or feedwater during startup or shutdown
4. Boration and/or dilution during power operation

- \*5. Any significant ( $>10\%$ ) power changes in manual rod control
- \*6. Loss of coolant, including:
  - 1. Significant steam generator leaks.
  - 2. Inside and outside primary containment.
  - 3. Large and small, including leak-rate determination.
  - 4. Saturated Reactor Coolant response.
- 7. Loss of electrical power (and/or degraded power sources).
- \*8. Loss of core coolant flow/natural circulation.
- 9. Loss of condenser vacuum.
- 10. Loss of Essential Service Water.
- 11. Loss of shutdown cooling.
- 12. Loss of Component Cooling System or cooling to an individual component.
- 13. Loss of normal feedwater or normal Feedwater System failure.
- \*14. Loss of all feedwater (normal and emergency).
- 15. Loss of protective system channel.
- 16. Mispositioned control rod(s) (or rod drops).
- 17. Inability to drive control rods.
- 18. Conditions requiring use of emergency boration.
- 19. Fuel cladding failure or high activity in reactor coolant or offgas.
- 20. Turbine or generator trip.
- 21. Malfunction of Automatic Control System(s) which affect reactivity.
- 22. Malfunction of Reactor Coolant Pressure/Volume Control System.
- 23. Reactor Trip.
- 24. Main steam line break (inside or outside containment).

25. Nuclear instrumentation failure(s).

\* Required at least annually

Even if the above manipulations are not needed to be accomplished at a simulator, each licensed operator shall attend a training session at an appropriate simulator annually.

B. Abnormal and Emergency Procedure Review

Abnormal and emergency procedures shall be reviewed by all licensed operators on a regularly scheduled basis as assigned by the Training Coordinator. The procedure review shall normally be accomplished each shift cycle on the 4 to midnight shift by conducting on-shift group discussions or by on-shift self-study. Other areas of interest may be included in the periodic review assignment. All abnormal and emergency plant operating procedures shall be reviewed at least annually.

C. Facility Design, Change, Procedure Change and Facility License Change Review.

All licensed operators shall review on a continuous basis all changes in facility design, operating procedures and the facility license. The determination of the depth of review of any changes shall be made by the Training Coordinator or cognizant Department Head. Reviews shall be conducted by one of the following methods:

1. Formal training lectures, to be scheduled and conducted during requalification lectures.
2. Individual review, to be read by the individual during his normal work hours. Questions to be directed to the Training Department.

3. Shift group discussion, to be conducted on-shift by the Shift Operating Engineer.

### 3. Annual Evaluation

All licensed operators shall be evaluated annually prior to Labor Day by participation in an oral and a written examination.

#### Annual Oral Examination

All licensed operators shall receive an oral examination from someone of the plant management staff other than the individual's shift members or immediate supervisor annually prior to Labor Day. The oral examination shall be designed to:

1. Evaluate each operator's understanding of the operation of systems and components and knowledge of operating procedures.
2. Evaluate each operator's competency and knowledge of action to be taken during actual or simulated abnormal and emergency conditions.

An operator failing to achieve a satisfactory evaluation on the annual operating examinations shall be placed into an accelerated training program developed to correct the identified weakness. The scope and duration of each accelerated training program shall be based on management evaluation in each instance it is required. Following completion of the accelerated training program, the operator shall be required to take and pass a second oral evaluation.

3. Shift group discussion, to be conducted on-shift by the Shift Operating Engineer.

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An operator failing to achieve a satisfactory evaluation on the annual operating examinations shall be placed into an accelerated training program developed to correct the identified weakness. The scope and duration of each accelerated training program shall be based on management evaluation in each instance it is required. Following completion of the accelerated training program, the operator shall be required to take and pass a second oral evaluation.

#### Annual Written Examination

All operators shall receive a written examination comparable to the NRC examinations annually prior to Labor Day to determine the effectiveness of the overall requalification program and to define those areas where additional emphasis is required. A grade of 80% or greater in a particular area will exempt the individual from attendance at lectures in this area during the upcoming requalification year. An overall grade average of less than 80% or any category grade of less than 70% shall require the individual to be placed on an accelerated training program prepared to correct the identified weakness. The scope and duration of the accelerated training program shall be based upon management evaluation in each instance it is required. During participation in this accelerated training program, the operator shall not be placed in a position where he is performing licensed duties. Following completion of the accelerated training program, the operator shall be required to take and pass a second written examination in those areas in which he was deficient.

#### 4. Training Program Documentation

Copies of the following requalification records shall be maintained for two (2) years following the date of recorded event or requalification program completion:

- a. Licensed Operator Requalification Summary
- b. Topic quizzes, answers given by licensee and quiz answer key
- c. On-the-job training records
- d. Change review records
- e. Annual Written Examination, answers given by licensee and answer key
- f. Annual oral examination reports
- g. Accelerated training programs (if assigned)

A permanent record shall be maintained for each operator containing verification of each program completion and the overall grade scores for the two (2) year program. This permanent record file shall be maintained for the life of the facility and conform with the requirements of 10CFR55 Appendix A.

#### Senior Operator License Limited to Fuel Handling

A licensed operator requalification program designed to maintain a continuing high degree of knowledge and proficiency as required by 10CFR50 and 10CFR55, Appendix A, shall be established for the Donald C. Cook Nuclear Plant. It shall apply to plant personnel that are licensed Senior Reactor Operators Limited to Fuel Handling (licensed fuel handlers) that are required to routinely supervise fuel handling operations, as well as those who perform such duties on an infrequent basis. A site appointed Training Coordinator has been assigned to administer this program.

The Senior Operator License Limited to Fuel Handling requalification program shall be conducted on a two-year cycle, commencing at the time of initial plant licensing. The requalification program shall consist of:

1. Formal classroom lectures
2. On-the-job training
3. An annual evaluation
4. Training documentation

#### 1. Classroom Lectures

Senior Operators Limited to Fuel Handling (SROL) shall be responsible for all the requirements of those in paragraph one of the Licensed Operator Requalification

Program as it relates to fuel handling as follows:

- a. Reactor and Fuel Characteristics
- b. Equipment and Instrumentation, Description and Design
- c. Procedures and Limitations
- d. Emergency Systems and Safety Devices
- e. Health Physics and Radiation Protection
- f. Technical Specifications

The annual lecture series for an SROL will be of an estimated length of 20 hours but, in no case, less than 16 hours.

## 2. On-The-Job Training

Senior Operators Limited to Fuel Handling (SROL) shall be responsible for all requirements of those in paragraph two of the Licensed Operator Requalification Program with the following exceptions:

- a. All the requirements of 2A
- b. That portion of 2B dealing with on-shift discussions. These discussions will be held during day shift and shall be conducted by the Fuel Handling Foreman.

## 3. Annual Evaluation

Senior Operators Limited to Fuel Handling (SROL) shall be responsible for all requirements of those in paragraph three of the Licensed Operator Requalification Program with the following exception, the scope of the oral and written examination shall be commensurate with the lectures, and within the five (5) categories enumerated in paragraph 1a.

4. Training Documentation

Senior Operators Limited to Fuel Handling (SROL) shall be responsible for all requirements of those in paragraph four of the Licensed Operator Requalification Program.