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TO: Mr. Edson G. Case	FROM: Indiana & Michigan Power Co. Bridgman, Michigan 49106 Robert E. Armstrong	DATE OF DOCUMENT 07-13-77
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DESCRIPTION

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**ACKNOWLEDGED**

PLANT NAME: COOK UNITS 1 & 2

jcm 07-18-77

ENCLOSURE

Consists of proposed changes to the Donald C. Cook Licensed Operator Requalification Program including; 1) Formal Classroom Lectures, 2) On-The-Job Training, 3) An Annual Evaluation and 4) Training Documentaion....

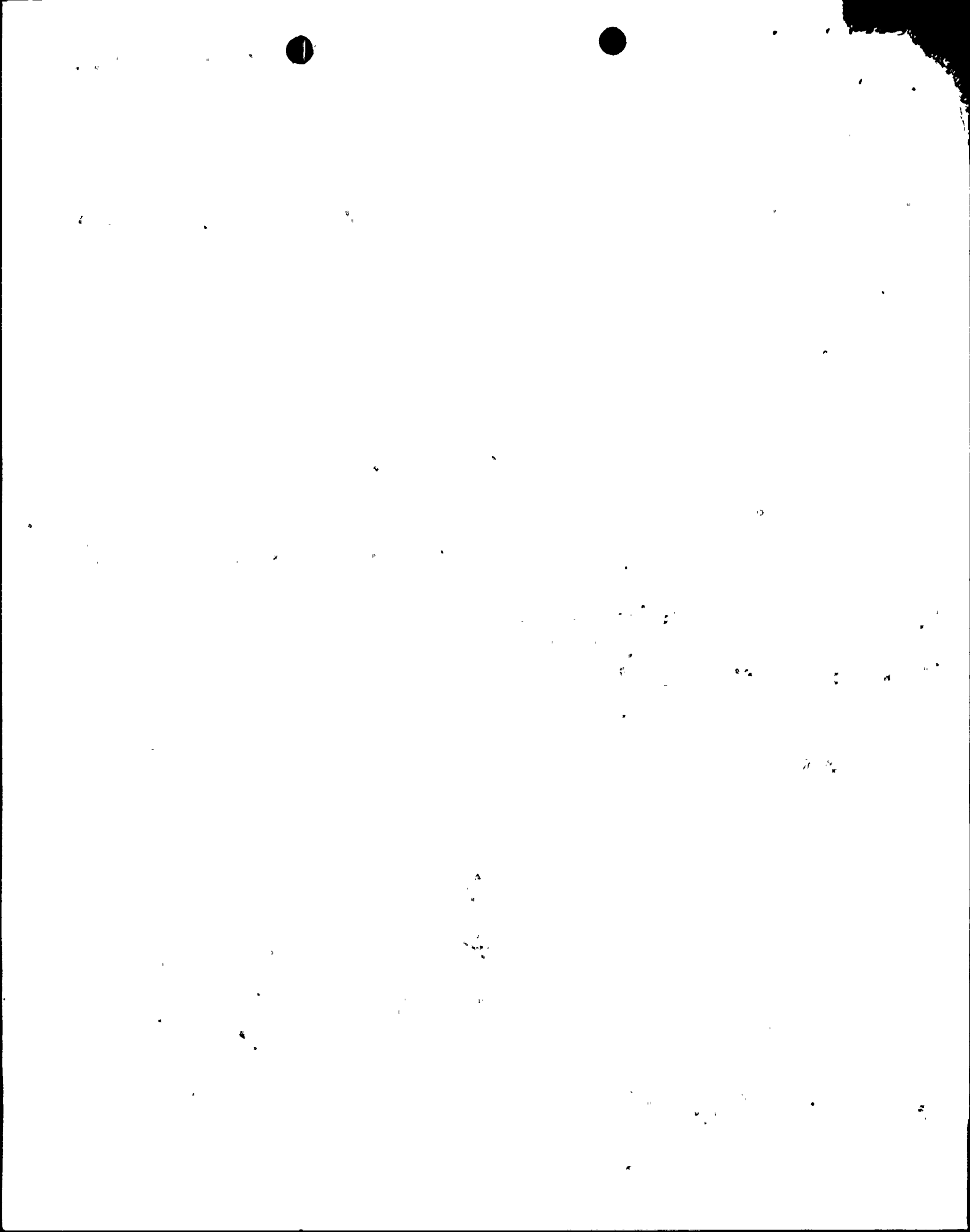
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LICENSING ASSISTANT:	<b>(5) Diggs</b>	LICENSING ASSISTANT:
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**INDIANA & MICHIGAN POWER COMPANY**

DONALD C. COOK NUCLEAR PLANT

P.O. Box 458, Bridgman, Michigan 49106

JUL 13 1977

July 13, 1977

TD #810

Donald C. Cook Nuclear Plant

Docket No. 50-315 DPR No. 58

Docket No. 50-316

Mr. Edson G. Case, Acting Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington D.C. 20555



Dear Mr. Case:

**Regulatory**

**FILE 57**

Enclosed please find 40 copies of proposed changes to the D.C. Cook Licensed Operator Requalification Program. It is at this time, having completed all the requirements of the presently approved two year program, that we would like to alter this training to make it more flexible and better able to fit the changing needs of our licensed operators during the second two year requalification cycle.

If approved by the Commission, this program would be submitted as a change to Section 12 of the D.C. Cook Final Safeguard Report.

Sincerely,

*Robert E. Armstrong*  
Robert E. Armstrong  
Training Coordinator

Approval

*D.V. Shaller*

D.V. Shaller  
Plant Manager

/bes

Enclosures

- cc: R.S. Hunter - AEP, New York
- J.E. Dolan - AEP, New York
- G.E. Lien - AEP, New York
- R.J. Vollen - AEP, New York (2)
- K.R. Baker - NRC
- M. Fletcher - NRC

- M. Mlynczak - NRC
- NRC Region III
- Ronald C. Callen
- Richard Walsh
- Peter Steketee

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INDIANA & MICHIGAN POWER 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 Training 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.

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



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requalification year one and requalification year two. Subsequent cycles will be designated year 3 and 4 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
3. An annual evaluation
4. Training documentation

1. 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 weak and historical problem areas:

- a. Theory and Principles of Operation
- b. General and Specific Plant Operating Characteristics
- c. Plant Instrumentation and Control Systems
- d. Plant Protection Systems
- e. Engineered Safety Systems
- f. Normal, Abnormal & Emergency Operating Procedures
- g. Radiation Control and Safety
- h. Technical Specifications
- i. Applicable portions of Title 10, Chapter I, 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 80% in the related areas of the previous years 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 Reactivity Manipulations
- b. On-shift abnormal and emergency procedure review
- c. Keeping abreast of all facility and procedure changes

### A. Reactivity Manipulations

Each licensed operator shall, during each two-year requalification training cycle, perform a minimum of 10 reactivity control manipulations which demonstrate his skill and/or familiarity with reactivity control systems. Each licensed senior operator shall either manipulate the



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ANN ARBOR, MICH.

controls or direct the activities of others during 10 reactivity control manipulations on either Unit 1 or Unit 2. Credit for a reactivity change shall be limited to the one operator performing the task and one senior operator engaged in directing the operations.

These may consist of a mix, but not necessarily all of the following or similar operations, with a maximum of three (3) of the same type manipulation being credited toward the 10 required:

PWR

1. Startup to point of adding heat.
2. Orderly shutdown.
3. Manual control of S/G's during startup or shutdown.
4. Operation of Turbine Governor Control in manual during startup.
5. Boration during power operation.
6. Dilution.
7. Operation of manipulator crane during refueling over the core.
8. Any significant (> 10%) power changes in manual rod control.
9. Manual rod control prior to and during generator synchronization.

If operators are unable to perform the required number of reactivity manipulations during the normal performance of their duties, Cook management will consider the use of an NRC approved simulator reproducing the operating characteristics of the Cook Station to meet the reactivity manipulation requirement.



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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, facility 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 lecture, 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 Memorial Day by participation in an oral and a written examination.

1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the study and the objectives of the research. It also provides a brief overview of the methodology used in the study.

2. The second part of the report is a detailed description of the study area. It includes information about the location of the study area, the population of the study area, and the characteristics of the study area. It also discusses the data sources used in the study and the methods used to collect and analyze the data.

### Annual Oral Examinations

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 Memorial 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.

### Annual Written Examination

All operators shall receive a written examination comparable to the NRC examinations annually prior to Memorial 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 70% shall require the individual to be placed on an accelerated training program prepared to correct the identified weaknesses. 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 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 year program. This permanent record file shall be maintained for the life of the facility and conforms with the requirements of 10CFR55 Appendix A.





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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 Licensee 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 1 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



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- 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 2 of the Licensed Operator Re-qualification 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 3 of the Licensed Operator Re-qualification Program with the following exception, the scope of the oral and written examination shall be commensurate with the lectures, and within the five 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 4 of the Licensed Operator Re-qualification Program.



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DIVISION OF THE PHYSICAL SCIENCES  
DEPARTMENT OF CHEMISTRY

1. Introduction  
2. Experimental  
3. Results  
4. Discussion  
5. Conclusions  
6. References  
7. Appendix  
8. Acknowledgments  
9. Author's address  
10. Summary