

OCTOBER 6 1980

Docket Nos. 50-315
and 50-316

cel

Mr. John Dolan, Vice President
Indiana and Michigan Electric Company
Post Office Box 18
Bowling Green Station
New York, New York 10004

Dear Mr. Dolan:

The Commission has issued the enclosed Amendment No. 4/2 to Facility Operating License No. DPR-58 and Amendment No. 24 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications in response to your application transmitted by letter dated February 22, 1980.

These amendments add locked or secured valves to the surveillance requirements for valves in the Auxiliary Feedwater System.

Please note that the enclosed Safety Evaluation Report covers the evaluation of the D. C. Cook Unit Nos. 1 and 2 Auxiliary Feedwater (AFW) System reliability which includes the proposed Technical Specification change. As outlined in the Safety Evaluation, we have concluded that the proposed Technical Specifications are acceptable, however, there are four items for which our review is not complete. These are:

1. Additional Recommendation 1 - The design of the level indication and low level alarms for the AFW system primary water supply is not acceptable. We require that you provide redundant level indication and alarms for the primary water source of the auxiliary feedwater system.
2. Additional Recommendation 3 (Task Action Plan Item II.E.1.2) - The safety grade design (long term requirement) for auxiliary feedwater flow indication is still under review. Additional clarification of our requirements for this item is included in our September 5, 1980 letter on Preliminary Clarification of TMI Action Plan Requirements.
3. Long Term Recommendation GL-5 (Task Action Plan Item II.E.1.2) - The safety grade design for auxiliary feedwater automatic initiation signals and circuits is still under review. Additional clarification of our requirements for this item is included in our September 5, 1980 letter on Preliminary Clarification of TMI Action Plan Requirements.
4. Recommendation - You have not provided the information required for Enclosure 2 of our October 30, 1979 letter.

60

OFFICE					
SURNAME					
DATE	8011060	214		P	

Mr. John Dolan
Indiana and Michigan Electric Company - 2 -

A copy of the Notice of Issuance is also enclosed.

Sincerely,

Original signed by:
S. A. Varga

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosures:

1. Amendment No. ~~23~~⁴² to DPR-58
2. Amendment No. ~~23~~⁴² to DPR-74
3. Safety Evaluation
4. Notice of Issuance

cc: w/enclosures
See next page

Distribution

Docket Files 50-315
and 50-316

NRC PDRs (2)

Local PDR

TERA

NSIC

NRR Reading

ORBI Reading

H. Denton

D. Eisenhower

R. Purple

T. Novak

G. Lainas

R. Tedesco

S. Varga

S. Miner

C. Parrish

J. Roe

J. Heltemes

Attorney, OELD

O. Parr

I&E (5)

ACRS (16)

B. Jones (8)

B. Scharf (10)

C. Stephens

C. Miles

R. Diggs

OFFICE	DL:ORB1	DL:ORB1	DL:ORB1	DL:AD:OR	OELD	DSI:ASB
SURNAME	SMiner:jb	CSParrish	SAVarga	TNNovak		ODParr
DATE	09/ /80	09/ /80	09/ /80	09/ /80	09/ /80	09/ /80



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 6, 1980

Docket Nos. 50-315
and 50-316

Mr. John Dolan, Vice President
Indiana and Michigan Electric Company
Post Office Box 18
Bowling Green Station
New York, New York 10004

Dear Mr. Dolan:

The Commission has issued the enclosed Amendment No. 42 to Facility Operating License No. DPR-58 and Amendment No. 24 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications in response to your application transmitted by letter dated February 22, 1980.

These amendments add locked or secured valves to the surveillance requirements for valves in the Auxiliary Feedwater System.

Please note that the enclosed Safety Evaluation Report covers the evaluation of the D. C. Cook Unit Nos. 1 and 2 Auxiliary Feedwater (AFW) System reliability which includes the proposed Technical Specification change. As outlined in the Safety Evaluation, we have concluded that the proposed Technical Specifications are acceptable, however, there are four items for which our review is not complete. These are:

1. Additional Recommendation 1 - The design of the level indication and low level alarms for the AFW system primary water supply is not acceptable. We require that you provide redundant level indication and alarms for the primary water source of the auxiliary feedwater system.
2. Additional Recommendation 3 (Task Action Plan Item II.E.1.2) - The safety grade design (long term requirement) for auxiliary feedwater flow indication is still under review. Additional clarification of our requirements for this item is included in our September 5, 1980 letter on Preliminary Clarification of TMI Action Plan Requirements.
3. Long Term Recommendation GL-5 (Task Action Plan Item II.E.1.2) - The safety grade design for auxiliary feedwater automatic initiation signals and circuits is still under review. Additional clarification of our requirements for this item is included in our September 5, 1980 letter on Preliminary Clarification of TMI Action Plan Requirements.
4. Recommendation - You have not provided the information required for Enclosure 2 of our October 30, 1979 letter.

Mr. John Dolan

Indiana and Michigan Electric Company - 2 -

October 6, 1980

A copy of the Notice of Issuance is also enclosed.

Sincerely,

A handwritten signature in dark ink, appearing to read "Steven A. Varga". The signature is stylized with a large, looped initial "S" and a cursive "Varga".

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosures:

1. Amendment No. 42 to DPR-58
2. Amendment No. 24 to DPR-74
3. Safety Evaluation
4. Notice of Issuance

cc: w/enclosures
See next page

Mr. John Dolan
Indiana and Michigan Electric Company

- 3 -

October 6, 1980

cc: Mr. Robert W. Jurgensen
Chief Nuclear Engineer
American Electric Power
Service Corporation
2 Broadway
New York, New York 10004

Gerald Charnoff, Esquire
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N.W.
Washington, D. C. 20036

Citizens for a Better Environment
59 East Van Buren Street
Chicago, Illinois 60605

Maude Preston Palenske Memorial
Library
500 Market Street
St. Joseph, Michigan 49085

Mr. D. Shaller, Plant Manager
Donald C. Cook Nuclear Plant
P. O. Box 458
Bridgman, Michigan 49106

U. S. Nuclear Regulatory Commission
Resident Inspectors Office
7700 Red Arrow Highway
Stevensville, Michigan 49127

Mr. Wade Schuler, Supervisor
Lake Township
Baroda, Michigan 49101

Mr. William R. Rustem (2)
Office of the Governor
Room 1 - Capitol Building
Lansing, Michigan 48913

Honorable James Bemenek, Mayor
City of Bridgman, Michigan 49106

Director, Technical Assessment Division
Office of Radiation Programs (AW-459)
U. S. Environmental Protection Agency
Crystal Mall #2
Arlington, Virginia 20460

U. S. Environmental Protection Agency
Federal Activities Branch
Region V Office
ATTN: EIS COORDINATOR
230 South Dearborn Street
Chicago, Illinois 60604

Maurice S. Reizen, M.D.
Director
Department of Public Health
P. O. Box 30035
Lansing, Michigan 48909

William J. Scanlon, Esquire
2034 Pauline Boulevard
Ann Arbor, Michigan 48103



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

INDIANA AND MICHIGAN ELECTRIC COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 42
License No. DPR-58

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Indiana and Michigan Electric Company (the licensee) dated February 22, 1980, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

8011060 222

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-58 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 42, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 6, 1980

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Revise Appendix A as follows:

Remove Pages

3/4 7-5
3/4 7-6

Insert Pages

3/4 7-5
3/4 7-6

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

- a. Two feedwater pumps, each capable of being powered from separate emergency busses, and
- b. One feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

With one auxiliary feedwater pump inoperable, restore at least three auxiliary feedwater pumps (two capable of being powered from separate emergency busses and one capable of being powered by an OPERABLE steam supply system) to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
 1. Starting each pump from the control room.
 2. Verifying that:
 - a. Each motor driven pump develops a discharge pressure of ≥ 1375 psig on recirculation flow, and
 - b. The steam turbine driven pump develops a discharge pressure of ≥ 1285 psig at a flow of ≥ 700 gpm when the secondary steam pressure is greater than 310 psig.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying that each pump operates for at least 15 minutes.
 4. Cycling each testable power operated or automatic valve in the flow path through at least one complete cycle of full travel.
 5. Verifying that each valve (manual, power operated or automatic) in the flow path, including valves which are locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 18 months during shutdown by:
1. Cycling each power operated valve in the flow path that is not testable during plant operation, through at least once complete cycle of full travel.
 2. Verifying that each motor driven pump starts automatically upon receipt of each of the following signals:
 - a) Loss of main feedwater pumps.
 - b) Safety Injection.
 - c) Steam Generator Water Level--Low-Low from one steam generator, 2 out of 3 channels.
 3. Verifying that the steam turbine driven pump starts automatically upon receipt of each of the following signals:
 - a) Steam Generator Water Level--Low-Low from two steam generators, 2 out of 3 channels.
 - b) Reactor Coolant Pump Bus Undervoltage.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

INDIANA AND MICHIGAN ELECTRIC COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 24
License No. DPR-74

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Indiana and Michigan Electric Company (the licensee) dated February 22, 1980, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.


2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-74 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 24, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 6, 1980

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 24 TO FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Revise Appendix A as follows:

Remove Pages

3/4 7-5
3/4 7-6

Insert Pages

3/4 7-5
3/4 7-6

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

- a. Two feedwater pumps, each capable of being powered from separate emergency busses, and
- b. One feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

With one auxiliary feedwater pump inoperable, restore at least three auxiliary feedwater pumps (two capable of being powered from separate emergency busses and one capable of being powered by an OPERABLE steam supply system) to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
 1. Verifying that each motor driven pump develops a discharge pressure \geq 1375 psig on recirculation flow.
 2. Verifying that the steam turbine driven pump develops a discharge pressure of \geq 1285 psig at a flow of $>$ 700 gpm when the secondary steam supply pressure is greater than 310 psig. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.
 3. Verifying that each valve (manual, power operated or automatic) in the flow path including valves which are locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 18 months by:
 1. Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection test signal.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that each motor driven pump starts automatically upon receipt of each of the following signals:
 - a) Loss of main feedwater pumps.
 - b) Safety Injection.
 - c) Steam Generator Water Level--Low-Low from one steam generator, 2 out of 3 channels.
3. Verifying that the steam turbine driven pump starts automatically upon receipt of each of the following signals:
 - a) Steam Generator Water Level--Low-Low from two steam generators, 2 out of 3 channels.
 - b) Reactor Coolant Pump Bus Undervoltage.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NO. DPR-58
AND AMENDMENT NO. 24 TO FACILITY OPERATING LICENSE NO. DPR-74
INDIANA AND MICHIGAN ELECTRIC COMPANY
DONALD C. COOK NUCLEAR PLANT UNIT NOS. 1 AND 2
DOCKET NOS. 50-315 AND 50-316

I. Introduction and Background

The Three Mile Island Unit 2 (TMI-2) accident and subsequent investigations and studies highlighted the importance of the Auxiliary Feedwater (AFW) System in the mitigation of transients and accidents. As part of our assessment of the TMI-2 accident and related implications for operating plants, we evaluated the AFW systems for all operating and near-term operating license plants having nuclear steam supply systems (NSSS) designed by Westinghouse (NUREG-0611) or Combustion Engineering (NUREG-0635). Our evaluations of these system designs are contained in the NUREGs along with our recommendations for each plant and the concerns which led to each recommendation. The objectives of the evaluation were to: (1) identify necessary changes in AFW system design or related procedures in order to assure the safe operation of these plants, and (2) to identify other system characteristics of the AFW system which, on a long term basis, may require system modifications. To accomplish these objectives, we:

- (i) Reviewed plant specific AFW system designs in light of current regulatory requirements (SRP) and,

8011060232

- (2) Assessed the relative reliability of the various AFW systems under various loss of feedwater transients (one of which was the initiating event of TMI-2) and other postulated failure conditions by determining the potential for AFW system failure due to common causes, single point vulnerabilities, and human error.

We concluded that the implementation of the recommendations identified during this review will considerably improve the reliability of the AFW systems for each operating plant.

The following generic recommendations did not apply to this plant:

GS-1, GS-3, GS-8, GL-1 and GL-2. The basis for these recommendations can be found in Appendix III of NUREG-0611, and the system description which determined the basis for not applying these recommendations can be found in Appendix X of NUREG-0611.

II. Implementation of Our Recommendations

A. Short Term Recommendations

1. Recommendation GS-2 - "The licensee should lock open single valves or multiple valves in series in the AFW system pump suction piping and lock open other single valves or multiple valves in series that could interrupt all AFW flow. Monthly inspections should be performed to verify that these valves are locked and in the open position. These inspections should be proposed for incorporation into the surveillance requirements of the plant Technical Specifications. See Recommendation GL-2 for the longer-term resolution of this concern."

In response to this recommendation, the licensee indicated in a letter dated December 11, 1979 (AEP:NRC:00300), that each valve, not automatic or power-operated, in the auxiliary feedwater flow path is locked or sealed in its correct position. The licensee, also stated, present Technical Specifications Surveillance Item 4.7.1.2 requires monthly verification of unlocked valves in the auxiliary feedwater flow path and present procedures require monthly verification of locked or secured valves. The licensee's present Technical Specification 6.8.1.c require implementation of these procedures. In response to our request, the licensee proposed a change to Technical Specifications to include the locked or secured valves in the auxiliary feedwater flow path.

We have reviewed the licensee's response and proposed Technical Specifications and conclude that Recommendation GS-2 is adequately met and, therefore, the licensee's response to GS-2 and proposed Technical Specifications are acceptable.

2. Recommendation GS-4 - "Emergency procedures for transferring to alternate sources of AFW supply should be available to the plant operators. These procedures should include criteria to inform the operators when, and in what order, the transfer to alternate water sources should take place. The following cases should be covered by the procedures:

- The case in which the primary water supply is not initially available. The procedures for this case should include any operator actions required to protect the AFW system pumps against self-damage before water flow is initiated; and,

- The case in which the primary water supply is being depleted. The procedure for this case should provide for transfer to the alternate water sources prior to draining of the primary water supply."

In response to this recommendation, the licensee indicated in a letter dated March 28, 1980 (AEP:NRC:00307A), that Procedure No. OHP-4022.055.003 entitled "Loss of Condensate to Auxiliary Feedwater Pumps" had been developed to fulfill this recommendation. This procedure provides the operator with instructions to switch the auxiliary feedwater pumps suction from the condensate storage tank to the alternate Essential Service Water Supply (ESW). On a 10-10 level alarm for the condensate storage tank, an operator is sent to the auxiliary feedwater pump rooms to align the essential service water valves to provide suction to each of the pumps. By opening the manual valve and the motor-operated valve in series in each alternate supply line, both motor-driven auxiliary feedwater pumps and the turbine - driven auxiliary feedwater pump will be supplied by the ESW. We conclude that recommendation GS-4 is adequately met, and therefore, acceptable pending verification of the procedure by the Office of Inspection and Enforcement.

3. Recommendation GS-5 - "The as-built plant should be capable of providing the required AFW flow for at least two hours from one AFW pump train independent of any alternating current power source. If manual AFW system initiation or flow control is required following a complete loss of alternating current power, emergency procedures should be established

for manually initiating and controlling the system under these conditions. Since the water for cooling of the lube oil for the turbine-driven pump bearings may be dependent on alternating current power, design or procedural changes shall be made to eliminate this dependency as soon as practicable. Until this is done, the emergency procedures should provide for an individual to be stationed at the turbine-driven pump in the event of the loss of all alternating current power to monitor pump bearing and/or lube oil temperatures. If necessary, this operator would operate the turbine-driven pump in an on-off mode until alternating current power is restored. Adequate lighting powered by direct current power sources and communications at local stations should also be provided if manual initiation and control of the AFW system is needed. (See Recommendation GL-3 for the long-term resolution of this concern.)"

In response to this recommendation, the licensee indicated in a letter dated December 11, 1979, that until modifications to meet recommendation GL-3 are complete, emergency procedures will provide for manual initiation and control of the auxiliary feedwater system in case of a complete loss of AC power. The turbine-driven auxiliary feedwater pump areas have been provided with emergency lighting and emergency radio communications, both powered by direct current sources. The existing turbine-driven auxiliary feedwater pump bearing cooling system is independent of both AC and DC power. We conclude that recommendation GS-5 is adequately met, and therefore, acceptable pending verification of the procedure by the Office of Inspection and Enforcement.

4. Recommendation GS-6 - "The licensee should confirm flow path availability of an AFW system flow train that has been out of service to perform periodic testing or maintenance as follows:

- Procedure should be implemented to require an operator to determine that the AFW system valves are properly aligned and a second operator to independently verify that the valves are properly aligned.
- The licensee should propose Technical Specifications to assure that prior to plant startup following an extended cold shutdown, a flow test would be performed to verify the normal flow path from the primary AFW system water source to the steam generators. The flow test should be conducted with AFW system valves in their normal alignment."

In response to this recommendation, the licensee in a letter dated May 23, 1980, indicated that the plant procedures would be changed to include back-up verification by a second operator to existing procedures which require verification of valve alignment after testing and maintenance. In a letter dated December 11, 1979, the licensee indicated that, "the operating procedure for unit heatup from cold shutdown to hot standby calls for operation of both the motor driven auxiliary feed pumps and the turbine driven auxiliary feedpump. The pumps take suction from their primary water source and deliver flow

to the steam generators in order to control steam generator water levels." We concluded that a Technical Specification to require a flow test is not required, in that both motor driven pumps and the turbine driven pumps are used to deliver flow to the steam generators during unit startup. We conclude that recommendation GS-6 is adequately met, and therefore, acceptable, pending verification of operating and surveillance procedures by the Office of Inspection and Enforcement.

5. Recommendation GS-7 - "The licensee should verify that the automatic start AFW signals and associated circuitry are safety grade. If this cannot be verified, the AFW system automatic initiation system should be modified in the short-term to meet the functional requirements listed below. For the longer term, the automatic initiation signals and circuits should be upgraded to meet safety grade requirements as indicated in Recommendation GL-5.

- The design should provide for the automatic initiation of the auxiliary feedwater system flow.
- The automatic initiation signals and circuits should be designed so that a single failure will not result in the loss of auxiliary feedwater system function.
- Testability of the initiation signals and circuits shall be a feature of the design.
- The initiation signals and circuits should be powered from the emergency buses.

- Manual capability to initiate the auxiliary feedwater system from the control room should be retained and should be implemented so that a single failure in the manual circuits will not result in the loss of system function.
- The alternating current motor-driven pumps and valves in the auxiliary feedwater system should be included in the automatic actuation (simultaneous and/or sequential) of the loads to the emergency buses.
- The automatic initiation signals and circuits shall be designed so that their failure will not result in the loss of manual capability to initiate the AFW system from the control room."

In response to this recommendation, the licensee indicated in a letter dated December 11, 1979, that the present AFW system automatic initiation signals and control systems are safety grade. The licensee's response to Recommendation GS-7 is acceptable. The long term counterpart of this recommendation, GL-5 (Safety Grade Automatic Initiation) is still under review. Additional clarification of our requirements for this item is included in our September 5, 1980 letter on Preliminary Clarification of TMI Action Plan Requirements.

B. Additional Short Term Recommendations

1. Recommendation - "The licensee should provide redundant level indications and a low level alarm in the control room for the AFW system primary water supply to allow the operator to anticipate the need to

make up water or transfer to an alternate water supply and prevent a low pump suction pressure condition from occurring. The low level alarm setpoint should allow at least 20 minutes for operator action, assuming that the largest capacity AFW pump is operating."

In response to this recommendation, the licensee stated that the existing Condensate Storage Tank (primary water source) is provided with redundant level sensors which provide signals for a continuous recorder. Low and low-low alarms which are powered by the same DC power bus, are provided for each level indicator sensor. The low-low level alarm is set to allow 35 minutes for operator action.

In our position letter of April 4, 1980, to the licensee we stated that this design was acceptable for the short term. For the long term, we require the licensee to meet the following: 1) Provide a redundant level indicator in addition to the existing redundant level alarms inside the control room. The current design with a single level recorder does not meet the single failure criterion; 2) Power supplies for the level indication and alarms should be redundant. The present design utilizes a single DC power source. Since the condensate storage tank is not classified seismic Category I, use of non-Class IE circuitry and power supplies are acceptable provided one power train has a back-up battery source; and 3) reset the low-low level alarm to allow at least 20 minutes for operator's action, assuming that the largest capacity AFW pump is operating.

The licensee's response to items 1 and 2 of our position is not acceptable. The licensee is required to make modifications to provide redundancy as stated in our April 4, 1980 letter.

2. Recommendation (This recommendation has been revised from the original recommendation in NUREG-0611) - "The licensee should perform a 48-hour endurance test on all AFW system pumps, if such a test or continuous period of operation has not been accomplished to date. Following the 48-hour pump run, the pumps should be shut down and cooled down and then restarted and run for one hour. Test acceptance criteria should include demonstrating that the pumps remain within design limits with respect to bearing/bearing oil temperatures and vibration and that pump room ambient conditions (temperature, humidity) do not exceed environmental qualification limits for safety related equipment in the room."

In response to this recommendation, the licensee in a letter dated June 26, 1980, indicated that it will perform the 48-hour endurance test on all auxiliary feedwater pumps for both units by December 31, 1980. The licensee further indicated the results of the test will be provided within 60 days after all tests are completed.

Based on the above licensee's commitment, we conclude that the response to this recommendation is acceptable. However, we intend to evaluate the AFW pump test results to confirm that the AFW pumps are acceptable. If the test results are not acceptable, we will then require modification and provide a safety evaluation regarding the test and modifications.

3. Recommendation - "The licensee should implement the following requirements which are identical to Item 2.1.7.b of NUREG-0578:

Safety-grade indication of AFW flow to each steam generator should be provided in the control room. The auxiliary feed-water flow instrument channels should be powered from the emergency power diversity requirements for the auxiliary feed-water system set forth in Auxiliary Systems Branch Technical Position 10-1 of the Standard Review Plan, Section 10.4.9."

Our Lessons Learned Implementation Task Force has completed its review of the short term requirements and their evaluation was forwarded to the licensee in a letter dated March 20, 1980. The long term requirements for this recommendation are still under review. Additional clarification of our requirements for this item is included in our September 5, 1980 letter on Preliminary Clarification of TMI Action Plan Requirements.

4. Recommendation - "Licensees with plants which require local manual realignment of valves to conduct periodic tests on one AFW system train, and there is only one remaining AFW train available for operation, should propose Technical Specifications to provide that a dedicated individual who is in communication with the control room be stationed at the manual valves. Upon instruction from the control room, this operator would realign the valves in the AFW system train from the test mode to its operational alignment.

The licensee, in its letter of December 11, 1979, stated that this recommendation does not apply to D. C. Cook 1&2. The auxiliary feedwater system included a turbine-driven feedwater pump and two motor-driven feedwater pumps shared by both units. Each motor-driven auxiliary pump was connected to two steam generators in each unit; thus, each unit's four steam generators were supplied by both motor-driven pumps. However, the licensee recently modified the AFW system to provide three AFW pumps per unit, one turbine-driven pump and two motor-driven pumps. Further, the Technical Specifications only allow testing of one pump at a time. We conclude that this recommendation does not apply to D. C. Cook, 1&2.

C. Long Term Recommendations

1. Recommendation GL-3 - By letter dated August 9, 1979, the licensee proposed making modifications and Technical Specification changes to the AFW System to make the turbine driven train independent of AC power sources. The following recommendation should be met when these modifications are complete. At least one AFW system pump and its associated flow path and essential instrumentation should automatically initiate AFW system flow and be capable of being operated independently of any alternating current power source for at least two hours. Conversion of direct current power to alternating current is acceptable."

In response to this recommendation, the licensee indicated a letter dated December 11, 1979, that "The turbine driven auxiliary feed-water pump is being modified to eliminate its dependence on AC power for automatic initiation of flow and operation." The staff SER supporting Amendment 35 to Facility Operating License dated December 20, 1979 addresses this issue. It was concluded in that amendment that the licensee's response is acceptable.

2. Recommendation GL-4 - "Licensees having plants with unprotected normal AFW system water supplies should evaluate the design of their AFW systems to determine if automatic protection of the pumps is necessary following a seismic event or a tornado. The time available before pump damage, the alarms and indications available to the control room operator, and the time necessary for assessing the problem and taking action should be considered in determining whether operator action can be relied upon to prevent pump damage. Consideration should be given to providing pump protection by means such as automatic switchover of the pump suctions to the alternate safety-grade source of water, automatic pump trips on low suction pressure or upgrading the normal source of water to meet Seismic Category I and tornado protection requirements."

In response to this recommendation, the licensee by a letter dated December 11, 1979, indicated that an automatic AFW pump trip on low suction pressure will be installed. The pump trip will be provided with an alarm in the control room and operators will be instructed to

follow emergency procedures for transferring to alternate source of AFW supply. We conclude the licensee's response meets our recommendation and, therefore, is acceptable.

3. Recommendation GL-5 - "The licensee should upgrade the AFW system automatic initiation signals and circuits to meet safety-grade requirements."

In response to this recommendation, the licensee indicated in a letter dated December 11, 1979, that the present AFW system automatic initiation signals and circuits are safety grade. The licensee's design is under review. Additional clarification of our requirements for this item is included in our September 5, 1980 letter on Preliminary Clarification of TMI Action Plan Requirements.

Environmental Consideration

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

Conclusion

We have concluded, based on the considerations discussed above, that:

(1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: October 6, 1980

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NOS. 50-315 AND 50-316INDIANA AND MICHIGAN ELECTRIC COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 42 to Facility Operating License No. DPR-58, and Amendment No. 24 to Facility Operating License No. DPR-74 issued to Indiana and Michigan Electric Company (the licensee), which revised Technical Specifications for operation of Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2 (the facilities) located in Berrien County, Michigan. The amendments are effective as of the date of issuance.

The amendments add locked or secured valves to the surveillance requirements of valves in the Auxiliary Feedwater System.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

801106024

- 2 -

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the application for amendments dated February 22, 1980, (2) Amendment Nos. 42 and 24 to License Nos. DPR-58 and DPR-74, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and at the Maude Reston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 6th day of October, 1980.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing