



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 315

DONALD C. COOK NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 237  
License No. DPR-58

1. The U.S. Nuclear Regulatory Commission (NRC) has found that:
  - A. The application for amendment by Indiana Michigan Power Company (the licensee) dated November 5, 1999, complies with the standards and requirements of the Atomic Energy Act of 1954, as amendment (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.

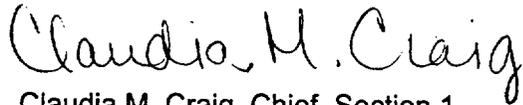
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-58 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 237, 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 its date of issuance, and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Claudia M. Craig, Chief, Section 1  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: December 23, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 237

TO FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change.

REMOVE

3/4 5-1  
3/4 5-2  
B 3/4 5-1

INSERT

3/4 5-1  
3/4 5-2  
B 3/4 5-1

**3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS**  
**3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)**

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**ACCUMULATORS**

**LIMITING CONDITION FOR OPERATION**

3.5.1 Each reactor coolant system accumulator shall be OPERABLE with:

- a. The isolation valve open,
- b. A contained borated water volume of between 921 and 971 cubic feet,
- c. A boron concentration between 2400 ppm and 2600 ppm, and
- d. A nitrogen cover-pressure of between 585 and 658 psig.

**APPLICABILITY:** MODES 1, 2 and 3.\*

**ACTION:**

- a. With one accumulator inoperable, due to boron concentration not within limits, restore boron concentration to within limits within 72 hours or be in at least Mode 3 within the next 6 hours and reduce reactor coolant system pressure to less than or equal to 1000 psig within the following 6 hours.
- b. With one accumulator inoperable for reasons other than boron concentration not within limits, restore the accumulator to OPERABLE status within 1 hour, or be in at least Mode 3 within the next 6 hours and reduce reactor coolant system pressure to less than or equal to 1000 psig within the following 6 hours.

**SURVEILLANCE REQUIREMENTS**

4.5.1 Each accumulator shall be demonstrated OPERABLE:

- a. At least once per 12 hours by:
  1. Verifying the contained borated water volume and nitrogen cover-pressure in the tanks, and
  2. Verifying that each accumulator isolation valve is open.

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\*Reactor Coolant System Pressure above 1000 psig.

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 31 days and, for the affected accumulator(s), within 6 hours after each solution volume increase of greater than or equal to 1% of tank volume (that is not the result of addition from the refueling water storage tank) by verifying the boron concentration of the accumulator solution.
- c. At least once per 31 days when the RCS pressure is above 2000 psig, by verifying that power is removed from each accumulator isolation valve operator.

3/4.5.1 ACCUMULATORS

The OPERABILITY of each RCS accumulator ensures that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the accumulators. This initial surge of water into the core provides the initial cooling mechanism during large RCS pipe ruptures.

The limits on accumulator volume, boron concentration and pressure ensure that the assumptions used for accumulator injection in the safety analysis are met.

The accumulator power operated isolation valves are considered to be "operating bypasses" in the context of IEEE Standard 279-1971, which requires that bypasses of a protective function be removed automatically whenever permissive conditions are not met. In addition, as these accumulator isolation valves fail to meet single failure criteria, removal of power to the valves is required. Verification every 31 days that power is removed from each accumulator isolation valve operator when the RCS pressure is greater than 2000 psig ensures that an active failure could not result in the undetected closure of an accumulator motor-operated isolation valve.

If the boron concentration of one accumulator is not within limits, it must be returned to within the limits within 72 hours. In this Condition, ability to maintain subcriticality or minimum boron precipitation time may be reduced. The boron in the accumulators contributes to the assumption that the combined ECCS water in the partially recovered core during the early reflooding phase of a large break LOCA is sufficient to keep that portion of the core subcritical. One accumulator below the minimum boron concentration limit, however, will have no effect on available ECCS water and an insignificant effect on core subcriticality during reflood. Boiling of ECCS water in the core during reflood concentrates boron in the saturated liquid that remains in the core. In addition, current analysis techniques demonstrate that the accumulators do not discharge following a large main steam line break for the majority of plants. Even if they do discharge, their impact is minor and not a design limiting event. Thus, 72 hours is allowed to return the boron concentration to within limits.

If one accumulator is inoperable for a reason other than boron concentration, the accumulator must be returned to OPERABLE status within 1 hour. In this Condition, the required contents of three accumulators cannot be assumed to reach the core during a LOCA. Due to the severity of the consequences should a LOCA occur in these conditions, the 1 hour completion time to open the valve, remove power to the valve, or restore the proper water volume or nitrogen cover pressure ensures that prompt action will be taken to return the inoperable accumulator to OPERABLE status. The completion time minimizes the potential for exposure of the plant to a LOCA under these conditions.

If the accumulator cannot be returned to OPERABLE status within the associated completion time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to MODE 3 within 6 hours and RCS pressure reduced to  $\leq$  1000 psig within 12 hours. The



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INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 316

DONALD C. COOK NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 219  
License No. DPR-74

1. The U.S. Nuclear Regulatory Commission (NRC) has found that:
  - A. The application for amendment by Indiana Michigan Power Company (the licensee) dated November 5, 1999, complies with the standards and requirements of the Atomic Energy Act of 1954, as amendment (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.

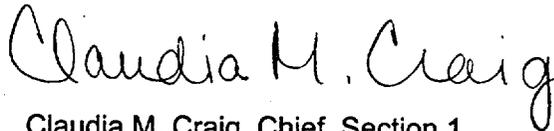
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-74 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 219, 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 its date of issuance, and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Claudia M. Craig, Chief, Section 1  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: December 23, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 219

TO FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change.

REMOVE

3/4 5-1

3/4 5-2

B 3/4 5-1

INSERT

3/4 5-1

3/4 5-2

B 3/4 5-1

**ACCUMULATORS**

**LIMITING CONDITION FOR OPERATION**

- 3.5.1 Each reactor coolant system accumulator shall be OPERABLE with:
- a. The isolation valve open,
  - b. A contained borated water volume of between 921 and 971 cubic feet,
  - c. A boron concentration between 2400 ppm and 2600 ppm, and
  - d. A nitrogen cover-pressure of between 585 and 658 psig.

**APPLICABILITY:** MODES 1, 2 and 3.\*

**ACTION:**

- a. With one accumulator inoperable due to boron concentration not within limits, restore boron concentration to within limits within 72 hours or be in at least Mode 3 within the next 6 hours and reduce reactor coolant system pressure to less than or equal to 1000 psig within the following 6 hours.
- b. With one accumulator inoperable for reasons other than boron concentration not within limits, restore the accumulator to OPERABLE status within 1 hour, or be in at least Mode 3 within the next 6 hours and reduce reactor coolant system pressure to less than or equal to 1000 psig within the following 6 hours.

**SURVEILLANCE REQUIREMENTS**

- 4.5.1 Each accumulator shall be demonstrated OPERABLE:
- a. At least once per 12 hours by:
    1. Verifying the contained borated water volume and nitrogen cover-pressure in the tanks, and
    2. Verifying that each accumulator isolation valve is open.

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\*Reactor Coolant System Pressure above 1000 psig.

**3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS**  
**3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)**

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**SURVEILLANCE REQUIREMENTS (Continued)**

- b. At least once per 31 days and, for the affected accumulator(s), within 6 hours after each solution volume increase greater than or equal to 1% of tank volume (that is not the result of addition from the refueling water storage tank) by verifying the boron concentration of the accumulator solution.
- c. At least once per 31 days when the RCS pressure is above 2000 psig by verifying that power is removed from each accumulator isolation valve operator.

**3/4 BASES**  
**3/4.5 EMERGENCY CORE COOLING SYSTEMS**

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**3/4.5.1 ACCUMULATORS**

The OPERABILITY of each RCS accumulator ensures that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the accumulators. This initial surge of water into the core provides the initial cooling mechanism during large RCS pipe ruptures.

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If the accumulator cannot be returned to OPERABLE status within the associated completion time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to MODE 3 within 6 hours and RCS pressure reduced to  $\leq 1000$  psig within 12 hours. The