December 20, 2004

Mr. Mano K. Nazar
American Electric Power
Senior Vice President and Chief Nuclear Officer
Indiana Michigan Power Company
Nuclear Generation Group
500 Circle Drive
Buchanan, MI 49107

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT 1 - ISSUANCE OF AMENDMENT RE: TEMPERATURE REQUIREMENT FOR THE REACTIVITY CONTROL SYSTEM ROD DROP TIME TEST (TAC NO. MC3703)

Dear Mr. Nazar:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 284 to Facility Operating License No. DPR-58 for the Donald C. Cook Nuclear Plant, Unit 1. The amendment consists of changes to the Technical Specifications in response to your application dated June 25, 2004 (ADAMS Accession No. ML041890389).

The amendment revises the Technical Specifications (TSs) to reduce the temperature at which shutdown and control rod drop time tests are performed from greater than or equal to 541 degrees Fahrenheit to greater than or equal to 500 degrees Fahrenheit. Additionally, format changes are made to improve the appearance of the TSs.

A copy of our related safety evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

Carl F. Lyon, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-315

Enclosures: 1. Amendment No. 284 to DPR-58
2. Safety Evaluation

cc w/encls: See next page

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cc:

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INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 284
License No. DPR-58

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Indiana Michigan Power Company (the licensee) dated June 25, 2004, 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-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. 284, 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 45 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

L. Raghavan, 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 20, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 284

TO FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE	INSERT
3/4 1-21	3/4 1-21

The following TS Bases page is provided for information only.

B 3/4 1-4

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 284 TO FACILITY OPERATING LICENSE NO. DPR-58

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-315

1.0 INTRODUCTION

By application dated June 25, 2004, the Indiana Michigan Power Company (the licensee) requested an amendment to the Technical Specifications (TSs) for the Donald C. Cook Nuclear Plant, Unit 1 (CNP). The proposed changes would revise the TSs and TS Bases to reduce the temperature at which shutdown and control rod drop time tests are performed from greater than or equal to 541 degrees Fahrenheit to greater than or equal to 500 degrees Fahrenheit. Additionally, format changes are proposed to improve the appearance of the TSs.

Specifically, the proposed changes would revise the limiting condition for operation (LCO) for TS 3.1.3.3. The LCO currently requires:

> The individual full length (shutdown and control) rod drop time from the fully withdrawn position (specified in the COLR [core operating limits report]) shall be less than or equal to 2.4 seconds from the beginning of decay of stationary gripper coil voltage to dashpot entry with:
>
> a. Tavg greater than or equal to 541 EF, and
> b. All reactor coolant pumps operating.

The licensee proposes to change TS 3.1.3.3.a to read

> a. Tavg greater than or equal to 500 EF, and

The licensee proposes to change the TS Bases to conform to the proposed TS change. In addition, the licensee proposes minor format changes to the appearance of the TS page.

2.0 REGULATORY EVALUATION

The Nuclear Regulatory Commission (NRC) staff reviewed the licensee's June 25, 2004, application to verify that the proposed changes comply with the CNP Unit 1 licensing basis criteria stated in section 1.4 of the Final Safety Analysis Report. The staff used Chapter 4.6 of NUREG-0800, "Standard Review Plan (SRP) for the Review of Safety Analysis Reports for Nuclear Power Plants LWR Edition," as guidance during the review.

3.0 TECHNICAL EVALUATION

3.1 Evaluation

The Rod Cluster Control Assembly (RCCA) drop time test is intended to provide verification that RCCAs will perform as designed during a reactor trip from power operation. Verification of RCCA drop time allows the licensee to ensure that actual drop times are consistent with the drop times assumed in the plant's safety analysis. The RCCA drop test ensures that the reactor internals and RCCA drive mechanisms do not interfere with RCCA motion or increase drop time, and that no degradation in the system has occurred that would adversely affect the operability of the RCCAs.

The NRC staff reviewed the results from rod drop testing during the initial startup. RCCA drop tests were performed at cold (140 EF) and hot (547 EF) reactor coolant temperatures at full flow. The tests demonstrated a slight increase in RCCA drop time as reactor coolant temperature decreased. An average drop time increase of 0.2 seconds was observed between the cold and hot coolant temperatures. A slight increase in RCCA drop time at lower reactor coolant temperatures is expected due to the increase in coolant density as temperature decreases. The increase in coolant density increases the resistive force against a dropping RCCA, thereby increasing the rod drop time. The licensee measured the rod drop times for Unit 1 Cycle 19 at 541 EF and found the drop times were less than 1.5 seconds. The licensee determined measuring the rod drop time at 500 EF will increase the time by less than 0.2 seconds. The licensee concluded there is sufficient margin to accommodate the rod drop time increase without changing the 2.4-second limit in TS 3.1.3.3.a. No change is proposed to the acceptance criteria. Since the decrease of the required average reactor coolant temperature for the rod drop test would increase the rod drop time, the proposed TS change to reduce the temperature from 541 EF to 500 EF is conservative relative to the existing TS value. Therefore, the NRC staff finds it acceptable.

The licensee proposes changes the TS Bases to conform to the proposed TS change. The NRC staff has no objection to the proposed changes to the TS Bases.

The licensee also proposes minor format changes to the appearance of TS page 3/4 1-21. The proposed format changes improve the appearance of the page and do not affect the meaning of the TSs. Therefore, the proposed changes to the format are acceptable.

3.2 Conclusion

The NRC staff evaluated the licensee's request to amend TS 3.1.3.3.a to reduce the average reactor coolant temperature from 541 EF to 500 EF during rod drop testing and found it conservative relative to the existing value. As described in the evaluation above, the NRC staff concludes that the proposed temperature does not affect the drop time or the ability of the rods to perform their design function as described in the current licensing basis. Therefore, the NRC staff finds the proposed change acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes the requirements with respect to installation or use of a facility component located within the restricted area as defined in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (69 FR 46585). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The NRC staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Letter from J. Jensen, Indiana Michigan Power, to US Nuclear Regulatory Commission, “Application for Amendment to Revise Temperature Requirement for the Reactivity Control System Rod Drop Time Test,” dated June 25, 2004.

2. Letter from R. J. Hovey, Florida Power and Light Company (FPL) to NRC Document Control Desk, “Proposed License Amendments, Reduction of the Temperature Requirement to Perform the Rod Cluster Control Assembly Drop Test,” dated March 12, 2001.

3. Letter from K. Jabbour, NRC, to T. F. Plunket, FPL, “Turkey Point Units 3 and 4- Issuance of Amendments Regarding Reduction of Temperature Requirement During Rod Cluster Control Assembly Drop Test,” dated May 7, 2001.

4. NUREG-0800, “Standard Review Plan (SRP) for the Review of Safety Analysis Reports for Nuclear Power Plants LWR Edition.”

5. D. C. Cook Updated Final Safety Analysis Report, Chapter 3, Revision 19.

Principal Contributor: M. Barillas

Date: December 20, 2004