April 28, 2008

Mr. Michael W. Rencheck
Senior Vice President and
Chief Nuclear Officer
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS TO ADD A SURVEILLANCE REQUIREMENT FOR WHEN OFFSITE POWER IS PROVIDED VIA BACKFEED THROUGH THE MAIN TRANSFORMER AND A UNIT AUXILIARY TRANSFORMER (TAC NOS. MD6317 AND MD6318)

Dear Mr. Rencheck:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 304 to Renewed Facility Operating License No. DPR-58, and Amendment No. 287 to Renewed Facility Operating License No. DPR-74 for Donald C. Cook Nuclear Plant, Units 1 and 2. The amendments change the Technical Specifications in response to your application dated July 30, 2007, as supplemented by letter dated February 13, 2008.

The amendments added a Surveillance Requirement, SR 3.8.2.3, that is applicable when offsite electrical power is supplied to a unit via backfeed through the main transformer and the unit is in either MODE 5, MODE 6, or during movement of irradiated fuel.

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

Sincerely,

/RA/

Peter S. Tam, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-315 and 50-316

Enclosures:
1. Amendment No. 304 to DPR-58
2. Amendment No. 287 to DPR-74
3. Safety Evaluation

cc w/encls: See next page

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Senior Vice President and
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DATE	4/4/08	4/1/08	3/17/08	4/15/08	4/28/08

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INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 304
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 July 30, 2007, as supplemented by letter dated February 13, 2008, 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 Renewed Facility Operating License No. DPR-58 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A and Appendix B, as revised through Amendment No. 304 are hereby incorporated in the renewed operating 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 of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Lois M. James, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Renewed Operating License
and Appendix A

Date of Issuance: April 28, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 304

RENEWED FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Replace the following page of Renewed Facility Operating License No. DPR-58 with the attached revised page. The change area is identified by a marginal line.

REMOVE	INSERT
3	3

Replace the following page of Appendix A, Technical Specifications, with the attached revised page. The change area is identified by a marginal line.

REMOVE	INSERT
3.8.2-3	3.8.2-3

and radiation monitoring equipment calibration, and as fission detectors in amounts as required.

(4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components; and

(5) Pursuant to the Act and 10 CFR 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not to exceed 3304 megawatts thermal in accordance with the conditions specified therein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A and Appendix B, as revised through Amendment No. 304, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Less Than Four Loop Operation

The licensee shall not operate the reactor at power levels above P-7 (as defined in Table 3.3.1-1 of Specification 3.3.1 of Appendix A to this renewed operating license) with less than four reactor coolant loops in operation until (a) safety analyses for less than four loop operation have been submitted, and (b) approval for less than found loop operation at power levels above P-7 has been granted by the Commission by amendment of this license.

(4) Indiana Michigan Power Company shall implement and maintain, in effect, all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for the facility and as approved in the SERs dated December 12, 1977, July 31, 1979, January 10, 1981, February 7, 1983, November 22, 1983, December 23, 1983, March 16, 1984, August 27, 1985

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 287
License No. DPR-74

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 July 30, 2007, as supplemented by letter dated February 13, 2008, 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 Renewed Facility Operating License No. DPR-74 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A and Appendix B, as revised through Amendment No. 287, are hereby incorporated in the renewed operating 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 of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Lois M. James, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Renewed Operating License
and Appendix A

Date of Issuance: April 28, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 287

RENEWED FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Replace the following page of Renewed Facility Operating License No. DPR-74 with the attached revised page. The change area is identified by a marginal line.

REMOVE	INSERT
3	3

Replace the following page of Appendix A, Technical Specifications, with the attached revised page. The change area is identified by a marginal line.

REMOVE	INSERT
3.8.2-3	3.8.2-3

radiation monitoring equipment calibration, and as fission detectors in amounts as required.

(4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components; and

(5) Pursuant to the Act and 10 CFR 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not to exceed 3468 megawatts thermal in accordance with the conditions specified therein and in attachment 1 to the renewed operating license. The preoperational tests, startup and other items identified in Attachment 1 to this renewed operating license shall be completed. Attachment 1 is an integral part of this renewed operating license.

(2) Technical Specifications

The Technical Specifications contained in Appendix A and Appendix B, as revised through Amendment No. 287, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Additional Conditions

(a) Deleted by Amendment No. 76

(b) Deleted by Amendment No. 2

(c) Leak Testing of Emergency Core cooling System Valves

Indiana Michigan Power Company shall prior to completion of the first inservice testing interval test each of the two valves in series in the

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 304 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-58

AND AMENDMENT NO. 287 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-74

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-315 AND 50-316

1.0 INTRODUCTION

By application dated July 30, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML072200257), as supplemented by letter dated February 13, 2008 (ADAMS Accession No. 080530394) Indiana Michigan Power Company (the licensee) requested amendments to the Technical Specifications (TSs) for Donald C. Cook Nuclear Plant, Units 1 and 2 (DCCNP-1 and -2). The proposed amendments would add a Surveillance Requirement (SR) that is applicable when offsite electrical power is supplied to a unit via backfeed through the main transformer and the unit is in either MODE 5, MODE 6, or during movement of irradiated fuel.

The licensee's February 13, 2008, supplement provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on September 25, 2007.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Appendix A of Part 50, General Design Criterion (GDC) 17, “Electric Power Systems,” requires, in part, that nuclear power plants have onsite and offsite electric power systems to permit the functioning of structures, systems, and components that are important to safety. The onsite system is required to have sufficient independence, redundancy, and testability to perform its safety function, assuming a single failure. Electric power from the transmission network to the onsite electric distribution system is required to be supplied by two physically independent circuits that are designed and located so as to minimize, to the extent practical, the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. In addition, this criterion requires provisions to minimize the probability of losing electric power from the remaining electric power supplies as a result of a loss of power from the unit, the offsite transmission network, or the onsite power supplies.

GDC 18, “Inspection and Testing of Electric Power Systems,” requires that electric power systems that are important to safety be designed to permit appropriate periodic inspection and testing.

In 10 CFR 50.36, the Commission established its regulatory requirements related to the content of TSs. In doing so, the Commission placed emphasis on those matters related to the prevention of accidents and the mitigation of accident consequences. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) SRs; (4) design features; and (5) administrative controls. However, this regulation does not specify the particular requirements to be included in a plant’s TSs.

3.0 TECHNICAL EVALUATION

3.1 Description of the DCCNP-1 and -2 Electrical Distribution System

Each DCCNP unit has an onsite alternating current (AC) power distribution system containing four 4.16-kilovolt (kV) non-safety-related electrical buses which supply power to downstream safety-related 4.16-kV buses. The 4.16-kV non-safety-related buses are normally powered from unit auxiliary transformers (UATs), which normally receive power from the main generator. The non-safety-related buses are automatically fast transferred from the UATs to the reserve auxiliary transformers (RATs) upon a turbine or reactor trip. In addition, during start-up, shutdown, refueling activities, or online maintenance activities, the non-safety-related buses can be powered from the preferred offsite source via the RATs. Furthermore, the safety-related buses can be directly powered from a 69-kV/4 kV transformer, which receives power from a 69-kV transmission line. Manual switch operations in the control room are needed for the alternate offsite circuit (69-kV transmission line) to supply power to the safety-related buses.

3.2 Evaluation of Proposed Changes

The licensee proposed to add a new SR to TS 3.8.2, “AC Sources – Shutdown,” for both units. The new SR (SR 3.8.2.2) will require either SR 3.8.1.9.a or SR 3.8.1.9.b from TS 3.8.1, “AC Sources – Operating,” to be applicable when the unit is provided power from an offsite source by backfeeding through the main transformers to the UATs. SR 3.8.1.9.a will be applicable when the preferred offsite circuit is required to be operable by TS LCO 3.8.2.a. This SR requires verification of the automatic transfer from the UATs to the preferred offsite circuit (via RATs). SR 3.8.1.9.b is applicable when the alternate offsite circuit is required to be operable by TS LCO 3.8.2.a. This SR requires verification of the manual alignment to the alternate offsite circuit. The new SR 3.8.2.2 will require either SR 3.8.1.9.a or SR 3.8.1.9.b to be currently met. The proposed change enables the transfer of safety-related loads from the UATs to whichever of the qualified circuits is credited for satisfying LCO 3.8.2.a when the applicable unit is in a backfeed configuration in MODE 5, MODE 6, or during the movement of irradiated fuel.

The licensee stated that the backfeed capability was incorporated into Section 8.3.1 of the Updated Final Safety Analysis Report in 2001, for Unit 1, and in 1999, for Unit 2. The backfeed configuration may be established when the applicable unit is in MODE 5 or 6. In the backfeed configuration, the disconnect links from the main generator are removed, and the 4.16-kV loads

receive power from the transmission network through the main transformer to one or both of the UATs. The backfeed configuration can provide power to the applicable unit's loads if it is necessary to make the preferred offsite circuit inoperable. This requires the alternate offsite circuit to be operable for connection to the onsite electrical distribution system. The backfeed configuration is advantageous since it can provide power to both the non-safety-related and safety-related buses whereas the alternate offsite circuit can only provide power to the safety-related buses. Moreover, the backfeed configuration maintains defense-in-depth for offsite power supplies while the licensee performs maintenance activities. It is important to note that the licensee is not crediting the backfeed configuration as a qualified circuit that would satisfy LCO 3.8.2.a.

In the original application, the proposed SR 3.8.2.2 contained a note stating that the SR is not required to be performed. The intent of the note was that the applicable SR must be currently met and that actual performance of the SR would not be required unless the time since the previous performance of the applicable SR exceeds the specified frequency interval (24 months), or the previous performance of the applicable SR has been invalidated. However, the intent of the note is met by the nature of SRs. Specifically, an SR is required to be met in the MODE, or other specified condition, for the Mode to be entered. Furthermore, the SR must have been performed within the specified frequency (i.e., it is current), and the subject equipment is known not to have failed. In the supplemental letter dated February 13, 2008, the licensee proposed to remove the note. The NRC staff agrees that the note is not needed.

The proposed amendment would restore requirements that were inadvertently removed during conversion of the DCCNP-1 and -2 TSs to the improved TS format (Amendment Nos. 287 for DCCNP-1 and 269 for DCCNP-2). The previous custom TSs had similar SRs to verify the ability to automatically transfer loads from the auxiliary source to the preferred offsite circuit and the ability to manually transfer loads from the auxiliary source to the alternate offsite circuit. Upon discovery of the omission, the licensee placed an administrative hold on the use of the backfeed configuration in accordance with NRC Administrative Letter 98-10.

The backfeed capability would allow for additional defense-in-depth by providing an additional source of power to the DCCNP-1 and -2 safety buses. According to TS 3.8.2, only one offsite circuit is required during Modes 5 and 6. The backfeed configuration is available in addition to the required offsite source. The NRC staff determines that this configuration continues to meet GDC 17. The NRC staff also determines that the licensee continues to meet GDC 18 by testing the transfer of the safety-related loads from the UATs to whichever of the two qualified circuits is credited for satisfying LCO 3.8.2.a.

3.3 Summary of Evaluation

Based on the above evaluation, the NRC staff determines that redundant power supplies are available, and the licensee has demonstrated that the design will continue to meet the requirements of GDC 17, GDC 18, and 10 CFR 50.36. Therefore, the proposed change to the DCCNP-1 and -2 TSs is acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a surveillance requirement. The staff has determined that the amendments involve 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 proposed findings that the amendments involve no significant hazards consideration and there has been no public comment on such finding (72 FR 54475). Accordingly, the amendments meet 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 amendments.

6.0 CONCLUSION

The 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: S. Ray, NRR

Date: April 28, 2008

Donald C. Cook Nuclear Plant,
Units 1 and 2

cc:

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