

March 14, 2007

Mr. Mano K. Nazar  
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 (DCCNP-1 AND -2)  
ISSUANCE OF AMENDMENT - RE: STEAM GENERATOR TUBE INTEGRITY  
(TAC NOS. MD0075, MD0076, MD2306 AND MD2307)

Dear Mr. Nazar:

The Commission has issued the enclosed Amendment Nos. 298 and 279 to Renewed Facility Operating License Nos. DPR-58 (for DCCNP-1) and DPR-74 for (DCCNP-2). The amendments consist of changes to the technical specifications in response to your application dated May 26, 2006, as supplemented on December 26, 2006, and March 14, 2007.

The amendment revises the Technical Specifications (TSs) associated with steam generator (SG) tube integrity consistent with Revision 4 to Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-449, "Steam Generator Tube Integrity." A notice of availability for this TS improvement using the Consolidated Line Item Improvement Process was published in the *Federal Register* on May 6, 2005 (70 FR 24126). As stated in your letter of February 20, 2006, the amendment is also the modification of the SG portion of the TSs requested in NRC Generic Letter (GL) 2006-01, "Steam Generator Tube Integrity and Associated Technical Specifications." Accordingly, the NRC staff considers the amendment to be an acceptable and complete response to GL 2006-01.

A copy of our related safety evaluation is 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 Nos. 298 and 279
2. Safety Evaluation

cc w/encls: See next page

March 14, 2007

**OFFICIAL RECORD COPY**

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 298

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 May 26, 2006, as supplemented by letter dated December 26, 2006, 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. 298 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 60 days of receipt of this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

**/RA/**

L. Raghavan, 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: March 14, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 298

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

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INSERT

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Replace the following pages of Appendix A, Technical Specifications, with the attached revised pages. The change areas are identified by marginal lines.

REMOVE

Table of Contents, 2 of 5  
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1.1-3  
3.4.13-1  
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5.5-5  
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5.6-4

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Table of Contents, 2 of 5  
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1.1-3  
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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. 298, 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 four 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. 279  
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 May 26, 2006, as supplemented by letter dated December 26, 2006, 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. 279, 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 60 days of receipt of this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

**/RA/**

L. Raghavan, Chief  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications  
and Appendix A

Date of Issuance: March 14, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 279

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

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Replace the following pages of Appendix A, Technical Specifications, with the attached revised pages. The change areas are identified by marginal lines.

REMOVE

Table of Contents, 2 of 5  
Table of Contents, 5 of 5  
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Table of Contents, 2 of 5  
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5.6-4

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. 279, 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  
AMENDMENT NO. 298 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-58  
AMENDMENT NO. 279 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 to the U.S. Nuclear Regulatory Commission (NRC, Commission) dated May 26, 2006 (Accession No. ML061570157), as supplemented on December 26, 2006 (Accession No. ML070030517), and March 14, 2007, Indiana Michigan Power Company (I&M, or the licensee) requested an amendment to the Renewed Facility Operating License for Donald C. Cook Nuclear Plant, Units 1 and 2 (DCCNP-1 and DCCNP-2). The licensee's supplements 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 July 5, 2006.

The proposed amendment would revise the existing steam generator (SG) tube surveillance program. The changes are modeled after Technical Specification (TS) Task Force (TSTF) traveler TSTF-449, Revision 4, "Steam Generator Tube Integrity," and the model safety evaluation (SE) prepared by the NRC staff and published in the *Federal Register* on March 2, 2005 (70 FR 10298). In this regard, the scope of the application includes changes to the definition of leakage, changes to the primary-to-secondary leakage requirements, changes to the SG tube surveillance program (SG tube integrity), changes to the SG reporting requirements, and associated changes to the TS Bases.

2.0 REGULATORY EVALUATION

The background, description, and applicability of the proposed changes associated with the SG tube integrity issue and the applicable regulatory requirements were included in the NRC staff's model SE published in the *Federal Register* on March 2, 2005 (70 FR 10298). The "Notice of Availability of Model Application Concerning Technical Specification Improvement To Modify Requirements Regarding Steam Generator Tube Integrity Using the Consolidated Line Item Improvement Process" was published in the *Federal Register* on May 6, 2005 (70 FR 24126), and made the model SE available for licensees to reference.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Overview

In its May 26, 2006, application, and December 26, 2006, supplement, the licensee proposed changes to the TSs that are modeled after TSTF Standard TS Change Traveler, TSTF-449, "Steam Generator Tube Integrity." There were minor differences between TSTF-449 and the licensee's application. These included differences in the facility licensing bases from those discussed in TSTF-449, and differences in TS numbering. These differences are discussed below.

With respect to the differences in the facility licensing basis, the differences did not invalidate the technical evaluation on TSTF-449; rather they resulted in the licensee having to slightly deviate from some of the modifications discussed in TSTF-449. The only significant deviations are described in the two paragraphs below.

In the Bases sections for Reactor Coolant System Operational Leakage, TSTF-449 indicated that the 150 gallons per day limit is measured at room temperature. However, the licensee's offsite dose analysis assumes primary-to-secondary leakage is at normal operating temperature. Since DCCNP-1 and DCCNP-2 have a different licensing basis than the one described in the standard TSs (i.e., TSTF-449), the licensee indicated that prior to comparison with the 150 gallons per day TS limit, the measured primary-to-secondary leakage (which is determined at room temperature) is multiplied by a volume correction factor of 1.52. The correction factor ensures that the primary-to-secondary leakage assumptions in the offsite dose analysis are not exceeded. In addition, since the units' design and licensing basis assumptions regarding primary-to-secondary leakage during a steamline break accident differ from those in TSTF-449, the licensee did not incorporate the modifications suggested in TSTF-449, since they were not appropriate.

The other significant deviation is contained in the Bases Section for SG Tube Integrity. In TSTF-449, the accident analysis for a steam generator tube rupture assumes the contaminated secondary fluid is only briefly released to the atmosphere via safety valves and the majority is discharged to the main condenser. However, the licensee's accident analysis assumes that the contaminated secondary fluid is released to the atmosphere via the SG power-operated relief valves. Since the units' accident analysis differs from that assumed in TSTF-449, the licensee did not incorporate the text from TSTF-449; rather, the licensee incorporated a sentence that reflects its accident analysis. In summary, the differences described in this paragraph and the one above are minor in nature, are consistent with the plant's licensing basis, or are consistent with the intent of TSTF-449. Accordingly, the NRC staff has determined that they are acceptable.

With respect to the differences in numbering of the TSs, these differences were administrative in nature and did not affect the technical adequacy of the licensee's application. As a result, the NRC staff determined that these differences in numbering were acceptable.

The remainder of the application was consistent with, or more limiting than, TSTF-449.

In summary, and for the reasons discussed above, the NRC staff has determined that the model SE is applicable to the licensee's application for amendment per TSTF-449, and finds the proposed changes acceptable.

Consistent with TSTF-449, the licensee's proposed TS changes include: (1) a revised definition of LEAKAGE; (2) a revised TS 3.4.13, "Reactor Coolant System Operational Leakage;" (3) a new TS 3.4.17, "Steam Generator (SG) Tube Integrity;" (4) a revised TS 5.5.7, "SG Program;" (5) a revised TS 5.6.7, "SG Tube Inspection Report;" and (6) a revised Table of Content pages to reflect the proposed changes.

### 3.2 Summary of NRC Staff Review

The licensee's proposed TS changes establish a programmatic, largely performance-based regulatory framework for ensuring that SG tube integrity is maintained. The NRC staff finds that the changes address key shortcomings of the current framework by ensuring that SG programs are focused on accomplishing the overall objective of maintaining tube integrity. The changes incorporate performance criteria for evaluating tube integrity that the NRC staff finds consistent with the structural margins and the degree of leak tightness assumed in the current plant licensing basis. The NRC staff finds that maintaining these performance criteria provides reasonable assurance that the SGs can be operated safely without increase in risk.

The revised TSs will contain limited specific details concerning how the SG Program is to achieve the required objective of maintaining tube integrity; the intent being that the licensee will have the flexibility to determine the specific strategy for meeting this objective. However, the NRC staff finds that the revised TSs include sufficient regulatory constraints on the establishment and implementation of the SG Program such as to provide reasonable assurance that tube integrity will be maintained.

Failure to meet the performance criteria will be reportable pursuant to the requirements in 10 CFR Sections 50.72 and 50.73. The NRC Reactor Oversight Process provides a process by which the NRC staff can verify that the licensee has identified any SG Program deficiencies that may have contributed to such an occurrence, and that appropriate corrective actions have been implemented.

In conclusion, the NRC staff finds that the TS changes proposed by the licensee in its May 26, 2006, application, and December 26, 2006, supplement, conform to the requirements of 10 CFR 50.36 and establish a TS framework that will provide reasonable assurance that SG tube integrity is maintained without undue risk to public health and safety. A complete list of references used to complete this review can be found in the NRC's model SE published in the *Federal Register* on March 2, 2005 (70 FR 10298).

The licensee included in its application proposed TS Bases change pages to be implemented with the subject amendment. The NRC staff finds that the TS Bases Control Program, which is a licensee-controlled program, is the appropriate process for updating the affected TS Bases pages. Accordingly, the NRC staff did not review the TS Bases changes pages as part of this amendment review.

### 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 requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC 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 a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (71 FR 38183). 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 Commission 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: T. L. Wertz

Date: March 14, 2007

Donald C. Cook Nuclear Plant, Units 1 and 2

cc:

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