

October 10, 2003

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, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS (TAC NOS. MC0616 AND MC0617)

Dear Mr. Nazar:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 280 to Facility Operating License No. DPR-58 and Amendment No. 262 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated September 3, 2003.

The amendments replace the phrase "Each ice basket" with the phrase "Ice baskets" in TS Limiting Condition for Operation 3.6.5.1.d. This change allows existing TS Surveillance Requirement (SR) 4.6.5.1.b.2 to define the detailed requirements for the weight of ice baskets and allows credit for the additional sampling described in the SR when an individual ice basket is found to be under 1144 pounds.

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/

Mohammed A. Shuaibi, Senior Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-315 and 50-316

Enclosures: 1. Amendment No. 280 to DPR-58
2. Amendment No. 262 to DPR-74
3. Safety Evaluation

cc w/encls: See next page

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THarris				

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*See previous concurrence

OFFICE	PM:PD3-1	LA:PD3-1	SC:IROB-A*	SC:SPSB-C*	OGC*	SC:PD3-1
NAME	MShuaibi	THarris	TBoyce	RDennig	SUttal/NLO	MShuaibi for LRaghavan
DATE	10/10/03	10/10/03	10/07/03	10/06/03	10/02/03	10/10/03

OFFICIAL RECORD COPY

Donald C. Cook Nuclear Plant, Units 1 and 2

cc:

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INDIANA MICHIGAN POWERCOMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 280
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 September 3, 2003, 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. 280, 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 by M. Shuaibi for/

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: October 10, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 280

TO FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3/4 6-26
B 3/4 6-4

INSERT

3/4 6-26
B 3/4 6-4

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 262

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 September 3, 2003, 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. 262, 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 by M. Shuaibi for/

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: October 10, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 262

FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3/4 6-35

B 3/4 6-4a

B 3/4 6-4b

INSERT

3/4 6-35

B 3/4 6-4a

B 3/4 6-4b

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 280 TO FACILITY OPERATING LICENSE NO. DPR-58
AND AMENDMENT NO. 262 TO 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 September 3, 2003, the Indiana Michigan Power Company (the licensee) requested amendments to the Technical Specifications (TSs) for the Donald C. Cook Nuclear Plant (D. C. Cook), Units 1 and 2. The proposed amendments would replace the phrase "Each ice basket" with the phrase "Ice baskets" in TS Limiting Condition for Operation (LCO) 3.6.5.1.d. This change would allow existing TS Surveillance Requirement (SR) 4.6.5.1.b.2 to define the detailed requirements for ice basket weight. The change also allows the licensee to take credit for the additional sampling described in the SR when an individual ice basket is found to be under 1144 pounds.

The word "Each" in the existing LCO precluded the licensee from taking credit for the additional sampling described in the SR. Thus, while weighing ice baskets in accordance with SR 4.6.5.1.b.2, if the licensee found any ice basket under 1144 pounds, the existing LCO and associated TS Action statement required the licensee to restore the weight to a minimum of 1144 pounds within 48 hours or be in hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

2.0 EVALUATION

2.1 Regulatory Evaluation

In the D. C. Cook licensing basis analyses for main steamline break (MSLB) inside containment and loss-of-coolant accident (LOCA), the ice condenser and its components (including the ice inventory) are assumed to provide sufficient pressure suppression capability to limit the containment peak pressure to less than 12 pounds per square inch. The ice inventory is also credited for meeting the requirements of Title 10 Part 50.46 of the *Code of Federal Regulations*, Section 50.46, related to emergency core cooling systems. In these analyses, the ice inventory is assumed to (1) be distributed evenly through the containment bays, (2) contain sufficient boron to preclude dilution of the containment sump following the LOCA, (3) contain sufficient heat removal capability to condense the reactor coolant system volume released during a LOCA, (4) contain sufficient water to maintain adequate sump inventory, and (5) result in a post-LOCA sump pH within the allowed range.

The proposed change is related only to the distribution of ice among individual ice baskets (TS LCO 3.6.5.1.d). The proposed change does not affect existing requirements related to:

- The total amount of ice in the ice condenser (TS SR 4.5.6.1.b.2)
- The boron concentration of the ice (TS LCO 3.6.5.1.a)
- The pH of the ice (TS LCO 3.6.5.1.a)
- The flow channels through the ice condenser (TS LCO 3.6.5.1.b)
- The temperature of the ice beds (TS LCO 3.6.5.1.c)
- The number of ice baskets (TS LCO 3.6.5.1.e)

Therefore, the Nuclear Regulatory Commission (NRC) staff focused its review on ensuring that the proposed wording of the LCO, together with the associated SR, continues to provide sufficient control on the distribution of ice inventory through the containment bays. Assuring even distribution of ice precludes localized zones from being grossly deficient in ice. This is important for prevention of early melt out which, if allowed, could result in steam passing through the ice without being condensed. Such a bypass situation would violate the assumptions in the licensing basis analyses and could result in unacceptable results for MSLB inside containment and LOCA.

2.2 Technical Evaluation

In its licensing basis analyses, the licensee assumed that no events would result in bypassing of the ice within the ice condenser. Confirmation of this assumption is required by existing TS SR 4.6.5.1.b.2 and is performed by assuring that no localized zone within the ice condenser is grossly deficient in ice as to result in early melt-out.

TS SR 4.6.5.1.b.2 requires weighing a representative sample of 144 ice baskets in containment to ensure that all ice baskets within a zone contain at least 1144 pounds of ice with a 95 percent level of confidence. The value of 1144 pounds is included in the existing TS and has been reviewed and accepted by the NRC staff in License Amendment Nos. 234 and 217 for D. C. Cook Units 1 and 2, respectively.

TS SR 4.6.5.1.b.2 provides specific requirements to ensure that the sampling sufficiently covers all areas of the ice condenser to assure that no localized zone within the ice condenser is grossly deficient in ice. TS SR 4.6.5.1.b.2 requires that the representative sample includes 6 baskets from each of the 24 ice condenser bays and that these baskets be taken from Radial Rows 1, 2, 4, 6, 8, and 9 (or from the same row of an adjacent bay if a basket from a designated row cannot be obtained for weighing) from each bay. The SR also requires that the ice condenser be subdivided into 3 groups of baskets (Group 1 - bays 1 through 8, Group 2 - bays 9 through 16, and Group 3 - 17 through 24) and that minimum average weight of ice baskets from Radial Rows 1, 2, 4, 6, 8, and 9 in each group be not less than 1144 pounds/basket at a 95 percent confidence level. This sampling technique in the existing TS SR was accepted by the NRC staff for providing sufficient confirmation that no localized zone within the ice condenser is grossly deficient in ice as to result in early melt-out.

For situations where the licensee finds the weight of an individual ice basket less than 1144 pounds, TS SR 4.6.1.b.2 allows the licensee to increase the sample by 20 additional ice baskets from the same bay as the basket found to be under the weight limit. When this additional sampling is performed, TS SR 4.6.1.b.2 requires the average weight of the 21

baskets (i.e., the basket found to be under the weight limit and the 20 additional baskets) to be at least 1144 pounds at a 95 percent level of confidence. The NRC staff has determined that this approach provides the necessary controls to ensure that no localized zone within the ice condenser is grossly deficient in ice.

The effect of the proposed change to the wording of TS LCO 3.6.5.1.d is to allow the approach described above to define the detailed requirements for ice basket weight. Based on the evaluation provided above, the NRC staff concludes that proposed change is consistent with the licensing basis analyses for the plant and is therefore, acceptable. In addition, the NRC staff has accepted this approach for the corresponding TS for all the other plants with ice condenser containments (i.e., Sequoyah Units 1 and 2, Watts Barr Unit 1, Catawba Units 1 and 2, and McGuire Units 1 and 2).

2.3 Conclusion

The NRC staff has reviewed the licensee's application related to effects that the change in the wording of TS LCO 3.6.5.1.d would have on relevant licensing basis analyses (i.e., LOCA and MSLB inside containment). Based on its review, the NRC staff has determined that the proposed wording of TS LCO 3.6.5.1.d is consistent with the licensing basis analyses for D. C. Cook Units 1 and 2. Specifically, in its licensing basis analyses, the licensee assumed that no events would result in bypassing of the ice within the ice condenser. Confirmation of this assumption is performed by assuring that no localized zone within the ice condenser is grossly deficient in ice as to result in early melt-out. This confirmation is provided by existing TS SR 4.6.5.1.b.2 which requires weighing an appropriate sampling of ice baskets in containment to ensure that all ice baskets within a zone contain at least 1144 pounds of ice with a 95 percent level of confidence. The NRC staff has concluded that existing TS SR 4.6.5.1.b.2 provides sufficient confirmation of this assumption. The NRC staff has accepted this approach for the corresponding TS for all other plants with ice condenser containments (e.g., Sequoyah Units 1 and 2, Watts Barr). Based on the above, the NRC staff finds the proposed change to TS LCO 3.6.5.1.d acceptable.

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

These amendments change the requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or change the surveillance requirements. 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 a proposed finding that the amendments involve no significant hazards consideration and there has been no public comment on such finding (68 FR 53402). 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.

5.0 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: Mohammed A. Shuaibi

Date: October 10, 2003