

November 21, 2001

Mr. Robert P. Powers, Senior Vice President
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. MB1973 AND MB1974)

Dear Mr. Powers:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 259 to Facility Operating License No. DPR-58 and Amendment No. 242 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 (TSs) in response to your application dated May 15, 2001.

The amendments change TS 3/4.8.2.2, "A. C. Distribution Shutdown," TS 3/4.8.2.4 "D. C. Distribution – Shutdown," and TS 3/4.9.4, "Containment Building Penetrations." The proposed amendments replace the current required actions in TSs 3/4.8.2.2. and 3/4.8.2.4, to establish containment integrity within 8 hours if less than the specified minimum complement of A.C. or D.C. busses and equipment is operable in Modes 5 and 6 with new actions which require to immediately suspend operations involving core alterations, positive reactivity changes, and movement of irradiated fuel assemblies, to immediately initiate actions to restore the required busses and return equipment to operable status, and to immediately declare the associated required residual heat removal loop(s) inoperable. The proposed new actions are consistent with NUREG - 1431, "Standard Technical Specifications, Westinghouse Plants," Revision 1.

In addition, the proposed amendments will change TS 3/4.9.4 to add options to use containment penetration closure methods that are equivalent to those that are currently required by the TSs during core alterations or movement of irradiated fuel in containment, and to allow unisolation of some penetrations under administrative control.

R. Powers

- 2 -

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/

John F. Stang, 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. 259 to DPR-58
2. Amendment No. 242 to DPR-74
3. Safety Evaluation

cc w/encls: See next page

R. Powers

- 2 -

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/

John F. Stang, 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. 259 to DPR-58
 2. Amendment No. 242 to DPR-74
 3. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION

PUBLIC	GHill(4)	ACRS
PDIII-1 Reading	OGC	WReckley
AVegel, RIII	WBeckner	
NTrehan	SLaVie	
JStang	THarris	

Accession No. **ML012770113**

*Provided SE input by Memo

OFFICE	PDIII-1/PM	PDIII-1/LA	EEIB/SC	SPSB/SC	SPLB/BC
NAME	JStang	THarris	CHolden*	MCaruso* for MReinhart	JHannon
DATE	10/12/01	10/11/01	09/17/01	09/10/01	11/6/01

OFFICE	OGC NLO	PDIII-1/(A)SC
NAME	AFernandez	WReckley
DATE	11/19/01	11/19/01

OFFICIAL RECORD COPY

Donald C. Cook Nuclear Plant, Units 1 and 2

cc:

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4351

Attorney General
Department of Attorney General
525 West Ottawa Street
Lansing, MI 48913

Township Supervisor
Lake Township Hall
P.O. Box 818
Bridgman, MI 49106

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
7700 Red Arrow Highway
Stevensville, MI 49127

David W. Jenkins, Esquire
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

Mayor, City of Bridgman
P.O. Box 366
Bridgman, MI 49106

Special Assistant to the Governor
Room 1 - State Capitol
Lansing, MI 48909

Drinking Water and Radiological
Protection Division
Michigan Department of
Environmental Quality
3423 N. Martin Luther King Jr Blvd
P.O. Box 30630, CPH Mailroom
Lansing, MI 48909-8130

Ronald Gaston
Director, Regulatory Affairs
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

David A. Lochbaum
Union of Concerned Scientists
1616 P Street NW, Suite 310
Washington, DC 20036-1495

A. Christopher Bakken, Site Vice President
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

Michael W. Rencheck
Vice President, Nuclear Engineering
Indiana Michigan Power Company
Nuclear Generation Group
500 Circle Drive
Buchanan, MI 49107

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 259

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 15, 2001, 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. 259, 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/

William D. Reckley, Acting 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: November 21, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 259

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 8-11

3/4 8-15

3/4 9-4

3/4 9-4a

B 3/4 8-1

B 3/4 8-2

B 3/4 9-1

B 3/4 9-1a

INSERT

3/4 8-11

3/4 8-15

3/4 9-4

3/4 9-4a

B 3/4 8-1

B 3/4 8-2

B 3/4 9-1

B 3/4 9-1a

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 242

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 15, 2001, 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. 242, 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/

William D. Reckley, Acting 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: November 21, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 242

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 8-11

3/4 8-15

3/4 9-4

3/4 9-4a

B 3/4 8-1

B 3/4 8-2

B 3/4 9-1

B 3/4 9-1a

INSERT

3/4 8-11

3/4 8-15

3/4 9-4

3/4 9-4a

B 3/4 8-1

B 3/4 8-2

B 3/4 9-1

B 3/4 9-1a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 259 TO FACILITY OPERATING LICENSE NO. DPR-58
AND AMENDMENT NO. 242 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 May 15, 2001, the Indiana Michigan Power Company (the licensee) requested amendments to the Technical Specifications (TSs) for the Donald C. Cook (D. C. Cook) Nuclear Plant, Units 1 and 2. The proposed amendments would change TS 3/4.8.2.2, "A. C. Distribution Shutdown," TS 3/4.8.2.4 "D. C. Distribution – Shutdown," and TS 3/4.9.4, "Containment Building Penetrations." The proposed amendments replace the current requirement in TS 3/4.8.2.2. and 3/4.8.2.4 to establish containment integrity within 8 hours if less than the specified minimum complement of A.C. or D.C. busses and equipment is operable in Modes 5 and 6 with new requirements to immediately suspend operations involving core alterations, positive reactivity changes, and movement of irradiated fuel assemblies, immediately initiate actions to restore the required busses and equipment to operable status, and to immediately declare the associated required residual heat removal loop(s) inoperable.

In addition, the proposed amendments will change TS 3/4.9.4 to add options to use containment penetration closure methods that are equivalent to those that are currently required by the TSs during core alterations or movement of irradiated fuel in containment, and to allow unisolation of some penetrations under administrative control.

The proposed TSs also change the formatting of the TS pages. The changes include margin and text spacing, corrections of typographical errors and header and footer changes. The format changes are administrative and do not result in any actual changes to TS requirements.

2.0 EVALUATION

2.1 TS 3/4.8.2.2, "A. C. Distribution Shutdown" and TS 3/4.8.2.4 "D. C. Distribution Shutdown"

The operability of the minimum complement of A.C. and D.C. distribution systems and equipment specified in the limiting condition for operation (LCO) ensures that the plant can be maintained in the shutdown or refueling condition for extended time periods. The LCOs of TS 3/4.8.2.2 and TS 3/4.8.2.4 accomplish this function by establishing a minimum complement of A.C. and D.C. electrical distribution systems and equipment that must be operable. This

provides assurance that electrical power is available to support the components needed to mitigate the accidents, events, and malfunctions that are applicable in Modes 5 and 6.

The licensee states that compliance with current requirement can present a significant burden with respect to scheduling of maintenance and repair activities during an outage or extended shutdown. These activities may involve disassembly of components and piping that penetrate the containment, breaching of containment penetration piping pressure boundaries, or routing of temporary service hoses and cables through normally sealed penetrations or closed air locks.

Under the current requirements, such activities must either be scheduled for periods in which reactor is defueled or conducted under strict controls to assure that the containment integrity is established within 8 hours. The licensee has proposed the following new Action requirements:

- a. Immediately suspend operations involving core alterations, movement of irradiated fuel assemblies, and positive reactivity changes except for:
 - 1) heatup or cooldown of the reactor coolant volume provided that shutdown margin sufficient to accommodate the change in temperature is maintained in accordance with TS 3/4.1.1.2 in Mode 5 or TS 3/4.9.1 in Mode 6, and the heatup or cooldown rate is restricted to 50 °F or less in any one-hour period in Mode 5, or
 - 2) addition of water from the Refueling Water Storage Tank (RWST), provided the boron concentration in the RWST is greater than or equal to minimum required by TS 3/4.1.2.7.b.2.
- b. Immediately initiate actions to restore the required buses and equipment to operable status, and
- c. Immediately declare required residual heat removal (RHR) loop(s) associated with the inoperable electrical distribution buses and equipment inoperable.

The proposed Action "a" to suspend operations involving core alterations, positive reactivity changes, and movement of irradiated fuel assemblies, replaces accident mitigation measures with accident prevention measures. The proposed Action "b" to immediately initiate actions to restore the required A.C. or D.C. buses and equipment to an operable status, would minimize the time that systems and components needed to mitigate a fuel handling accident (FHA), a shutdown dilution event, or a RHR system malfunction are unavailable due to a loss of electric power. The proposed Action "c" to immediately declare associated required RHR loop(s) inoperable, assures safety by requiring implementation of compensatory measures that have been previously reviewed and approved by the Nuclear Regulatory Commission (NRC) staff.

The proposed change to expand the Action requirements of Unit 1 TS 3/4.8.2.2 and TS 3/4.8.2.4 to include "during movement of irradiated fuel" is based on assuring that adequate electrical power is available to the spent fuel pool ventilation system (SFPVS) to mitigate the consequences of a FHA outside containment. Although the SFPVS is a common system for both units, it is powered solely from Unit 1. Expanding the Unit 1 Applicability requirements for TS 3/4.8.2.2 and TS 3/4.8.2.4 provides assurance that the minimum complement of Unit 1 A.C.

and D.C. distribution systems needed to support at least one train of the SFPVS is operable when irradiated fuel is moved in spent fuel pool. The proposed change in applicability requirements is consistent with the requirements of existing TS 3/4.9.12, "Storage Pool Ventilation System" which requires that the SFVPS be operable whenever irradiated fuel is stored in the pool. The licensee also proposed to change the Bases for TS 3/4.8.2.2 and TS 3/4.8.2.4 to reflect the proposed change to the Applicability requirements.

The proposed changes for Action and Applicability statements for TS 3/4.8.2.2 and TS 3/4.8.2.4, and their associated Bases are consistent with the applicable portions of NUREG-1431, "Standard Technical Specifications," Revision 1, TS 3.8.10, "Distribution Systems-Shutdown" and TS 3.8.5, "D.C. Sources Shutdown," with the exception that occurs in proposed Action "c." This proposed Action does not require declaring associated RHR subsystems "not in operation" as is required by Action a.2.5 of NUREG-1431 TS 3.8.10. The condition of A.C. or D.C. buses and equipment may be such that they are functional, i.e., energized and supporting operation of associated RHR subsystems, even though they do not meet TS operability requirements. The staff finds the deviation from NUREG - 1431 Revision 1 is acceptable.

The staff has reviewed the proposed changes with regard to their impact on previously performed radiological consequence analyses. The proposed changes to T/S 3/4.8.2.2 and 3/4.8.2.4 involve revisions to action statements only. As such, there are no impacts on previously analyzed accidents.

The staff has evaluated the licensee's submittal and concluded that the proposed change to TSs 3/4.8.2.2 and 3/4.8.2.4 assures that electrical power is available for mitigation of a fuel handling accident during shutdown or refueling condition. The change is consistent with NUREG - 1431, Revision 1 and is, therefore, acceptable.

2.2 TS 3/4.9.4 Containment Building Penetrations

The proposed changes would revise TS 3/4.9.4, "Containment Penetrations," of the TS to allow containment penetrations with direct access to the outside atmosphere to be open under administrative controls during refueling operations with core alterations or irradiated fuel movement inside containment. The changes would incorporate an NRC-approved improvement (identified by a Technical Specifications Task Force (TSTF) 312, Revision 1) to the improved Standard TS for Westinghouse plants. The improvement allows containment penetrations with direct access from the containment atmosphere to the outside atmosphere to be open under administrative controls during refueling operations.

The justification for the NRC-approved TSTF is that:

- (1) the dose calculations for the design-basis FHA indicate acceptable radiological consequences, and
- (2) the licensee will implement administrative procedures that ensure that open containment penetrations can and will be promptly closed in the event of a FHA.

The applicable design-basis accident (DBA) potentially affected by the proposed changes to T/S 3/4.9.4 is the FHA within Containment. The radiological consequences of a FHA were

previously analyzed in the D. C. Cook updated final safety analysis report. There are two analyses, one for a FHA in the fuel handling building, and one for a FHA in the containment. The current FHA in the containment analysis was performed in support of a license amendment request to revise T/S 3.9.4 to allow both containment personnel air locks to be open during core alterations. This amendment request was approved by the staff and issued as Amendment No. 197 for Unit 1 and Amendment No. 182 for Unit 2. As part of the current review, the staff reviewed its safety evaluations issued as part of License Amendment Nos. 197 and 182. The staff determined that this offsite consequence analyses had been performed assuming no credit for holdup within the containment. Since the prior analysis essentially ignored the availability of the containment for purposes of radioactivity release mitigation, the changes proposed in this amendment can have no impact on the previously analyzed offsite dose consequences of a FHA. Therefore, the proposed changes are acceptable with regard to offsite dose consequences of a FHA inside containment.

With regard to the radiation doses to control room personnel, the licensee recently re-analyzed the D. C. Cook DBAs, including the FHA, in support of a license amendment request related to the selective implementation of the alternative source term to control room habitability analyses. The information was submitted by letter dated June 12, 2000. The re-analysis of the control room doses due to a FHA in the containment assumed no credit for holdup within the containment and assumed that all activity is released through the auxiliary building vent.

In the proposed language for the revision of LCO 3.9.4.c, the licensee has limited the penetrations that may be unisolated under administrative control to those for which the radioactivity release would be exhausted by the auxiliary building vent. This restriction is consistent with the bases of the control room dose analysis, specifically that all activity is released through the auxiliary building vent. Since the analysis essentially ignored the availability of the containment for purposes of radioactivity release mitigation, and assumed that all activity would be released through the auxiliary building vent, changes proposed in this amendment can have no impact on the previously analyzed control room dose consequences of a FHA. Therefore, the proposed changes are acceptable with regard to control room dose consequences of a FHA inside containment.

Although the licensee has been able to demonstrate acceptable radiological consequences without crediting containment closure, the staff believes that the capability to isolate the penetrations in the event of a FHA is desirable in the interest of defense-in-depth. The licensee has committed to issue administrative controls. The Bases for T/S 3/4.9.4 were revised to state that:

1. Appropriate personnel are aware of the open status of the penetration flow path during core alterations or movement of irradiated fuel in containment, and,
2. Specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident.

This commitment is acceptable to the staff.

The staff concludes that the radiological consequences of a FHA inside containment would continue to be bounded by the doses estimated in previously performed and accepted analyses. The staff finds that there is reasonable assurance that radiological consequences of

a FHA inside containment would result in doses that meet the acceptance criteria of 10 CFR 100.11 and 10 CFR Part 50, Appendix A, GDC-19, as clarified in NUREG-0800 Sections 6.4 and 15.7.4.

In its application, the licensee stated that the proposed amendment would allow containment penetrations providing direct access to the outside atmosphere to be opened during refueling operations under administrative controls. The proposed amendment is to allow the licensee to conduct additional refueling outage activities concurrent with the fuel handling work in the outage to permit more efficient performance of outage work while maintaining an acceptable barrier against the release of fission product radioactivity to the outside atmosphere from a fuel accident during core alterations or fuel handling activities inside containment. The licensee stated that the procedural controls would require that specified personnel would be designated to maintain an awareness of the open status of the containment penetrations during core alterations or irradiated fuel movement inside containment, and to be readily available to promptly close the open penetrations in the event of an accident. Based on this, the staff concludes that the administrative controls during refueling operations on the open containment penetrations with direct access to the outside atmosphere is acceptable.

The licensee stated that it has not completed revising its procedures for maintaining administrative controls, but will complete them during the implementation of the proposed amendment. This is acceptable to the staff because the revised procedures will be available before the penetrations are unisolated during refueling operations under administrative controls. Although the licensee stated that it believed that the penetrations could be closed within minutes of an event inside containment, it has not used a time on the order of minutes to calculate the potential consequences of the FHA inside containment. Because both the licensee and the staff (in its independent calculations) have assumed the two-hour release period in Regulatory Guide 1.25, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors," for the puff of radioactivity radioiodines and noble gases from the damaged fuel to leave containment, the staff concludes that the time to close the penetrations has been conservatively included in the calculation of potential dose consequences of the FHA inside containment.

The amendments also make changes to the Surveillance Requirements 3/4.9.4 to reflect the changes associated with the LCO. The proposed TS Surveillance Requirements 4.9.4 and 4.9.4.a to require verification that penetrations are in their "required status" reflects the proposed change to the LCO. By using the term "required status," the proposed Surveillance Requirement provides assurance that the penetrations are in a condition allowed by the LCO. The staff finds the proposed change acceptable.

2.3 Format Changes

The format changes to the TS pages do not change any current TS requirements. The changes provide consistency between units, improve readability, and improve page layout. Therefore, the staff finds the format changes to the TS pages acceptable.

3.0 SUMMARY

Based on the above evaluation, the staff finds the proposed changes to TS 3/4.8.2.2, 3/4.8.2.4 and 3/4.9.4 are 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

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 (66 FR 31709). 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: J. Stang
N. Trehan
S. Lavie

Date: November 21, 2001