INDIANA MICHIGAN POWER
A unit of American Electric Power

Indiana Michigan Power
Cook Nuclear Plant
One Cook Place
Bridgman, MI 49106
AEP.com

March 4, 2005

AEP:NRC:5054-04
10 CFR 50.54(f)

Docket Nos: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
Rockville, Maryland 20852

Donald C. Cook Nuclear Plant Units 1 and 2
90 DAY RESPONSE TO NUCLEAR REGULATORY COMMISSION GENERIC LETTER 2004-02: POTENTIAL IMPACT OF DEBRIS BLOCKAGE ON EMERGENCY RECIRCULATION DURING DESIGN BASIS ACCIDENTS AT PRESSURIZED-WATER REACTORS

Reference: Nuclear Regulatory Commission Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," dated September 13, 2004.

In the referenced generic letter, the U. S. Nuclear Regulatory Commission (NRC) requested that addressees perform a mechanistic evaluation, using an NRC-approved methodology, of the potential for the adverse effects of post-accident debris blockage and operation with debris-laden fluids to impede or prevent the recirculation functions of the emergency core cooling systems and containment spray systems. The NRC also requested that, within 90 days of the date of the NRC safety evaluation report providing the guidance for performing the evaluation, addressees provide information regarding their planned actions and schedule to complete the evaluation. The NRC safety evaluation report providing the guidance for performing the evaluation was issued on December 6, 2004.

Attachment 1 to this letter provides Indiana Michigan Power Company's 90 day response to Generic Letter 2004-02 for the Donald C. Cook Nuclear Power Plant. Attachment 2 identifies the regulatory commitments made in this letter.

A116

Should you have any questions, please contact Mr. John A. Zwolinski, Safety Assurance Director, at (269) 466-2428.

Sincerely,

Daniel P. Fadel
Engineering Vice President

JW/rdw

Attachments:

1. 90 Day Response to Nuclear Regulatory Commission Generic Letter 2004-02
2. Regulatory Commitments

c: J. L. Caldwell, NRC Region III
K. D. Curry, Ft. Wayne AEP, w/o attachments
J. T. King, MPSC
C. F. Lyon, NRC Washington, DC
MDEQ – WHMD/HWRPS
NRC Resident Inspector

AFFIRMATION

I, Daniel P. Fadel, being duly sworn, state that I am Engineering Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the Nuclear Regulatory Commission on behalf of I&M, and that the statements made and the matters set forth herein pertaining to I&M are true and correct to the best of my knowledge, information, and belief.

Indiana Michigan Power Company

Daniel P. Fadel
Engineering Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 4th DAY OF March, 2005

Notary Public

My Commission Expires 6/10/2007

ATTACHMENT 1 TO AEP:NRC:5054-04

90 DAY RESPONSE TO NUCLEAR REGULATORY COMMISSION
GENERIC LETTER 2004-02

References for this attachment are identified on Page 2.

In the Requested Action section of Generic Letter 2004-02 (Reference 1), the U. S. Nuclear Regulatory Commission (NRC) requested that addressees perform a mechanistic evaluation, using an NRC-approved methodology, of the potential for the adverse effects of post-accident debris blockage and operation with debris-laden fluids to impede or prevent the recirculation functions of the emergency core cooling systems (ECCS) and containment spray systems. In Requested Information Item 1 of the generic letter, the NRC requested that, within 90 days of the date of the NRC safety evaluation report providing the guidance for performing the evaluation, addressees provide information regarding their planned actions and schedule to complete the evaluation. The NRC safety evaluation report (Reference 2) providing the guidance for performing the evaluation was issued on December 6, 2004.

This attachment provides Indiana Michigan Power Company's (I&M's) 90 day response to Requested Information Item 1 of Generic Letter 2004-02 for the Donald C. Cook Nuclear Power Plant (CNP).

Requested Information Item 1(a)

A description of the methodology that is used or will be used to analyze the susceptibility of the ECCS and CSS recirculation functions for your reactor to the adverse effects identified in this generic letter of post-accident debris blockage and operation with debris-laden fluids identified in this generic letter. Provide the completion date of the analysis that will be performed.

Response

I&M has established a contract with Westinghouse Electric Company LLC (Westinghouse) to perform a CNP-specific evaluation of post-accident debris generation, and develop a computational fluid dynamics model of the containment to determine sump fluid velocity profiles, debris transport to the ECCS recirculation sump screens, head loss associated with debris accumulation, and the effect of the head loss on available net positive suction head. The effect of debris that passes through the screens on components in the ECCS flow path such as pumps, valves, and core components will also be evaluated. The methodology used will conform to the intent of NEI 04-07 (Reference 3) and the associated NRC safety evaluation report (Reference 2). The methodology used will reflect specific licensing basis information and contractor specific proprietary information as appropriate. Exceptions to the guidance given in NEI 04-07, should they be taken, will be identified and their basis documented in correspondence submitted to the NRC no later than September 1, 2005. The final Westinghouse report and I&M acceptance reviews will be completed in time to support submittal of the response to Requested Information Item 2 of Generic Letter 2004-02 no later than September 1, 2005.

Industry efforts are under way to evaluate chemical effects in containment during a loss of coolant accident and the downstream effects of debris laden fluid. I&M will utilize information from these efforts in the requested evaluation to the extent that the information becomes available. However, if information from these efforts is not available, CNP will address the associated issues using appropriate assumptions and methodologies. The response to Requested Information Item 2 of Generic Letter 2004-02 will include descriptions of how these issues have been addressed in the requested evaluation.

Requested Information Item 1(b)

A statement of whether you plan to perform a containment walkdown surveillance in support of the analysis of the susceptibility of the ECCS and CSS recirculation functions to the adverse effects of debris blockage identified in this generic letter. Provide justification if no containment walkdown surveillance will be performed. If a containment walkdown surveillance will be performed, state the planned methodology to be used and the planned completion date.

Response

Containment walkdowns in support of the above described evaluation will be performed during the next CNP Unit 1 and Unit 2 refueling outages. The next Unit 1 refueling outage is scheduled for Spring 2005, and the next Unit 2 refueling outage is scheduled for Spring 2006. The walkdowns will be performed using guidance provided in NEI 02-01 (Reference 4), NEI 04-07 (Reference 3), and the associated NRC safety evaluation report (Reference 2).

References for this Attachment

1. NRC Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," dated September 13, 2004.

2. Letter from S. C. Black, NRC, to A. R. Pietrangelo, Nuclear Energy Institute, "Pressurized Water Reactor Containment Sump Evaluation Methodology," dated December 6, 2004, [ML043280631].

3. Nuclear Energy Institute report NEI 04-07, "Pressurized Water Reactor Sump Performance Methodology," dated December 2004.

4. Nuclear Energy Institute report NEI 02-01, "Condition Assessment Guidelines: Debris Sources Inside PWR Containments," dated September 2002.

ATTACHMENT 2 TO AEP:NRC:5054-04

REGULATORY COMMITMENTS

The following table identifies those actions committed to by Indiana Michigan Power Company (I&M) in this document. Any other actions discussed in this submittal represent intended or planned actions by I&M. They are described to the Nuclear Regulatory Commission (NRC) for the NRC's information and are not regulatory commitments.

Commitment	Date
I&M has established a contract with Westinghouse Electric Company LLC (Westinghouse) to provide a Donald C. Cook Nuclear Plant (CNP) plant-specific evaluation of debris generation, and develop a computational fluid dynamics model of the containment to determine sump fluid velocity profiles, debris transport to the emergency core cooling system (ECCS) recirculation sump screens, head loss associated with debris accumulation, and the effect of the head loss on available net positive suction head. The effect of debris that passes through the screens on components in the ECCS flow path such as pumps, valves, and core components will also be evaluated.	The final Westinghouse report and I&M acceptance reviews will be completed in time to support submittal of the response to Requested Information Item 2 of Generic Letter 2004-02 no later than September 1, 2005.
The methodology used to perform the evaluation requested by NRC Generic Letter 2004-02 will conform to the intent of NEI 04-07 and the associated NRC safety evaluation report. The methodology used will reflect specific licensing basis information and contractor specific proprietary information as appropriate to the current state of knowledge. Exceptions to the guidance given in NEI 04-07, should they be taken, will be identified and their basis documented in correspondence submitted to the NRC.	No later than September 1, 2005
The response to Requested Information Item 2 of Generic Letter 2004-02 will include descriptions of how chemical effects in containment during a loss of coolant accident and the downstream effects of debris laden fluid have been addressed in the requested evaluation.	No later than September 1, 2005
Additional Unit 1 and Unit 2 containment walkdowns will be performed using guidance provided in NEI 04-07 and NEI 02-01.	During the next CNP Unit 1 and Unit 2 refueling outages.