May 31, 2006

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 DCCNP-2) - RELIEF REQUEST ISIR-19 REGARDING CLASS 1 AND 2 PIPING WELD INSPECTION REQUIREMENTS (TAC NOS. MC8569 AND MC8570)

Dear Mr. Nazar:

By letter dated September 22, 2005, as supplemented by letter dated December 28, 2005, Indiana Michigan Power Company submitted Relief Request ISIR-19 for DCCNP-1 and DCCNP-2. The relief request relates to certain examination requirements in the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, for Class 1 and 2 piping welds during the third 10-year inservice inspection (ISI) interval.

The Nuclear Regulatory Commission (NRC) staff has completed its review of Relief Request ISIR-19. Details of the NRC staff's review are set forth in the enclosed safety evaluation. Accordingly, the NRC staff concludes that your proposed alternative to delay the remaining second period Class 1 and Class 2 piping weld inspections while developing a risk-informed ISI program to implement during the third ISI period will provide an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative is authorized for the second period of the third 10-year ISI interval at DCCNP-1 and DCCNP-2. If you have any questions, please call the Project Manager, Mr. Peter Tam at 301-415-1451.

Sincerely,

/RA by Fred Lyon for/

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

Docket Nos. 50-315 and 50-316

Enclosure:
As stated

cc w/encl: See next page

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DATE	3/30/06	3/29/06	3/21/06	5/26/06	5/31/06

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*SE transmitted by memo of 3/21/06.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

INSERVICE INSPECTION PROGRAM RELIEF REQUEST ISIR-19

DONALD C. COOK NUCLEAR PLANT, UNITS 1 AND 2 (DCCNP-1 AND DCCNP-2)

INDIANA MICHIGAN POWER COMPANY

DOCKET NOS. 50-315 AND 50-316

1.0 INTRODUCTION

By letter dated September 22, 2005 (Agencywide Document Access and Management System (ADAMS) Accession No. ML052780450), as supplemented by letter dated December 28, 2005 (Accession No. ML060090295), Indiana Michigan Power Company (the licensee) submitted Relief Request ISIR-19 for the DCCNP-1 and DCCNP-2. The relief request relates to certain examination requirements in the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, for Class 1 and 2 piping welds during the third 10-year inservice inspection interval.

2.0 REGULATORY EVALUATION

Inservice inspection (ISI) of the ASME Boiler and Pressure Vessel Code (Code) Class 1, 2, and 3 components is to be performed in accordance with Section XI of the ASME Code (the applicable edition and addenda) as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). The provision of 10 CFR 50.55a(a)(3) states, in part, that alternatives to the requirements of paragraph (g) may be used, when authorized by the Nuclear Regulatory Commission (NRC), if the licensee demonstrates that: (i) the proposed alternative would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the pre-service examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection (ISI) of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components.
The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The ISI Code of record for the third 10-year ISI interval for DCCNP-1 and DCCNP-2 is the 1989 Edition with no Addenda of the ASME Code, Section XI. The components (including supports) may meet the requirements set forth in

ENCLOSURE

subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed therein and subject to NRC approval.

3.0 TECHNICAL EVALUATION

3.1 Components for Which Relief is Requested

The licensee's request for relief is applicable to ASME Section XI, Class 1 and 2 piping welds, specifically, Category B-F, B-J, C-F-1 and C-F-2 piping welds scheduled to be inspected during the second period of the third 10-year ISI interval.

3.2 Code Requirements

The 1989 Edition of the ASME Code, Section XI, requires that a minimum percentage of examinations in each category of welds be completed during each successive inspection period and inspection interval in accordance with Tables IWB-2412-1 and IWC-2412-1. For the second period of the third inspection interval, the minimum examination requirement is 50 percent.

3.3 Relief Requested

In accordance with 10 CFR 50.55a(a)(3)(i), the licensee requested relief from the Table IWB-2412-1 and Table IWC-2412-1 requirements for meeting the minimum examination percentages associated with ASME Code Categories B-F, B-J, C-F-1, and C-F-2 piping welds during the second inspection period of the third 10-year ISI interval.

3.4 Licensee's Proposed Alternative

The licensee is currently developing a risk-informed ISI (RI-ISI) program in accordance with code case N-716, "Alternative Piping Classification and Examination Requirements Based Upon Risk-Informed and Safety-Based Insights." This RI-ISI program is expected to result in a substantial reduction in the required number of piping weld examinations. The RI-ISI program will be developed and submitted by July 31, 2006. Upon approval of the RI-ISI program submittal, the examinations required by the RI-ISI program will be scheduled to occur over the remainder of the outages in the third 10-year inspection interval such that 66 percent of the High Safety Significant RI-ISI population requiring examination will be examined by the end of the third 10-year inspection interval.

Licensee commitments made under NRC Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetration and Steam Space Piping Connections at Pressurized-Water Reactors" are not impacted by this request.

3.5 Licensee's Basis

Information Notice 98-44, "Ten-Year Inservice Inspection (ISI) Program Update for Licensees that intend to Implement Risk-Informed ISI of Piping," indicates that the NRC will consider authorizing a delay of up to 2 years in the implementation of a 10-year ISI program, for piping only, to allow licensees to develop and obtain approval for a RI-ISI program using NRC-approved topical reports.

DCCNP-1 and DCCNP-2 are currently in the second inspection period of the third 10-year ISI interval. The second inspection period ends January 31, 2007, for DCCNP-1 and September 30, 2006, for DCCNP-2. The third inspection interval for both units ends February 28, 2010. Only one refueling outage remains for each unit to complete the second period examination requirements. To meet the second period examination requirements of Tables IWB-2412-1 and IWC-2412-1 for piping welds would require a significant number of examinations to be performed that may not be necessary based on a RI-ISI program.

Table 1
Unit 1 Weld Examination Summary

ASME Category	ASME Item Number	Total number of examinations to be performed during the third inspection interval	Examination Percentage Completed
B-F	B5.10[1]	8	0
B-F	B5.40	6	33
B-F	B5.70	8	25
B-J	B9.11	98	31
B-J	B9.12	4	50
B-J	B9.21	59	39
B-J	B9.31	3	33
B-J	B9.32	7	57
B-J	B9.40	128	32
C-F-1	C5.11	30	53
C-F-1	C5.21	30	23
C-F-1	C5.30	5	20
C-F-2	C5.51	33	27

[1] For ASME Item Number B5.10 - the reactor vessel nozzle safe end examinations may be performed coincident with the vessel nozzle examinations required by Examination Category B-D.

Table 2

Unit 2 Weld Examination Summary

ASME Category	ASME Item Number	Total number of examinations to be performed during the third inspection interval	Examination Percentage Completed
B-F	B5.10[1]	8	0
B-F	B5.40	6	34
B-F	B5.70	8	25
B-J	B9.11	100	33
B-J	B9.12	8	50
B-J	B9.21	68	32
B-J	B9.31	3	33
B-J	B9.32	7	57
B-J	B9.40	122	42
C-F-1	C5.11	25	80[2]
C-F-1	C5.21	1	0
C-F-1	C5.21	31	35
C-F-1	C5.30	5	40
C-F-2	C5.51	31	35

[1] For ASME Item Number B5.10 - the reactor vessel nozzle safe end examinations may be performed coincident with the vessel nozzle examinations required by Examination Category B-D.

[2]In accordance with Table IWC-2412-1, Inspection Program B, the maximum examinations that can be credited for the second period is 67 percent.

3.6 NRC Staff Evaluation

The NRC staff has reviewed the information concerning the ISI program request for relief and the proposed alternative submitted by the licensee in letters referenced above for the second period of the third 10-year ISI program at DCCNP-1 and DCCNP-2. The Code requires that at least 50 percent of the welds in each category be examined during the second period. Approximately 70 welds for Unit 1 and 44 welds for Unit 2 would need to be examined during the remaining outage of the second period.

NRC Information Notice (IN) 98-44, "Ten-Year Inservice Inspection (ISI) Program Update for Licensees that Intend to Implement Risk-Informed ISI of Piping," states that for licensees who intend to implement a RI-ISI program for piping and following the guidance provided in IN 98-44, the NRC staff will consider authorizing a delay of up to 2 years in implementation of the ISI program for piping only. The second period for DCCNP-1 will end January 31, 2007, and DCCNP-2 will end its second period on September 30, 2006. The third 10-year ISI interval for both units will end on February 28, 2007. The licensee intends to use the methodology in Code Case N-716 for both units' RI-ISI program. However, the NRC staff has not yet approved Code Case N-716. The Grand Gulf Nuclear Station is scheduled as the pilot plant for a RI-ISI program using Code Case N-716, and the NRC staff will make its determination regarding N-716 following its review of Grand Gulf's application to use the methodology. The Cook licensee committed in its December 28, 2005, letter to submit its RI-ISI program for NRC approval by July 31, 2006.

Typically, RI-ISI programs result in a significant reduction in the required number of piping weld examinations. Although the licensee will be performing examinations on fewer locations, the locations selected will be based on knowledge of potential degradation mechanisms and the use of effective examination requirements for the potential degradation mechanism at locations that have been determined to be highly safety significant. Examination of the reduced number of Class 1 and Class 2 piping welds would be performed over the outages in the third period of the third 10-year inspection interval, such that a minimum of 66 percent of the RI-ISI examinations would be completed. The licensee's proposed RI-ISI program will be reviewed by the NRC and will require NRC approval prior to implementation. If the NRC staff does not approve the DCCNP-1 and DCCNP-2 RI-ISI program by 6 months prior to the first outage of the third period, the licensee will be required to complete the remaining ASME Code-required piping examinations during the third period at each unit.

The goal of piping ISI is to detect precursors to possible future piping failure. By examining certain piping welds once every ten years, the licensee is monitoring to determine whether any degradation is occurring. Based on the number of required examinations performed during the current interval, the NRC staff believes that any significant active degradation would have been detected. Furthermore, the NRC staff believes a two-year delay of the requested percentage of pipe examinations would not provide sufficient time for specific degradation mechanisms to progress to failure. Therefore, the NRC staff concludes that the licensee's proposed alternative provides an acceptable level of quality and safety.

4.0 CONCLUSION

Based on the above evaluation, the NRC staff concludes that the licensee's proposed alternative to delay the remaining second period Class 1 and Class 2 piping weld inspections while developing a RI-ISI program to implement during the third period will provide an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative is authorized* for the second period of the third 10-year ISI interval at DCCNP-1 and DCCNP-2. All other ASME Code Section XI requirements for which relief was not specifically requested and approved in this relief request remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

Principal Contributor: A. Keim

Date: May 31, 2006

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*This authorization was verbally conveyed to the licensee on March 23, 2006, per the guidance in Office of Nuclear Reactor Regulation Office Instruction LIC-102, Rev. 1, "Relief Request" and documented in an e-mail, P. Tam to the licensee, dated March 23, 2006 (ADAMS Accession No. ML060820421).

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