



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

December 10, 2008

Mr. Michael W. Rencheck  
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, UNIT 2 – REQUEST FOR  
ADDITIONAL INFORMATION REGARDING RELIEF REQUEST (ISIR-29) FOR  
USE OF RISK-INFORMED EXTENSION OF THE INSERVICE INSPECTION  
INTERVAL FOR THE REACTOR PRESSURE VESSEL WELD EXAMINATION  
(TAC NO. MD9934)

Dear Mr. Rencheck:

By letter dated October 9, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082980354) to the U.S. Nuclear Regulatory Commission (NRC), Indiana Michigan Power Company (I&M) (the licensee) submitted a relief request for use of risk-informed extension of the inservice inspection interval for the reactor pressure vessel weld examination for Unit 2 of the Donald C. Cook Nuclear Plant.

The NRC staff of the Vessels and Internals Integrity Branch completed its preliminary review of this submittal and determined that additional information was required to complete the review.

Draft requests for additional information (RAI) were sent to I&M on November 21, 2008 (ADAMS Accession No. ML083310006). On December 5, 2008, NRC staff discussed the draft RAIs with Mr. Randy Ptacek of your staff. The finalized RAIs are issued as an enclosure to this letter, and it was agreed that a response will be provided within 30 days of receipt of this letter.

If you have any questions, please contact me at (301) 415-3049.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry A. Beltz", written over a horizontal line.

Terry A. Beltz, Senior Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-316

Enclosure:  
As stated

cc: Distribution via ListServ

OFFICE OF NUCLEAR REACTOR REGULATION  
REQUEST FOR ADDITIONAL INFORMATION  
D.C. COOK NUCLEAR PLANT, UNIT 2  
RELIEF REQUEST (ISIR-29) ASSOCIATED WITH  
USE OF RISK-INFORMED EXTENSION OF THE INSERVICE INSPECTION INTERVAL  
FOR THE REACTOR PRESSURE VESSEL WELD EXAMINATION

Indiana Michigan Power Company submitted a relief request to the U.S. Nuclear Regulatory Commission (NRC) in a letter dated October 9, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082980354) for the use of a risk-informed extension of the inservice inspection interval for the reactor pressure vessel weld examination for Unit 2 of the Donald C. Cook Nuclear Plant.

The NRC staff reviewed the relief request submittal and determined that the following information is needed to complete the review.

**RAI 1**

In Section 3.4 of the final safety evaluation report issued May 8, 2008 (ADAMS Accession No. ML081060045), the NRC staff notes that licensees submitting a request for an alternative based on Topical Report WCAP-16168-NP, "Risk-Informed Extension of the Reactor Vessel In-Service Inspection Interval," must submit the following plant-specific information:

1. Licensees must demonstrate that the  $RT_{max-x}$  and the shift in the Charpy transition temperature produced by irradiation defined at the 30 ft-lb energy level  $\Delta T_{30}$  must be calculated using the latest approved methodology documented in Regulatory Guide (RG) 1.99, "Radiation Embrittlement of Reactor Vessel Materials," or other NRC-approved methodology.

"Other NRC-approved methodology" includes equations 5, 6, and 7, as described in paragraph (g) of the proposed rule, Title 10 of the *Code of Federal Regulations* (CFR) 50.61a, as published in the *Federal Register*, Vol. 72, No. 191, dated October 3, 2007. However, paragraph (f)(6) of the proposed rule contains a prescriptive approach to determining the validity of implementing equations 5 through 7 of paragraph (g) for the calculation of  $\Delta T_{30}$  values. Data from a plant-specific or integrated surveillance program shall be evaluated in accordance with 10 CFR 50.61a(f)(6) to validate use of the associated embrittlement model.

The licensee has implemented the use of equations prescribed in 10 CFR 50.61a(g), NUREG-1874, and WCAP-16168-NP to determine  $\Delta T_{30}$  values for the beltline materials.

Please submit one of the following:

ENCLOSURE

- 1) Information consistent with the requirements of proposed rule 10 CFR 50.61a(f)(6) that establishes the applicability of equations 5 through 7 as provided in 10 CFR 50.61a(g) for calculating  $\Delta T_{30}$  values for a plant's beltline materials.
- 2) Recalculation of  $\Delta T_{30}$  using RG 1.99. This would require reporting of recalculated values of both  $\Delta T_{30}$  and all through wall cracking frequency (TWCF) calculations consistent with the format of Table 3 provided in the proposed relief request.

**RAI 2**

In Table 1 of the submittal, the licensee states that they are bounded by seven heatup/cooldowns per year.

Please cite the plant design basis for heatup/cooldowns per year.

**RAI 3**

In Table 3 of the submittal, the licensee cites compositions in terms of Cu, Ni, P, and Mn for items 1-9. These compositions are not consistent with NRC records in Reactor Vessel Integrity Database.

Please explain where the Cu, Ni, and P compositions were accepted by the NRC or provide new data.

Please explain on what basis the reported Mn compositions were determined.

December 10, 2008

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Sincerely, /RA/

Terry A. Beltz, Senior Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
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ADAMS Accession No.: **ML083430018**

\* RAI transmitted by memo dated 11/21/2008 (**ML083260319**)

RidsOgcRp Resource

LPL3-1R/F

RidsNrrPMTBeltz Resource

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D. Widrevitz, NRR

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