



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

October 31, 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 1 (DCCNP-1) - REQUEST FOR
ADDITIONAL INFORMATION, SECOND ROUND, REGARDING RE-ANALYSIS
OF SMALL-BREAK LOSS-OF-COOLANT ACCIDENT (TAC NO. MD5297)

Dear Mr. Rencheck:

In a letter dated March 29, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML071000431), Indiana Michigan Power Company (I&M) provided a re-analysis of the small-break loss-of-coolant accident for DCCNP-1. The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the information transmitted by that letter and issued a Request for Additional Information (RAI) on August 10, 2007 (ADAMS Accession No. ML072050570). I&M responded by letter dated February 29, 2008 (ADAMS Accession No. ML080740053).

The NRC staff reviewed the February 29, 2008, response, and generated an additional question which was discussed during a telephone conference with your staff on October 9, 2008. As a result of that discussion and subsequent internal deliberation, the NRC staff developed the enclosed second-round RAI. The details of RAI were mutually agreed upon during a telephone conversation with Michael Scarpello of your staff on October 23, 2008.

Please respond within 60 days of the date of this letter. Feel free to contact me if you need further clarification of this RAI.

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. 50-315

Enclosure: As stated

cc: Distribution via ListServ

REQUEST FOR ADDITIONAL INFORMATION, SECOND ROUND

DONALD C. COOK NUCLEAR PLANT, UNIT 1

RE-ANALYSIS OF SMALL-BREAK LOSS-OF-COOLANT ACCIDENT (SBLOCA)

- (1) Please provide an explanation, with appropriate supporting information, to understand the non-physical core mixture level behavior exhibited by the two-phase mixture level plots for the evaluated break spectrum contained in the small-break loss-of-coolant accident evaluation model re-analysis applicable to the Donald C. Cook Nuclear Plant, Unit 1.

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Sincerely, /RA/

Terry A. Beltz, Senior Project Manager
Plant Licensing Branch III-1
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OFFICE	LPL3-1:PM	LPL3-1:PM	LPL3-1:LA	SNPB	SNPB:BC	LPL3-1:BC
NAME	TBeltz <i>TAB</i>	PTam <i>PT</i>	THarris <i>TH</i>	LWard	AMendiola	LJames <i>LJ</i>
DATE	10/30/08	10/31/08	10/29/08	10/27/08	10/28/08	10/31/08