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AEP-NRC-2015-41
10 CFR 50.4

Docket Nos.: 50-315
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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Donald C. Cook Nuclear Plant Units 1 and 2
U. S. Nuclear Regulatory Commission Commitment Change Related to Estimated Effect of Peak Cladding Temperature Resulting from Thermal Conductivity Degradation

Reference:

1. Letter from J. P. Gebbie, Indiana Michigan Power Company, to U. S. Nuclear Regulatory Commission, "Donald C. Cook Nuclear Plant Units 1 and 2, Response to Information Request Pursuant to 10 CFR 50.54(f) Related to the Estimated Effect on Peak Cladding Temperature Resulting From The Thermal Conductivity Degradation in the Westinghouse-Furnished Realistic Emergency Core Cooling System Evaluation," dated March 19, 2012, AEP-NRC-2012-13 (ML12088A104).

2. WCAP-16009-P-A, "Realistic Large-Break LOCA Evaluation Methodology Using the Automated Statistical Treatment of Uncertainty Method (ASTRUM)," dated January 2005.

In Reference 1, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP), submitted information related to the estimated effect on peak cladding temperature (PCT) resulting from thermal conductivity degradation (TCD) in the Westinghouse furnished realistic emergency core cooling system evaluation. CNP currently uses Westinghouse Automated Statistical Treatment of Uncertainty Method (ASTRUM) Large Break Loss of Coolant Accident (LBLOCA) evaluation methodology of WCAP-16009-P-A (Reference 2). In Reference 1, CNP documented a Commitment for submittal of reanalysis with a schedule of December 15, 2016, to the United States Nuclear Regulatory Commission (NRC) for review and approval of a LBLOCA analysis that applies NRC approved methods that include the effects of fuel TCD.

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The original commitment and scheduled due date stated consideration was included for 10 CFR 50.46 related rulemaking that was in-progress. Subsequent to the creation of the Commitment, the NRC adjusted the target schedule for the rulemaking (COMSECY-13-0006, dated March 4, 2013 (ML1350A167), and the Commissioner's approval memorandum dated May 9, 2013 (ML13129A401)).

CNP previously evaluated the impact of TCD on LBLOCA PCT and the results showed that the impact is 384 degrees Fahrenheit (°F) for Unit 1 and 73°F for Unit 2. To compensate for these impacts, measures were implemented to maintain PCT below the 10 CFR 50.46(b)(1) limits of 2200°F (Request for Additional Information Response, dated June 11, 2012 (ML12173A025)). The CNP compensatory measures implemented to address the TCD LBLOCA issue continue to remain in-place. Furthermore, any future changes to the facility that could affect the TCD evaluation will be assessed and managed. A current example would be I&M letter AEP-NRC-2013-79, "License Amendment Request Regarding Restoration of Normal Reactor Coolant System Operating Pre-ssure and Temperature Consistent With Previously Licensed Conditions," dated October 8, 2013 (ML13283A121).

Based on the above information, CNP is revising the Commitment and proposed schedule for providing the LBLOCA reanalysis. The Commitment will be revised to add specific Westinghouse WCAP reference and the due date revised to reflect an event based due date regarding NRC approved methodologies for compliance with TCD and the final rule for 10 CFR 50.46(c).

Currently, WCAP-17642-P, "Westinghouse Performance Analysis and Design Model (PAD5)," was submitted to the NRC as a revised fuel performance methodology that includes the effects of TCD. WCAP-16996-P, "Realistic LOCA Evaluation Methodology Applied to Full Spectrum of Break Sizes (Full Spectrum LOCA Methodology)," was submitted to the NRC as a revised LOCA Evaluation Model. Both WCAP-17642-P and WCAP-16996-P are currently undergoing staff review. A supplement is anticipated to WCAP-16996-P to include changes associated with the forthcoming 10 CFR 50.46(c) rulemaking.

The revised commitment will read as follows:

> I&M will submit to the NRC for review unit-specific LBLOCA analyses that apply NRC approved methods that include the effects of fuel thermal conductivity degradation (TCD). The date for the submittal of the analyses is projected based upon on the following milestones needed to perform a revised licensing basis LBLOCA analysis with an NRC approved Emergency Core Cooling System Evaluation Model that explicitly accounts for TCD:
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> 1) Submittal by Westinghouse, to the NRC for review and approval, of a revised fuel performance and LBLOCA Evaluation model methodologies that include the effects of TCD.
> 2) NRC approval of WCAP-17642-P, a fuel performance analysis methodology that includes the effects of TCD.
> 3) NRC approval of WCAP-16996-P, and any required Supplements thereto, a LBLOCA Evaluation Model that includes the effects of TCD and accommodates the ongoing 10 CFR 50.46(c) rulemaking process.

The revised due date for this commitment is as follows:

> The Unit 2 LBLOCA analysis will be submitted 28 months from the approval of the last topical report (WCAP-17642-P or WCAP-16996-P), and any required supplements, that support the new 10 CFR 50.46 rule and would be needed for the analysis. The Unit 1 LBLOCA analysis will be submitted 34 months from the approval of the last topical report (WCAP-17642-P or WCAP-16996-P), and any required supplements, that support the new 10 CFR 50.46 rule and would be needed for the analysis.

The changed due date is structured as a duration beginning from the time the new 50.46(c) rule and all needed analysis methodologies are approved, such that the CNP-specific work risk due to potential changes to the final rule and/or vendor analysis methods are limited. The duration allows for time to perform analysis scoping and input selection with time to consider margin optimization.

This letter contains no new regulatory commitments and one revised regulatory commitment as summarized in the enclosure to this letter.

Should you have any questions, please contact Mr. Michael K. Scarpello, Regulatory Affairs Manager, at (269) 466-2649.

Sincerely,

Joel P. Gebbie
Site Vice President

KMH/amp

Enclosure

c: A. W. Dietrich, NRC Washington, DC
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ENCLOSURE TO AEP-NRC-2015-41

REGULATORY COMMITMENTS

The following table identifies the revised action 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 U. S. Nuclear Regulatory Commission (NRC) for the NRC's information and are not regulatory commitments.

Commitment	Date
I&M will submit to the NRC for review unit-specific large break loss of coolant accident (LBLOCA) analyses that apply NRC approved methods that include the effects of fuel thermal conductivity degradation (TCD). The date for the submittal of the analyses is projected based upon on the following milestones needed to perform a revised licensing basis LBLOCA analysis with an NRC approved Emergency Core Cooling System Evaluation Model that explicitly accounts for TCD: 1) Submittal by Westinghouse, to the NRC for review and approval, of a revised fuel performance and LBLOCA Evaluation model methodologies that include the effects of TCD. 2) NRC approval of WCAP-17642-P, a fuel performance analysis methodology that includes the effects of TCD. 3) NRC approval of WCAP-16996-P, and any required Supplements thereto, a LBLOCA Evaluation Model that includes the effects of TCD and accommodates the ongoing 10 CFR 50.46(c) rulemaking process.	Unit 1: The U1 LBLOCA analysis will be submitted 34 months from the approval of the last topical report (WCAP-17642-P or WCAP-16996-P), and any required supplements, that support the new 10 CFR 50.46 rule and would be needed for the analysis. Unit 2: The U2 LBLOCA analysis will be submitted 28 months from the approval of the last topical report (WCAP-17642-P or WCAP-16996-P), and any required supplements, that support the new 10 CFR 50.46 rule and would be needed for the analysis