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May 25, 2018

AEP-NRC-2018-01
10 CFR 50 Appendix A
10 CFR 50.54(f)

Docket No.: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Donald C. Cook Nuclear Plant Units 1 and 2
Response to Request for Additional Information Regarding Generic Letter 2016-01

- References:
1. Letter from Q. S. Lies, Indiana Michigan Power Company (I&M), to U. S. Nuclear Regulatory Commission (NRC), "Donald C. Cook Nuclear Plant, Units 1 and 2, Response to Nuclear Regulatory Commission Generic Letter 2016-01: Monitoring of Neutron-Absorbing Materials in Spent Fuel Pools" dated October 31, 2016.
 2. Letter from J. Rankin, NRC, to J. P. Gebbie, I&M, "Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2 – Request for Additional Information Regarding Generic Letter 2016-01, "Monitoring of Neutron-Absorbing Materials in Spent Fuel Pools" (CAC Nos. MF9444 and MF9445; EPID L-2016-LRC-0001)," dated November 1, 2017.

This letter provides Indiana Michigan Power Company's (I&M), the licensee for Donald C. Cook Nuclear Plant Units 1 and 2, response to the Request for Additional Information (RAI) by the Nuclear Regulatory Commission (NRC) regarding Generic Letter (GL) 2016-01, "Monitoring of Neutron-Absorbing Materials in Spent Fuel Pools," dated April 7, 2016.

By Reference 1, I&M submitted a response to GL 2016-01. By Reference 2, the NRC transmitted an RAI regarding the response submitted by I&M in Reference 1. Enclosure 1 to this letter provides an affirmation statement. Enclosure 2 to this letter provides I&M's response to the RAI contained in Reference 2.

There are no new or revised commitments in this letter. Should you have any questions, please contact Mr. Michael K. Scarpello, Regulatory Affairs Director, at (269) 466-2649.

Sincerely,

Q. Shane Lies
Site Vice President

DB/ml

A158
NRK

Enclosures:

1. Affirmation
2. Response to Request for Additional Information Regarding Generic Letter 2016-01: Monitoring of Neutron-Absorbing Materials in Spent Fuel Pools

c: R. J. Ancona – MPSC
A. W. Dietrich, NRC Washington, DC
MDEQ – RMD/RPS
NRC Resident Inspector
K. S. West, NRC Region III
A. J. Williamson – AEP Ft. Wayne, w/o enclosures

Enclosure 1 to AEP-NRC-2018-01

AFFIRMATION

I, Q. Shane Lies, being duly sworn, state that I am the Site Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the U. S. 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



Q. Shane Lies
Site Vice President

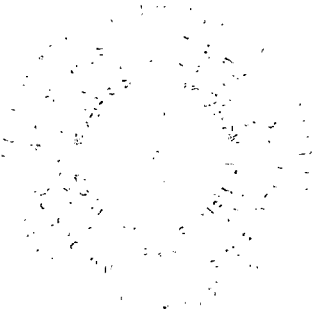
SWORN TO AND SUBSCRIBED BEFORE ME

THIS 25 DAY OF May, 2018



Notary Public

My Commission Expires 01/21/25



Enclosure 2 to AEP-NRC-2018-01

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING GENERIC LETTER 2016-01: MONITORING OF NEUTRON-ABSORBING MATERIALS IN SPENT FUEL POOLS

In Generic Letter (GL) 2016-01, "Monitoring of Neutron-Absorbing Materials in Spent Fuel Pools," dated April 7, 2016, the Nuclear Regulatory Commission (NRC) requested that nuclear power plant licensees submit information, or provide references to previously docketed information, which demonstrates that credited neutron-absorbing materials in the spent fuel pool (SFP) of power reactors and the fuel storage pool, reactor pool, or other wet locations designed for the purpose of fuel storage, as applicable, for non-power reactors, are in compliance with the licensing and design basis, and with applicable regulatory requirements; and that there are measures in place to maintain this compliance. By letter dated October 31, 2016, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Units 1 and 2, responded to GL 2016-01.

The NRC staff is currently reviewing I&M's response to GL 2016-01, and has determined that additional information is needed in order to complete the review. The text of the request for additional information and I&M's response are provided below:

Generic Boral-RAI-2

I&M's October 31, 2016, letter indicates that the CNP monitoring program has identified material deformation associated with blisters in Boral similar to the industry operating experience described in IN 2009-26, "Degradation of Neutron-Absorbing Materials in the Spent Fuel Pool" (ADAMS Accession No. ML092440545).

Discuss the criticality impact due to the material deformation identified at CNP, and how it can be accommodated by the NCS AOR without exceeding subcriticality requirements.

I&M Response to Generic Boral-RAI-2

To date, the industry operating experience (OE) has revealed no instances of an impact on SFP criticality due to observed Boral deformation (e.g. blistering) or degradation (e.g. pitting). The Neutron Absorbers Users Group, through the Electric Power Research Institute (EPRI), has recently completed a study (EPRI Report 3002013119, Evaluation of the Impact of Neutron Absorber Material Blistering and Pitting on Spent Fuel Pool Reactivity, dated May 2018, publicly available at www.EPRI.com) which analyzes the criticality impact of blisters and pits on Boral. Simulations were performed for varying enrichment, burnup, and areal density values, at unborated conditions (0 ppm), which is conservative for pressurized-water reactors such as CNP. The study results demonstrate that pitting and blistering, on a scale much larger than any that has been observed in the industry OE, has an insignificant impact on SFP criticality. Therefore the SFP criticality safety analysis of record remains applicable.