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**Indiana Michigan Power**  
Cook Nuclear Plant  
One Cook Place  
Bridgman, MI 49106  
IndianaMichiganPower.com

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AEP-NRC-2015-80  
10 CFR 50.90

Docket Nos. 50-315  
50-316

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

Donald C. Cook Nuclear Plant Unit 1 and Unit 2  
Response to Third Request for Additional Information Regarding the License Amendment  
Request to Adopt TSTF-490 and Implement Alternative Source Term

References:

1. Letter from J. P. Gebbie, Indiana Michigan Power Company (I&M), to U. S. Nuclear Regulatory Commission (NRC), "Donald C. Cook Nuclear Plant, Units 1 and 2, License Amendment Request to Adopt TSTF-490, Revision 0, "Deletion of E Bar Definition and Revision to Reactor Coolant System Specific Activity Technical Specification" and Implement Full-Scope Alternative Source Term," dated November 14, 2014, Agencywide Documents Access and Management System (ADAMS) Accession No. ML14324A209.
2. Letter from J. P. Gebbie, I&M, to NRC, "Donald C. Cook Nuclear Plant Unit 1 and Unit 2 - Supplemental Information for the License Amendment Request to Adopt TSTF-490, Revision 0, "Deletion of E Bar Definition and Revision to Reactor Coolant System Specific Activity Technical Specification" and Implement Full-Scope Alternative Source Term," dated February 12, 2015, ADAMS Accession No. ML15050A247.
3. E-mail capture from A. W. Dietrich, NRC, to H. L. Kish, I&M, "D.C. Cook Nuclear Plant, Units 1 and 2 - Draft Request for Additional Information Re: TSTF-490 and AST (TAC NOS. MF5184 and MF5185)," dated July 30, 2015, ADAMS Accession No. ML15216A240.

This letter provides Indiana Michigan Power Company's (I&M), licensee for Donald C. Cook Nuclear Plant (CNP) Units 1 and 2, response to the Third Request for Additional Information (RAI) by the U. S. Nuclear Regulatory Commission (NRC) regarding a license amendment request (LAR) to adopt Technical Specification Task Force (TSTF)-490 and implement Alternative Source Term.

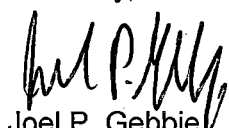
By Reference 1, as supplemented by Reference 2, I&M submitted a request to amend the Technical Specifications to CNP Units 1 and 2 Renewed Facility Operating Licenses DPR-58 and DPR-74. I&M proposes to adopt TSTF-490, Revision 0, and implement full scope alternative source

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term radiological analysis methodology. By Reference 3, the NRC transmitted an RAI from the Electrical Engineering Branch regarding the LAR 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 NRC's RAI in Reference 3. Copies of this letter and its enclosures are being transmitted to the Michigan Public Service Commission and Michigan Department of Environmental Quality, in accordance with the requirements of 10 CFR 50.91.

There are no new regulatory commitments made in 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

TLC/ams

Enclosures:

1. Affirmation
2. Response to the Third Request for Additional Information Regarding the License Amendment Request to Adopt TSTF-490 and Implement Full-Scope Alternative Source Term

c: A. W. Dietrich, NRC, Washington, D.C.  
J. T. King – MPSC  
MDEQ – RMD/RPS  
NRC Resident Inspector  
C. D. Pederson, NRC, Region III  
A. J. Williamson, AEP Ft. Wayne, w/o enclosures

Enclosure 1 to AEP-NRC-2015-80

AFFIRMATION

I, Joel P. Gebbie, being duly sworn, state that I am 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



Joel P. Gebbie  
Site Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 28 DAY OF August, 2015

  
Notary Public

My Commission Expires 04-04-2018

DANIELLE BURGOYNE  
Notary Public, State of Michigan  
County of Berrien  
My Commission Expires 04-04-2018  
Acting in the County of Berrien

**Enclosure 2 to AEP-NRC-2015-80**

**Response to the Third Request for Additional Information Regarding the License Amendment Request to Adopt TSTF-490 and Implement Full-Scope Alternative Source Term**

By letter dated November 14, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14324A209), as supplemented by letter dated February 12, 2015 (ADAMS Accession No. ML15050A247), Indiana Michigan Power Company (I&M), the licensee for the Donald C. Cook Nuclear Plant (CNP), Units 1 and 2, submitted a license amendment request (LAR). The proposed amendment consists of adoption of Technical Specifications Task Force (TSTF)-490, Revision 0, and implementation of a full scope alternative source term radiological analysis methodology.

The U. S. Nuclear Regulatory Commission (NRC) staff in the Electrical Engineering Branch (EEEB) of the Office of Nuclear Reactor Regulation is currently reviewing the submittal, as supplemented, and has determined that additional information is needed in order to complete the review. The text of the requests for additional information (RAIs) and I&M's responses are provided below.

**RAI-EEEB-1**

*Provide a list and description of components being added to your 10 CFR 50.49 program due to this LAR. Confirm that these components are qualified for the environmental conditions they are expected to be exposed to.*

**I&M Response to RAI-EEEB-1:**

No new plant components are credited in the analysis of the Alternative Source Term (AST) and therefore no components are being added to the 10 CFR 50.49 program. All components credited in the analysis are already part of, and maintained under, the CNP Environmental Qualification (EQ) program.

**RAI-EEEB-2**

*In the LAR submittal, Section 4.3 of the Regulatory Guide 1.183 Compliance Matrix under "Basis of Compliance" states that the CNP environmental qualification (EQ) analyses will continue to be based on Technical Information Document - 14844, "Calculation of Distance Factors for Power and Test Reactor Sites" in the EQ program. Provide a summary of any changes to the EQ analyses that will demonstrate that the EQ equipment will continue to meet its intended safety function.*

**I&M Response to RAI-EEEB-2:**

AST is being implemented to revise the dose consequences at the site boundaries and to control room (CR) personnel. No changes are being made to the fuel or to the facility that will impact the current EQ analyses as a result of this submittal.

**RAI-EEEB-3**

*In the LAR submittal, Section 5.1.2 of the Regulatory Guide 1.183 Compliance Matrix under "Basis of Compliance" states that "Assumptions regarding the occurrence and timing of a loss of offsite power are made with the objective of maximizing the impact on dose." State how the assumptions used for the LOOP analysis will affect the current EQ analysis.*

**I&M Response to RAI-EEEB-3:**

The assumptions made in the dose analysis regarding loss of off-site power (LOOP) relate to the number of trains of safety related equipment available to mitigate the event and to the equipment response times due to emergency diesel generator (EDG) start and sequencer operation. As stated in the LAR of November 14, 2014, on page 1 of Enclosure 2, "(t)his submittal does not request adoption of AST for environmental qualification of safety-related equipment."

Since the existing EQ analysis is not being evaluated for AST, the assumptions and biasing associated with LOOP for the CR and offsite dose analyses using the AST are independent of the EQ dose analyses performed previously using TID-14844. Therefore, the assumptions used for the LOOP analysis have no effect on the current EQ analysis

**RAI-EEEB-4**

*List any loads being added to the CNP emergency diesel generators (EDGs) to support this LAR. If any loads are being added, please describe how the loads will affect the capability and capacity of the EDGs (e.g., describe the impact of the proposed change on the EDG ratings). In addition, describe changes (if any) that have been made to the CNP EDG loading sequence to support this LAR.*

**I&M Response to RAI-EEEB-4:**

No new loads are being added to the CNP EDGs and no changes to the CNP EDG loading sequence have been made to support the revised dose analyses.

**RAI-EEEB-5**

*Are any non-safety related systems and components credited in the alternate source term analyses?*

*If so,*

- a) Describe how this system will be electrically separated from the safety-related system (i.e., provide a detailed discussion on how a fault on the non-Class 1E electrical circuit will not propagate to the Class 1E electrical circuit).*
- b) Describe the independence (e.g., electrical and physical separation) and redundancy of these systems.*
- c) Describe how these systems meet the single failure criterion.*
- d) Describe how the operators will be notified in the event that these systems and components would become inoperable (e.g., control room annunciators).*
- e) Describe any impacts on seismic qualifications of these systems and components.*

**I&M Response to RAI-EEEB-5:**

There are no non-safety related systems or components credited in the AST analyses.