



**INDIANA
MICHIGAN
POWER®**

A unit of American Electric Power

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

February 4, 2016

AEP-NRC-2016-17
10 CFR 50.4

Docket Nos.: 50-315
50-316

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

Donald C. Cook Nuclear Plant Units 1 and 2
SUPPLEMENT TO LICENSE AMENDMENT REQUEST TO ADOPT TSTF-425-A, REVISION 3,
"RELOCATE SURVEILLANCE FREQUENCIES TO LICENSEE CONTROL – RISK INFORMED
TECHNICAL SPECIFICATION TASK FORCE (RITSTF) INITIATIVE 5B"

Reference: Letter from J. P. Gebbie, Indiana Michigan Power Company, to U. S. Nuclear Regulatory Commission, "Donald C. Cook Nuclear Plant, Units 1 and 2 License Amendment Request to Adopt TSTF-425-A, Revision 3; 'Relocate Surveillance Frequencies to Licensee Control-Risk Informed Technical Specification Task Force (RITSTF) Initiative 5B'," AEP-NRC-2015-46, dated November 19, 2015, Agencywide Documents Access and Management System Accession No. ML15328A450.

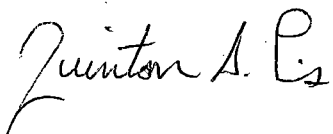
By the reference above, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Units 1 and 2, requested a license amendment to adopt Technical Specification Task Force (TSTF)-425-A, Revision 3, which relocates surveillance frequencies from technical specification to licensee control for CNP. During a telecon between A. W. Dietrich U. S. Nuclear Regulatory Agency (NRC) and I&M staff, on December 11, 2015, the NRC requested that I&M supplement the application to address the Fire Probabilistic Risk Assessment (PRA) Facts and Observations (F&O) to complete the review of the reference above.

Enclosure 1 to this letter provides an affirmation statement pertaining to the information contained herein. Enclosure 2 contains the supplemental information requested by the NRC. Enclosure 3 provides a table of new regulatory commitments.

ADDG
NRR

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

Sincerely,



Q. Shane Lies
Site Vice President

DMB/ml

Enclosures:

1. Affirmation
2. Supplemental Information for the License Amendment Request to Adopt TSTF-425-A
3. Regulatory Commitments

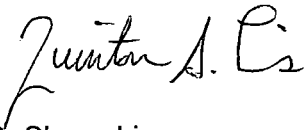
c: R. J. Ancona, MPSC
A. W. Dietrich, NRC, Washington, D.C.
MDEQ – RMD/RPS
NRC Resident Inspector
C. D. Pederson, NRC, Region III
A. J. Williamson, AEP Ft. Wayne, w/o enclosures

Enclosure 1 to AEP-NRC-2016-17

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 4 DAY OF February, 2016


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-2016-17

Supplemental Information for the License Amendment Request to Adopt TSTF-425-A

1.0 INTRODUCTION

Pursuant to 10 CFR 50.90, by letter dated November 19, 2015, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1 and Unit 2, submitted a license amendment request (LAR) to adopt Technical Specification Task Force (TSTF)-425-A, Revision 3 (Reference 3).

The U. S. Nuclear Regulatory Commission (NRC) staff reviewed the application and concluded that additional information is necessary to enable them to make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements and the protection of public health and safety and the environment. During a telecon with A. W. Dietrich U. S. Nuclear Regulatory Agency (NRC) and I&M staff, on December 11, 2015, the NRC requested that I&M supplement the application to provide the new Fire Probabilistic Risk Assessment (PRA) Facts and Observations (F&Os) from a Focused Scope Peer Review report that I&M received after Reference 3 was submitted to the NRC.

2.0 OVERVIEW

The full Technical Adequacy Justification of the Fire PRA was previously provided as part of the National Fire Protection Association 805 LAR (Reference 4). Attachment V, of Reference 4, provided the disposition of Peer Review F&Os from the Full Scope Peer Review performed on the Fire PRA in 2010.

Following the submittal of Reference 3, an additional Focused Scope Peer Review of the Fire PRA with respect to modeling of large early release frequency (LERF) was performed in November 2015, (Reference 1). The Focused Scope Peer Review assessed only the LERF (LE) and related Plant Response Model (PRM) requirements as related to the LERF portion of the Fire PRA model. As with the Internal Events PRA, each applicable supporting requirement (SR) in ASME RA-Sa-2009 (Reference 2) was evaluated against a goal of Capability Category (CC) II. For each SR not meeting at least CC II, an evaluation is provided in the Fire PRA Focused Scope Peer Review Technical Adequacy Justification Table below with respect to its impact on the proposed Surveillance Frequency Control Program. The Focused Scope Peer Review is considered to supersede the 2010 Fire PRA Peer Review for graded SRs. As discussed in Reference 3, the July 2015, Full Scope Peer Review of the Internal Events PRA is considered to apply to the Fire PRA as well, in accordance with SR PRM-B2.

3.0 REFERENCES

1. ERIN Engineering and Research, Inc., "D. C. Cook Focused Scope Peer Review for Fire PRA," Document #D0403140002-1515, November 19, 2015.
2. ASME RA-Sa-2009, Addenda to ASME/ANS RA-S-2008, Standard for Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications, February 2, 2009.

3. 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-425-A, Revision 3, 'Relocate Surveillance Frequencies to Licensee Control – Risk Informed Technical Specification Task Force (RITSTF) Initiative 5B'," AEP-NRC-2015-46, dated November 19, 2015, Agencywide Documents Access and Management System (ADAMS) Accession No. ML15328A450.
4. Letter from M. H. Carlson, I&M to NRC, "Donald C. Cook Nuclear Plant Unit 1 and Unit 2, Docket Nos. 50-315 and 50-316, Request for License Amendment to Adopt National Fire Protection Association (NFPA) 805 Performance-Based Standard for Fire Protection for Light Water Reactor Generating Plants (2001 Edition)," dated July 1, 2011, ADAMS No. ML11188A145.

Fire Probabilistic Risk Assessment (PRA) Focused Scope Peer Review Technical Adequacy Justification Table

Supporting Requirement (SR)	Capability Category (CC)	Peer Review Assessment Basis	TSTF-425 Submittal Assessment
LE-C1 (Fire PRA)	I	<i>The CNP LERF analysis follows methods in WCAP-16341 and NUREG/CR-6595, Revision 1.</i>	CC I is considered to be sufficient to support applications for this SR.
LE-C2 (Fire PRA)	I	<i>The CNP LERF analysis follows methods in WCAP-16341 and NUREG/CR-6595, Revision 1 which is considered conservative rather than realistic.</i>	CC I is considered to be sufficient to support applications for this SR.
LE-C3 (Fire PRA)	I	<i>No repair of equipment after core damage was considered.</i>	CC I is considered to be sufficient to support applications for this SR.
LE-C4 (Fire PRA)	I	<i>Basis: The CNP LERF analysis follows methods in WCAP-16341 and NUREG/CR-6595, Revision 1 and the event trees developed in those reports.</i>	CC I is considered to be sufficient to support applications for this SR.
LE-C5 (Fire PRA)	I	<i>The CNP LERF analysis follows methods in WCAP-16341 and NUREG/CR-6595, Revision 1 which is considered conservative rather than realistic.</i>	CC I is considered to be sufficient to support applications for this SR.

Supporting Requirement (SR)	Capability Category (CC)	Peer Review Assessment Basis	TSTF-425 Submittal Assessment
LE-C7 (Fire PRA)	Not Met	<i>Sections 6.5.3 and 6.5.6 of PRA-NB-FIRE-LE describes the operator actions credited in the LERF Model. The level of detail of the analysis does not reflect the use of the applicable requirements in Section 2-2.5 of the PRA Standard.</i>	The effects of fire on LE-related operator actions will be reviewed and any necessary modifications will be added to the model prior to program implementation.
LE-C9 (Fire PRA)	I	<i>No credit is taken for continued operation of equipment or operator actions in adverse environments.</i>	CC I is considered to be sufficient to support applications for this SR.
LE-C10 (Fire PRA)	I	<i>No credit is taken for survivability of equipment or operator actions in adverse environments.</i>	CC I is considered to be sufficient to support applications for this SR.
LE-C11 (Fire PRA)	I	<i>Containment failure equals LERF and ends the analysis. No events beyond containment failure are postulated.</i>	CC I is considered to be sufficient to support applications for this SR.
LE-C12 (Fire PRA)	I	<i>Containment failure equals LERF and ends the analysis. No continued operation of equipment beyond containment failure is postulated.</i>	CC I is considered to be sufficient to support applications for this SR.
LE-C13 (Fire PRA)	I	<i>Bypass was a deterministic event (YES or NO). No source terms or scrubbing or decontamination was evaluated. All Steam Generator Tube Rupture sequences go to LERF.</i>	CC I is considered to be sufficient to support applications for this SR.

Supporting Requirement (SR)	Capability Category (CC)	Peer Review Assessment Basis	TSTF-425 Submittal Assessment
LE-D1 (Fire PRA)	I	<i>CNP has a plant-specific containment fragility analysis (Attachment 1 of PRA-L2 MODEL, Revision 0) that predicts the ultimate containment capacity and the location of containment failure on pressure. However, it is not clear if and how this calculation was factored into the simplified Level 2 model documented in PRA-NB-FIRE-LE. Attachment 1 of PRA-L2 MODEL is not cited in Section 8 of PRA-NB-FIRE-LE and not discussed in Section 6.5.1 of the report. The simplified Level 2 model appears to be using NUREG/CR-6595 if the igniters fail.</i>	Containment failure probabilities given hydrogen igniter failure are taken from NUREG/CR-6595, and no issues were noted with the hydrogen igniter system model. This aspect produces a possibly conservative estimate of containment failure, so CC I is considered to be sufficient to support applications for this SR.
LE-D2 (Fire PRA)	I	<i>CNP has a plant-specific containment fragility analysis (Attachment 1 of PRA-L2 MODEL, Revision 0) that predicts the ultimate containment capacity and the location of containment failure on pressure. However, it is not clear if and how this calculation was factored into the simplified Level 2 model documented in PRA-NB-FIRE-LE. Attachment 1 of PRA-L2 MODEL is not cited in Section 8 of PRA-NB-FIRE-LE and not discussed in Section 6.5.1 of the report. The simplified Level 2 model appears to be using NUREG/CR-6595 if the igniters fail.</i>	Containment failure probabilities given hydrogen igniter failure are taken from NUREG/CR-6595, and no issues were noted with the hydrogen igniter system model. This aspect produces a possibly conservative estimate of containment failure, so CC I is considered to be sufficient to support applications for this SR.

Supporting Requirement (SR)	Capability Category (CC)	Peer Review Assessment Basis	TSTF-425 Submittal Assessment
LE-D3 (Fire PRA)	I	<i>CNP has a plant-specific containment fragility analysis (Attachment 1 of PRA-L2 MODEL, Revision 0) that predicts the ultimate containment capacity and the location of containment failure on pressure. However, it is not clear if and how this calculation was factored into the simplified Level 2 model documented in PRA-NB-FIRE-LE. Attachment 1 of PRA-L2 MODEL is not cited in Section 8 of PRA-NB-FIRE-LE and not discussed in Section 6.5.1 of the report. The simplified Level 2 model appears to be using NUREG/CR-6595 if the igniters fail.</i>	Containment failure probabilities given hydrogen igniter failure are taken from NUREG/CR-6595, and no issues were noted with the hydrogen igniter system model. This aspect produces a possibly conservative estimate of containment failure, so CC I is considered to be sufficient to support applications for this SR.
LE-D5 (Fire PRA)	I	<i>Models from WCAP-16341 are used for TI-SGTR and PI-SGTR. SGTR initiator taken directly to containment bypass.</i>	CC I is considered to be sufficient to support applications for this SR. Secondary Side Isolation is not considered to result in a direct containment bypass.
LE-E1 (Fire PRA)	Not Met	<i>Sources for parameter values are shown in Table 2 of PRA-NB-FIRE-LE. Appropriate parameter values were selected consistent with the requirements of technical element DA. Operator actions identified in Sections 6.5.3 and 6.5.6 were not selected in accordance with Section 2-2.5 of the PRA Standard.</i>	The effects of fire on LE-related operator actions will be reviewed and any necessary modifications will be added to the model prior to program implementation.
LE-E2 (Fire PRA)	I	<i>Basis: Data is taken from NUREG/CR-6595 or WCAP-16341.</i>	CC I is considered to be sufficient to support applications for this SR.

Supporting Requirement (SR)	Capability Category (CC)	Peer Review Assessment Basis	TSTF-425 Submittal Assessment
LE-F1 (Fire PRA)	Not Met	<i>The results of the LERF quantification and cutset reviews are provided in PRA-FIRE-17663-014-LAR-R1-final-1017, Tables 5-1, 5-7, 5-9, 5-17 and 5-19. The results do not provide contributions by LERF PDS designation and LERF failure mechanism.</i>	Resolution of this SR will provide additional analysis of results, but will not impact the actual results. Therefore, the improvements will be documentation improvements and will not impact the use of this application.
LE-F2 (Fire PRA)	Not Met	<i>The CNP results were not compared to a peer plant.</i>	Resolution of this SR is expected to involve documentation improvements only since the comparison was already performed at a high level. Containment failure probabilities given hydrogen igniter failure are taken from NUREG/CR-6595, and no issues were noted with the hydrogen igniter system model.
LE-G3 (Fire PRA)	Not Met	<i>The results of the LERF quantification and cutset reviews are provided in PRA-FIRE-17663-014-LAR-R1-final-1017, Tables 5-1, 5-7, 5-9, 5-17 and 5-19. The results do not provide contributions by LERF plant damage state designation and LERF failure mechanism.</i>	Resolution of this SR will provide additional analysis of results, but will not impact the actual results. Therefore, the improvements will be documentation improvements and will not impact the use of this application.

Supporting Requirement (SR)	Capability Category (CC)	Peer Review Assessment Basis	TSTF-425 Submittal Assessment
LE-G6 (Fire PRA)	Not Met	<i>Sections 5.2 and 5.3 of PRA-FIRE-17663-014-LAR-R1-final-1017 provide a quantitative definition used for significant core damage accident progression sequence that is consistent with Part 1-2 of the standard. However, there is no equivalent definition for LERF.</i>	Resolution of this SR is expected to involve documentation improvements only and therefore will not impact the use of this application.
PRM-B2 (Fire PRA)	Not Met	<i>An assessment of Internal Event PRA peer review deficiencies is required to evaluate the impact on the Fire PRA.</i>	As full power internal events F&Os are resolved, their impact on the Fire PRA will also be evaluated. Reintegration of the Fire PRA (Reference 3) will resolve the relevant F&Os in the Fire PRA
PRM-B14 (Fire PRA)	Not Met	<i>Provide documentation demonstrating an evaluation for this SR. Evaluate the potential for screened LERF scenarios impacting the Fire PRA, e.g., LERF bypass pathway screened based on size, where a fire may impact multiple pathways where the sum of the pathway sizes may exceed the LERF bypass pathway screening criteria.</i>	The effects of fire on LERF bypass pathways will be reviewed and any necessary modifications will be added to the model prior to program implementation.

Supporting Requirement (SR)	Capability Category (CC)	Peer Review Assessment Basis	TSTF-425 Submittal Assessment
PRM-B15 (Fire PRA)	Not Met	<i>Provide documentation demonstrating an evaluation for this SR.</i>	This SR requires documentation that the systems analysis, accident sequence analysis, and human reliability analysis in the Fire LERF model meets the relevant requirements of Part 2 of ASME/ANS-RA-Sa-2009 in the context of fire events. The Fire LERF notebook will be updated to include documentation of these requirements prior to program implementation.

Enclosure 3 to AEP-NRC-2016-17

REGULATORY COMMITMENTS

The following table identifies an 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. All commitments discussed in this table are one-time commitments.

Commitment	Scheduled Completion Date (if applicable)
Implement the resolution for the following Supporting Requirements from Enclosure 2, Fire Probabilistic Risk Assessment (PRA) Focused Scope Peer Review Technical Adequacy Justification Table: LE-C7, LE-E1, PRM-B14, and PRM-B15	Prior to program implementation