INDIANA MICHIGAN POWER
An AEP Company
BOUNDLESS ENERGY™

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May 16, 2024

AEP-NRC-2024-40
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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 Unit 1 and Unit 2
Supplement to License Amendment Request for One-Time Extension of Completion Time for Inoperable AC Source - Operating

References:

1. Letter from K. J. Ferneau, Indiana Michigan Power Company (I&M), to U.S. Nuclear Regulatory Commission (NRC), "Donald C. Cook Nuclear Plant Unit 1 and Unit 2 License Amendment Request for One-Time Extension of Completion Time for Inoperable AC Source - Operating," dated April 3, 2024, Agencywide Documents Access and Management System (ADAMS) Accession No. ML24094A288.

2. Letter from S. P. Wall, NRC, to Q. S. Lies, I&M, "Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2 – Supplemental Information Needed for Acceptance of License Amendment Request to Revise Technical Specification 3.8.1 (EPID No. L-2024-LLA-0040)," dated May 7, 2024, ADAMS Accession No. ML24115A215.

This letter provides Indiana Michigan Power Company's (I&M), licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1 and Unit 2, response to Reference 2 by the U. S. Nuclear Regulatory Commission (NRC) regarding Reference 1.

Enclosure 1 to this letter provides an affirmation statement. Enclosure 2 to this letter provides I&M's response to Reference 2.

Enclosure 3 and Enclosure 4 provide Unit 1 and Unit 2 TS pages, respectively, marked to show the proposed changes. Enclosure 5 provides a list of Regulatory Commitments that I&M will be making to support approval and implementation of the License Amendment Request (LAR) made in Reference 1.

The changes proposed in this letter do not impact the conclusions provided in Reference 1 that a finding of "no significant hazards consideration" is justified. There are new regulatory commitments made in

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

Sincerely,

Kelly J. Ferneau
Site Vice President

JMT/sjh

Enclosures:

1. Affirmation
2. Supplement to License Amendment Request Regarding One-Time Extension of Completion Time for Inoperable AC Source - Operating
3. Donald C. Cook Nuclear Plant Unit 1 Technical Specification Pages Marked to Show Proposed Changes
4. Donald C. Cook Nuclear Plant Unit 2 Technical Specification Pages Marked to Show Proposed Changes
5. Regulatory Commitments to Support License Amendment Request for One-Time Extension of Completion Time for Inoperable AC Source - Operating

c: EGLE – RMD/RPS
J. B. Giessner – NRC Region III
NRC Resident Inspector
N. Quilico – MPSC
R. M. Sistevaris – AEP Ft. Wayne, w/o enclosures
S. P. Wall – NRC Washington, D.C.
A. J. Williamson – AEP Ft. Wayne, w/o enclosures

Enclosure 1 to AEP-NRC-2024-40

AFFIRMATION

I, Kelly J. Ferneau, 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

Kelly J. Ferneau
Site Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 16 DAY OF May 2024

Notary Public

My Commission Expires 5/23/2030

Enclosure 2 to AEP-NRC-2024-40

Supplement to License Amendment Request Regarding One-Time Extension of Completion Time for Inoperable AC Source - Operating

By letter dated April 3, 2024 (Reference 1), Indiana Michigan Power Company (I&M, the licensee) submitted a license amendment request (LAR) for the Donald C. Cook Nuclear Plant (CNP), Units Nos. 1 and 2. The proposed LAR would revise Technical Specification (TS) 3.8.1, "AC Sources – Operating," by adding a footnote for TS 3.8.1, Required Action A.3 to allow a one-time completion time (CT) extension from 72 hours to 288 hours to support the replacement of the 12AB (Train B) Loop Feed Enclosure (LFE) and associated bus for the Train B reserve feed preferred power source.

By letter dated May 7, 2024 (Reference 2) the NRC informed I&M that the proposed LAR (Reference 1) would need to be supplemented, to be accepted, to address several BTP-related items that were not found in the LAR.

This Enclosure 2 to this letter contains a supplement to Reference 1 to address the items that were identified by the NRC in Reference 2 from NUREG-0800, Revision 3, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants, Branch Technical Position (BTP) 8-8, "Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions". Additionally, at the end of this Enclosure I&M is providing a change to a reference made in the Probabilistic Risk Assessment (PRA) discussion in Reference 1.

EEEB-1

> *"A supplemental alternating current (AC) power source needed. This source should be available as a backup to the inoperable EDG or offsite power source, to maintain the defense-in-depth philosophy of the electrical system to meet its intended function. The supplemental AC power source must have capacity to bring a unit to safe shutdown (cold shutdown) in case of a loss of offsite power (LOOP) concurrent with a single failure during plant operation (Mode 1) as supported by the risk-informed and deterministic evaluation.*
>
> *Note: Multi-unit sites that have installed a single supplemental AC power source for station blackout (SBO) cannot substitute it for the inoperable diesel when requesting CT extensions unless the supplemental AC power source has enough capacity to carry all LOOP loads to bring the unit to a cold shutdown as a substitute for the EDG in an extended CT and carry all SBO loads for the unit that has an SBO event without any load shedding"*

I&M Response to EEEB-1

The supplemental alternating current power source for CNP are two Supplemental Diesel Generators (SDGs) which were permanently installed at CNP in 2005 in support of extending the Allowed Outage Time for the Emergency Diesel Generators (EDGs). In the event of a loss of 4kV voltage to the

Emergency Power (EP) system, the two SDGs automatically start, sync with each other, and automatically energize the EP Bus #1. The SDGs may then be manually aligned from EP Bus #1 to the safety-related 4kV busses through breakers T11C2, T11D1, T11A12, T11B2 in Unit 1, or breakers T21C2, T21D1, T21A12, or T21B2 in Unit 2. This allows for power to be supplied to whichever train is not affected by any single failure. The two SDGs are rated to a combined capacity of 4500kW, which is above the 3500kW rating of each EDG (CNP has 2 EDGs per Unit, one for Train A and one for Train B). This capability is verified in CNP Calculation 12-E-S-EPEDG-001, Allowable Outage Time (AOT) Diesel Generator ETAP Analysis. The two SDGs provide sufficient capacity to bring a Unit to safe shutdown in case of a LOOP event with a single failure during plant operation (Mode 1).

CNP has adopted the AC Independent approach for coping with an SBO event as delineated in Regulatory Guide 1.155 (CNP UFSAR 8.7.2). CNP does not credit the SDGs in the SBO analysis, and therefore the SDGs are not required to be able to supply loads in the event of a SBO. By extension, the SDGs would not be required to supply SBO loads while supplying safe-shutdown loads in the event of a LOOP. The "Note" above does not apply to CNP.

EEEB-2

> *"The time to make the supplemental AC power source available, including accomplishing the cross-connection, should be approximately one hour to enable restoration of battery chargers and control reactor coolant system inventory.*
>
> *Note: To support the one-hour time for making this power source available, plants must assess their ability to cope with loss of all AC power (SBO) for one hour independent of a supplemental AC power source. The plant should have formal engineering calculations for equipment sizing and protection and have approved procedures for connecting the supplemental AC power source to the safety buses."*

I&M Response to EEEB-2

CNP can sustain the SBO event for the coping duration of 4 hours (CNP UFSAR 8.7.2), which exceeds the required one-hour time to make the supplemental AC power source available.

The SDGs are permanently installed plant equipment and automatically start upon a sustained loss of voltage on the 4.16 kV EP system. As discussed above the SDGs automatically load to the EP Bus #1, which is then available for the operator to manually load to any of the safety related 4.16 kV Buses (CNP UFSAR 8.3.1). CNP emergency operating procedure 1(2)-OHP-4023-ECA-0-0, Loss of All AC Power, Step 9, directs restoration of power to AC emergency buses via the SDGs in the event that reserve power is not available. This action has been demonstrated by plant operators, when performed in the CNP simulator, to be completed in less than 30 minutes.

As discussed above, SDG load capabilities are demonstrated in CNP Calculation 12-E-S-EPEDG-001, Allowable Outage Time (AOT) Diesel Generator ETAP Analysis. Relay settings are validated in CNP design document 12-E-S-EPEDG-002, Supplemental Diesel Generator System Relay Settings.

EEEB-3

"The availability of supplemental AC power source should be verified within the last 30 days before entering extended CT by operating or bringing the power source to its rated voltage and frequency for 5 minutes and ensuring all its auxiliary support systems are available or operational."

I&M Response to EEEB-3

CNP's Technical Requirements Manual (TRM) Surveillance Requirement (SR) 8.8.3.2 requires: "Exercise the SDGs by running each one unloaded for >= 5 minutes," with a Frequency of 14 days.

At a Frequency of 14 days, both of CNPs Supplemental Diesel Generators will be tested in accordance with the normal TRM surveillance frequency prior to entering the extended Completion Time period per CNP procedure 12-OHP-4030-033-001, Supplemental Diesel Generator Testing, Attachment 3, which requires checking that each SDG runs for at least 5 minutes unloaded and stabilizes at the rated voltage and frequency. Completion of this TRM SR 8.8.3.2 ensures all auxiliary support systems are available or operational.

As 14 days is within the required 30 days, it is assured this check will occur within the 30 day period prior to entering the extended Completion Time.

EEEB-4

"The availability of supplemental AC power source shall be checked every 8-12 hours (once per shift). If the supplemental AC power source becomes unavailable any time during extended CT, the unit shall enter the LCO and start shutting down within 24 hours. This 24-hour period will be allowed only once within any given extended CT for the restoration of the offsite power."

I&M Response to EEEB-4

In order to address this statement, I&M is changing the proposed wording of the footnote discussed in Section "2.4 Description of the Proposed Change" in Reference 1. This footnote is being replaced in its entirety with the revised footnote below.

This footnote was included in the Unit 1 and Unit 2 Technical Specification marked up page, Enclosures 3 and 4, respectively, of Reference 1. These Enclosures 3 and 4 of Reference 1 are being replaced in their entirety by Enclosures 3 and 4 of this letter.

Revisions to Footnote stated in Section 2.4, Enclosure 3 and Enclosure 4 of Reference 1

Original footnote in Reference 1:

(a) For Train B only, the Completion Time that Train B can be inoperable as specified by Required Action A.3 may be extended beyond the "72 hours" up to "288 hours," to support modification of the Train B Reserve Feed 12AB Loop Feed Enclosure. Upon completion of the modification and restoration this footnote is no longer applicable. Compensatory measures described within CNP letter AEP-NRC-2024-02, dated April 3, 2024 will remain in effect during the extended period. The one-time extension shall expire upon completion of the modification and restoration of operability for Train B.

Revised footnote:

(a) For Train B only, the Completion Time that Train B can be inoperable as specified by Required Action A.3 may be extended beyond the "72 hours" up to "288 hours," to support modification of the Train B Reserve Feed 12AB Loop Feed Enclosure. Upon completion of the modification and restoration this footnote is no longer applicable. Prior to entry into the 288-hour extended Completion Time, the Supplemental Diesel Generators (SDGs) shall be verified as available. During the 288-hour extended Completion Time, the SDGs shall be verified as available once per shift. If the SDGs becomes unavailable after the initial 72 hours while in the extended 288-hour Completion Time period, it shall be made available within 24 hours, or the unit shall be brought to MODE 3 within the next 6 hours and MODE 4 within the following 30 hours. This 24-hour period will be allowed only once within the single extended Completion Time. Compensatory measures described within CNP letter AEP-NRC-2024-02, dated April 3, 2024, and supplemented by AEP-NRC-2024-40, dated May 16th, will remain in effect during the extended period. The one-time extension shall expire upon completion of the modification and restoration of operability for Train B.

EEEB-5

"The six regulatory commitments listed on page 8-8-5 of BTP 8-8"

I&M Response to EEEB-5

I&M has included all six of the regulatory commitments listed on page 8-8-5 of BTP 8-8 into the list of Regulatory Commitments in Enclosure 5 of this letter.

Clarification on Technical Acceptability of Seismic PRA Peer Review in Section 3.3.1.1 Peer Review History

The wording in the original license amendment request (Reference 1) was copied from the original Peer Review Report (PWROG-18062-P) that was performed for the seismic PRA. To ensure consistency with the source document, historical description of the status of the Code Case was included. In Reference 1, this description is confusing given the current status of the Code Case in 2020. RG 1.200 Revision 3 provides endorsement of ASME/ANS RA-S Case 1 for seismic PRA, and therefore provides the current basis for acceptability of the Seismic PRA peer review, despite the discussion in the original peer review report. To ensure clarity on the basis for acceptability of CNP's SPRA peer review, the excerpt from PWROG-18062-P should be removed from Reference 1, and

instead a simple reference to RG 1.200 Revision 3 and its endorsement of ASME/ANS RA-S Case 1 should be provided for that section. This recommended replacement wording is presented below.

Current Wording:

"Seismic PRA (SPRA) model

"The seismic PRA model was peer reviewed in November 2018 (Reference 19). This peer review was conducted against the technical elements in PRA Standard Code Case for Part 5 (Reference 20). For supporting requirements in the Code Case that referred back to requirements in Part 2, Addendum B, of the PRA Standard (ANSE/ANS RA-Sb-2013) was utilized.

"Per PWROG-18062-P (Reference 19):

"This standard, ASME/ANS RA-Sb-2013 (Addendum B), was approved by ANSI in 2013, but has not been formally endorsed by the NRC through a revision to RG 1.200 (Reference 1). However, Part 5 (Requirements for Seismic Events At-Power PRA) of Addendum B of the PRA Standard is referenced in the Electric Power Research Institute (EPRI) report "Screening, Prioritization and Implementation Details (SPID) for the Resolution of Fukushima Near-Term Task Force Recommendation 2.1: Seismic". NRC has endorsed this EPRI report as "one acceptable method for responding to the information requested in Enclosure 1 of the 50.54(f) letter" pertaining to Post-Fukushima Near Term Task Force (NTTF) Recommendation 2.1 on seismic hazard re-evaluation. This effectively provides NRC endorsement of Part 5 of Addendum B of the PRA Standard, ASME/ANS RA-Sb-2013. In 2017, the Joint Committee on Nuclear Risk Management (JCNRM) released the Code Case as an acceptable alternative to Part 5 of Addendum B. By letter dated, March 7, 2018, the NRC stated the following:

> *"The NRC staff has determined that the alternative approach described in the Code Case is consistent with Part 5 of the ASME/ANS PRA standard which the staff has reviewed and endorsed in Regulatory Guide 1.200.*

"The NRC acceptance letter of the Code Case included limited clarifications.

"Sections 1-6 and 5-3 of the ASME/ANS PRA Standard include explicit requirements for a peer review of SPRAs against the requirements of Part 5 in the PRA Standard using a written process. The industry has developed the PRA peer review process as defined in NEI 12-13 to perform the peer reviews for SPRAs and other external hazards PRAs. This was accepted with limited amendments by the NRC in the letter dated March 7, 2018.

"The findings from the Seismic PRA peer review have been addressed in the Seismic PRA model. In August 2019 (AEPDCC-0058-REPT-001), an F&O Closure Review was conducted for CNP. Finding level F&Os for the SPRA model are discussed in Attachment 1 of this enclosure."

Replacement Wording:

"Seismic PRA (SPRA) model

"The seismic PRA model was peer reviewed in November 2018 (Reference 19). This peer review was conducted against the technical elements in PRA Standard Code Case for Part 5 (Reference 20). For supporting requirements in the Code Case that referred back to requirements in Part 2, Addendum B, of the PRA Standard (ANSE/ANS RA-Sb-2013) was utilized. Code Case ASME/ANS RA-S Case 1 was endorsed, with staff exceptions and clarifications, by the NRC in Revision 3 of Regulatory Guide 1.200.

"The findings from the Seismic PRA peer review have been addressed in the Seismic PRA model. In August 2019 (AEPDCC-0058-REPT-001), an F&O Closure Review was conducted for CNP. Finding level F&Os for the SPRA model are discussed in Attachment 1 of this enclosure."

References:

1. Letter from K. J. Ferneau, Indiana Michigan Power Company (I&M), to U.S. Nuclear Regulatory Commission (NRC), "Donald C. Cook Nuclear Plant Unit 1 and Unit 2 License Amendment Request for One-Time Extension of Completion Time for Inoperable AC Source - Operating," dated April 3, 2024, Agencywide Documents Access and Management System (ADAMS) Accession No. ML24094A288.

2. Letter from S. P. Wall, NRC, to Q. S. Lies, I&M, "Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2 – Supplemental Information Needed for Acceptance of License Amendment Request to Revise Technical Specification 3.8.1 (EPID No. L-2024-LLA-0040)," dated May 7, 2024, ADAMS Accession No. ML24115A215.

Enclosure 3 to AEP-NRC-2024-40

Donald C. Cook Nuclear Plant Unit 1 Technical Specification Pages Marked to Show Proposed Changes

ACTIONS

----------NOTE----------

LCO 3.0.4.b is not applicable to DGs.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One required offsite circuit inoperable.	A.1	----------NOTE---------- Not applicable if a required Unit 2 offsite circuit is inoperable. ----------	
		Perform SR 3.8.1.1 for required OPERABLE offsite circuit.	1 hour AND Once per 8 hours thereafter
	AND		
	A.2	Declare required feature(s) with no offsite power available inoperable when its redundant required feature(s) is inoperable.	24 hours from discovery of no offsite power to one train concurrent with inoperability of redundant required feature(s)
	AND		
	A.3	Restore required offsite circuit to OPERABLE status.	72 hours[(a)] AND 17 days from discovery of failure to meet LCO 3.8.1.a or b

(a) For Train B only, the Completion Time that Train B can be inoperable as specified by Required Action A.3 may be extended beyond the "72 hours" up to "288 hours," to support modification of the Train B Reserve Feed 12AB Loop Feed Enclosure. Upon completion of the modification and restoration this footnote is no longer applicable. Prior to entry into the 288-hour extended Completion Time, the Supplemental Diesel Generators (SDGs) shall be verified as available. During the 288-hour extended Completion Time, the SDGs shall be verified as available once per shift. If the SDGs becomes unavailable after the initial 72 hours while in the extended 288-hour Completion Time period, it shall be made available within 24 hours, or the unit shall be brought to MODE 3 within the next 6 hours and MODE 4 within the following 30 hours. This 24-hour period will be allowed only once within the single extended Completion Time. Compensatory measures described within CNP letter AEP-NRC-2024-02, dated April 3, 2024, and supplemented by AEP-NRC-2024-40, dated May 16th, will remain in effect during the extended period. The one-time extension shall expire upon completion of the modification and restoration of operability for Train B.

Enclosure 4 to AEP-NRC-2024-40

Donald C. Cook Nuclear Plant Unit 2 Technical Specification Pages Marked to Show Proposed Changes

ACTIONS

---NOTE---

LCO 3.0.4.b is not applicable to DGs.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One required offsite circuit inoperable.	A.1	----------NOTE---------- Not applicable if a required Unit 1 offsite circuit is inoperable. ----------	
		Perform SR 3.8.1.1 for required OPERABLE offsite circuit.	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u>		
	A.2	Declare required feature(s) with no offsite power available inoperable when its redundant required feature(s) is inoperable.	24 hours from discovery of no offsite power to one train concurrent with inoperability of redundant required feature(s)
	<u>AND</u>		
	A.3	Restore required offsite circuit to OPERABLE status.	72 hours[(a)] <u>AND</u> 17 days from discovery of failure to meet LCO 3.8.1.a or b

(a) For Train B only, the Completion Time that Train B can be inoperable as specified by Required Action A.3 may be extended beyond the "72 hours" up to "288 hours," to support modification of the Train B Reserve Feed 12AB Loop Feed Enclosure. Upon completion of the modification and restoration this footnote is no longer applicable. Prior to entry into the 288-hour extended Completion Time, the Supplemental Diesel Generators (SDGs) shall be verified as available. During the 288-hour extended Completion Time, the SDGs shall be verified as available once per shift. If the SDGs becomes unavailable after the initial 72 hours while in the extended 288-hour Completion Time period, it shall be made available within 24 hours, or the unit shall be brought to MODE 3 within the next 6 hours and MODE 4 within the following 30 hours. This 24-hour period will be allowed only once within the single extended Completion Time. Compensatory measures described within CNP letter AEP-NRC-2024-02, dated April 3, 2024 and supplemented by AEP-NRC-2024-40, dated May 16th, will remain in effect during the extended period. The one-time extension shall expire upon completion of the modification and restoration of operability for Train B.

Enclosure 5 to AEP-NRC-2024-40

Regulatory Commitments to Support License Amendment Request for One-Time Extension of Completion Time for Inoperable AC Source - Operating

REGULATORY COMMITMENTS

The following table identifies actions 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):
The extended AOT will be used no more than once in a 24-month period (or refueling interval) on a per diesel basis to perform EDG maintenance activities, or any major maintenance on offsite power transformer and bus.	For the duration of the use of the extended one-time Completion Time of 288 hours for modification of Train AB Reserve Feed.
The preplanned maintenance will not be scheduled if severe weather conditions are anticipated.	For the duration of the use of the extended one-time Completion Time of 288 hours for modification of Train AB Reserve Feed.
The system load dispatcher will be contacted once per day to ensure no significant grid perturbations (high grid loading unable to withstand a single contingency of line or generation outage) are expected during the extended AOT	For the duration of the use of the extended one-time Completion Time of 288 hours for modification of Train AB Reserve Feed.
Component testing or maintenance of safety systems and important non safety equipment in the offsite power systems that can increase the likelihood of a plant transient (unit trip) or LOOP will be avoided. In addition, no discretionary switchyard maintenance will be performed.	For the duration of the use of the extended one-time Completion Time of 288 hours for modification of Train AB Reserve Feed.

TS required systems, subsystems, trains, components, and devices that depend on the remaining power sources will be verified to be operable and positive measures will be provided to preclude subsequent testing or maintenance activities on these systems, subsystems, trains, components, and devices.	For the duration of the use of the extended one-time Completion Time of 288 hours for modification of Train AB Reserve Feed.
Steam-driven emergency feed water pump(s), will be controlled as "guarded equipment."	For the duration of the use of the extended one-time Completion Time of 288 hours for modification of Train AB Reserve Feed.