



A unit of American Electric Power

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

January 21, 2016

AEP-NRC-2016-14
10 CFR 50.90

Docket Nos. 50-316

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

Donald C. Cook Nuclear Plant Unit 2
Response to Request for Additional Information Regarding the License Amendment
Request to Revise Technical Specification 3.3.2, Engineered Safety Feature Actuation System
(ESFAS) Instrumentation

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 Unit 2 License Amendment Request Regarding Technical Specification 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation," dated October 19, 2015, Agencywide Documents Access and Management System (ADAMS) Accession No. ML15293A497.
2. E-mail capture from A. W. Dietrich, NRC, to H. L. Kish, I&M, "D.C. Cook Nuclear Plant, Unit 2-SBPB Request for Additional Information Concerning ESFAS LAR (CAC No. MF6984)," dated December 10, 2015, ADAMS Accession No. ML15344A350.

This letter provides Indiana Michigan Power Company's (I&M), licensee for Donald C. Cook Nuclear Plant (CNP) Unit 2, response to the Request for Additional Information (RAI) by the U. S. Nuclear Regulatory Commission (NRC) regarding a license amendment request (LAR) to revise Technical Specification (TS) 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation.

By Reference 1, I&M submitted a request to amend the TSs to CNP Unit 2 Renewed Facility Operating License DPR-74. I&M proposes to modify TS 3.3.2 requirements for the ESFAS instrumentation by adding a new Condition for inoperable required channels for main feedwater pump trips, and by adding a footnote to the Applicable Mode column of TS Table 3.3.2-1 to reflect applicability in Mode 2. By Reference 2, the NRC transmitted an RAI from the Balance of Plant 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 2. Copies of this letter 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.

ADD
NRR

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,



Q: Shane Lies
Site Vice President

TLC/ml

Enclosures:

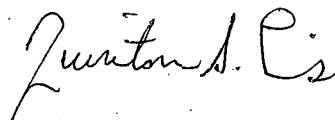
1. Affirmation
 2. Response to Request for Additional Information Regarding the License Amendment Request to Revise Technical Specification 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation
 3. Donald C. Cook Nuclear Plant Unit 2 Technical Specification (TS) Page 3.3.2-3 Marked to Show Proposed Changes TS 3.3.2, ESFAS Instrumentation
- 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-2016-14

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.

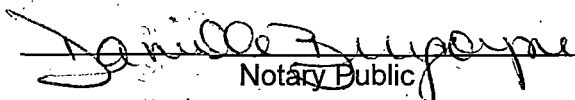
Indiana Michigan Power Company



Q. Shane Lies
Site Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 21 DAY OF January, 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-2016-14

Response to Request for Additional Information Regarding the License Amendment Request to Revise Technical Specification 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation

By letter dated October 19, 2015, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15293A497) (Reference 1), Indiana Michigan Power Company (I&M), the licensee for the Donald C. Cook Nuclear Plant (CNP), Unit 2, submitted a license amendment request (LAR). The proposed amendment would modify Technical Specifications (TS) 3.3.2 requirements for the Engineered Safety Feature Actuation System (ESFAS) instrumentation by adding a new Condition for inoperable required channels for main feedwater (MFW) pump trips, and by adding a footnote to the Applicable Mode column of TS Table 3.3.2-1 to reflect applicability in Mode 2.

The U. S. Nuclear Regulatory Commission (NRC) staff in the Balance of Plant Branch (SBPB) of the Office of Nuclear Reactor Regulation is currently reviewing the submittal 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-SBPB-1

Section 3.1 of the license amendment request (LAR) states that "loss of both anticipatory trip channels does not place the plant in an unanalyzed condition and, therefore, the plant should not be required to enter TS [technical specification] Limiting Condition of Operation (LCO) 3.0.3." The LAR does not explain how starting one main feedwater pump causes a loss of both anticipatory trip channels, nor does it provide the definition of a channel.

- a) *Clarify the above statement, since starting a main feedwater pump results in a loss of only one anticipatory trip channel.*
- b) *Explain the concern regarding being required to enter TS LCO 3.0.3.*
- c) *Define each Engineered Safety Feature Actuation System (ESFAS) Function 6.g channel by identifying associated contacts and relays. Explain whether proposed TS Bases should be clarified regarding the composition of each channel.*

I&M Response to RAI-SBPB-1:

There is only one anticipatory trip channel per MFW pump. Section 3.1 of the LAR describes scenarios in which MFW pumps are started and then subsequently undergo a trip for an unknown reason. Because there is only one channel per MFW pump, starting only one MFW pump does not result in the loss of both anticipatory trip channels. It would result in the loss of only one anticipatory trip channel. Also, the discussion of trip channels is based on the premise that normal plant evolutions such as startup and shutdown should not result in entry into an LCO. The trip channels are needed only to mitigate abnormal events.

- a) In the second paragraph of the Summary in Section 3.1 of the LAR, referenced in RAI-SBPB-1 above, the phrase, "loss of both anticipatory trip channels" refers to loss of the channels for a degraded condition, something other than starting a MFW pump. As shown in Figure 1 of Enclosure 2 to Reference 1, in order for the actuation trains for auxiliary feedwater (AFW) pumps to initiate an automatic start, both MFW pump trip channels must be activated. To clarify the effect that trip channels have on the LCO, Condition H wording will be revised to delete the phrase "or more" along with the "(s)" after channel, so that the new Condition H will read, "One MFW Pump trip channel inoperable." A markup of the revised TS page is provided in Enclosure 3.
- b) Regarding LCO 3.0.3 entry, it has been determined that entry into LCO 3.0.3 would not be required for CNP Unit 2, because there is only one trip channel per pump. With only one trip channel per MFW pump in Unit 2, entry into LCO 3.0.3 for this condition would not be required because each Unit 2 MFW pump is allowed a separate entry into Condition H. In addition, if the loss of both anticipatory trip channels is due to a degraded condition, that should not warrant entry into LCO 3.0.3 because the anticipatory MFW pump trip is not credited in the accident analysis.
- c) A trip channel is considered to be the position indication switch, which closes when the associated MFW pump steam stop valve closes, along with the relay, as shown in Figure 1 of Enclosure 2 in Reference 1. The R_E and R_W relays for the MFW pump trip channels in Unit 2 provide input to the AFW pump actuation train logic as shown in Figure 1 of Enclosure 2 in Reference 1. When the AFW actuation relay for either MFW pump (R_E or R_W) is energized, a signal is sent to the AFW pump actuation logic circuit. The AFW pumps will not start until signals from both MFW pump channels have been received by the AFW pump actuation logic circuit. Consideration will be given to providing additional clarification in the TS Bases regarding the composition of each channel.

RAI-SBPB-2

The LAR states that starting a main feedwater pump makes the associated ESFAS Function 6.g channel inoperable until it is supplying feedwater to the steam generators. The LAR proposes adding new Condition H and Note H.1. Note H.1 allows one ESFAS Function 6.g channel on one main feedwater pump to be inoperable for 4 hours.

Proposed Note H.1 becomes pertinent after entering Condition H. The value and purpose of Note H.1 is questionable because the proposed Condition H already provides for the channel to be inoperable for up to 48 hours. The purpose of Condition H is also questionable because Condition B already allows one channel to be inoperable for 48 hours.

- a) *Explain the intended purpose of the proposed TS changes.*
- b) *Explain how the proposed TS changes accomplish the intended purpose. Alternatively, revise the proposed TS changes.*

I&M Response to RAI-SBPB-2:

Proposed Note H.1 states that one MFW pump may be inoperable for up to 4 hours during the process of removing the pump from service or placing the pump in service. This provision allows pump startup and shutdown to occur when the MFW pump is reset and not capable of feeding the steam generators, without requiring entry into the Required Action for Condition H.1.

- a) This change is being proposed for two reasons: First, as discussed in Reference 1, this change is proposed to provide consistency in format and function between the Unit 1 and Unit 2 TS. Second, as discussed in Section 3.4 of Reference 1, the Note for H.1 is proposed to prevent unnecessary entry into LCO applicability for normal operational occurrences, such as startup and shutdown of a MFW pump.
- b) Even though the proposed new Condition H is similar in function to the existing Condition B, the addition of the new Condition H will create consistency with the format of Unit 1 TS, for which this change has already been approved. In addition, the proposed Note to Required Action H.1 will prevent entry into Condition H while placing the MFW system into service or removing it from service, which are evolutions that typically should not require entry into an LCO Condition.

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 Unit 2 License Amendment Request Regarding Technical Specification 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation," dated October 19, 2015, Agencywide Documents Access and Management System (ADAMS) Accession No. ML15293A497.

Enclosure 3 to AEP-NRC-2016-14

DONALD C. COOK NUCLEAR PLANT UNIT 2 TECHNICAL SPECIFICATION (TS)

PAGE 3.3.2-3 MARKED TO SHOW PROPOSED CHANGES

TS 3.3.2, ESFAS Instrumentation

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>H. One Main Feedwater Pump trip channel inoperable.</p>	<p>H.1 -----NOTE----- One channel on one MFW pump may be inoperable for up to 4 hours during the process of removing the pump from service or placing the pump in service.</p> <hr/> <p>Restore channel to OPERABLE status.</p>	<p>48 hours</p>
<p>H. Required Action and associated Completion Time of Condition B not met for Function 6.g.</p> <p>OR</p> <p>Required Action and associated Completion Time of Condition D not met for Function 6.f.</p>	<p>H.1 Be in MODE 3.</p>	<p>6 hours</p>