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AEP-NRC-2018-81
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Docket No.: 50-315

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

Donald C. Cook Nuclear Plant Unit 1
Supplement to Response to Request for Additional Information Regarding License Amendment Request for Approval of Application of Proprietary Leak-Before-Break Methodology for Reactor Coolant System Small Diameter Piping

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 1, Request for Approval of Application of Proprietary Leak-Before-Break Methodology for Reactor Coolant System Small Diameter Piping," dated March 7, 2018, Agencywide Documents Access and Management System Accession (ADAMS) No. ML18072A012.

2. E-mail from A. W. Dietrich, NRC, to H. L. Levendosky, I&M, "D. C. Cook Unit No. 1 – RAI for Leak-Before-Break LAR (EPID L-2018-LLA-0054)," dated September 14, 2018.

3. Letter from Q. S. Lies, I&M, to NRC, "Donald C. Cook Nuclear Plant, Unit 1, Response to Request for Additional Information Regarding License Amendment Request for Approval of Application of Proprietary Leak-Before-Break Methodology for Reactor Coolant System Small Diameter Piping," dated September 27, 2018, Agencywide Documents Access and Management System Accession (ADAMS) No. ML18274A093.

This letter provides Indiana Michigan Power Company's (I&M), licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1, supplement to the response to the Request for Additional Information (RAI) by the U. S. Nuclear Regulatory Commission (NRC) concerning the License Amendment Request (LAR) for an amendment to Technical Specifications for CNP, Unit 1.

By Reference 1, I&M submitted the LAR for Approval of Application of Proprietary Leak-Before-Break Methodology for Reactor Coolant System Small Diameter Piping in Unit 1. By Reference 2, the NRC transmitted an RAI (RAI-7) concerning the LAR submitted by I&M in Reference 1. By Reference 3, I&M submitted a response to the RAI (RAI-7) in Reference 2. On November 1, 2018, a conference call was held between representatives from I&M and the NRC. During that conference call it was determined that further clarification was needed for I&M's response to the RAI (RAI-7) in Reference 2.

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Enclosure 1 to this letter provides an affirmation statement. I&M is providing Enclosure 2 to this letter as its supplement to the response to the NRC's RAI (RAI-7) from Reference 2.

There are no 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,

Q. Shane Lies
Site Vice President

JMT/mll

Enclosures:

1. Affirmation
2. Supplement to Response to Request for Additional Information Regarding License Amendment Request for Application of Leak-Before-Break Evaluations for Accumulator, Safety Injection, and Residual Heat Removal Piping (RAI-7)

c: R. J. Ancona – MPSC
R. F. Kuntz, 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-2018-81

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 27 DAY OF November, 2018

Notary Public

My Commission Expires 01/21/2025

Enclosure 2 to AEP-NRC-2018-81

Supplement to Response to Request for Additional Information Regarding License Amendment Request for Application of Leak-Before-Break Evaluations for Accumulator, Safety Injection, and Residual Heat Removal Piping (RAI-7)

The U. S. Nuclear Regulatory Commission (NRC) staff is reviewing the Indiana Michigan Power Company (I&M), the Licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1, License Amendment Request (LAR) application dated March 7, 2018, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18072A012). The LAR would allow for the application of Leak-Before-Break (LBB) evaluations for accumulator piping, Safety Injection (SI) piping, and Residual Heat Removal (RHR) piping at CNP, Unit No. 1. The NRC staff has determined that additional information is necessary in order to complete its review.

By electronic mail dated September 14, 2018, the NRC transmitted a Request for Additional Information (RAI) (RAI-7) regarding the March 7, 2018, LAR. I&M provided a response to this request in a letter dated September 27, 2018, (ADAMS Accession No. ML18274A093).

On November 1, 2018, a conference call was held between representatives from I&M and the NRC. During that conference call it was determined that further clarification was needed for I&M's response to the RAI (RAI-7). The text of the RAI (RAI-7) and I&M's response is provided below.

RAI-7

The regulatory guidelines in Regulatory Guide 1.45, "Guidance on Monitoring and Responding to Reactor Coolant System Leakage" (ADAMS Accession No. ML073200271) states that "all monitoring systems referenced in the technical specifications should respond to a leakage increase of 1 [gallon per minute (gpm)] (3.8 [liters per minute]) in 1 hour or less."

In its application, the licensee stated, "A CNP leakage detection capability calculation demonstrates the 0.8 gpm leak detection capability is valid for leaks in the Accumulator, RHR, and SI piping. As such, the 0.8 gpm leak detection capability is the basis for LBB evaluation of the Accumulator, RHR, and SI lines with no response time assumed."

The NRC staff considers response time to include both transport response time and detector response time. The application is not clear what is meant by "no response time assumed."

Clarify the assumption of "no response time assumed" in the calculation described above, and its effect on the calculation results and acceptability.

Supplement to I&M Response to RAI-7

The assumption of "no response time assumed" is not related to the leakage detection capability calculation. The statement above was taken from Section 2.2 of Enclosure 2 of the LAR. The section has been rewritten and clarified to read as follows:

2.2 Current Technical Specifications Requirements

A reliable leak detection system is required for application of the LBB methodology. This reliability is necessary to monitor initiation of a leak in the reactor coolant pressure boundary so that appropriate actions can be taken to place the plant in a safe condition.

At CNP, the TS for Unit 1 requires that the reactor coolant leakage detection system be operable in operating Modes 1 through 4. Per the current Unit 1 TS Bases, the particulate containment atmosphere radioactivity monitor is OPERABLE when it is capable of detecting a 0.8 gpm increase in unidentified LEAKAGE within 1 hour given an RCS activity equivalent to that assumed in the design calculations for the monitors. The gaseous containment atmosphere radioactivity monitor is OPERABLE when it is capable of detecting a 1 gpm increase in unidentified LEAKAGE within 4 hours given an RCS activity equivalent to that assumed in the design calculations for the monitors.

The CNP reactor coolant leakage detection system is consistent with the intent of the regulatory position in Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," (Reference 5) in that it is capable of detecting a 1 gpm leak in 1 hour. This exceeds the criterion of 1.0 gpm detection within 4 hours, stated in Generic Letter 84-04 (Reference 3) and NUREG 1061, Volume 3, Section 5.7(b) (Reference 4) as being acceptable for applying the LBB methodology.

Furthermore, the application of LBB has been previously evaluated for the pressurizer surge line at CNP Unit 1. The basis for the surge line LBB evaluation considered a leak detection rate of 0.8 gpm, below the 1.0 gpm leak detection capability criterion (References 3, 4, and 5). The NRC approval for implementation of the surge line LBB was predicated on demonstration that the CNP leakage detection systems are capable of reliably detecting 0.8 gpm of primary coolant leakage. The Safety Evaluation Report for the surge line LBB (Reference 6) documents that the 0.8 gpm leakage detection capability was adequately justified. A CNP leakage detection capability calculation demonstrates the capability to detect a 0.8 gpm RCS leak within one hour is valid for leaks in the Accumulator, RHR, and SI piping. As such, the capability to detect a 0.8 gpm RCS leak within one hour is the basis for LBB evaluation. The technical evaluations of LBB for the Accumulator, RHR, and SI lines are not dependent on the specific response times of the credited leak detection systems.