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July 9, 2020

AEP-NRC-2020-50
10 CFR 50.90

Docket No.: 50-315

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

Donald C. Cook Nuclear Plant Unit 1
Response to Request for Additional Information Regarding License Amendment Request for
One-Time Extension of the Containment Type A Leak Rate Testing Frequency

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, License Amendment Request for One-Time Extension of the Containment Type A Leak Rate Testing Frequency," dated June 8, 2020, Agencywide Documents Access and Management System Accession (ADAMS) No. ML20164A044.
2. E-mail from S. P. Wall, NRC, to M. K. Scarpello, I&M, "D.C. Cook 1 - One-Time Extension, Containment Type A ILRT Frequency (EPID: L-2020-LLA-0126)," dated June 29, 2020.

This letter provides Indiana Michigan Power Company's (I&M), licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1, response to the Request for Additional Information (RAI) by the U. S. Nuclear Regulatory Commission (NRC) regarding a license amendment request (LAR) for a one-time extension to the 15-year frequency of the CNP Unit 1 containment leakage rate test (i.e. Integrated Leak Rate Test (ILRT) or Type A test). This test is required by Technical Specification (TS) 5.5.14, Containment Leakage Rate Testing Program.

By Reference 1, I&M submitted a request for a one-time extension to the 15-year frequency of the CNP Unit 1 Containment Type A test. By Reference 2, the NRC submitted an RAI concerning the LAR submitted by I&M as Reference 1.

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

ADD
NRC

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

BMC/ml

Enclosures:

1. Affirmation
2. Response to Request for Additional Information Regarding Unit 1 Request for One-Time Extension of the Containment Type A Leak Rate Testing Frequency

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

Enclosure 1 to AEP-NRC-2020-50

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 9 DAY OF July 2020


Notary Public

My Commission Expires 01/21/2025

Enclosure 2 to AEP-NRC-2020-50

Response to Request for Additional Information Regarding Unit 1 Request for One-Time Extension of the Containment Type A Leak Rate Testing Frequency

By letter dated June 8, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20164A044), Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1, submitted a license amendment request (LAR) for a one-time extension to the 15-year frequency of the CNP Unit 1 containment leakage rate test (i.e. Integrated Leak Rate Test (ILRT) or Type A test) (Reference 1). This test is required by Technical Specification (TS) 5.5.14, Containment Leakage Rate Testing Program.

The U. S. Nuclear Regulatory Commission (NRC) staff is currently reviewing the submittal and has determined that additional information is needed in order to complete the review. The request for additional information (RAI) and I&M's response are provided below.

RAI-SCP-B-01

Section 4.2, "Integrated Leak Rate History" of Enclosure 2 to the LAR states the following:

Previous CNP Unit 1 ILRT results have confirmed that the containment is acceptable, with considerable margin, with respect to the TS acceptance criterion of 0.25% leakage of containment air weight per day at the design basis loss of coolant accident pressure. Since the last three Type A test results meet the performance leakage rate criteria from NEI 94-01, Revision 3-A ["Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," dated July 31, 2012 (ADAMS Accession No. ML12221A202)], a test frequency of 15 years would be acceptable.

It should be noted that Amendment 332 to CNP Unit 1 TS, issued in October 2016 [Letter from A. W. Dietrich, NRG, to J. P. Gebbie, Indiana Michigan Power Company, Donald C. Cook Nuclear Plant, Units 1 and 2 - Issuance of Amendments Re: Adoption of TSTF-490, Rev. 0, "Deletion of E-Bar Definition and Revision to Reactor Coolant System Specific Activity Technical Specification" and Implementation of Full-Scope Alternative Source Term (CAC Nos. MF5184 and MF5185), dated October 20, 2016 (ADAMS Accession No. ML16242A111)], changed the value of the allowable leakage rate (La) from 0.25% of containment air weight per day to 0.18% of containment air weight per day. When implementing the TS change into the ILRT procedure and the calculation of La, a more conservative value for containment free volume was also used, resulting in a change of La from 110,219 standard cubic centimeters per minute (sccm) to 68,559 sccm in March of 2017. However, even comparing the past ILRT leakage to the newer, more stringent value of La shows significant margin.

Enclosure 2 to the LAR provides Unit 1 ILRT results for Type A tests done in June 1989, October 1992, and November 2006 as 0.419, 0.044, and 0.336 of La which were modified as 0.582, 0.061, and 0.467 of new La, respectively established in March of 2017. The staff notes that the modified results reflect correction for La from 0.25% of containment air weight per day to 0.18% of containment air weight per day but not the change in containment free volume. Considering both La and containment free volume changes, the staff calculated modified test results of 0.674, 0.071, and

0.540 of new La, respectively established in March of 2017, which are higher than the values provided in the LAR.

- (1) Please clarify the modified Unit 1 ILRT Type A test results as a fraction of the new La provided in the LAR. The updated results and values shall be part of the basis in the NRC staff's safety evaluation for the license amendment request.

I&M Response to RAI-SCP-B-01

As shown in the table depicting Unit 1 ILRT results for the Type A test on Page 7 of Enclosure 2 of the LAR (Reference 1), the performance criterion consists of the mass point Upper Confidence Limit (UCL) leakage with penalties. The ILRT computer program software calculated UCL as a percentage of the air mass in containment at the start of the ILRT. Changing the volume (1,234,800 cubic feet to 1,066,400 cubic feet) would not change the result of the test, provided volume fractions are not changed (volume fractions were not changed in this calculation). The UCL makes up the majority of the overall ILRT results. Since the UCL is based on containment mass during the test, it is considered that adjusting for the reduced La percentage (0.25/0.18) provided more precision than adding the additional penalty for a reduction in containment free volume made in the La calculation.

The ILRT calculated penalties, however, do use the La value and would be increased by the reduction in containment free volume in the calculation of La. As an example, recalculating the penalties for the 2006 ILRT would bring the final result to 0.0865 weight percent (wt %) / day, which is 0.4806 of La (0.0865 / 0.18). The similar methodology used in the LAR (Reference 1) produced a result of 0.467 of La. The verification methodology employed by the NRC produced a result of 0.540 of La for the 2006 ILRT. The (0.25 / 0.18) multiplication factor produces a fairly precise value for comparison purposes, but the (110,219 / 68,559) multiplication factor used to produce the La values in the RAI is conservative and bounds the results with the same conclusion that La acceptance criteria would have been met with the lower 0.18 wt % / day even using the reduced containment free volume value.

Due to the (110,291 / 68,559) multiplication factor method being straightforward, conservative, and still demonstrating significant margin when comparing past ILRT leakage to the new value of La, I&M is replacing the table on Page 7 of Enclosure 2 of Reference 1, in its entirety, with the revised table below:

Unit 1 ILRT Results (Type A Test)			
Test Date	Performance Criterion		Acceptance Limit*
June 1989	Mass point Upper Confidence Limit (UCL) leakage with penalties:	0.419 of La 0.674 of new La**	1.0 La
October 1992	Mass point UCL leakage with penalties:	0.044 of La 0.071 of new La**	1.0 La
November 2006	Mass point UCL leakage with penalties:	0.336 of La 0.540 of new La**	1.0 La

* The total allowable "as-left" leakage is 0.75 La

** The new La, established in March 2017, is 68,559 sccm, compared to the La in use at the time of the test, which was 110,219 sccm

References:

1. Letter from Q. S. Lies, Indiana Michigan Power Company, to U.S. Nuclear Regulatory Commission, "Donald C. Cook Nuclear Plant, Unit 1, License Amendment Request for One-Time Extension of the Containment Type A Leak Rate Testing Frequency," dated June 8, 2020, Agencywide Documents Access and Management System Accession No. ML20164A044.