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AEP-NRC-2014-73
10 CFR 50.90

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
Response to a Request for Additional Information Regarding the License Amendment Request to Revise Technical Specification 5.5.14, "Containment Leakage Rate Testing Program," to use NEI-94-01, Revision 3-A as Regulatory Guidance Versus the Current NEI 94-01, Revision 0

References:

1. 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 Revise Technical Specification 5.5.14, "Containment Leakage Rate Testing Program," AEP-NRC-2014-09, dated March 7, 2014, Agencywide Documents Access and Management System Accession No. ML14071A435.

2. Email from T. A. Beltz, NRC, to H. L. Etheridge, I&M, "Draft Requests for Additional Information Mechanical & Civil Engineering Branch of the Office of Nuclear Reactor Regulation Regarding a License Amendment Request for the Donald C. Cook Nuclear Plant, Units 1 and 2, to Revise Technical Specification Section 5.5.14. "Containment Leakage Rate Testing Program" Indiana Michigan Power Company Docket Nos. 50-315 and 50-316 (TAC Nos. MF3568 and MF3569)," dated August 25, 2014.

3. Email from T. A. Beltz, NRC, to H. L. Etheridge, I&M, "Draft Requests for Additional Information Mechanical & Civil Engineering Branch of the Office of Nuclear Reactor Regulation Regarding a License Amendment Request for the Donald C. Cook Nuclear Plant, Units 1 and 2, to Revise Technical Specification Section 5.5.14. "Containment Leakage Rate Testing Program" Indiana Michigan Power Company Docket Nos. 50-315 and 50-316 (TAC Nos. MF3568 and MF3569)," dated August 26, 2014.

This letter provides Indiana Michigan Power Company's (I&M), the licensee for Donald C. Cook Nuclear Plant Units 1 and 2, response to Requests for Additional Information (RAI) by the U. S. Nuclear Regulatory Commission (NRC) regarding a license amendment request to change Technical Specification (TS) Section 5.5.14, "Containment Leakage Rate Testing Program."

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By Reference 1, I&M submitted a request to amend the TS to Facility Operating Licenses DPR-58 and DPR-74. I&M proposes to change TS 5.5.14, "Containment Leakage Rate Testing Program," to use Nuclear Energy Institute (NEI) 94-01, Revision 3-A as regulatory guidance versus the current NEI 94-01, Revision 0. By Reference 2, the NRC transmitted RAIs (RAI-EMCB-1,-2,-3, and -4) regarding the proposed amendment. By Reference 3, the NRC transmitted an additional RAI (RAI-SCVB-1) regarding the proposed amendment. This letter provides I&M's response to References 2 and 3. Enclosure 1 to this letter provides an affirmation statement. Enclosures 2 and 3 to this letter provide I&M's response to the NRC's RAIs contained in References 2 and 3, respectively. Enclosures 4 and 5 are marked up copies of the applicable Unit 1 and Unit 2 TS pages, respectively, provided for information purposes. Enclosure 6 contains a new regulatory commitment associated with this RAI response.

Copies of this letter and its enclosures 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. Should you have any questions, please contact Mr. Michael K. Scarpello, Regulatory Affairs Manager, at (269) 466-2649.

Sincerely,

Joel P. Gebbie
Site Vice President

JMT/amp

Enclosures:
1. Affirmation
2. Responses to Request for Additional Information Regarding Technical Specification Section 5.5.14, "Containment Leakage Rate Testing Program" (RAI-EMCB-1, -2, -3, and -4)
3. Responses to Request for Additional Information Regarding Technical Specification Section 5.5.14, "Containment Leakage Rate Testing Program" (RAI-SCVB-1)
4. Donald C. Cook Nuclear Plant Unit 1 Technical Specification Page Marked To Show Proposed Changes
5. Donald C. Cook Nuclear Plant Unit 2 Technical Specification Page Marked To Show Proposed Changes
6. Regulatory Commitment

c: M. L. Chawla, NRC Washington, D.C.
J. T. King, MPSC
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-2014-73

AFFIRMATION

I, Joel P. Gebbie, being duly sworn, state that I am 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

Joel P. Gebbie
Site Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 30 DAY OF September, 2014

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-2014-73

Responses to Request for Additional Information Regarding Technical Specification Section 5.5.14, "Containment Leakage Rate Testing Program" (RAI-EMCB-1, -2, -3, and -4)

By letter dated March 7, 2014 (Agencywide Documents Access and Management System Accession No. ML14071A435), Indiana Michigan Power Company's (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Units 1 and 2 submitted a license amendment request (LAR) to revise CNP Technical Specifications Section 5.5.14 "Containment Leakage Rate Testing Program," to use Nuclear Energy Institute (NEI) 94-01, Revision 3-A as regulatory guidance versus the current NEI 94-01, Revision 0. Specifically, the proposed amendment would allow the next containment integrated leak rate testing (ILRT) to be performed within 15 years from the last ILRT, as opposed to the current 10-year interval, and would allow successive ILRTs to be performed at 15-year intervals. Additionally, the proposed amendment would revise the maximum interval for the performance of Type C local leakage rate tests to a 75-month interval.

The U. S. Nuclear Regulatory Commission (NRC) staff in the Mechanical & Civil Engineering Branch (EMCB) of the Office of Nuclear Reactor Regulation has determined that the additional information requested below is needed to complete its review. By electronic mail dated August 25, 2014, the NRC transmitted a request for additional information (RAI) regarding the March 7, 2014, LAR. The text of the RAIs and I&M's responses are provided below.

MECHANICAL & CIVIL ENGINEERING BRANCH (EMCB)

RAI-EMCB-1

The licensee states in its LAR that in the second 10-year interval, which commenced March 1, 2010, a glycol pipe penetration in CNP Unit 1 had a large amount of wet discoloration due to condensation below the insulated piping. It was also noted in the LAR that this area has been classified as an augmented examination per Category E-C for continued monitoring with a VT-1 visual examination during successive inspection periods.

Please provide and discuss the results of examinations related to this condition that have been completed during the second 10-year containment in-service inspection program.

Response to RAI-EMCB-1

The piping insulation was removed to expose the face of the penetration for a VT-1 (detailed) visual examination. The penetration had minor pitting of .03125 inch (") (1/32") and a .0625" (1/16") pit was found on the weld pressurization channel (non-safety related). The two pits did not impact the structural integrity of the penetration.

Additional examinations will be performed during CNP's U1C26 refueling outage. Enclosure 6 to this letter contains a commitment to the NRC to provide results of this examination to the NRC by December 19, 2014.

RAI-EMCB-2

At CNP Units 1 and 2, are bellows used on penetrations through primary containment pressure-retaining boundaries?

If the bellows are pressure-retaining boundaries, then please provide information on their location, inspection, testing, and operating experience with regard to detection of leakage through the penetration bellows.

Response to RAI-EMCB-2

There are no bellows used on penetrations as primary containment pressure-retaining boundaries at CNP.

RAI-EMCB-3

Please discuss the highlights of findings from recent inspections from the CNP Units 1 and 2 containment coating inspection program, and any actions taken to disposition them.

Response to RAI-EMCB-3

Inspection of the containment liner, for the purposes of maintaining the leak tightness or structural integrity of the liner, is under the purview of the International Welding Engineer examinations done per the Containment Inservice Inspection Program. The highlights of this inspection have been included in AEP-NRC-2014-09, "Donald C. Cook Nuclear Plant Units 1 and 2, License Amendment Request to Revise Technical Specification Section 5.5.14, "Containment Leakage Rate Testing Program." dated March 7, 2014," and consisted of some flaking and discoloration of coatings, and some surface corrosion and minor pitting which did not impact the leak tightness or structural integrity of the containment boundary.

The Coatings Program at CNP, with regards to the containment liner, mainly concerns itself with the condition of the coatings on the liner. All instances of degraded coatings in containment are either scraped or tracked (depending on accessibility), and actions are initiated to restore coated surfaces based on what areas are accessible, how widespread the coating degradation is, long term plans for equipment, etc. At this time, there are no actions to specifically recoat the containment liner as part of the Coatings Program.

RAI-EMCB-4

Please discuss NRC Information Notice 2014-07, "Degradation of Leak-Chase Channel Systems for Floor Welds of Metal Containment Shell and Concrete Containment Metallic Liner," as it may apply to CNP Units 1 and 2.

If applicable, discuss the operating experience, inspection results, and any corrective actions taken.

Response to RAI-EMCB-4

CNP Containment Penetration and Weld Channel Pressurization (CPWCP) system piping design and operating configuration does not make it vulnerable to allow moisture to reach the liner. CNP CPWCP system lines are on manifolds and not below floor level with covers as presented in the three plant examples from NRC Information Notice 2014-07, "Degradation of Leak-Chase Channel Systems for Floor Welds of Metal Containment Shell and Concrete Containment Metallic Liner." The CPWCP system piping is opened only during the ILRT to allow Containment atmosphere to reach all areas of our liner. CPWCP system piping is capped and closed (normal configuration) between tests to prevent atmospheric moisture intrusion into the piping.

Enclosure 3 to AEP-NRC-2014-73

Responses to Request for Additional Information Regarding Technical Specification Section 5.5.14, "Containment Leakage Rate Testing Program" (RAI-SCVB-1)

By letter dated March 7, 2014 (Agencywide Documents Access and Management System Accession No. ML14071A435), Indiana Michigan Power Company's (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Units 1 and 2 submitted a license amendment request (LAR) to revise CNP Technical Specifications (TS) Section 5.5.14, "Containment Leakage Rate Testing Program," to use Nuclear Energy Institute (NEI) 94-01, Revision 3-A as regulatory guidance versus the current NEI 94-01, Revision 0. Specifically, the proposed amendment would allow the next containment integrated leak rate testing (ILRT) to be performed within 15 years from the last ILRT, as opposed to the current 10-year interval, and would allow successive ILRTs to be performed at 15-year intervals. Additionally, the proposed amendment would revise the maximum interval for the performance of Type C local leakage rate tests to a 75-month interval.

The NRC staff in the Containment and Ventilation Branch (SCVB) of the Office of Nuclear Reactor Regulation has determined that the additional information requested below is needed to complete its review. By electronic mail dated August 26, 2014, the NRC transmitted a request for additional information (RAI) regarding the March 7, 2014, LAR. The text of the RAI and I&M's response are provided below.

CONTAINMENT AND VENTILATION BRANCH (SCVB)

RAI-SCVB-1

10 CFR 50 Appendix J, Option B Implementation item #3 states that:

The regulatory guide or other implementation document used by a licensee or applicant for an operating license under this part or a combined license under part 52 of this chapter to develop a performance-based leakage-testing program must be included, by general reference, in the plant technical specifications.

In your March 7, 2014, application, Enclosures 4 and 5 (markup of the Technical Specifications include reference to NEI 94-01, Revision 3-A. However, conditions and limitations contained in NEI 94-01, Revision 2-A, were not incorporated in NEI 94-01, Revision 3-A.

Please explain the reasoning for omitting reference to the Conditions and Limitations in NEI 94-01, Revision 2-A, in "Insert A" of Enclosures 4 and 5.

Response to RAI-SCVB-1

The original proposed change from the March 7, 2014 application is being changed to include the conditions and limitations contained in NEI 94-01, Revision 2-A, which were not incorporated in NEI 94-01, Revision 3-A. The changes to the TS

include references to NEI 94-01, Revision 3-A, as well as conditions and limitations contained in NEI 94-01, Revision 2-A, which were not incorporated in NEI 94-01, Revision 3-A. In the original LAR, dated March 7, 2014, a minor language change was also made to TS 5.5.14 where the word "exemptions" was deleted and the words "NRC Endorsements" were added. This was reflected on the marked up TS pages that were provided in Enclosures 4 and 5 of the original LAR. This change is not desired and has been removed from the proposed marked up TS pages reflecting the requested change.

Enclosure 4 to this letter contains the existing Unit 1 TS Page 5.5-14 marked up to show the proposed changes to TS 5.5.14, "Containment Leakage Rate Testing Program." Enclosure 5 to this letter contains the existing Unit 2 TS Page 5.5-14 marked up to show the proposed changes to TS 5.5.14, "Containment Leakage Rate Testing Program."

Enclosure 4 to AEP-NRC-2014-73

Donald C. Cook Nuclear Plant Unit 1 Technical Specification Page Marked To Show Proposed Changes

5.5 Programs and Manuals

5.5.14 Containment Leakage Rate Testing Program

a. A program shall establish the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in ~~Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September, 1995, as modified by the following exceptions:~~

INSERT A

~~1. The Type A testing Frequency specified in NEI 94-01, Revision 0, Paragraph 9.2.3, as "at least once per 10 years based on acceptable performance history" is modified to be "at least once per 15 years based on acceptable performance history." This change applies only to the interval following the Type A test performed in October 1992.~~

~~2. A one-time exception to the requirement to perform post-modification Type A testing is allowed for the steam generators and associated piping, as components of the containment barrier. For this case, ASME Section XI leak testing will be used to verify the leak tightness of the repaired or modified portions of the containment barrier. Entry into MODES 3 and 4 following the extended outage that commenced in 1997 may be made to perform this testing.~~

INSERT A:

NEI 94-01, Revision 3-A, "Industry Guidelines for Implementing Performance-Based Option of 10 CFR 50, Appendix J," dated July 2012 and Section 4.1, "Limitations and Conditions for NEI TR 94-01, Revision 2" of the NRC Safety Evaluation Report in NEI 94-01 Revision 2A, dated October 2008.

b. The calculated peak containment internal pressure for the design basis loss of coolant accident, P_a, is 12 psig.

c. The maximum allowable containment leakage rate, L_a, at P_a, shall be 0.25% of containment air weight per day.

d. Leakage rate acceptance criteria are:

1. Containment leakage rate acceptance criterion is 1.0 L_a. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the Type B and C tests and $\leq 0.75\ L_a$ for Type A tests.

2. Air lock testing acceptance criterion is overall air lock leakage rate is $\leq 0.05\ L_a$ when tested at $\geq P_a$.

e. The provisions of SR 3.0.3 are applicable to the Containment Leakage Rate Testing Program.

Enclosure 5 to AEP-NRC-2014-73

Donald C. Cook Nuclear Plant Unit 2 Technical Specification Page Marked To Show Proposed Changes

5.5 Programs and Manuals

5.5.14 Containment Leakage Rate Testing Program

a. A program shall establish the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in ~~Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September, 1995, as modified by the following exceptions:~~ **INSERT A**

~~1. The Type A testing Frequency specified in NEI 94-01, Revision 0, Paragraph 9.2.3, as "at least once per 10 years based on acceptable performance history" is modified to be "at least once per 15 years based on acceptable performance history." This change applies only to the interval following the Type A test performed in May 1992.~~

b. The calculated peak containment internal pressure for the design basis loss of coolant accident, P_a, is 12 psig.

c. The maximum allowable containment leakage rate, L_a, at P_a, shall be 0.25% of containment air weight per day.

d. Leakage rate acceptance criteria are:

1. Containment leakage rate acceptance criterion is 1.0 L_a. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the Type B and C tests and $\leq 0.75\ L_a$ for Type A tests.

2. Air lock testing acceptance criterion is overall air lock leakage rate is $\leq 0.05\ L_a$ when tested at $\geq P_a$.

e. The provisions of SR 3.0.3 are applicable to the Containment Leakage Rate Testing Program.

5.5.15 Battery Monitoring and Maintenance Program

This program provides for battery restoration and maintenance, based on the recommendations of IEEE Standard 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," or of the battery manufacturer including the following:

a. Actions to restore battery cells with float voltage < 2.13 V; and

b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the minimum established design limit.

INSERT A:

NEI 94-01, Revision 3-A, "Industry Guidelines for Implementing Performance-Based Option of 10 CFR 50, Appendix J," dated July 2012 and Section 4.1, "Limitations and Conditions for NEI TR 94-01, Revision 2" of the NRC Safety Evaluation Report in NEI 94-01 Revision 2A, dated October 2008.

Enclosure 6 to AEP-NRC-2014-73

REGULATORY COMMITMENT

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.

Commitment	Date
I&M will provide the NRC with the results of examinations related to the condition described in RAI-EMCB-1, which will be performed during Donald C. Cook Nuclear Plant's U1C26 refueling outage.	December 19, 2014