

December 18, 2013

AEP-NRC-2013-94
10 CFR 50.54(f)

Docket Nos.: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
Rockville, Maryland 20852

Donald C. Cook Nuclear Plant Units 1 and 2
FINAL DISPOSITION OF TEMP-MAT FIBROUS INSULATION IN
UNIT 1 AND UNIT 2 CONTAINMENTS

References:

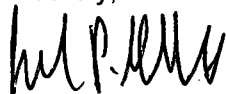
1. Letter from J. P. Gebbie, Indiana Michigan Power Company, to Nuclear Regulatory Commission Document Control Desk, "Disposition of Temp-Mat Fibrous Insulation in Unit 1 and Unit 2 Containments with Respect to Generic Letter 2004-02 Concerns," dated May 19, 2011

This letter describes actions taken by Indiana Michigan Power Company (I&M) to disposition the "Temp-Mat" fibrous insulation that was identified in the Donald C. Cook Nuclear Plant Unit 1 and Unit 2 lower containments.

In Reference 1, I&M made a commitment to submit its plans for the disposition of Temp-Mat insulation. Upon discovery of the Temp-Mat insulation, I&M determined that the insulation had not rendered the Unit 1 or Unit 2 emergency core cooling systems inoperable. I&M has removed all of the Temp-Mat blankets from the Unit 1 lower containment and all of the Temp-Mat blankets from the 17D Zone of Influence (ZOI) in Unit 2 lower containment. Temp-Mat blankets found outside the 17D ZOI in Unit 2 lower containment will be left in place. In addition, the loose Temp-Mat insulation in the lower containment of both units will remain in place. The additional debris represented by the Unit 2 blankets and the loose Temp-Mat insulation has been analyzed to be acceptable.

Details regarding the disposition of the fibrous insulation are documented in Enclosure 2 of this letter. 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,



Joel P. Gebbie
Site Vice President

A001
NRR

TLC/amp

Enclosures:

1. Affirmation
2. Final Disposition of Temp-Mat Fibrous Insulation in Unit 1 and Unit 2 Lower Containments

c: J. T. King - MPSC
S. M. Krawec - Ft. Wayne AEP, w/o attachments
MDEQ - RMD/RPS
NRC Resident Inspector
C. D. Pederson - NRC Region III
T. J. Wengert - NRC Washington DC

ENCLOSURE 1 TO AEP-NRC-2013-94

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 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 18 DAY OF December, 2013


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-2013-94

Final Disposition of Temp-Mat Fibrous Insulation in Unit 1 and Unit 2 Lower Containments

Introduction

In May 2011, Indiana Michigan Power Company (I&M) informed the NRC of the discovery of Temp-Mat fibrous insulation in the lower containments of Donald C. Cook Nuclear Plant (CNP) Units 1 & 2 [Reference 1]. This Temp-Mat insulation was previously not known to exist inside lower containment of either unit, and was therefore, not part of CNP's design basis debris load for Containment Recirculation Sump analyses. The Temp-Mat insulation that was discovered existed as both discrete blankets and as loose pieces which were used to shim the gaps between calcium silicate (Cal-Sil) pieces of insulation. The presence of Temp-Mat insulation in lower containment was limited to the Main Steam and Feedwater lines.

At the time this notification was made to the NRC, all of the Temp-Mat blankets within a 17D Zone of Influence (ZOI) had been removed from CNP Unit 2. Also at that time, two walkdowns had been performed to identify any potential locations of Temp-Mat in Unit 1 lower containment, and the identified potential Temp-Mat blankets were scheduled to be removed during the next refueling outage. Using the operability analyses that had been performed for I&M [References 2 and 3] and guidance from the NRC [Reference 4], I&M decided to defer disposition of the loose Temp-Mat insulation pieces in both units and the Temp-Mat blankets outside the 17D ZOI in Unit 2 until a more well-informed decision could be made. I&M committed to inform the NRC of the final disposition of the remaining Temp-Mat insulation inside the lower containments of CNP Units 1 & 2 [Reference 1].

Disposition of Temp-Mat

All of the identified Temp-Mat blankets were subsequently removed from CNP Unit 1 lower containment [Reference 5].

I&M decided that the final resolution for the remaining Temp-Mat (both loose pieces and blankets) would be to leave it in place and revise the Containment Recirculation Sump analyses to reflect the additional debris load [Reference 5]. The significant amount of radiation exposure that would be required to locate and remove all of the loose Temp-Mat pieces was a consideration in this decision. To evaluate the effect of the additional fibrous material, the determination of the limiting break location was re-performed, and a new break location that generated the largest amount of fibrous debris was postulated. The head loss due to this new, high-fiber break location remained bounded by the existing limiting break location. The loose Temp-Mat insulation was conservatively assumed to exist in addition to the Cal-Sil rather than in place of it (i.e., no reduction in Cal-Sil quantity was credited due to the presence of the Temp-Mat). The increase in head loss across the Containment Recirculation Sump Strainer for the limiting break location due to the additional Temp-Mat was determined to be minor, and remained bounded by the conservatively chosen head loss value credited by I&M.

Conclusion

In summary, the loose Temp-Mat pieces in CNP Units 1 & 2 lower containment and the Temp-Mat blankets outside the 17D ZOI in CNP Unit 2 lower containment will remain in place. Revised analysis demonstrates the acceptability of the additional fibrous debris.

References

1. AEP-NRC-2011-31, Letter from J. P. Gebbie, I&M, to NRC Document Control Desk, "Disposition of Temp-Mat Fibrous Insulation in Unit 1 and Unit 2 Containments with Respect to Generic Letter 2004-02 Concerns," dated May 19, 2011 (ML 11147A072)
2. LTR-1-261-0-8114 Rev. 1, from ALION Science to I&M, "D.C. Cook Unit 1 Additional Containment Fiber Analysis" for Operability Determination, dated November 13, 2010
3. LTR-2-261-0-8114 Rev. 0, from ALION Science to I&M, "D.C. Cook Unit 2 Additional Containment Fiber Analysis" for Operability Determination, dated November 22, 2010
4. Memorandum from A. L. Vietti-Cook, NRC, to R. W. Borchardt, NRC, "Staff Requirements - SECY-10-0113 - Closure Options for Generic Safety Issue - 191, Assessment of Debris Accumulation on Pressurized Water Reactor Sump Performance," dated December 23, 2010 (ML103570354).
5. I&M Action Request 2010-12313, Description of Fibrous Insulation Found by NRC in U2 Containment, discovered November 10, 2010