

May 19, 2011

AEP-NRC-2011-31
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
DISPOSITION OF TEMP-MAT FIBROUS INSULATION IN UNIT 1 AND UNIT 2 CONTAINMENTS
WITH RESPECT TO GENERIC LETTER 2004-02 CONCERNS

This letter describes actions taken and planned by Indiana Michigan Power (I&M) for dispositioning "Temp-Mat" fibrous insulation that was identified in the Donald C. Cook Nuclear Plant (CNP) Unit 1 and Unit 2 lower containments subsequent to I&M's responses to U. S. Nuclear Regulatory Commission (NRC) Generic Letter (GL) 2004-02. 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 a significant portion of this insulation from the Unit 2 lower containment and plans to remove a significant portion of this insulation from the Unit 1 lower containment during the fall 2011 refueling outage. Consistent with anticipated actions by the nuclear power industry and the NRC staff, I&M plans to defer disposition of the remainder of this insulation until an industry path forward regarding potential in-vessel post accident debris effects and risk informed alternatives for addressing GL 2004-02 concerns is formulated and accepted by the NRC staff.

This matter was discussed with members of the NRC staff in a teleconference on April 7, 2011. Details regarding the fibrous insulation, the actions taken and planned by I&M, and an associated regulatory commitment are documented in the attachments to 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

JRW/jmr

A116
NRC

Attachments:

1. Disposition of Additional Fibrous Insulation in Unit 1 and Unit 2 Lower Containments
2. Regulatory Commitment

c: J. T. King, MPSC
S. M. Krawec, Ft. Wayne AEP, w/o attachments
MDEQ – WHMD/RPS
NRC Resident Inspector
M. A. Satorius, NRC Region III
P. S. Tam, NRC, Washington DC

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.

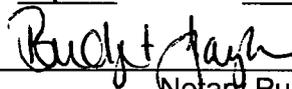
Indiana Michigan Power Company



Joel P. Gebbie
Site Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 19 DAY OF May, 2011



Notary Public

My Commission Expires 6/10/2013

Attachment 1 to AEP-NRC-2011-31

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

The documents referenced in this attachment are identified on page 2 and page 3.

NRC Generic Letter (GL) 2004-02 identified concerns regarding the potential for post-accident debris to impede or prevent the recirculation functions of emergency core cooling and containment spray systems at pressurized water reactors (PWRs). The NRC requested that PWR licensees mechanistically evaluate the potential for this condition at their plants and identify corrective measures. In February 2008, August 2008, and May 2010 (References 1, 2, and 3), I&M provided responses to concerns identified in GL 2004-02. In July 2010 (Reference 4), the NRC staff informed I&M that it had no further question regarding completion of corrective measures for CNP and acknowledged that one remaining issue (potential in-vessel post accident debris effects) would be addressed for CNP following NRC review of WCAP-16793-NP (Reference 5).

In the fall of 2010, "Temp-Mat" fibrous glass insulation was identified on Unit 2 Main Steam and Feedwater systems piping inside the crane wall (i.e., lower containment) while the unit was in a refueling outage. The Temp-Mat insulation was not previously known to exist in the lower containment of either unit, and was, therefore, not included in the fibrous insulation testing and analyses performed in response to GL 2004-02 for CNP. All Temp-Mat blankets inside a conservatively chosen 17D Zone of Influence (ZOI) for a Double-Ended Guillotine Break and for the Debris Generation Break Size in the Unit 2 lower containment were removed and replaced with calcium silicate (Cal-Sil) insulation. Cal-Sil is a non-fibrous insulation and its use in this manner is bounded by the previous CNP analyses performed for GL 2004-02. One location of Temp-Mat blankets was identified outside the 17D ZOI and was left in place on each Unit 2 Main Steam line.

In November 2010 I&M temporarily reduced Unit 1 power to 20% so that walkdowns could be performed to determine the extent of the Temp-Mat within a 17D ZOI in that unit. The walkdowns identified Temp-Mat blankets on Main Steam and Feedwater piping inside the crane wall in locations similar to those in Unit 2. Lower containment walkdowns outside the 17D ZOI performed during an unscheduled Unit 1 outage in March 2011 identified no additional Temp-Mat blankets. All of the identified Temp-Mat blankets in Unit 1 are scheduled to be removed during the fall 2011 refueling outage.

Although all identified Temp-Mat insulation in the form of blankets within a 17D ZOI have been, or are scheduled to be, removed from the Unit 1 and Unit 2 containments, loose pieces (not in blanket form) of Temp-Mat are believed to exist on Main Steam and Feedwater piping inside the crane wall in both units. These loose pieces are believed to be stuffed in circumferential gaps between sections of Cal-Sil insulation. The exact locations of all such loose pieces are not known.

Because the existence of Temp-Mat insulation in the lower containments was not previously known or analyzed, I&M had analyses performed to assess the impact of the as-found Temp-Mat, including potential loose pieces, on emergency core cooling system (ECCS) operability for each unit. These analyses concluded that the Temp-Mat insulation had not rendered the ECCS inoperable.

As described above, I&M has removed, or plans to remove all Temp-Mat insulation in blanket form within a 17D ZOI in the Unit 1 and Unit 2 lower containments. However, for the following reasons, I&M plans to defer disposition of the loose Temp-Mat insulation, and the Temp-Mat blanket outside the 17D ZOI in Unit 2, until an industry path forward regarding in-vessel effects is formulated, and until industry and NRC staff actions regarding alternatives for final resolution of GL 2004-02 concerns are complete.

- In December, 2010, the NRC published a Staff Requirements Memorandum (SRM) (Reference 6) stating that it would be prudent for licensees to defer further GL 2004-02 related plant modification actions (such as fibrous material removal) until industry tests and analyses regarding in-vessel effects are completed and a path forward is formulated regarding in-vessel effects. The SRM stated that the staff anticipated that the path forward would be formulated by mid-year 2012. The SRM further stated that the staff should explore risk informed alternatives to the existing integrated resolution process for concerns regarding sump clogging.
- During the work to remove Temp-Mat blankets in Unit 2, a large portion of the Cal-Sil was found to contain asbestos. It is believed that Unit 1 also contains a large amount of asbestos-containing Cal-Sil. Labor-intensive asbestos abatement procedures would have to be followed at any location where Temp-Mat would be removed adjacent to asbestos-containing Cal-Sil. This would significantly increase the time needed to perform the removal work, which would increase the resultant personnel radiation dose.
- I&M considers that pursuit of an analytical resolution of potential Temp-Mat effects prior to issuance of an NRC Safety Evaluation Report on WCAP-16793 would be premature because such an analysis may be invalidated or require significant revision based on the NRC evaluation.

In a teleconference with NRC staff on April 7, 2011, I&M discussed its plans for disposition of the loose Temp-Mat insulation in the Unit 1 and Unit 2 lower containments. As discussed with the staff, I&M intends to continue monitoring industry and NRC activities, and will submit its evaluation of in-vessel effects and its plans for dispositioning the loose Temp-Mat, and the Temp-Mat blanket outside the 17D ZOI in Unit 2, following issuance of an NRC Safety Evaluation Report on WCAP-16793, and following completion of industry and NRC activities regarding risk informed alternatives to the existing integrated resolution process for concerns regarding sump clogging.

References

- 1) Letter from M. A. Peifer, I&M, to NRC Document Control Desk, "Supplemental Response to Nuclear Regulatory Commission Generic Letter 2004-02: Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," AEP:NRC:8054-02, dated February 29, 2008 (ML080770394, ML080770395, ML080770396, ML080770400, and ML080770404).
- 2) Letter from L. J. Weber, I&M, to NRC Document Control Desk, "Final Response to Nuclear Regulatory Commission Generic Letter 2004-02: Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors

and Associated Request for Additional Information,” dated August 29, 2008 (ML082520025).

- 3) Letter from J. P. Gebbie, I&M, to NRC Document Control Desk, “Updated Final Response to Nuclear Regulatory Commission Generic Letter 2004-02: Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors and a June 2009 Request for Additional Information,” dated May 26, 2010 (ML101540527).
- 4) Letter from P. S. Tam, NRC, L. J. Weber, I&M, Control Desk, “Donald C. Cook Nuclear Plant, Units 1 And 2 (DCCNP 1&2) – NRC Staff Comments on Licensee’s Supplemental Responses to Generic Letter 2004-02 (TAC Nos. MC4679 and MC4680),” dated July 27, 2010 (ML101960128).
- 5) Westinghouse Electric Company LLC report WCAP-16793-NP, “Evaluation of Long-Term Cooling Considering Particulate, Fibrous and Chemical Debris in the Recirculating Fluid,” Revision 1, dated April 2009 (ML091190484).
- 6) 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).

ATTACHMENT 2 TO AEP-NRC-2011-31

REGULATORY COMMITMENT

The following table identifies those actions 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 Nuclear Regulatory Commission (NRC) for the NRC's information and are not regulatory commitments.

Commitment	Date
I&M will submit its evaluation of in-vessel effects and its plans for dispositioning the loose Temp-Mat and the Temp-Mat blanket outside the 17D ZOI in Unit 2.	Following issuance of an NRC Safety Evaluation Report on WCAP-16793, and following completion of industry and NRC activities regarding risk informed alternatives to the existing integrated resolution process for concerns regarding sump clogging.