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January 15, 2010

AEP-NRC-2010-1
10 CFR 50.90

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

SUBJECT: Donald C. Cook Nuclear Plant Unit 1 and Unit 2
Docket Nos. 50-315 and 50-316
Schedule for Submittal of Response to Request for Additional Information
Regarding New Small Break Loss-of-Coolant Accident Analysis for Donald C. Cook
Nuclear Plant Unit 2, and Submittal of New Unit 1 and Unit 2 SBLOCA Analyses
(TAC No. ME1147)

Dear Sir or Madam:

This letter informs the U. S. Nuclear Regulatory Commission (NRC) of the date by which Indiana Michigan Power Company (I&M) will provide a schedule for submittal of the resolution of an issue affecting the Unit 1 and Unit 2 Small Break Loss-of-Coolant Accident (SBLOCA) analyses. This letter also informs the NRC that, following submittal of the resolution of that issue, I&M will coordinate with the NRC staff to establish which questions from a Request for Additional Information (RAI) regarding the Unit 2 SBLOCA analysis remain applicable, and establish a schedule for submittal of responses to the RAI questions that remain applicable.

Background

References for this letter are identified in the enclosure. In 1995 (Reference 1), I&M committed to provide a reanalysis of a Unit 2 SBLOCA pursuant to 10 CFR 50.46(a)(3)(ii). The new analysis was required by 10 CR 50.46(a)(3)(ii) because there were significant changes or errors in the previous analysis of record. In 2004 (Reference 2), I&M revised the committed date for providing the new analysis to be the end of March 2009. The new SBLOCA analysis was performed by Westinghouse Electric Corporation LLC (Westinghouse). In addition to addressing changes and errors in the previous analysis, the new analysis evaluated potential break sizes up to 10 inches (equivalent), while the previous analysis had evaluated breaks sizes no larger than 6 inches.

The new Westinghouse SBLOCA analysis was accepted by I&M on March 20, 2009. Several days before it was to be submitted to the NRC, Westinghouse informed I&M in telephone discussions that the new analysis included an assumption that was inconsistent with the CNP Emergency Operation Procedures (EOPs). The analysis assumed that all Residual Heat Removal (RHR) system flow is directed to the reactor coolant system for the entire duration of the cold leg

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recirculation phase of the event. However, the CNP EOPs contain provisions to realign the RHR pump discharge to provide containment spray under certain conditions. Based on the telephone discussions with Westinghouse, I&M considered the RHR spray issue to be in the discovery stage and the significance of its impact had not been determined. The RHR spray issue was entered in the CNP Corrective Action Program to track further investigation. I&M elected to adopt the new analysis as the CNP Unit 2 SBLOCA analysis-of-record because it addressed the numerous changes and errors in the previous analysis and because the previous analysis did not even evaluate breaks that might be affected by the RHR spray issue. I&M therefore transmitted the new analysis of record, which did not address the RHR spray issue, to the NRC for information pursuant to 10 CFR 50.46(a)(3)(ii) on March 30, 2009 (Reference 3).

In September 2009 (Reference 4), the NRC transmitted an RAI regarding the new Unit 2 SBLOCA analysis transmitted by Reference 3. In subsequent telephone discussions, I&M informed the NRC Licensing Project Manager that the response to the RAI would be submitted by mid-January 2010.

In October 2009, Westinghouse documented the RHR spray issue and its potential impact on CNP and several other nuclear plants via a Nuclear Safety Advisory Letter (NSAL) transmitted to I&M by Reference 5. As documented in the NSAL, preliminary calculations for CNP showed that, for break size equivalent to an accumulator line inner diameter of approximately 8.75 inches, the peak cladding temperature and maximum local oxidation would be significantly increased by diversion of the RHR flow to containment spray. However, the NSAL also documented that a Westinghouse evaluation of the safety significance of the RHR spray issue determined that, by removing known conservatisms in assumed plant operating conditions (e.g., core peaking factors, safety injection pump performance, containment spray modeling during the injection phase, etc.) and in the NOTRUMP SBLOCA evaluation model, the 10 CFR 50.46 acceptance criteria would not be violated. Therefore, although full compliance with the 10 CFR 50.46 regulations has not yet been demonstrated, Westinghouse concluded that there is no safety concern resulting from a postulated SBLOCA event. Note that the RHR spray issue and the Westinghouse conclusion that there is no safety concern also apply to the Unit 1 SBLOCA analysis provided to the NRC by References 6 through 9, and reviewed by the NRC as documented in Reference 10.

Schedule

Additional evaluations will be performed by Westinghouse to achieve final quantification of the impact of the RHR spray flow issue on the Unit 1 and Unit 2 SBLOCA analyses. The results of these evaluations will likely affect a significant portion of the additional information requested by the NRC for the Unit 2 SBLOCA analysis. I&M therefore plans to defer submitting a response to the RAI transmitted by Reference 4 until Westinghouse has completed the evaluations and the results have been reviewed and accepted by I&M personnel. The schedule for completion of the Westinghouse evaluations and I&M acceptance is being established. By March 15, 2010, I&M will provide the NRC with the schedule for submittal of the resolution of the RHR spray issue. Following submittal of the RHR spray issue resolution, I&M will coordinate with the NRC staff to establish which of the RAI questions remain applicable, and establish a schedule for submittal of responses to the applicable RAI questions.

This letter contains no new or modified regulatory commitments. Should you have any questions, please contact Mr. James Petro, Jr., Regulatory Affairs Manager, at (269) 466-2489.

Sincerely,



Raymond A Hruby, Jr.
Vice President - Site Support Services

JRW/rdw

Enclosures:

References:

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

Enclosure to AEP-NRC-2010-1

REFERENCES

- 1) Letter from E. E. Fitzpatrick, Indiana Michigan Power Company (I&M), to Nuclear Regulatory Commission (NRC) Document Control Desk, "Donald C. Cook Nuclear Plant Units 1 and 2, Report of LOCA Evaluation Model Changes," AEP:NRC:1118I, dated March 24, 1995 (ADAMS Accession Number ML021060010).
- 2) Letter from J. N. Jensen, I&M, to NRC Document Control Desk, "10 CFR 50.46 Loss-of-Coolant Accident Reanalysis Schedule," AEP:NRC:4046-01, dated December 28, 2004 (ADAMS Accession Number ML050040216).
- 3) Letter from R. A. Hruby, I&M, to NRC Document Control Desk, "Donald C. Cook Nuclear Plant Unit 2, Small Break Loss-of-Coolant Accident Evaluation Model Reanalysis," AEP-NRC-2009-25, dated March 30, 2009 (ADAMS Accession Number ML091100153).
- 4) Letter from T. A. Beltz, NRC, to J. N. Jensen, I&M, "Donald C. Cook Nuclear Plant, Unit 2, Request for Additional Information Regarding the Small-Break Loss-of-Coolant Accident Evaluation Model Reanalysis (TAC No. ME1147)," dated September 22, 2009 (ADAMS Accession Number ML092610017).
- 5) Letter from D. Beddingfield, Westinghouse Electric Company LLC, to J. N. Jensen, American Electric Power, "NSAL-09-7 - Availability of Residual Heat Removal Flow During Cold Leg Recirculation Phase of Small Break Loss-of-Coolant Accident Analysis," dated October 5, 2009.
- 6) Letter from M. A. Peifer, I&M, to NRC Document Control Desk, "Donald C. Cook Nuclear Plant Unit 1, Small Break Loss-of-Coolant Accident Evaluation Model Reanalysis," AEP:NRC:7046, dated March 29, 2007 (ADAMS Accession Number ML071000431).
- 7) Letter from M. A. Peifer, I&M, to NRC Document Control Desk, "Donald C. Cook Nuclear Plant Unit 1, Docket No. 50-315, Response to Request for Additional Information Regarding the Reanalysis of Unit 1 Small Break Loss-of-Coolant Accident," AEP:NRC:8046, dated February 29, 2008 (ADAMS Accession Number ML080740053).
- 8) Letter from M. A. Peifer, I&M, to NRC Document Control Desk, "Donald C. Cook Nuclear Plant Unit 1, Docket No. 50-315, Completion of Commitment Regarding Small Break Loss-of-Coolant Accident Analysis 8.75-inch Case (TAC No. MD5297)," AEP-NRC-2008-11, dated July 24, 2008 (ADAMS Accession Number ML082170376).
- 9) Letter from J. N. Jensen, I&M, to NRC Document Control Desk, "Donald C. Cook Nuclear Plant Unit 1, Response to Request for Additional Information, Second Round, Regarding Re-analysis of Small-Break Loss-of-Coolant Accident (TAC No. MD5297)," AEP-NRC-2008-52, dated December 16, 2008 (ADAMS Accession Number ML083660104).
- 10) Letter from T. A. Beltz, NRC, to J. N. Jensen, I&M, "Donald C. Cook Nuclear Plant, Unit 1 (CNP-1) - Review of the Small Break Loss-of-Coolant Accident (LOCA) Evaluation Model Reanalysis Submittal (TAC No. MD5297)," dated March 27, 2009 (ADAMS Accession Number ML090780023).