Entergy

Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043

August 10, 2007

10 CFR 50.90

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

Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

Supplement to License Amendment Request: Realistic Large Break Loss-of-Coolant Accident (TAC No. MD3492)

Dear Sir or Madam:

By letter dated November 6, 2006, Nuclear Management Company, LLC (NMC), the former licensee for the Palisades Nuclear Plant (PNP), requested Nuclear Regulatory Commission (NRC) review and approval of a proposed license amendment for the PNP. The proposed license amendment would add EMF-2103(P)(A), "Realistic Large Break LOCA Methodology for Pressurized Water Reactors," as a reference to Technical Specification 5.6.5, "Core Operating Limits Report." EMF-2103(P)(A) is the NRC-approved AREVA NP (AREVA) realistic large break loss-of-coolant accident (RLBLOCA) methodology. A summary report of the RLBLOCA analysis was submitted with the license amendment request (LAR).

In May 2007, AREVA notified Entergy Nuclear Operations, Inc. (ENO) that a discrepancy existed in the RLBLOCA analysis. ENO determined that a supplement to the November 6, 2006, LAR was required, and notified the NRC of the discrepancy by telephone. AREVA issued revision 2 to summary report BAW-2501, "Palisades Nuclear Plant Realistic Large Break LOCA Summary Report." ENO is transmitting proprietary and non-proprietary versions of the report to replace those submitted in the November 6, 2006, LAR.

Enclosure 1 provides an explanation of the discrepancy. Enclosure 2 contains the AREVA proprietary authorization affidavit supporting the PNP-specific RLBLOCA analysis. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in 10 CFR 2.390.

Enclosure 3 provides a proprietary version of BAW-2501, revision 2, for PNP with the proprietary information enclosed in brackets. ENO requests that Enclosure 3 be withheld from public disclosure in accordance with 10 CFR 2.390. Correspondence regarding the proprietary aspects of the items listed above, or the supporting AREVA affidavit, should reference the affidavit and be addressed to Gayle F. Elliott, Manager,

A001
NRR

Product Licensing, AREVA NP, 3315 Old Forest Road, Lynchburg, VA 24501.
Enclosure 3 replaces Enclosure 5 of the November 6, 2006, LAR.

Enclosure 4 contains the non-proprietary version of BAW-2501, revision 2, with the proprietary information deleted. Enclosure 4 replaces Enclosure 6 of the November 6, 2006, LAR.

The revision to the AREVA RLBLOCA analysis does not affect the No Significant Hazards Consideration Determination or the Environmental Review Consideration previously submitted in the November 6, 2006, LAR.

A copy of this supplement has been provided to the designated representative of the State of Michigan.

Summary of Commitments

This letter contains no new commitments and no revision to existing commitments.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 10, 2007.

Christopher J. Schwarz
Site Vice President
Palisades Nuclear Plant

Enclosures (4)

CC Administrator, Region III, USNRC
Project Manager, Palisades, USNRC
Resident Inspector, Palisades, USNRC

ENCLOSURE 1
DESCRIPTION OF DISCREPANCY IN AREVA REALISTIC LARGE BREAK LOSS-OF-COOLANT ACCIDENT FOR PALISADES

By letter dated November 6, 2006, Nuclear Management Company, LLC (NMC), the former licensee for the Palisades Nuclear Plant (PNP), requested Nuclear Regulatory Commission (NRC) review and approval of a proposed license amendment for the PNP. The proposed license amendment would add EMF-2103(P)(A), "Realistic Large Break LOCA Methodology for Pressurized Water Reactors," as a reference to Technical Specification 5.6.5, "Core Operating Limits Report." EMF-2103(P)(A) is the NRC-approved AREVA NP (AREVA) realistic large break loss-of-coolant accident (RLBLOCA) methodology. A summary report of the RLBLOCA analysis was submitted with the license amendment request (LAR).

Subsequent to the submittal, AREVA notified Entergy Nuclear Operations, Inc. (ENO) that a discrepancy existed in the RLBLOCA analysis. ENO determined that a supplement to the November 6, 2006, LAR was required, and notified the NRC of the discrepancy by telephone. AREVA issued revision 2 to summary report BAW-2501, "Palisades Nuclear Plant Realistic Large Break LOCA Summary Report." ENO is transmitting proprietary and non-proprietary versions of the report to replace those submitted in the November 6, 2006, LAR.

Description of Discrepancy

BAW-2501(P), revision 1, describes the RLBLOCA analysis that was performed for PNP. That report was submitted with the November 6, 2006, LAR. BAW-2501(P) was based upon AREVA document EMF-2103(P), "Realistic Large Break LOCA Methodology for Pressurized Water Reactors," revision 0. The NRC approved EMF-2103(P) via a letter dated April 9, 2003 (ADAMS Ascension #ML030760312). One of the conditions and limitations in the safety evaluation is the following:

> The model is valid as long as blowdown quench does not occur. If blowdown quench occurs, additional justification for the blowdown heat transfer model and uncertainty are needed if the calculation is corrected. A blowdown quench is characterized by a temperature reduction of the peak clad temperature (PCT) node to saturation temperature during the blowdown period.

A recent AREVA RLBLOCA analysis for another plant contained some cases that exhibited a blowdown quench. This discovery led to an evaluation to assess if previous analyses for other plants were being adequately checked with regard to meeting this condition. AREVA determined that some low PCT ranking cases at various plants exhibited characteristics that were consistent with a blowdown quench, but were not captured in the documentation supporting the calculation.

AREVA reviewed previous analyses performed, including PNP's analysis. During this review, AREVA determined that the maximum number of low PCT cases that exhibited

a blowdown quench was two cases out of a total of 59 cases. The cases with a blowdown quench contained smaller size breaks with a PCT at the lower end of the case set range. The limiting case in the analyses is the high PCT case. The difference in PCT between the limiting case and any case that showed a blowdown quench was over 600°F. The cases that demonstrated blowdown quench were consistent with other smaller break cases, such that the liquid inventory in the core remained at higher values than the limiting case.

Review of the blowdown quench cases revealed that the liquid content at the PCT node at the time of interest (when PCT occurs) was sufficiently high to warrant a quench behavior. In order to be considered a quench, the PCT node was required to heat up by more than 200°F above the saturation temperature of the fluid prior to the quench. The highest heatup above saturation for the limiting PCT case was approximately 850°F. For the cases that experienced a blowdown quench, the highest heatup above saturation was approximately 500°F. This reduced heatup for the blowdown quench cases provides supporting evidence that the limiting case fuel rods were susceptible to being quenched. AREVA concluded that, even though some low PCT cases showed a blowdown quench, there was no change to the limiting case and, thus, no impact to meeting the criteria of 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light water power reactors." ENO reviewed the AREVA analysis and concurs with this conclusion.

Conclusion

The PNP RLBLOCA summary report, AREVA document BAW-2501(P), revision 1, submitted with the November 6, 2006, LAR stated that no instances of blowdown quench were seen. AREVA's subsequent review of the report indicated that one case at PNP exhibited blowdown quench. However, the limiting case showed no blowdown quench. Therefore, the analysis continues to meet the criteria in 10 CFR 50.46. AREVA has revised the report. In BAW-2501, revision 2, section 3.4, "SER Compliance," was revised to include a comparison of the blowdown quench case along with the most limiting case is provided, along with a discussion of the non-limiting PCT case that exhibited blowdown quench. Table 3.4, item 7, has also been updated to reflect the single blowdown quench case. ENO has reviewed and accepted the report.

Proprietary and non-proprietary versions of revision 2 of the PNP RLBLOCA summary report, BAW-2501 are provided in Enclosures 3 and 4, respectively.

ENCLOSURE 2

AREVA NP AFFIDAVIT

3 Pages Follow

AFFIDAVIT

COMMONWEALTH OF VIRGINIA)
) ss.
CITY OF LYNCHBURG)

1. My name is Gayle F. Elliott. I am Manager, Product Licensing, for AREVA NP Inc. and as such I am authorized to execute this Affidavit.

2. I am familiar with the criteria applied by AREVA NP to determine whether certain AREVA NP information is proprietary. I am familiar with the policies established by AREVA NP to ensure the proper application of these criteria.

3. I am familiar with the AREVA NP information contained in the report 103-2501(P), Revision 2, "Palisades Nuclear Plant Realistic Large Break LOCA Summary Report," dated June 2007, and referred to herein as "Document." Information contained in this Document has been classified by AREVA NP as proprietary in accordance with the policies established by AREVA NP for the control and protection of proprietary and confidential information.

4. This Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by AREVA NP and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in this Document as proprietary and confidential.

5. This Document has been made available to the U.S. Nuclear Regulatory Commission in confidence with the request that the information contained in this Document be withheld from public disclosure. The request for withholding of proprietary information is made in accordance with 10 CFR 2.390. The information for which withholding from disclosure is

requested qualifies under 10 CFR 2.390(a)(4) "Trade secrets and commercial or financial information."

6. The following criteria are customarily applied by AREVA NP to determine whether information should be classified as proprietary:

(a) The information reveals details of AREVA NP's research and development plans and programs or their results.

(b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or service.

(c) The information includes test data or analytical techniques concerning a process, methodology, or component, the application of which results in a competitive advantage for AREVA NP.

(d) The information reveals certain distinguishing aspects of a process, methodology, or component, the exclusive use of which provides a competitive advantage for AREVA NP in product optimization or marketability.

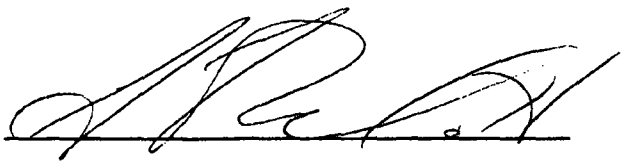
(e) The information is vital to a competitive advantage held by AREVA NP, would be helpful to competitors to AREVA NP, and would likely cause substantial harm to the competitive position of AREVA NP.

The information in the Document is considered proprietary for the reasons set forth in paragraphs 6(b) and 6(c) above.

7. In accordance with AREVA NP's policies governing the protection and control of information, proprietary information contained in this Document have been made available, on a limited basis, to others outside AREVA NP only as required and under suitable agreement providing for nondisclosure and limited use of the information.

8. AREVA NP policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

9. The foregoing statements are true and correct to the best of my knowledge, information, and belief.



SUBSCRIBED before me this 26th day of June, 2007.

S Mcfad

Sherry L. McFaden
NOTARY PUBLIC, COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES: 10/31/10