

A CMS Energy Company

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October 29, 1999

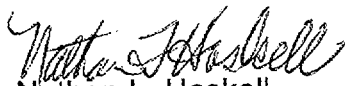
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

**DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT**  
**ANNUAL REPORT OF CHANGES IN ECCS MODELS PER 10 CFR 50.46**

Attached is the annual report of changes in Emergency Core Cooling System (ECCS) models for the Palisades plant. The report is submitted in accordance with 10 CFR 50.46(a)(3)(ii). The report contains both the ABB-CE Small Break Loss of Coolant Accident (SBLOCA) ECCS Evaluation Summary and the Siemens Power Corporation (SPC) EXEM PWR Large Break Model. This report covers the period from May 1998 through December 1998. In order to better align our annual reporting with our fuel vendor, it is our intent that future reports will be submitted on a calendar year basis.

SUMMARY OF COMMITMENTS

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

  
Nathan L. Haskell  
Director, Licensing

CC Administrator, Region III, USNRC  
Project Manager, NRR, USNRC  
NRC Resident Inspector - Palisades

ADD

Attachment

**ATTACHMENT**

**CONSUMERS ENERGY COMPANY  
PALISADES PLANT  
DOCKET 50-255**

**10/29/99**

**ANNUAL REPORT OF CHANGES  
IN ECCS MODELS PER 10 CFR 50.46**

## **ANNUAL REPORT OF CHANGES IN ECCS MODELS PER 10 CFR 50.46**

### ABB-CE SBLOCA ECCS MODEL

Asea Brown Boveri-Combustion Engineering (ABB-CE) performed a reanalysis of the Small Break Loss of Coolant Accident (SBLOCA) for Palisades fuel Cycle 14. This reanalysis utilized ABB-CE's NRC approved 1977 ECCS Evaluation Model and became the analysis of record coincident with the beginning of fuel Cycle 14 in June of 1998. The new peak clad temperature (PCT) was determined to be 2026°F which was 34°F higher than the Cycle 13 PCT of 1992°F which was reported in Reference 1 below. The change in PCT is due to a slightly larger fuel pellet radius, a corresponding reduction in fuel cladding thickness and a lower core mass flow rate assumption. There have been no errors associated with the ABB-CE SBLOCA methodology during this reporting period of May 1998 to December 1998.

### EXEM PWR LARGE BREAK MODEL

The EXEM PWR Large Break LOCA Evaluation model, developed by Siemens Power Corporation (SPC), is utilized to assess Large Break Loss of Coolant Accidents (LBLOCA) for Palisades.

As previously reported to the NRC in Reference 2, below, the initial fuel Cycle 14 LBLOCA ECCS evaluation for Palisades resulted in a licensing basis PCT of 1869°F. Several errors were identified with SPC's EXEM PWR methodology subsequent to the initial fuel Cycle 14 evaluation. The impact of these errors on Palisades LBLOCA analysis was previously reported to the NRC by References 2 and 3. Taking all of the Reference 2 and 3 errors into account, the estimated PCT for Palisades Cycle 14 is currently 1834°F. Therefore, the licensing basis LBLOCA PCT of 1869°F continues to be conservative relative to the SPC EXEM PWR evaluation model results corrected for the errors detailed in the Reference 2 and 3 submittals. No errors, other than those previously reported, have been identified for this reporting period of May 1998 to December 1998.

### REFERENCES

1. Letter, NLHaskell (Consumers Energy) to Document Control Desk (NRC), "Annual Report of Changes in ECCS Model Per 10 CFR 50.46", dated October 16, 1998.
2. Letter, NLHaskell (Consumers Energy) to Document Control Desk (NRC), "Evaluation of 10 CFR Part 21 Report Regarding Impact of RELAP4 Excessive Variability on Palisades Large Break LOCA ECCS Results", dated June 1, 1998.
3. Letter, NLHaskell (Consumers Energy) to Document Control Desk (NRC), "10 CFR 50.46 Report of Changes and Errors in LBLOCA ECCS Evaluation Model", dated January 8, 1999.