

December 17, 2002

10 CFR 50.46

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

PALISADES NUCLEAR PLANT
DOCKET 50-255
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ANNUAL REPORT OF CHANGES IN ECCS MODELS PER 10 CFR 50.46

Nuclear Management Company, LLC, is submitting the annual report of changes in emergency core cooling system (ECCS) models for the Palisades Nuclear Plant. The report is submitted in accordance with 10 CFR 50.46(a)(3)(ii). The report contains both the Westinghouse Electric Company, LLC, small break loss-of-coolant accident (SBLOCA) ECCS evaluation summary and the Framatome Advanced Nuclear Power, Inc., SEM/PWR-98 large break loss-of-coolant accident (LBLOCA) evaluation summary. This report covers the period from December 27, 2001 through December 17, 2002.

SUMMARY OF COMMITMENTS

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


Douglas E. Cooper
Site Vice-President, Palisades

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

Attachment

A001

ATTACHMENT

**NUCLEAR MANAGEMENT COMPANY, LLC
PALISADES NUCLEAR PLANT
DOCKET 50-255**

December 17, 2002

ANNUAL REPORT OF CHANGES IN ECCS MODELS PER 10 CFR 50.46

3 Pages Follow

10 CFR 50.46 REPORT OF CHANGES AND ERRORS IN SMALL BREAK LOSS-OF-COOLANT ACCIDENT (SBLOCA) EMERGENCY CORE COOLING (ECCS) EVALUATION MODEL

Westinghouse Electric Company, LLC, (formerly Asea Brown Boveri-Combustion Engineering Nuclear Power) performed the SBLOCA analysis for fuel cycle 14 for the Palisades Nuclear Plant. This analysis also applies to fuel cycle 15 and 16 operations. The peak cladding temperature (PCT) of 2063°F and was reported in Reference 1. Westinghouse Electric Company, LLC, has reported no errors since the Reference 1 report.

The resulting PCT, as applicable for the current fuel cycle 16, is 2063°F.

10 CFR 50.46 REPORT OF CHANGES AND ERRORS IN LARGE BREAK LOSS-OF-COOLANT ACCIDENT (LBLOCA) ECCS EVALUATION MODEL

Framatome Advanced Nuclear Power, Inc., (FRA-ANP; formerly Siemens Power Corporation) evaluates the LBLOCA for the Palisades Nuclear Plant with the SEM/PWR-98 methodology. The PCT of 1934°F for fuel cycle 16 was reported in Reference 1. FRA-ANP has reported the following 2 errors since the Reference 1 report.

RFPAC V&V Findings from CDUP (FRA-ANP Condition Report 8674)

FRA-ANP (formerly Siemens Power Corporation) committed, in response to the Nuclear Regulatory Commission 1997 inspection at Siemens Power Corporation, to perform additional validation and verification (V&V) and to update or create user's manuals, theory manuals, and programmer's manuals for FRA-ANP's primary codes. One of the primary codes was the RFPAC code. The RFPAC code performs the refill and reflood calculations for the LBLOCA event in the SEM/PWR-98 evaluation model. A number of minor errors were identified and corrected as a result of the additional V&V activities. The estimate of the PCT impact of the error corrections is +28°F for the LBLOCA analysis for the Palisades Nuclear Plant.

Error in TOODEE2 Clad Thermal Expansion Calculation (FRA-ANP Condition Report 9156)

TOODEE2 uses a correlation for determining clad thermal expansion with three ranges; Alpha phase, Beta phase, and a transition region between the Alpha and Beta phases. The formulation for the Beta phase was programmed with an incorrect constant coefficient of 2.9E-6 instead of 3.2E-6. This introduces a discontinuity between the transition region and the Beta region and causes all clad thermal expansion calculations at temperatures above 1773°F to be under predicted. The PCT impact of this error correction is estimated to be -1°F for the LBLOCA analysis for the Palisades Nuclear Plant.

The sum of these errors is +27°F, which results in the LBLOCA PCT for the current fuel cycle 16 being 1961°F.

Reference:

1. Letter, Laurie A. Lahti (Nuclear Management Company) to Document Control Desk (NRC), "Annual Report of Changes in ECCS Models per 10 CFR 50.46," dated December 27, 2001.