



Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043
Tel 269 764 2000

Terry A. Davis
Licensing Manager

May 20, 2009

10 CFR 50.46

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

Subject: Annual Report of Changes in Emergency Core Cooling System Models
and 30-Day Report for Large and Small Break LOCA

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

Dear Sir or Madam:

Entergy Nuclear Operations, Inc. (ENO) is submitting this annual and 30-day report of changes in the emergency core cooling system (ECCS) models for the Palisades Nuclear Plant (PNP). The report is submitted in accordance with 10 CFR 50.46(a)(3)(ii) as a significant change in peak cladding temperature (PCT) of greater than 50° F. New small and large break loss of coolant accident (LOCA) analyses were performed by Areva for Cycle 21, which began on May 2, 2009.

Areva's Condition Report (CR) 2009-337 was written to address an issue discovered during the development of a new radiation heat transfer model for their realistic large break LOCA methodology. This issue impacted both the small and large break LOCA analyses for Cycle 21. The PCT impact of this issue is included in the attachments. Note that the magnitude of the PCT change for small break LOCA is greater than 50° F. A small break LOCA reanalysis is not considered to be necessary since the identified issue results in a PCT benefit, as summarized in the attachment. There remains over 500° F of margin to the PCT limit of 2200° F; therefore, PNP continues to meet all 10 CFR 50.46 requirements, and ENO does not plan on performing a reanalysis to incorporate this identified issue.

Attachment 1 contains the large break LOCA PCT summary. Attachment 2 contains the small break LOCA PCT summary. This report covers the period from June 14, 2008, through May 20, 2009.

Summary of Commitments

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

Sincerely,

A handwritten signature in black ink, appearing to read "Tony Daur". The signature is fluid and cursive, with a long horizontal stroke at the beginning.

tad/bed

Attachment 1: Large Break Loss of Coolant Accident Peak Cladding Temp. Summary
Attachment 2: Small Break Loss of Coolant Accident Peak Cladding Temp. Summary

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

**ATTACHMENT 1
LARGE BREAK LOSS OF COOLANT ACCIDENT
PEAK CLADDING TEMPERATURE SUMMARY**

	Δ PCT (°F)	PCT (°F)
PCT (Previous Last Acceptable Model Results)		1929
10 CFR 50.46 Changes		
CR 9266 Error In Break Loop SG Exit Junction Inertia	+1	
CR 9429 Error In Fast Flux Input To RODEX2	+4	
PCT (2001 Annual Report)		1934
10 CFR 50.46 Changes		
CR 9156 Error In TOODEE2 Clad Thermal Expansion	-1	
CR 8674 RFPAC V&V Findings From CDUP	+28	
PCT (2002 Annual Report)		1961
PCT (2003 Annual Report)		1961
PCT (2004 Annual Report)		1961
PCT (2005 Annual Report)		1961
10 CFR 50.46 Changes		
CR 2005-4791 Large Break LOCA Containment Heat Sink Modeling Inputs	-5	1956
CR 2006-585 Incorrect ICECON Heat Structure Input for Palisades Appendix K LBLOCA	-41	1915
PCT (2006 Annual Report)		1915
PCT (2007 Annual Report)		1915
PCT (2008 Annual Report)		1915
PCT (Last Acceptable Model Results) New Cycle 21 Analysis		1740
10 CFR 50.46 Changes		
CR 2009-337 S-RELAP5 Radiation to Fluid Correlation Under Predicts the Radiative Heat Transfer	-27	1713
PCT (2009 Annual Report)		1713

**ATTACHMENT 2
SMALL BREAK LOSS OF COOLANT ACCIDENT
PEAK CLADDING TEMPERATURE SUMMARY**

	Δ PCT (°F)	PCT (°F)
PCT (Previous Last Acceptable Model Results)		1465
PCT (2003 Annual Report)		1465
PCT (2004 Annual Report)		1465
PCT (2005 Annual Report)		1465
10 CFR 50.46 Changes		
CR 2006-1178-FA SBLOCA Core Exit Modeling	-2	1463
PCT (2006 Annual Report)		1463
PCT (2007 Annual Report)		1463
10 CFR 50.46 Changes		
CR 2007-5220 Legacy Fortran Programming Issues with Point Kinetics in RELAP5 Based Computer Codes	-8	1455
PCT (2008 Annual Report)		1455
PCT (Last Acceptable Model Results) New Cycle 21 Analysis		1734
10 CFR 50.46 Changes		
CR 2009-337 S-RELAP5 Radiation to Fluid Correlation Under Predicts the Radiative Heat Transfer	-64	
PCT (2009 Annual Report)		1670