



Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
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Jeffery A. Hardy
Regulatory Assurance Manager

PNP 2018-022

April 9, 2018

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

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

Reference: 1. Letter dated March 20, 2018, from Hunter Marshall, Framatome, to Mr. Thomas Allen, Entergy Nuclear Operations, Inc, "Palisades, Annual 10 CFR 50.46 Report - 2017"

Dear Sir or Madam:

Entergy Nuclear Operations, Inc. (ENO) is submitting the annual 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).

Attachment 1 contains the large break loss of coolant accident (LOCA) peak clad temperature (PCT) summary. Attachment 2 contains the small break LOCA PCT summary. This report covers the period from January 1, 2017, through December 31, 2017.

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

Sincerely,



JAH/bed

Attachment 1: Large Break Loss of Coolant Accident Peak Cladding Temperature Summary

Attachment 2: Small Break Loss of Coolant Accident Peak Cladding Temperature 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 (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
10 CFR 50.46 Changes		
CR 2009-2309 S-RELAP5 Kinetics and Heat Conduction Model	-22	1691
PCT (2010 Annual Report)		1691
PCT (2011 Annual Report)		
10 CFR 50.46 Changes		
CR 2011-7155 S-RELAP5 Sleicher-Rouse Correlation	+8	1699
PCT (2012 Annual Report)		1699
10 CFR 50.46 Changes		
CR 2012-2301 Liquid fallback into surrounding 6 assemblies	0	1699
PCT (2013 Annual Report)		
10 CFR 50.46 Changes		
CR 2013-4230 S-RELAP5 routine associated with the RODEX3a fuel rod model in the code.	+6	1705
PCT (2014 Annual Report)		
10 CFR 50.46 Changes		
CR 2012-8371 S-RELAP5 vapor absorptivity correlation	0	1705
CR 2014-3953 Non-Physical Axial Shapes Generated by Modal Decomposition Procedure	0	1705
PCT (2014 Annual Report)		1705
PCT (2015 Annual Report)		1705
PCT (2016 Annual Report)		1705
PCT (2017 Annual Report)		1705

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

	ΔPCT (°F)	PCT (°F)
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	1670
PCT (2009 Annual Report)		1670
10 CFR 50.46 Changes		
CR 2009-2309 S-RELAP5 Kinetics Model	+4	1674
PCT (2010 Annual Report)		1674
PCT (2011 Annual Report)		1674
10 CFR 50.46 Changes		
CR 2011-7155 S-RELAP5 Sleicher-Rouse Correlation	-3	1671
PCT (2012 Annual Report)		1671
PCT (2013 Annual Report)		1671
2014 Annual Report		
10 CFR 50.46 Changes		
CR 2012-8371 – S-RELAP5 Vapor Absorptivity Correlation	+73	1744
PCT (2015 Annual Report)		1744
PCT (2016 Annual Report)		1744
2017 Annual Report		
10 CFR 50.46 Changes		
CR 2017-3565 M5® LOCA Swelling and Rupture Model (SRM) Update (FAB17-00369)	0	1744
CR 2017-5630 Error in S-RELAP5 Oxidation Calculations (FS1-0035262-1.0)	+17	1761