Entergy

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Palisades Nuclear Plant
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Otto W. Gustafson
Director, Regulatory and
Performance Improvement

PNP 2014-032

April 10, 2014

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 12, 2014, from L.W.Newman, AREVA, to Melissa Driscoll, Entergy Operations, Inc, "Annual 10CFR50.46 Reporting for Palisades"

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).

Reference 1 identifies an issue with the AREVA S-RELAP5 routine associated with the RODEX3a fuel rod model. This issue impacted the PNP large break loss of coolant accident (LBLOCA) analysis. ENO does not consider LBLOCA reanalysis necessary because the identified issue results in a small peak cladding temperature (PCT) change for the LBLOCA analysis, as summarized in Attachment 1.

Attachment 1 contains the LBLOCA PCT summary. Attachment 2 contains the small break loss of coolant accident (SBLOCA) PCT summary. This report covers the period from January 1, 2013, through December 31, 2013.

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

Sincerely,

OWG/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

	ΔPCT (°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)		**1691**
10 CFR 50.46 Changes		
CR 2011-7155 S-RELAP5 Sleicher-Rouse Correlation	+8	
PCT (2012 Annual Report)		**1699**
2013 Annual Report		
10 CFR 50.46 Changes		
CR 2013-4230 S-RELAP5 routine associated with the RODEX3a fuel rod model in the code. Letter, Len Newman (AREVA NP) to Gary Jarka (Entergy Operations, Inc.), "Interim 10CFR50.46 Reporting for Palisades," FAB13-426, dated September 16, 2013.	+6	**1705**
PCT (2013 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	
PCT (2009 Annual Report)		**1670**
10 CFR 50.46 Changes		
CR 2009-2309 S-RELAP5 Kinetics Model	+4	
PCT (2009 30-Day Report)		**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**