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July 19, 2012

PG&E Letter DCL-12-070

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

10 CFR 50.46

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
10 CFR 50.46 Annual Report of Emergency Core Cooling System Evaluation Model Changes for Peak Cladding Temperature for 2011

Dear Commissioners and Staff:

Pursuant to 10 CFR 50.46, the enclosure to this letter provides an annual report of changes in the Westinghouse emergency core cooling system evaluation models that affect peak cladding temperature (PCT) calculations for Pacific Gas and Electric Company (PG&E) Diablo Canyon Power Plant, Units 1 and 2.

There have been no changes in the small-break loss-of-coolant accident (SBLOCA) PCT results or the large-break, best-estimate loss-of-coolant accident (BELOCA) PCT results for either Unit 1 or Unit 2 since the last annual update. The last update was provided in PG&E Letter DCL-11-082, "10 CFR 50.46 Annual Report of Emergency Core Cooling System Evaluation Model Changes for 2010," dated July 19, 2011.

A summary of the PCT margin allocations and their bases are provided in the enclosed attachments. The Unit 1 SBLOCA and BELOCA PCT Margin Utilization sheets are provided in Attachment A. The Unit 2 SBLOCA and BELOCA PCT Margin Utilization Sheets are provided in Attachment B.

The PCT values remain within the 2200 degree Fahrenheit (F) limit specified in 10 CFR 50.46. However, because the Unit 1 BELOCA has a total PCT margin allocation that is currently greater than 50 degrees F, and in order to coordinate with the 24-month fuel cycle project schedule, PG&E expects to complete the Unit 1 BELOCA reanalysis and provide the updated PCT results to the NRC by December 2016, as stated in PG&E Letter DCL-11-082, "10 CFR 50.46 Annual Report of Emergency Core Cooling System Evaluation Model Changes for 2010," dated July 19, 2011.

PG&E makes no new or revised regulatory commitments (as defined by NEI 99-04) in this report.

If you have questions regarding this submittal please contact Mr. Steve Baker at 805-545-6742.

Sincerely,

James R. Becker
Site Vice President

wrl8/6980/64059110
Enclosure
cc/enc: Elmo E. Collins, NRC Region IV
Michael S. Peck, NRC Senior Resident Inspector
Joseph M. Sebrosky, NRR Senior Project Manager
Diablo Distribution

ANNUAL REPORT OF EMERGENCY CORE COOLING SYSTEM EVALUATION MODEL CHANGES FOR PEAK CLADDING TEMPERATURE

Pursuant to 10 CFR 50.46, this enclosure provides an annual report of changes in the Westinghouse emergency core cooling system (ECCS) evaluation models that affect peak cladding temperature (PCT) calculations for Pacific Gas and Electric Company (PG&E) Diablo Canyon Power Plant (DCPP), Units 1 and 2. This report is based on changes described in the following Westinghouse 10 CFR 50.46 notification letter:

> Westinghouse Letter LTR-LIS-12-116, "Diablo Canyon Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2011," dated February 20, 2012

Attachment A to this enclosure provides DCPP, Unit 1 small-break loss-of-coolant accident (SBLOCA) and best-estimate, large-break loss-of-coolant accident (BELOCA) PCT Margin Utilization sheets. Attachment B to this enclosure provides DCPP Unit 2 SBLOCA and BELOCA PCT Margin Utilization sheets. There have been no changes in the SBLOCA PCT results or the BELOCA PCT results for either Unit 1 or Unit 2 since the last annual update. The last update was provided in PG&E Letter DCL-11-082, "10 CFR 50.46 Annual Report of Emergency Core Cooling System Evaluation Model Changes for 2010," dated July 19, 2011.

A summary of the PCT margin allocations and their bases are provided in the attachments.

The final net PCT values are listed below for each unit. It should be noted that two PCT values are reported for the Unit 1 BELOCA results. The two BELOCA PCT values are labeled Reflood 1 and Reflood 2, as they represent the two distinctive PCT peaks that occur during the reflood phase for the Unit 1 BELOCA Code Qualification Document methodology. The Unit 2 BELOCA reports only one PCT value consistent with the BELOCA ASTRUM methodology.

	Small-Break LOCA	**Large-Break, Best-Estimate LOCA**	
		Reflood 1	Reflood 2
Unit 1:	1391°F (no change)	1990°F (no change)	1975°F (no change)
Unit 2:	1288°F (no change)	1888°F (no change)	

The PCT values remain within the 2200 degree Fahrenheit (F) limit specified in 10 CFR 50.46. However, because the Unit 1 BELOCA has a total PCT margin allocation that is currently greater than 50 degrees F, and in order to coordinate with the 24-month fuel cycle project schedule, PG&E expects to complete the

Unit 1 BELOCA reanalysis and provide the updated PCT results to the NRC by December 2016, as stated in PG&E Letter DCL-11-082, "10 CFR 50.46 Annual Report of Emergency Core Cooling System Evaluation Model Changes for 2010," dated July 19, 2011.

DCPP UNIT 1 PEAK CLADDING TEMPERATURE MARGIN UTILIZATION

SMALL-BREAK LOCA			PG&E Letter[1]
A. ANALYSIS OF RECORD	PCT =	1391°F	DCL-09-057
B. PRIOR 10 CFR 50.46 ECCS MODEL ASSESSMENTS[2]			
1. None	ΔPCT =	0°F	
C. 10 CFR 50.46 ECCS MODEL ASSESSMENTS THIS YEAR			
1. None	ΔPCT =	0°F	
D. SUM OF 10 CFR 50.46 CHANGES			
1. Net Sum of 10 CFR 50.46 PCT Changes	ΔPCT =	0°F	
2. Absolute Sum of 10 CFR 50.46 PCT Changes	ΔPCT =	0°F	
E. Analysis of Record PCT - Line A + Line D.1 Net Sum of 10 CFR 50.46 PCT Changes		1391°F	

The sum of the PCT from the most recent analysis of record using an acceptable evaluation model and the estimates of the net PCT effect for changes and errors identified since this analysis remains less than 2200°F.

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1 For those issues that have been previously reported under 10 CFR 50.46, a PG&E letter number is listed.

2 Only permanent assessments of PCT margin are included. Temporary PCT allocations that address current LOCA model issues are not considered with respect to 10 CFR 50.46 reporting requirements.

DCPP UNIT 1 PEAK CLADDING TEMPERATURE MARGIN UTILIZATION

	BEST-ESTIMATE, LARGE-BREAK LOCA	Reflood 1	Reflood 2	PG&E Letter[1]
A.	ANALYSIS OF RECORD	1900°F	1860°F	DCL-05-146
		ΔPCT	ΔPCT	
B.	PRIOR 10 CFR 50.46 ECCS MODEL ASSESSMENTS [2]			
	1. Revised blowdown heatup uncertainty distribution.	5°F	5°F	DCL-05-086
	2. HOTSPOT Fuel Relocation Error.	10°F	0°F	DCL-07-071
	3. Replacement Steam Generators	75°F	71°F	DCL-09-057
C.	10 CFR 50.46 ECCS MODEL ASSESSMENTS THIS YEAR			
	1. 230kV Degraded Voltage Event Evaluation	0°F	39°F	DCL-11-082
D.	SUM OF 10 CFR 50.46 CHANGES			
	1. Net Sum of 10 CFR 50.46 PCT Changes	90°F	115°F	
	2. Absolute Sum of 10 CFR 50.46 PCT Changes	90°F	1156°F	
E.	**Analysis of Record PCT - Line A + Line D.1 Net Sum of 10 CFR 50.46 PCT Changes**	1990°F	1975°F	

The sum of the PCT from the most recent analysis of record using an acceptable evaluation model and the estimates of the net PCT effect for changes and errors identified since this analysis remains less than 2200°F.

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DCPP UNIT 2 PEAK CLADDING TEMPERATURE MARGIN UTILIZATION

SMALL-BREAK LOCA			PG&E Letter[1]
A. ANALYSIS OF RECORD	PCT =	1288°F	DCL-08-061
B. PRIOR 10 CFR 50.46 ECCS MODEL ASSESSMENTS[2]			
1. None	ΔPCT =	0°F	
C. 10 CFR 50.46 ECCS MODEL ASSESSMENTS THIS YEAR			
2. None	ΔPCT =	0°F	
D. SUM OF 10 CFR 50.46 CHANGES			
3. Net Sum of 10 CFR 50.46 PCT Changes	ΔPCT =	0°F	
4. Absolute Sum of 10 CFR 50.46 PCT Changes	ΔPCT =	0°F	
E. Analysis of Record PCT - Line A + Line D.1 Net Sum of 10 CFR 50.46 PCT Changes		1288°F	

The sum of the PCT from the most recent analysis of record using an acceptable evaluation model and the estimates of the net PCT effect for changes and errors identified since this analysis remains less than 2200°F.

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DCPP UNIT 2 PEAK CLADDING TEMPERATURE MARGIN UTILIZATION

BEST-ESTIMATE, LARGE-BREAK LOCA			PG&E Letter[1]
A. ANALYSIS OF RECORD	PCT=	1872°F	DCL-07-071
B. PRIOR 10 CFR 50.46 ECCS MODEL ASSESSMENTS [2]			
1. HOTSPOT Fuel Relocation Error.	ΔPCT=	0°F	DCL-07-071
C. 10 CFR 50.46 ECCS MODEL ASSESSMENTS THIS YEAR			
1. 230kV Degraded Voltage Event Evaluation	ΔPCT=	16°F	DCL-11-082
D. SUM OF 10 CFR 50.46 CHANGES			
1. Net Sum of 10 CFR 50.46 PCT Changes	ΔPCT=	16°F	
2. Absolute Sum of 10 CFR 50.46 PCT Changes	ΔPCT=	16°F	
E. Analysis of Record PCT - Line A + Line D.1 Net Sum of 10 CFR 50.46 PCT Changes		1888°F	

The sum of the PCT from the most recent analysis of record using an acceptable evaluation model and the estimates of the net PCT effect for changes and errors identified since this analysis remains less than 2200°F.

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