



Crystal River Nuclear Plant  
Docket No. 50-302  
Operating License No. DPR-72

Ref: 10CFR50.46

December 3, 2010  
3F1210-04

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

Subject: Crystal River Unit 3 – 10 CFR 50.46 Loss-of-Coolant Accident Evaluation Model Change and Peak Cladding Temperature Change Report

Reference: Crystal River Unit 3 to NRC letter, 3F0910-01, dated September 8, 2010, "Crystal River Unit 3 – 10 CFR 50.46 Notification of Change in Peak Cladding Temperature for Small Break Loss of Coolant Accident Analyses"

Dear Sir:

Florida Power Corporation (FPC), doing business as Progress Energy Florida, Inc., is providing the attached information pursuant to 10 CFR 50.46(a)(3)(ii). There have been no changes to the peak cladding temperature (PCT) for Crystal River Unit 3 since the last report was submitted in the above referenced letter. Tables stating the PCT for large break and small break loss-of-coolant accidents (LBLOCA and SBLOCA, respectively) are included in the attachment.

No new regulatory commitments are made in this letter.

If you have any questions regarding this submittal, please contact Mr. Dan Westcott, Superintendent, Licensing and Regulatory Programs at (352) 563-4796.

Sincerely,

Stephen J. Cahill  
Director Engineering Nuclear  
Crystal River Nuclear Plant

SJC/pdk

Attachment: Summary of Changes to Evaluation Models and Peak Cladding Temperature for Large Break Loss of Coolant Analysis and Small Break Loss of Coolant Analysis

xc: NRR Project Manager  
Regional Administrator, Region II  
Senior Resident Inspector

A002  
NRR

**PROGRESS ENERGY FLORIDA, INC.**

**CRYSTAL RIVER UNIT 3**

**DOCKET NUMBER 50-302/LICENSE NUMBER DPR-72**

**Attachment**

**Summary of Changes to Evaluation Models and Peak Cladding  
Temperature for Large Break Loss of Coolant Analysis and Small  
Break Loss of Coolant Analysis**

**Summary of Changes to Evaluation Models and Peak Cladding Temperature for  
Large Break Loss of Coolant Analysis and Small Break Loss of Coolant Analysis**

Florida Power Corporation (FPC), doing business as Progress Energy Florida, Inc., is providing the following information pursuant to 10 CFR 50.46(a)(3)(ii). No changes to the Evaluation Model or Peak Cladding Temperature (PCT) have occurred since FPC provided the last report by letter dated September 8, 2010. Current PCT results for Small Break (SB) and Large Break (LB) Loss of Coolant Accidents (LOCAs) are provided in the following tables.

<b>2010 Annual Report CR-3 LB LOCA PCT Change Summary Full Core of Mark-B-HTP Assemblies</b>		
	<b>Delta PCT</b>	<b>PCT</b>
Previously Reported PCT (10 CFR 50.46 Notification dated September 8, 2010)	N/A	1994°F
New data has been considered regarding pellet thermal conductivity degrading with burn-up (AREVA 47-9136854-000, May 10, 2010)	0	1994°F
Minimum Crystal River Unit 3 (CR-3) low pressure injection (LPI) flow is not as high as that assumed in the analyses (AREVA 47-9136854-000, May 10, 2010)	0	1994°F
Cumulative Change	0	
Sum of absolute magnitude of changes	0	

<b>2010 Annual Report CR-3 SB LOCA PCT Change Summary Full Core of Mark-B-HTP Assemblies</b>		
	<b>Delta PCT</b>	<b>PCT</b>
Previously Reported PCT (10 CFR 50.46 Notification dated September 8, 2010)	N/A	1535°F
New data has been considered regarding pellet thermal conductivity degrading with burn-up (AREVA 47-9136854-000, May 10, 2010)	0	1535°F
Minimum CR-3 LPI flow is not as high as that assumed in the analyses (AREVA 47-9136854-000, May 10, 2010)	0	1535°F
Cumulative Change	0	
Sum of absolute magnitude of changes	0	