



Entergy Nuclear Northeast  
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August 14, 2006  
JAFP-06-0127

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

SUBJECT: James A FitzPatrick Nuclear Power Plant  
Docket No. 50-333  
**10 CFR 50.46 Annual Report – Errors in Emergency Core  
Cooling System (ECCS) Evaluation Models**

REFERENCE: 1. Entergy Nuclear Operations, Inc. letter T. A. Sullivan to  
USNRC (JAFP-05-0126), dated August 17, 2005,  
regarding same subject

Dear Sir:

The attached report summarizes changes and errors in emergency core cooling system (ECCS) evaluation models in accordance with 10 CFR 50.46(a)(3)(ii) for the period July 1, 2005 to June 30, 2006 for Entergy's James A. FitzPatrick Nuclear Power Plant.

There were no changes or errors identified to the FitzPatrick models since the last report (Reference 1).

This letter contains no new commitments. If you have any questions, please contact Mr. Jim Costedio at (315) 349-6358.

Very truly yours,

A handwritten signature in dark ink, appearing to read "J. W. Costedio".

ACTING FOR

Jim Costedio

Regulatory Compliance Manager

Attachment: 10 CFR 50.46(a)(3)(ii) Annual Report on Changes and Errors in  
Emergency Core Cooling System (ECCS) Evaluation Models for the  
period from July 1, 2005 to June 30, 2006

A001

cc:

Mr. Samuel J. Collins  
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Resident Inspector's Office  
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## **INTRODUCTION**

This report summarizes changes and errors in emergency core cooling system (ECCS) evaluation models in accordance with 10 CFR 50.46(a)(3)(ii) for the period July 1, 2005 to June 30, 2006 for Entergy's James A. FitzPatrick Nuclear Power Plant.

No changes or errors to the FitzPatrick models have been identified since the last annual report (Reference 19). Therefore, a 30 day report for errors that qualify as significant changes is not required.

Table 1 summarizes the current FitzPatrick ECCS evaluation models.

**TABLE 1 - ACCOUNTING OF LICENSING BASIS  
PEAK CLAD TEMPERATURES FOR FITZPATRICK**

Report Period	ECCS Evaluation	Estimated PCT Change			Updated PCT		
		GE11 Fuel <sup>(1)</sup>	GE12 Fuel	GE14 Fuel <sup>(2)</sup>	GE11 Fuel	GE12 Fuel	GE14 Fuel
Baseline Evals.	1993 FitzPatrick LOCA Analysis (Ref. 2)	Baseline	N/A	N/A	1570°F	N/A	N/A
	FitzPatrick Reload 12 Supplemental Report (Ref. 3)	N/A	Base-line	N/A	N/A	1370°F	N/A
	FitzPatrick Reload 13 Supplemental Report (Ref. 4)	Baseline		N/A	1570°F	1370°F	N/A
Prior to July 1, 2000	10 CFR 50.46 Notification Regarding Sensitivity To Small Input Parameter Changes (Ref. 5)	+50°F		N/A	1620°F	1420°F	N/A
	10 CFR 50.46 Notification Regarding Minor Code Corrections (Ref. 5)	+5°F		N/A	1625°F	1425°F	N/A
	10 CFR 50.46 Notification Regarding Bottom Head Drain (Ref. 6)	+10°F		N/A	1635°F	1435°F	N/A
July 1, 2000 – June 30, 2001	10 CFR 50.46 Notification Regarding Time Step Size (Ref. 1)	-5°F		N/A	1630°F	1430°F	N/A
	Estimated Effect Of Condensation Error On PCT (Ref. 7)	+90°F		N/A	1720°F	1520°F	N/A
	Estimated Effect Of Pressure Rate Inconsistency Error On PCT (Ref. 8)	+10°F		N/A	1730°F	1530°F	N/A
	Estimated Effect Of Accounting Error On PCT (Ref. 9)	N/A	-5°F	N/A	1730°F	1525°F	N/A
July 1, 2001 – June 30, 2002	SAFER Core Spray Injection Elevation Error (Ref. 10)	+5°F		N/A	1735°F	1530°F	N/A
	Impact of SAFER Bulk Water Level Error on PCT (Ref. 11)	+10°F		N/A	1745°F	1540°F	N/A

**TABLE 1 – ACCOUNTING OF LICENSING BASIS  
PEAK CLAD TEMPERATURES FOR FITZPATRICK  
(Continued)**

Report Period	ECCS Evaluation	Estimated PCT Change			Updated PCT		
		GE11 Fuel <sup>(1)</sup>	GE12 Fuel	GE14 Fuel <sup>(2)</sup>	GE11 Fuel	GE12 Fuel	GE14 Fuel
July 1, 2002 – June 30, 2003	Cycle 16 Core Load Using GE 14 Type Fuel (Ref. 12)	N/A	N/A	1700°F	N/A	N/A	1700°F
	Impact of SAFER Level/Volume Table Error on the PCT (Ref. 13)	N/A	0°F	0°F	N/A	1540°F	1700°F
	Impact of SAFER Initial Separator Pressure Drop Error on the PCT (Ref. 14)	N/A	0°F	N/A	N/A	1540°F	1700°F
July 1, 2003 – June 30, 2004	Impact of GESTR Input File Interpolation Error on the PCT (Ref. 15)	N/A	0°F	N/A	N/A	1540°F	1700°F
	Impact of SAFER04 Computer Platform Change on the PCT (Ref. 16)	N/A	0°F	N/A	N/A	1540°F	1700°F
	Impact of WEVOL S1 Volume Error on the PCT (Ref. 17)	N/A	0°F	N/A	N/A	1540°F	1700°F
	Impact of Postulated Hydrogen-Oxygen Recombination (Ref. 18)	N/A	0°F	0°F	N/A	1540°F	1700°F
July 1, 2004 – June 30, 2006	No Changes or Errors	N/A	N/A	N/A	N/A	1540°F	1700°F

(1) GE11 fuel was removed from the core at conclusion of Cycle 15, 10/2002

(2) GE14 fuel was first installed during RF15, 10/2002

## REFERENCES

1. Global Nuclear Fuel letter, A. Alzaben (GNF) to C. Franklin (NYPA), (AFA-00-N061 dated November 20, 2000) regarding 10 CFR 50.46 error report - impact of SAFER time step size on the peak clad temperature (PCT) for jet pump plant analyses. Includes General Electric/Global Nuclear Fuel 10 CFR 50.46 Notification Letter 2000-04 dated November 8, 2000 regarding "Impact of SAFER Time Step Size on the Peak Clad Temperature (PCT) for Jet Pump Plant Analyses." (Proprietary)
2. General Electric Nuclear Energy, "James A. FitzPatrick Nuclear Power Plant SAFER/GESTER-LOCA, Loss-of-Coolant Analysis," Licensing Topical Report NEDC-31317P, Class III (proprietary), Revision 2, April 1993.
3. General Electric Nuclear Energy Report, J11-02914SRL, Revision 0, August 1996, "Supplemental Reload Licensing Report for James A. FitzPatrick, Reload 12, Cycle 13."
4. General Electric Nuclear Energy Report, J11-03359SRL, Revision 1, Class I, October 1998, "Supplemental Reload Licensing Report for James A. FitzPatrick, Reload 13, Cycle 14."
5. General Electric Nuclear Energy, MFN-090-93, June 30, 1993, "Reporting of Changes and Errors in ECCS Evaluation Models."
6. General Electric Nuclear Energy, MFN-020-96, February 20, 1996, "Reporting of Changes and Errors in ECCS Evaluation Models."
7. General Electric/Global Nuclear Fuel 10 CFR 50.46 Notification Letter 2001-01 dated May 8, 2001 (via E-mail) regarding "Impact of SAFER Condensation Error on the Peak Clad Temperature (PCT)." (Proprietary)
8. General Electric/Global Nuclear Fuel 10 CFR 50.46 Notification Letter 2001-02 dated May 10, 2001 (via E-mail) regarding "Impact of SAFER Pressure Rate I inconsistency Error on the Peak Clad Temperature (PCT)." (Proprietary)
9. Global Nuclear Fuel letter, A. Alzaben (GNF) to J. Head (Entergy Nuclear Operations, Inc.), (AFA-01-E004, June 29, 2001) regarding GE12 Upper Bound PCT for FitzPatrick, (Proprietary).
10. General Electric/Global Nuclear Fuel 10 CFR 50.46 Notification Letter 2002-01 regarding "SAFER Core Spray Injection Elevation Error." (Proprietary)
11. General Electric/Global Nuclear Fuel 10 CFR 50.46 Notification Letter 2002-02 regarding "Impact of SAFER Bulk Water Level Error on the Peak Clad Temperature (PCT)." (Proprietary)

12. Entergy letter, T.A. Sullivan to USNRC, dated November 12, 2002 (JAFP-02-0210) regarding "10 CFR 50.46 Reporting of Changes In Emergency Core Cooling System (ECCS) Evaluation Model."
13. General Electric 10 CFR 50.46 Notification Letter 2003-01, dated May 6, 2003 regarding "Impact of SAFER Level/Volume Table Error on the Peak Cladding Temperature (PCT)." (Proprietary)
14. General Electric 10 CFR 50.46 Notification Letter 2003-03, dated May 6, 2003 regarding "Impact of SAFER Initial Separator Pressure Drop Error on the Peak Cladding Temperature (PCT)." (Proprietary)
15. General Electric 10 CFR 50.46 Notification Letter 2002-03, dated August 26, 2002 regarding "Impact of GESTR Input File Interpolation Error on the Peak Clad Temperature (PCT)." (Proprietary)
16. General Electric 10 CFR 50.46 Notification Letter 2002-04, dated August 26, 2002 regarding "Impact of SAFER04 Computer Platform Change on the Peak Clad Temperature (PCT)." (Proprietary)
17. General Electric 10 CFR 50.46 Notification Letter 2002-05, dated August 26, 2002 regarding "Impact of WEVOL S1 Volume Error on the Peak Clad Temperature (PCT)." (Proprietary)
18. General Electric 10 CFR 50.46 Notification Letter 2003-05, dated May 13, 2004 regarding "Impact of Postulated Hydrogen-Oxygen Recombination." (Proprietary)
19. Entergy letter, T.A. Sullivan to USNRC, dated August 17, 2005 (JAFP-05-0126) regarding "10 CRF 50.46 Annual Report – Errors in Emergency Core Cooling System (ECCS) Evaluation Models."