

Mark J. Ajluni, P.E.
Nuclear Licensing Director

**Southern Nuclear
Operating Company, Inc.**
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201

Tel 205.992.7673
Fax 205.992.7885



December 16, 2010

Docket Nos.: 50-321 50-348 50-424
50-366 50-364 50-425

NL-10-2340

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

Edwin I. Hatch Nuclear Plant
Joseph M. Farley Nuclear Plant
Vogtle Electric Generating Plant
10 CFR 50.46 ECCS Evaluation Model Annual Reports for 2009

Ladies and Gentlemen:

Southern Nuclear Operating Company (SNC) is the licensed operator for the Edwin I. Hatch Nuclear Plant (Hatch), the Joseph M. Farley Nuclear Plant (Farley), and the Vogtle Electric Generating Plant (Vogtle). The requirements of 10 CFR 50.46(a)(3)(ii) include an annual report by licensees of changes to or errors in acceptable emergency core cooling system (ECCS) models that affect the temperature calculation and the estimated effect of changes or errors on the limiting ECCS analysis. Accordingly, the reports required by 10 CFR 50.46(a)(3)(ii) for Hatch, Farley, and Vogtle are provided in Enclosures 1, 2, and 3, respectively. The resulting peak cladding temperature (PCT) for Hatch, Farley, and Vogtle continues to meet the criterion of 10 CFR 50.46(b)(1) (i.e., $\leq 2200^{\circ}\text{F}$).

This letter contains no NRC commitments. If you have any questions, please contact Jack Stringfellow at (205) 992-7037.

Respectfully submitted,

A handwritten signature in black ink that reads "Mark J. Ajluni". The signature is written in a cursive, flowing style.

M. J. Ajluni
Nuclear Licensing Director

MJA/CLT/emm

ADDZ
NRR

U. S. Nuclear Regulatory Commission

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- Enclosures:
1. Edwin I. Hatch Nuclear Plant 10 CFR 50.46 ECCS Evaluation Model Annual Report for 2009
 2. Joseph M. Farley Nuclear Plant 10 CFR 50.46 ECCS Evaluation Model Annual Report for 2009
 3. Vogtle Electric Generating Plant 10 CFR 50.46 ECCS Evaluation Model Annual Report for 2009

cc: Southern Nuclear Operating Company

Mr. J. T. Gasser, Executive Vice President

Mr. J. R. Johnson, Vice President – Farley

Mr. D. R. Madison, Vice President – Hatch

Mr. T. E. Tynan, Vice President – Vogtle

Ms. P. M. Marino, Vice President – Engineering

RType: Farley=CFA04.054; Hatch=CHA02.004; Vogtle=CVC7000

U. S. Nuclear Regulatory Commission

Mr. L. A. Reyes, Regional Administrator

Mr. R. E. Martin, NRR Project Manager – Farley and Vogtle

Mr. P. G. Boyle, NRR Project Manager – Hatch

Mr. E. L. Crowe, Senior Resident Inspector – Farley

Mr. E. D. Morris, Senior Resident Inspector – Hatch

Mr. M. Cain, Senior Resident Inspector – Vogtle

**Edwin I. Hatch Nuclear Plant
Joseph M. Farley Nuclear Plant
Vogtle Electric Generating Plant
10 CFR 50.46 ECCS Evaluation Model Annual Reports for 2009**

Enclosure 1

**Edwin I. Hatch Nuclear Plant
10 CFR 50.46 ECCS Evaluation Model Annual Report for 2009**

**Edwin I. Hatch Nuclear Plant Unit 1
 SAFER/GESTR-LOCA Analysis Model**

Table 1-1a – Summary of Changes/Errors (2009)	
Description	Estimated Effect (Δ PCT)
None affecting PCT	N/A

Table 1-1b – Cumulative Impact of Changes/Errors	
Description	GE14
	Δ PCT (°F)
• Changes/Errors Previously Reported (Reference 1)	5
• Current Year – 2009 (Reference 2)	0
Cumulative Total	5

**Edwin I. Hatch Nuclear Plant Unit 2
 SAFER/GESTR-LOCA Analysis Model**

Table 1-2a – Summary of Changes/Errors (2009)	
Description	Estimated Effect (Δ PCT)
None affecting PCT	N/A

Table 1-2b – Cumulative Impact of Changes/Errors	
Description	GE14
	Δ PCT (°F)
• Changes/Errors Previously Reported (Reference 1)	5
• Current Year – 2009 (Reference 3)	0
Cumulative Total	5

Enclosure 1 to NL-10-2340
Edwin I. Hatch Nuclear Plant
10 CFR 50.46 ECCS Evaluation Model Annual Report for 2009

References:

1. Letter from Mark J. Ajluni to USNRC (NL-09-1838), "Edwin I. Hatch Nuclear Plant, Joseph M. Farley Nuclear Plant, Vogtle Electric Generating Plant 10 CFR 50.46 ECCS Evaluation Model Annual Reports for 2008," dated December 17, 2009
2. Global Nuclear Fuel Supplemental Reload Licensing Report for Edwin I. Hatch Nuclear Power Plant Unit 1 (Report Number 0000-0067-2863-SRLR), Revision 0, dated December 2007
3. Global Nuclear Fuel Supplemental Reload Licensing Report for Edwin I. Hatch Nuclear Power Plant Unit 2 (Report Number 0000-0083-5389-SRLR), Revision 0, dated December 2008

**Edwin I. Hatch Nuclear Plant
Joseph M. Farley Nuclear Plant
Vogtle Electric Generating Plant
10 CFR 50.46 ECCS Evaluation Model Annual Reports for 2009**

Enclosure 2

**Joseph M. Farley Nuclear Plant
10 CFR 50.46 ECCS Evaluation Model Annual Report for 2009**

**Joseph M. Farley Nuclear Plant – Unit 1
 ASTRUM Best Estimate Large Break LOCA Evaluation**

Table 2-1a – Summary of Changes/Errors (2009)	
Description	Estimated Effect (Δ PCT)
None affecting PCT	N/A

Table 2-1b – Cumulative Impact of Changes/Errors	
Description	Δ PCT (°F)
• Changes/Errors Previously Reported (Reference 1)	18
• Current Year – 2009 (Reference 2)	0
Cumulative Total	18

**Joseph M. Farley Nuclear Plant – Unit 1
 NOTRUMP Appendix K Small Break LOCA Evaluation**

Table 2-1c – Summary of Changes/Errors (2009)	
Description	Estimated Effect (Δ PCT)
None affecting PCT	N/A

Table 2-1d – Cumulative Impact of Changes/Errors	
Description	Δ PCT (°F)
• Changes/Errors Previously Reported (Reference 1)	42
• Current Year – 2009 (Reference 2)	0
Cumulative Total	42

**Joseph M. Farley Nuclear Plant – Unit 2
 ASTRUM Best Estimate Large Break LOCA Evaluation**

Table 2-2a – Summary of Changes/Errors (2009)	
Description	Estimated Effect (Δ PCT)
None affecting PCT	N/A

Table 2-2b – Cumulative Impact of Changes/Errors	
Description	Δ PCT (°F)
• Changes/Errors Previously Reported (Reference 1)	18
• Current Year – 2009 (Reference 2)	0
Cumulative Total	18

**Joseph M. Farley Nuclear Plant – Unit 2
 NOTRUMP Appendix K Small Break LOCA Evaluation**

Table 2-2c – Summary of Changes/Errors (2009)	
Description	Estimated Effect (Δ PCT)
None affecting PCT	N/A

Table 2-2d – Cumulative Impact of Changes/Errors	
Description	Δ PCT ($^{\circ}$F)
• Changes/Errors Previously Reported (Reference 1)	0
• Current Year – 2009 (Reference 2)	0
Cumulative Total	0

Enclosure 2 to NL-10-2340
Joseph M. Farley Nuclear Plant
10 CFR 50.46 ECCS Evaluation Model Annual Report for 2009

References:

1. Letter from Mark J. Ajluni to USNRC (NL-09-1838), "Edwin I. Hatch Nuclear Plant, Joseph M. Farley Nuclear Plant, Vogtle Electric Generating Plant 10 CFR 50.46 ECCS Evaluation Model Annual Reports for 2009," dated December 17, 2009
2. Westinghouse Letter LTR-LIS-10-86, "J. M. Farley Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2009," dated February 1, 2010

**Edwin I. Hatch Nuclear Plant
Joseph M. Farley Nuclear Plant
Vogtle Electric Generating Plant
10 CFR 50.46 ECCS Evaluation Model Annual Reports for 2009**

Enclosure 3

**Vogtle Electric Generating Plant
10 CFR 50.46 ECCS Evaluation Model Annual Report for 2009**

**Vogtle Electric Generating Plant – Unit 1
 BASH Large Break LOCA Evaluation**

Table 3-1a – Summary of Changes/Errors (2009)	
Description	Estimated Effect (Δ PCT)
None affecting PCT	N/A

Table 3-1b - Cumulative Impact of Changes/Errors	
Description	Δ PCT (°F)
• Changes/Errors Previously Reported (Reference 1)	40
• Current Year – 2009 (Reference 2)	0
Cumulative Total	40

**Vogtle Electric Generating Plant – Unit 1
 Appendix K Small Break LOCA Evaluation**

Table 3-1c – Summary of Changes/Errors (2009)	
Description	Estimated Effect (Δ PCT)
None affecting PCT	N/A

Table 3-1d – Cumulative Impact of Changes/Errors	
Description	Δ PCT (°F)
• Changes/Errors Previously Reported (Reference 1)	0
• Current Year – 2009 (Reference 2)	0
Cumulative Total	0

**Vogtle Electric Generating Plant – Unit 2
 BASH Large Break LOCA Evaluation**

Table 3-2a – Summary of Changes/Errors (2009)	
Description	Estimated Effect (Δ PCT)
None affecting PCT	N/A

Table 3-2b – Cumulative Impact of Changes/Errors	
Description	Δ PCT ($^{\circ}$F)
• Changes/Errors Previously Reported (Reference 1)	40
• Current Year – 2009 (Reference 2)	0
Cumulative Total	40

**Vogtle Electric Generating Plant – Unit 2
 Appendix K Small Break LOCA Evaluation**

Table 3-2c – Summary of Changes/Errors (2009)	
Description	Estimated Effect (Δ PCT)
None affecting PCT	N/A

Table 3-2d – Cumulative Impact of Changes/Errors	
Description	Δ PCT ($^{\circ}$F)
• Changes/Errors Previously Reported (Reference 1)	0
• Current Year – 2009 (Reference 2)	0
Cumulative Total	0

Enclosure 3 to NL-10-2340
Vogtle Electric Generating Plant
10 CFR 50.46 ECCS Evaluation Model Annual Report for 2009

References:

1. Letter from Mark J. Ajluni to USNRC (NL-09-1838), "Edwin I. Hatch Nuclear Plant, Joseph M. Farley Nuclear Plant, Vogtle Electric Generating Plant 10 CFR 50.46 ECCS Evaluation Model Annual Reports for 2008," dated December 17, 2009
2. Westinghouse Letter LTR-LIS-10-70, "Vogtle Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2009," dated January 27, 2010