



March 18, 2008

L-2008-046
10 CFR 50.46

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

Re: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Acceptance Criteria for Emergency Core Cooling
Systems for Light Water Nuclear Power Reactors
10 CFR 50.46 Annual Report

Pursuant to 10 CFR 50.46(a)(3)(ii), the nature of any change to or error discovered in the evaluation models for emergency core cooling systems (ECCS), or in the application of such models, that affect the fuel cladding temperature calculations for St. Lucie Units 1 and 2 is reported in the attachment to this letter. The estimated effect from any such change or error on the limiting ECCS analysis for each unit is also addressed. The data interval for the report is from January 1, 2007 through December 31, 2007.

Please contact us should you have any questions regarding this submittal.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Gordon L. Johnston', is written over the typed name.

Gordon L. Johnston
Site Vice President
St. Lucie Plant

GLJ/KWF

Attachment

A002
NR

St. Lucie Units 1 and 2
10 CFR 50.46 Annual Report

Emergency core cooling system (ECCS) analyses for St. Lucie Unit 1 and St. Lucie Unit 2 are performed by AREVA and Westinghouse Electric Company (W), respectively. The following information pertaining to the evaluation models for small break loss of coolant accidents (SBLOCA) and large break loss of coolant accidents (LBLOCA), and the application of such models to each St. Lucie unit, is provided pursuant to 10 CFR 50.46(a)(3)(ii). A summary of calculated peak cladding temperature (PCT) changes is provided in Table 1. The data interval for this report is from January 1, 2007 through December 31, 2007.

1.0 ST LUCIE UNIT 1

- 1.1 One error was found in the SBLOCA ECCS performance analysis since the previous report of Reference 3.1 and is described below. Table 1 summarizes the estimated impact of this error on the St. Lucie Unit 1 SBLOCA PCT. The limiting SBLOCA PCT remains at 1766° F.

Error in the SBLOCA bypass flow modeling

An error in the modeling of the SBLOCA bypass flow was identified during the year 2007. The bypass flow model in the St. Lucie Unit 1 SBLOCA analysis was not consistent with the methodology guidelines. The impact of this error is estimated to be 0 °F

- 1.2 No errors were found in the LBLOCA ECCS performance analysis since the previous report of Reference 3.1. The limiting LBLOCA PCT remains at 2047° F.

2.0 ST. LUCIE UNIT 2

- 2.1 No errors were found in the SBLOCA ECCS performance analysis since the previous report of Reference 3.1. The limiting SBLOCA PCT remains at 1943° F.

- 2.2 No errors were found in the LBLOCA ECCS performance analysis since the previous report of Reference 3.1. The limiting LBLOCA PCT remains at 2130° F.

REFERENCES

- 3.1 FPL Letter L-2007-040, Gordon L. Johnston. to USNRC Document Control Desk, St. Lucie Units 1 and 2, Docket Nos. 50-335 and 50-389, Acceptance Criteria for Emergency Core Cooling Systems for Light Water Nuclear Power Reactors: 10 CFR 50.46 Annual Report, March 22, 2007.

Table 1: 2007 St. Lucie Units 1 and 2 SBLOCA and LBLOCA PCT Summary

Unit 1 SBLOCA Summary	PCT
Year 2006 10 CFR 50.46 Annual Report (L-2007-040)	1766 °F
Change from error in SBLOCA bypass flow modeling	0 °F
Year 2007 10 CFR 50.46 Annual Report	1766 °F
Total cumulative change from last acceptable model (up to 12/31/07)	3 °F

Unit 1 LBLOCA Summary	PCT
Year 2006 10 CFR 50.46 Annual Report (L-2007-040)	2047 °F
Changes during 2007	0 °F
Year 2007 10 CFR 50.46 Annual Report	2047 °F
Total cumulative change from last acceptable model (up to 12/31/07)	44 °F

Unit 2 SBLOCA Summary	PCT
Year 2006 10 CFR 50.46 Annual Report (L-2007-040)	1943 °F
Changes during 2007	0 °F
Year 2007 10 CFR 50.46 Annual Report	1943 °F
Total cumulative change from last acceptable model (up to 12/31/07)	0 °F

Unit 2 LBLOCA Summary	PCT
Year 2006 10 CFR 50.46 Annual Report (L-2007-040)	2130 °F
Changes during 2007	0 °F
Year 2007 10 CFR 50.46 Annual Report	2130 °F
Total cumulative change from last acceptable model (up to 12/31/07)	0 °F