Progress Energy

SERIAL: HNP-06-077
10 CFR 50.46

MAY 24 2006

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

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
EMERGENCY CORE COOLING SYSTEM EVALUATION CHANGES

Ladies and Gentlemen:

The purpose of this letter is to submit information required by 10 CFR 50.46 for the Harris Nuclear Plant (HNP), of Carolina Power & Light Company (doing business as Progress Energy Carolinas, Inc.), concerning the effect of errors or changes in the application of the Emergency Core Cooling System (ECCS) evaluation models. This letter satisfies the requirement for HNP to submit an annual report in accordance with 10 CFR 50.46(a)(3)(ii).

The HNP ECCS performance following a large break loss of coolant accident (LBLOCA) is calculated by HNP's fuel vendor, Framatome-ANP, using the SEM/PWR-98 ECCS Evaluation Model for PWR LBLOCA Applications. The ECCS performance following a small break loss of coolant accident (SBLOCA) is calculated for HNP by Framatome-ANP using the EXEM PWR Small Break Model.

The previous HNP annual report to the NRC was provided by letter dated May 25, 2005, which documented a SBLOCA PCT of 1701°F and a LBLOCA PCT of 2102°F. There have been no errors or changes in the LBLOCA models or results that would require a 30-day report under 10CFR50.46. Attachment 1 provides a summary of the impact of errors on PCT since the May 2005 report. As described in Attachment 2, there have been no reported errors associated with SBLOCA Model. One error was reported to HNP that did not increase the LBLOCA PCT as described in Attachment 3. The SBLOCA and LBLOCA PCT values remain unchanged at 1701°F and 2102°F, respectively.

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This letter contains no new regulatory commitments. Please contact me if you have any questions regarding this submittal at (919) 362-3137.

Sincerely,

D. H. Corlett
Supervisor, Licensing - Regulatory Programs
Harris Nuclear Plant

DHC/khv

c: Mr. R. A. Musser, NRC Sr. Resident Inspector
Mr. C. P. Patel, NRC Project Manager
Dr. W. D. Travers, NRC Regional Administrator

Harris Nuclear Plant Small Break LOCA
Peak Clad Temperature Summary

	Peak Clad Temperature (°F)
Value Reported 5/25/2005	1701
Reported Error Impact	None
New SBLOCA PCT Value	1701

Harris Nuclear Plant Large Break LOCA
Peak Clad Temperature Summary

	Peak Clad Temperature (°F)
Value Reported 5/25/2005	2102
Reported Error Impact	
A. Interpolation outside of Data Table in ICECON Calculation of Steam Condensation Rate	0
New LBLOCA PCT Value	2102

10 CFR 50.46 Small Break LOCA Model Errors

None

10 CFR 50.46 Large Break LOCA Model Errors

Interpolation Error in ICECON Calculation of Steam Condensation Rate

An error was identified in the ICECON code used in the RFPAC code which is part of the SEM/PWR-98 LOCA methodology. The error involved array indices that caused interpolation outside of a data table. The error involved calculation of steam condensation rate. The error was discovered during conversion of the code to a different FORTRAN compiler. The PCT impact of the error is estimated to be 0°F for HNP.