



JUN 04 2003

SERIAL: HNP-03-061
10 CFR 50.46

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 Progress Energy Carolinas, Inc. (also known as Carolina Power & Company), concerning the effect of changes in the application of the Emergency Core Cooling System (ECCS) evaluation models. This letter satisfies HNP's requirement for both a 30-day report and an annual report in accordance with 10 CFR 50.46(a)(3)(ii).

On May 9, 2003, HNP completed the reactor core validation mapping for Cycle 12. The new HNP Cycle 12 large break loss of coolant accident (LBLOCA) analysis of record resulted in a peak cladding temperature (PCT) increase of 101°F relative to the latest reported PCT. Since the sum of the absolute magnitudes of the respective temperature changes is greater than 50°F, a 30-day report is required in accordance with 10 CFR 50.46(a)(3)(ii).

The HNP ECCS performance following a LBLOCA is calculated by HNP's fuel vendor, Framatome ANP, using the SEM/PWR-98 ECCS Evaluation Model for 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 LOCA Model.

HNP's previous report to the NRC was provided by letter dated September 16, 2002, which documented a LBLOCA PCT of 1998°F and a SBLOCA PCT of 1712°F. The new HNP Cycle 12 LBLOCA PCT increased 101°F relative to the previously reported value. No errors were identified that affect the HNP LBLOCA, therefore the new Cycle 12 analysis of record predicts a LBLOCA PCT of 2099°F. No changes or errors were identified that affect the HNP SBLOCA, therefore the SBLOCA PCT remains at 1712°F.

Progress Energy Carolinas, Inc.
Harris Nuclear Plant
P.O. Box 165
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Analysis by Framatome ANP has demonstrated that:

- (1) The values for PCT, maximum cladding oxidation, and maximum hydrogen generation remain below the limits specified in 10 CFR 50.46(b),
- (2) The core remains amenable to cooling during the transient, and
- (3) Long term cooling following the transient can be maintained.

Therefore, HNP remains in compliance with the requirements specified in 10 CFR 50.46(b).

Please feel free to contact me at (919) 362-3137 if you have any questions regarding this submittal.

Sincerely,



John R. Caves
Supervisor, Licensing/Regulatory Programs
Harris Nuclear Plant

JRC/jpy

c: Mr. J. B. Brady, NRC Sr. Resident Inspector
Mr. C. P. Patel, NRC Project Manager
Mr. L. A. Reyes, NRC Regional Administrator