



Serial: NPD-NRC-2010-056  
July 14, 2010

10CFR50.46(a)(3)

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

**10 CFR 50.46 THIRTY (30) DAY REPORT FOR THE AP1000 STANDARD PLANT DESIGN  
SHEARON HARRIS NUCLEAR POWER PLANT, UNITS 2 AND 3  
DOCKET NOS. 52-022 AND 52-023**

- References:
1. Letter from James Scarola (PEC) to R. William Borchardt (NRC), dated February 18, 2008, "Application for Combined License for Shearon Harris Nuclear Power Plant Units 2 and 3 NRC Project Number 738"
  2. Letter from Robert Sisk (WEC) to U.S. NRC Document Control Desk (NRC), dated June 30, 2010, "10 CFR 50.46 Thirty (30) Day Report for the AP1000 Standard Plant Design"

Ladies and Gentlemen:

By letter dated February 18, 2008, Progress Energy Carolinas, Inc. (PEC) submitted an application for combined licenses (COLs) for proposed Shearon Harris Nuclear Power Plant Units 2 and 3 to the U.S. Nuclear Regulatory Commission (NRC) for two Westinghouse AP1000 reactor plants, in accordance with 10 CFR Part 52 (Reference 1). The purpose of this letter is to provide a required 30-day report in accordance with 10 CFR 50.46(a)(3)(ii), for the combined license application submitted for Shearon Harris Nuclear Power Plant (HAR) Units 2 and 3.

Pursuant to 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," Westinghouse Electric Company (WEC) submitted a report (letter number DCP\_NRC\_002943 dated June 30, 2010) to document an emergency core cooling system (ECCS) evaluation model error that affects the temperature calculation for the AP1000 Standard Plant Design. A 30 day report is required if the peak cladding temperature (PCT) error assessed is greater than 50°F. The WEC letter transmitted 10 CFR 50.46 reporting information for errors discovered in the AP1000 Design Control Document (DCD) small-break loss of coolant accident (LOCA) analysis-of-record (AOR) for the Loss of Coolant Accident (LOCA) 10-inch Transient Adiabatic Heat-up Calculation. Details of the error and WEC actions to correct the error were provided in the above referenced WEC letter.

Progress Energy Carolinas, Inc. COL application for proposed HAR Units 2 and 3 incorporates by reference the AP1000 design control document (DCD), and thus, utilizes the peak cladding temperature calculations performed by WEC. Therefore, the WEC report is also applicable to the HAR Units 2 and 3 COL Application.

Progress Energy Carolinas, Inc.  
P.O. Box 1551  
Raleigh, NC 27602

DOB4  
NRC

If there are any questions regarding this report, please contact me at (919) 546-6992.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert H. Kitchen". The signature is fluid and cursive, with the first name being the most prominent.

Robert H. Kitchen  
Manager-Nuclear Plant Licensing  
New Generation Programs and Projects

cc : U.S. NRC Region II, Regional Administrator  
U.S. NRC Resident Inspector, SHNPP Unit 1  
Mr. Brian Hughes, U.S. NRC Project Manager