



**Carolina Power & Light Company**

Robinson Nuclear Plant  
3581 West Entrance Road  
Hartsville SC 29550

Serial: RNP-RA/99-0225

**NOV 19 1999**

United States Nuclear Regulatory Commission

Attn: Document Control Desk

Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

DOCKET NO. 50-261/LICENSE NO. DPR-23

**REPORT OF SIGNIFICANT ERRORS IN THE APPLICATION  
OF THE SMALL BREAK LOSS OF COOLANT ACCIDENT MODEL**

Ladies and Gentlemen:

This letter submits information to the NRC required in accordance with 10 CFR 50.46(a)(3)(ii) for the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, regarding the estimated effect of changes in the application of the Siemens Power Corporation (SPC) Small Break Loss-of-Coolant Accident (SBLOCA) evaluation model<sup>1</sup>. The sum of the absolute values of the estimated effects on calculated Peak Clad Temperature (PCT) of these changes, and previous errors reported by Carolina Power & Light (CP&L) Company letter dated May 20, 1999, are greater than 50°F. The effective date of these changes is the date of reactor criticality at the beginning of operating cycle 20, which is October 23, 1999. Therefore, the estimated effect on PCT is required to be reported to the NRC within 30 days, in accordance with 10 CFR 50.46(a)(3)(ii). The changes and the impact on PCT are discussed below.

SPC has analyzed the effect of operating cycle 20 fuel using the approved SBLOCA evaluation model. The net effect of changes in fuel parameters associated with cycle 20 operation for the SBLOCA has resulted in an increase in PCT during the Emergency Core Cooling System (ECCS) Injection Mode of +30°F.

Emergency operating procedures have been revised to ensure that certain switchover operations from the ECCS Injection Mode to the ECCS Recirculation Mode are limited in duration to 10 minutes. The previous duration limit for the affected emergency operations was 3 minutes. SPC has analyzed the effect of the 10 minute switchover time for the SBLOCA. The estimated effect of this change in PCT for the switchover from the ECCS Injection Mode to the ECCS

<sup>1</sup> XN-NF-82-49(P)(A), "EXEM PWR Small Break Model," Revision 1, Supplement 1, December 1994.

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Recirculation Mode is a PCT of +900°F as compared to no PCT increase (i.e., no heat-up) previously.

The reported PCT value for the SBLOCA during the ECCS Injection Mode is raised from 1980.6°F to 2010.6°F. The reported PCT value for the SBLOCA during the switchover to the ECCS Recirculation Mode is raised from no PCT increase (i.e., no heat-up) to 900°F.

The current PCTs associated with the Large Break Loss-of-Coolant Accidents (LBLOCA) and the SBLOCA are listed below.

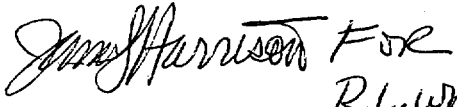
| <u>Event</u>                          | <u>PCT (°F)</u> |
|---------------------------------------|-----------------|
| LBLOCA ECCS Injection Mode            | 2114            |
| LBLOCA Transfer to Recirculation Mode | 2102            |

| <u>Event</u>                          | <u>PCT (°F)</u> |
|---------------------------------------|-----------------|
| SBLOCA ECCS Injection Mode            | 2010.6          |
| SBLOCA Transfer to Recirculation Mode | 900             |

The new PCT reported values for the SBLOCA represents a new analysis of the HBRSEP, Unit No. 2, SBLOCA PCT. Therefore no reanalysis of the SBLOCA is needed.

If you have any questions concerning this matter, please contact me or Mr. H. K. Chernoff.

Sincerely,

 FOR  
R. L. WARDEN  
Manager, Regulatory Affairs

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