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U. S. Nuclear Regulatory Commission  
Attn.: Document Control Center  
Mail Station OP1-17  
Washington, D. C. 20555

**SUSQUEHANNA STEAM ELECTRIC STATION**  
**10 CFR 50.46 REPORT – 30 DAY REPORT**  
**PLA-5326**

**Docket Nos. 50-387**  
**and 50-388**

- References:*
- 1) NE-092-001 A, Revision 1, "Licensing Topical Report for Power Uprate with Increased Core Flow," Pennsylvania Power & Light Company, December 1992 and associated NRC SER dated November 30, 1993.
  - 2) Letter from R. G. Byram (PPL) to the U. S. Nuclear Regulatory Commission, "10 CFR 50.46 Report," November 13, 2000 (PLA-5256).
  - 3) General Electric/Global Nuclear Fuel 10 CFR 50.46 Notification Letter 2000-04 dated November 8, 2000 regarding "Impact of SAFER Time Step Size on the Peak Clad Temperature (PCT) for Jet Pump Plant Analysis" (Proprietary)
  - 4) General Electric/Global Nuclear Fuel 10 CFR 50.46 Notification Letter 2001-01 dated May 8, 2001 (via E-mail) regarding "Impact of SAFER Condensation Error on the Peak Clad Temperature (PCT)" (Proprietary)
  - 5) General Electric/Global Nuclear Fuel 10 CFR 50.46 Notification Letter 2001-02 dated May 10, 2001 (via E-mail) regarding "Impact of SAFER Pressure Rate Inconsistency Error on the Peak Clad Temperature (PCT)" (Proprietary)
  - 6) PLA-5276, R. G. Byram To USNRC, Proposed Amendment No. 235 to License NPF-14 and Proposed Amendment No. 200 To NPF-22: Power Uprate dated 02/08/2001.

This report is being sent in accordance with 10 CFR 50.46 (a)(3)(ii), which requires a 30 day report for significant changes ( $> 50^{\circ}\text{F}$ ) to or errors in evaluation models used for calculating Emergency Core Cooling System (ECCS) performance.

On May 8 and 10, 2001, General Electric/Global Nuclear Fuel notified PPL Susquehanna LLC of errors in the SAFER/GESTR-LOCA methodology that was employed for the SPC 9x9-2 fuel resident in Susquehanna SES (Reference 1). SPC 9x9-2 fuel is no longer resident in Unit 2, thus these changes only apply to Unit 1. These two changes plus a change identified by reference 3 apply to the GE 10 CFR 50.46 LOCA methodology since the last PPL Susquehanna, LLC annual report (Reference 2).

The first error involves the sensitivity of time step size on the calculated results (Reference 3). The second error involves an over-accounting of condensation in one region of the evaluation model (Reference 4). The third error concerns the use of

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inconsistent core exit steam flow in the calculation of reactor pressure (Reference 5). The specific changes in the Licensing Basis PCT for Susquehanna SES due to the errors in the SAFER analyses are listed in Table 1. The total error listed in the last column of Table 1 meets the significance threshold for change (50°F) identified in 10 CFR 50.46(a)(3)(i) for which a 30-day report is required.

The ability of the ECCS to meet the requirements of 10CFR50.46 are not adversely impacted. Estimated peak clad temperature (PCT), corrected for these errors, remain below the 2200°F requirement of 10 CFR 50.46(b)(1). The SAFER/GESTR Methodology SER restriction of 1600°F for the Upper Bound PCT is also met when these errors are considered. In addition, the results still conform to the other 10 CFR 50.46 paragraph(b) criteria.

**Table 1**  
**General Electric SAFER/GESTR-LOCA**  
**Changes and/or Errors in Calculated ECCS Performance**

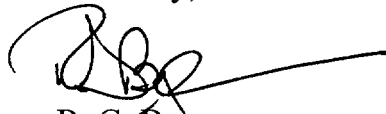
Description of Change/Error	Estimated $\Delta$ PCT (°F)	Absolute Value of $\Delta$ PCT (°F)
SAFER Time Step Size.	-5	5
SAFER Condensation Error.	45	45
SAFER Pressure Rate Inconsistency Error.	10	10
<b>Total</b>	<b>50</b>	<b>60</b>

The changes and conclusions of this letter are also applicable to the proposed power uprate (reference 6) and do not alter the conclusions of reference 6.

PPL Susquehanna, LLC will continue to track future changes to the evaluation models used in the above LOCA analyses to ensure that the PCT values remain below the 10 CFR 50.46 limit, and to ensure that the 10 CFR 50.46 reporting requirements are met.

Please contact Mr. M. H. Crowthers at (610) 774-7766, if there are any questions concerning this letter.

Sincerely,

  
R. G. Byram  
copy: NRC Region I

Mr. S. Hansell, NRC Sr. Resident Inspector  
Mr. R. G. Schaaf, NRC Project Manager