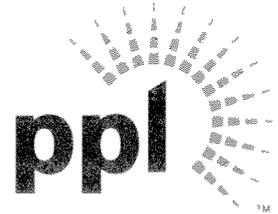


**Timothy S. Rausch**  
Sr. Vice President & Chief Nuclear Officer

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**JUN 25 2010**

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Mail Stop OP1-17  
Washington, DC 20555-0001

**SUSQUEHANNA STEAM ELECTRIC STATION**  
**10 CFR 50.46 - ANNUAL REPORT**  
**PLA-6622**

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

*References: 1) PPL Letter PLA-6525, from W. H. Spence (PPL)  
to Document Control Desk (NRC), "10 CFR 50.46 - Annual Report,"  
dated June 30, 2009.*

This report is being sent in accordance with 10 CFR 50.46(a)(3)(ii).

10 CFR 50.46(a)(3)(ii) requires (in part) annual reporting of changes to or errors in evaluation models used for calculating Emergency Core Cooling System (ECCS) performance, and an estimate of their effect on the limiting ECCS analysis. Additionally, a proposed schedule is required for re-analysis or identification of other actions necessary to show compliance with 10 CFR 50.46 requirements.

The ECCS performance evaluation method applicable to both Susquehanna SES Unit 1 and Unit 2 is the AREVA EXEM BWR – 2000 LOCA Methodology.

Susquehanna SES Units 1 and 2 operated at Extended Power Uprate Conditions (EPU) with a licensed thermal power of 3952 MWth. Since the submittal of the last annual 10 CFR 50.46 report (Reference 1) until June 11, 2010, there have been no non-zero PCT changes reported to PPL Susquehanna, LLC for Units 1 and 2. Thus, the current licensing basis PCT remains valid and no further actions are required. This letter meets the annual reporting requirements.

PPL Susquehanna, LLC will continue to track future changes to the evaluation models used in the applicable LOCA analysis methods 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.

If you have any questions, please contact Mr. Michael H. Crowthers, Manager - Nuclear Regulatory Affairs at (610) 774-7766.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. S. Rausch', with a large, stylized flourish at the end.

T. S. Rausch

Copy: NRC Region I  
Mr. P. W. Finney, NRC Sr. Resident Inspector  
Mr. R. V. Guzman, NRC Sr. Project Manager  
Mr. R. R. Janati, DEP/BRP