

**Robert G. Byram**  
Senior Vice President and  
Chief Nuclear Officer

**PPL Susquehanna, LLC**  
Two North Ninth Street  
Allentown, PA 18101-1179  
Tel. 610.774.7502 Fax 610.774.5019  
rgbyram@pplweb.com



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U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station OP1-17  
Washington, DC 20555

**SUSQUEHANNA STEAM ELECTRIC STATION  
REPORT OF PPL 10CFR21 EVALUATION FOR  
SIEMENS POWER CORPORATION PUMP SEIZURE  
ANALYSIS ERROR  
PLA-5265**

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

*Reference: Mr. James F Mallay, Siemens Power Corporation, "Evaluation of a Deviation in Pump Seizure Methodology" to NRC, dated October 19, 2000.*

The above reference documented a non-conservative code modeling error in the Siemens Power Corporation (SPC) pump seizure analysis for Susquehanna Steam Electric Station (SSES) Unit 1 Cycle 12 (U1C12) and Unit 2 Cycle 10 (U2C10). In particular, during review of the code modeling for the pump seizure analysis, SPC discovered that an inappropriate model of the recirculation pump impeller flow resistance had been implemented. This modeling is part of the pump seizure analysis performed to establish minimum critical power ratio (MCPR) operating limits to ensure that the offsite radiological doses meet regulatory requirements.

SPC and PPL perform analyses for the seizure of one recirculation pump during two-loop operation and the seizure of the active recirculation pump during single loop operation. SPC and PPL determined that two-loop operation is not affected, because the existing MCPR operating limits bound the consequences of the error in the SPC model.

Based on the results of further calculations, PPL concluded that there is not sufficient conservatism in the MCPR Operating Limits to assure that the radiological consequences of a pump seizure accident while operating in single loop meet design acceptance criteria. Accordingly, the MCPR operating limits have been revised.

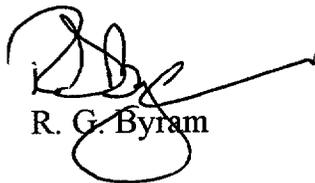
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PPL has determined that this error does not constitute a substantial safety hazard as defined in 10CFR21. Regulatory guidance states that dose consequences (i.e., the acceptance criteria for this event) must reach 10CFR100 limits to constitute a substantial safety hazard. The results of our analysis indicate that the dose consequences for the error in question would be approximately 20% of these limits.

Additionally, for the event to have such consequences, it would have to occur over a limited portion of the allowable flow range (i.e., at lower core flows) and SSES would have to be operating at the MCPR limit. Moreover, SSES has never actually operated in single loop as defined in the plant Technical Specifications.

Further documentation of PPL's analysis of this issue is on file. Any questions should be directed to Mr. R. R. Sgarro – Nuclear Licensing, at (610) 774-7552.

Sincerely,



R. G. Byram

Copy: Regional Administrator – Region I  
Mr. S. L. Hansell, NRC Sr. Resident Inspector  
Mr. R. G. Schaff, NRC Sr. Project Manager