Brad Berryman
Site Vice President

Susquehanna Nuclear, LLC
769 Salem Boulevard
Berwick, PA 18603
Tel. 570.542.2904 Fax 570.542.1504
Brad.Berryman @TalenEnergy.com

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10 CFR 50.46

SUSQUEHANNA STEAM ELECTRIC STATION (SSES)
10 CFR 50.46 - ANNUAL REPORT **Docket Nos. 50-387**
PLA-7606 **and 50-388**

Reference 1: PLA-7475, J. A. Franke (Susquehanna Nuclear, LLC) to Document Control Desk (USNRC), "Susquehanna Steam Electric Station, 10 CFR 50.46 – Annual Report," dated June 7, 2016.

Reference 2: AREVA Record FS1-0031872, Revision 1.0, "10 CFR 50.46 PCT Error Reporting for the Susquehanna Units," dated April 26, 2017.

Pursuant to the reporting requirements of 10 CFR 50.46(a)(3)(ii) Susquehanna Steam Electric Station (SSES) is submitting the Emergency Core Cooling System (ECCS) evaluation model annual report for SSES Units 1 and 2.

Attachment 1 to this letter summarizes the nature of and estimated effect of any changes or errors in the ECCS models for SSES Units 1 and 2 for the reporting period of April 28, 2016 through April 26, 2017.

There are no new regulatory commitments contained in this submittal.

If you have any questions regarding this letter, please contact Mr. Jason R. Jennings, Manager - Nuclear Regulatory Affairs, at (570) 542-3155.

Sincerely,

JOWES (Plant Manager)
for

B. Berryman

Attachment 1 – SSES Units 1 & 2 – 10 CFR 50.46 ECCS Evaluation Model Annual Report

Copy: NRC Region I
Ms. T. E. Hood, NRC Project Manager
Ms. L. Micewski, NRC Sr. Resident Inspector
Mr. M. Shields, PA DEP/BRP

Attachment 1 to PLA- 7606

SSES Units 1 & 2 –

10 CFR 50.46 ECCS Evaluation Model Annual Report

BACKGROUND

In accordance with 10 CFR 50.46(a)(3)(ii), this annual report summarizes the nature of and estimated effect of any changes or errors in the Emergency Core Cooling System (ECCS) model for the period April 28, 2016 through April 26, 2017 for Susquehanna Steam Electric Station (SSES) Units 1 and 2.

DISCUSSION

The ECCS performance evaluation method applicable to both SSES Unit 1 and Unit 2 is the AREVA NP EXEM BWR-2000 LOCA Methodology.

For the reporting period of April 28, 2016 to April 26, 2017, there have been two reportable changes for 10 CFR 50.46 as stated in Reference 2:

1) Previous analyses have been performed on a DEC ALPHA computer platform. New analyses have been qualified on a LINUX based computer platform. The impact of the change in platforms was estimated to have an insignificant impact on Peak Clad Temperature (PCT). Therefore, the 10 CFR 50.46 reportable impact is estimated as 0°F.

2) Previous versions of the heatup code HUXY allowed a limited number of different rod types to be modeled. The method grouped rods that had similar local peaking histories. HUXY has been revised to no longer have a limited number of rod groupings. This change in rod grouping resulted in a 1°F decrease in PCT. Therefore, the 10 CFR 50.46 reportable impact is estimated as -1°F.

The total change listed in the last column of Table 1 does not meet the significance threshold for change (50°F) identified in 10 CFR 50.46(a)(3)(i) for which a 30-day report is required.

IMPACT

Table 1
Non-Zero Changes and/or Errors in Calculated ECCS Performance
Evaluation Model: AREVA NP EXEM BWR-2000 Methodology

Description of Change/Error		Estimated ΔPCT (°F)	Absolute Value of ΔPCT (°F)
HUXY capability enhancement to model each fuel rod individually		-1	1
	Total	-1	1

CONCLUSION

As documented in Table 1, the SSES Unit 1 and Unit 2 Loss of Coolant Accident analysis Peak Clad Temperature (PCT) remains in compliance with 10 CFR 50.46(b)(1), which requires that the PCT shall not exceed 2200°F.