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U. S. Nuclear Regulatory Commission
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SUSQUEHANNA STEAM ELECTRIC STATION
10 CFR 50.46 REPORT
PLA-5132

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 (PP&L) to the U. S. Nuclear Regulatory Commission, "10 CFR 50.46 Report," November 17, 1998 (PLA-5002).*
- 3) *Letter from G. A. Watford (GE) to Chief, Reactor Systems Branch of the U. S. Nuclear Regulatory Commission, "Summary of Changes and Errors in ECCS Evaluation Models," June 30, 1999 (MFN-004-99).*
- 4) *ANF-91-048(P)(A), "Advanced Nuclear Fuels Corporation Methodology for Boiling Water Reactors EXEM BWR Evaluation Model," January 1993.*
- 5) *Letter from H. D. Curet (SPC) to Chief, Planning, Program and Management Support Branch of the U.S. Nuclear Regulatory Commission, "1998 - Annual Report of Changes and Errors in ECCS Evaluation Models," February 26, 1999 (NRC:99:001).*

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

General Electric SAFER/GESTR-LOCA

In December 1992, as part of the Susquehanna SES Units 1 & 2 Power Uprate Program, the SAFER/GESTR-LOCA methodology was employed for the SPC 9x9-2 fuel resident in Susquehanna SES (Reference 1). The following change applies to the GE 10 CFR 50.46 LOCA methodology since the last PP&L, Inc. annual report (Reference 2).

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Reference 3 reports a Peak Cladding Temperature (PCT) change (error) in the calculation of Counter Current Flow Limiting (CCFL) coefficients that affects all GE BWR LOCA analyses. The specific change for SSES due to the error in the calculation of CCFL coefficients is 25°F. Table 1 provides a description of the changes. The total error 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.

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

Description of Change/Error	Estimated ΔPCT (°F)	Absolute Value of ΔPCT (°F)
Counter Current Flow Limiting (CCFL) Coefficients in SAFER Analyses for GE8, GE9, GE10, and Siemens Fuels.	25	25
Total	25	25

Siemens Power Corporation (SPC) EXEM/BWR LOCA Analysis

In April 1997, the SPC EXEM/BWR LOCA methodology (Reference 4) was employed in support of the first reload of SPC ATRIUM-10 fuel at SSES Unit 2. The following change applies to the SPC 10 CFR 50.46 LOCA methodology since the last annual report (Reference 2).

Reference 5 reports PCT changes that cover all SPC BWR LOCA analyses through December 31, 1998. All non-zero PCT errors identified in Reference 5 were previously reported in Reference 2. Two additional changes in PCT, due to errors in the RELAX code, were reported to PP&L, Inc. in February of 1999. The specific change in PCT for the Susquehanna Steam Electric Station due to errors in the RELAX code is 20°F. Table 2 provides a description of the changes. The combination of the errors listed in the last column of Table 2 do 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.

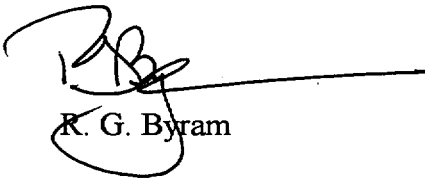
Table 2
Siemens Power Corporation EXEM/BWR LOCA Analysis
Changes and/or Errors in Calculated ECCS Performance

Description of Change/Error	Estimated Δ PCT ($^{\circ}$ F)	Absolute Value of Δ PCT ($^{\circ}$ F)
Incorrect RELAX Decay Heat Renormalization.	10	10
Incorrect RELAX Fuel Average Temperature.	10	10
Total	20	20

PP&L, Inc. 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. R. D. Kichline at (610) 774-7705, if there are any questions concerning this letter.

Sincerely,



R. G. Byram

copy: NRC Region I
Mr. J. Hansell, NRC Acting Sr. Resident Inspector
Mr. V. Nerses, NRC Sr. Project Manager