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SUBJECT: Submits 10CFR50.46 rept which describes changes to or errors in acceptable evaluation models used for calculating ECCS performance for SSES, Units 1 & 2.

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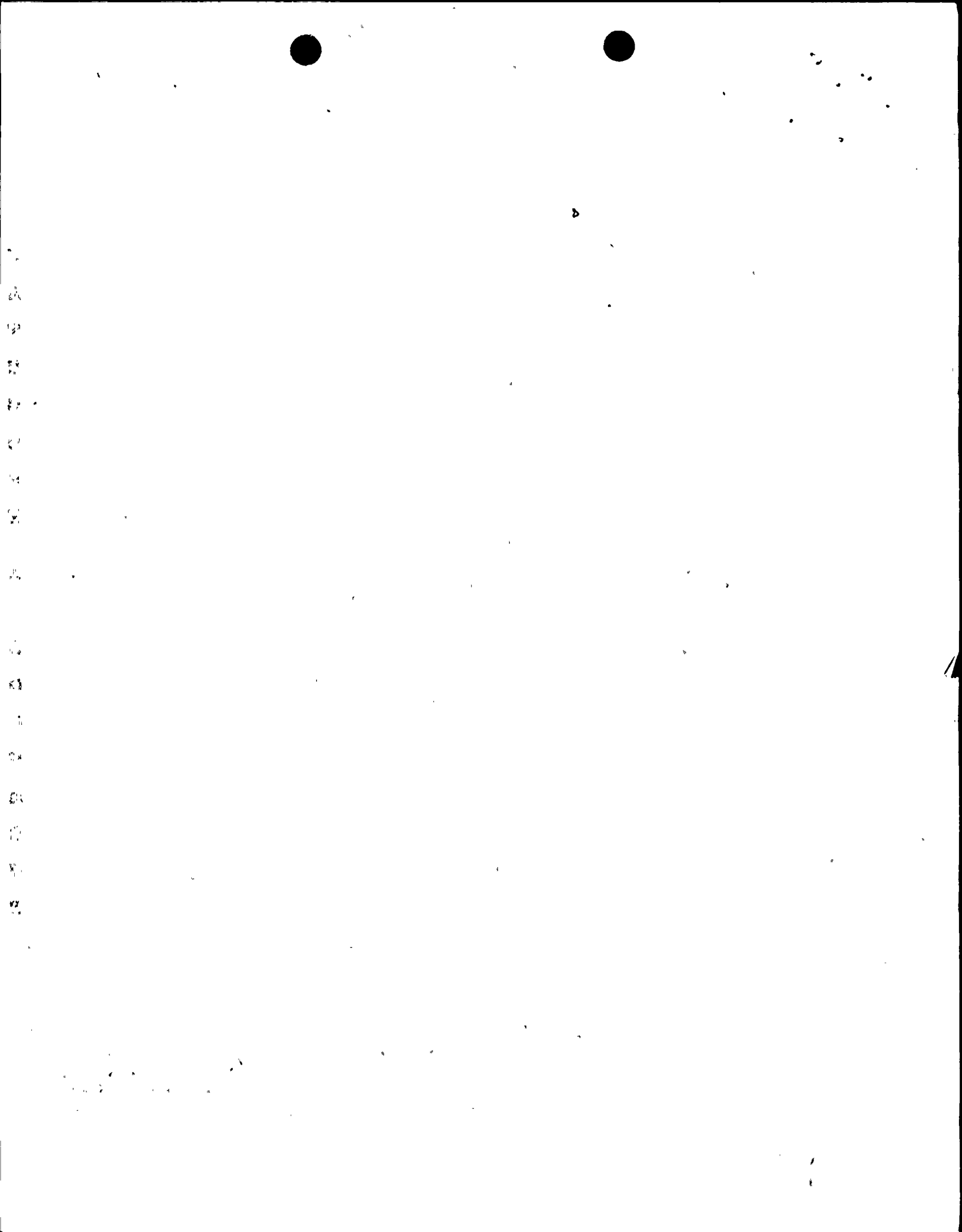
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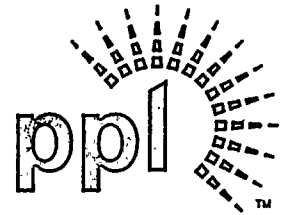
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SUSQUEHANNA STEAM ELECTRIC STATION  
10 CFR 50.46 REPORT  
PLA-4793 FILE R41-2

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 S. J. Stark (GE) to the Office of Nuclear Reactor Regulation, "Reporting of Changes and Errors in ECCS Evaluation Models," June 26, 1992 (MFN No. 058-92).
- 3) Letter from R. C. Mitchell (GE) to the Office of Nuclear Reactor Regulation, "Reporting of Changes and Errors in ECCS Evaluation Models," June 30, 1993 (MFN No. 090-93).
- 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, "96/97 - Annual Reporting of Changes and Errors in ECCS Evaluation Models," September 2, 1997 (HDC:97:092).
- 6) NRC Information Notice 97-15, "Reporting of Errors and Changes in Large Break Loss-of-Coolant Accident Evaluation Models of Fuel Vendors and Compliance With 10 CFR 50.46(a)(3)," April 4, 1997.

This report is being sent in accordance with 10 CFR 50.46 and describes changes to or errors in acceptable evaluation models used for calculating Emergency Core Cooling System (ECCS) performance for Susquehanna SES Units 1 and 2.

Since the 1988 revision to 10 CFR 50.46, fuel vendors have been compiling all changes and errors in approved ECCS evaluation methods and providing that information to the NRC. It had been PP&L, Inc.'s opinion based on discussions with the fuel vendors that these generic reports satisfied the requirements of 10 CFR 50.46(a)(3)(ii). The NRC staff has recently informed the industry (Reference 6) that each licensee must file 10 CFR 50.46 reports for each licensed plant.

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PDR



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). Based on discussions with GE, the GE 10 CFR 50.46 reports that apply to the SAFER/GESTR-LOCA methodology from 1992 to the present are References 2 and 3. The PCT changes in References 2 and 3 add up to a cumulative total of 65°F. This 65°F change meets the 30 day notification requirements in 10 CFR 50.46(a)(3)(ii) because the change in PCT is greater than 50°F for the accumulation of the absolute magnitude of changes or errors in the evaluation models or their application.

After adding 65°F to the Licensing Basis PCT for the Susquehanna SES Units 1 and 2 9x9-2 fuel, there is still 600°F margin to the 2200°F limit specified in 10 CFR 50.46. Since the resulting PCT is well below the temperature range where cladding oxidation and hydrogen generation become significant, the core-wide metal-water reaction and maximum local oxidation remain well within the 10 CFR 50.46 limits. The Susquehanna SES Units 1 and 2 9x9-2 fuel statistical Upper Bound PCT of 1320°F plus the 65°F change remains well below the 1600°F limit specified in the NRC acceptance of the SAFER/GESTR methodology.

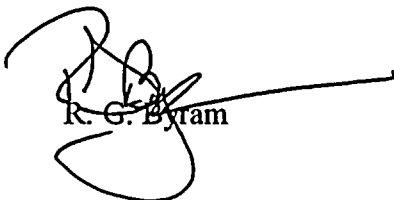
Siemens Power Corporation EXEM/BWR LOCA Analysis

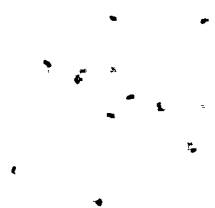
In April 1997, the SPC EXEM/BWR LOCA methodology (Reference 4) was employed in support of the first reload of SPC ATRIUM-10 fuel at Susquehanna SES Unit 2. Based on a discussion with SPC, the only SPC 10 CFR 50.46 report that applies to the current SPC LOCA methodology used for Susquehanna SES is contained in Reference 5. Because the Susquehanna SES analyses were performed subsequent to Reference 5 and have incorporated Reference 5 changes, there is no PCT change required for the Susquehanna SES Unit 2 LOCA analyses for the SPC ATRIUM-10 fuel.

PP&L, Inc. will continue to track future changes and errors in 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.

For further information please contact Mr. Anthony J. Roscioli at (610) 774-4019.

Sincerely,

  
R. G. Byram



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