

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

April 28, 2017

10 CFR 50.46

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

Serial No. 17-158  
NRA/GDM R0  
Docket Nos. 50-280/281  
License Nos. DPR-32/37

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**SURRY POWER STATION UNITS 1 AND 2**  
**EMERGENCY CORE COOLING SYSTEM (ECCS) MODEL CHANGE PURSUANT TO**  
**THE REQUIREMENTS OF 10 CFR 50.46**  
**SUBMITTAL SCHEDULE COMMITMENT CHANGE**

By letter dated July 10, 2012 (Reference 1), Virginia Electric and Power Company (Dominion) submitted information regarding an evaluation of fuel pellet thermal conductivity degradation (TCD) with fuel burnup in the Westinghouse Best Estimate Large Break Loss of Coolant Accident (LBLOCA) analysis methodology for Surry Power Station (SPS) Units 1 and 2 and its effect on peak cladding temperature (PCT). In addition, a commitment was made to submit to the NRC for review and approval a LBLOCA analysis that applies NRC-approved methods that include the effects of fuel pellet TCD. A commitment due date of June 15, 2017 was indicated. The commitment date was based on the completion of two milestones that would allow a revised licensing basis LBLOCA analysis with an NRC-approved ECCS Evaluation Model (EM) that explicitly accounts for TCD. The two milestones are as follows:

- 1) NRC approval of a fuel performance analysis methodology that includes the effects of TCD. The new methodology for developing inputs to the LBLOCA EM would replace the current SPS licensing basis methodology in WCAP-15063-P-A, Revision 1 (Reference 2), which is referenced in Section 3.4 of the SPS Updated Final Safety Analysis Report (UFSAR).
- 2) NRC approval of a LBLOCA EM that includes the effects of TCD and accommodates the ongoing 10 CFR 50.46(c) rulemaking process. The new methodology would replace the current licensing basis analysis methodology in WCAP-16009-P-A (Reference 3), which is referenced in Section 14.5 of the SPS UFSAR.

The LBLOCA analysis commitment for SPS Units 1 and 2 will utilize the Westinghouse FULL SPECTRUM™ LOCA (FSLOCA™) Evaluation Model with fuel rod inputs that explicitly account for fuel pellet TCD based on the Westinghouse PAD5 fuel performance code. The Westinghouse PAD5 topical report intended to replace the current SPS licensing basis method is presently in NRC review. As a result of the delay in completing the milestones for the analysis methodologies, the June 15, 2017

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commitment date cannot be met. This letter revises the commitment date for submittal of the LBLOCA analysis for SPS Units 1 and 2 from June 15, 2017 to August 30, 2019. The schedule is based on the expectation that the NRC will approve the topical report for PAD5 in 2017 and considers the overall plan for completing the SPS FSLOCA™ analysis, which is in progress.

If you have any further questions regarding this submittal, please contact Mr. Gary D. Miller at (804) 273-2771.

Respectfully,



Mark D. Sartain  
Vice President – Nuclear Engineering and Fleet Support

Commitments made in this letter:

By August 30, 2019, Dominion will submit to the NRC for review and approval a LBLOCA analysis that applies an NRC-approved ECCS Evaluation Model that includes the effects of fuel pellet thermal conductivity degradation.

References:

1. Letter from J. Alan Price (Dominion) to USNRC, "Virginia Electric and Power Company (Dominion), Surry Power Station Units 1 and 2, 30-Day Report of Emergency Core Cooling System (ECCS) Model Changes Pursuant to the Requirements of 10 CFR 50.46," Dominion Serial No. 12-420, July 10, 2012. (ADAMS Accession No. ML12199A061)
2. WCAP-15063-P-A, Revision 1 with Errata, "Westinghouse Improved Performance Analysis and Design Model (PAD 4.0)," July 2000.
3. WCAP-16009-P-A, "Realistic Large-Break LOCA Evaluation Methodology Using the Automated Statistical Treatment Of Uncertainty Method (ASTRUM)," January 2005.

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