

March 22, 2022

ULNRC-06725

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

10 CFR 50.46

Ladies and Gentlemen:

**DOCKET NUMBER 50-483  
CALLAWAY PLANT UNIT 1  
UNION ELECTRIC CO.  
RENEWED FACILITY OPERATING LICENSE NPF-30  
10 CFR 50.46 ANNUAL REPORT REGARDING  
ECCS EVALUATION MODEL REVISIONS**

Ameren Missouri hereby submits the annual report required per 10 CFR 50.46(a)(3) for Callaway Plant.

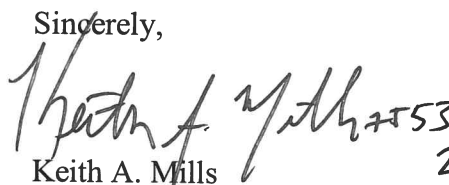
Attachment 1 to this letter describes those changes to the Westinghouse ECCS Large Break and Small Break Loss of Coolant Accident (LOCA) Evaluation Models that have been implemented for Callaway during the time period from March 2021 to March 2022. Attachment 2 provides an ECCS Evaluation Model Margin Assessment which accounts for all peak cladding temperature (PCT) changes resulting from the resolution of prior issues as they apply to Callaway. No new PCT penalties are identified in these attachments.

References 1 through 16 (listed on page 2 of this letter) are the annual 10 CFR 50.46 reports that have been submitted since the LOCA analyses were revised to reflect the installation of the replacement steam generators in 2005. As reported in each of these reports, the PCT values determined in the Large Break and Small Break LOCA analyses of record, when combined with all PCT margin allocations, remain below the 2200°F regulatory limit. However, in March 2014, Ameren Missouri was informed by Westinghouse that the absolute magnitude of the Large Break Loss of Coolant Accident (LBLOCA) penalty assessments accumulated in the analyses of record for Callaway (since replacement of the steam generators) had reached a value that exceeded 50°F. The letter identified as Reference 9 was then submitted pursuant to the requirements of 10 CFR 50.46(a)(3)(ii), containing a commitment to reanalyze the Large Break and Small Break Loss of Coolant Accidents using the NRC-approved version of WCAP-16996-P, "Realistic LOCA Evaluation Methodology Applied to the Full Spectrum of Break Sizes (FULL SPECTRUM LOCA Methodology)." That reanalysis has not yet

been performed; however, it should be noted that Ameren Missouri is currently in the process of evaluating a change in fuel vendors for Callaway Plant. After that determination is made, the required reanalysis will be completed on a schedule appropriate to the selected fuel vendor.

This letter does not contain new commitments. For any questions on this report, please contact Mr. Tom Elwood at (314) 225-1905.

Sincerely,

  
Keith A. Mills  
Director, Nuclear Regulatory Performance

22 March 2022

DRB

**References:**

- 1) ULNRC-05260 dated 3-9-06
- 2) ULNRC-05378 dated 3-7-07
- 3) ULNRC-05475 dated 3-4-08
- 4) ULNRC-05600 dated 3-4-09
- 5) ULNRC-05683 dated 3-1-10
- 6) ULNRC-05769 dated 3-1-11
- 7) ULNRC-05840 dated 3-1-12
- 8) ULNRC-05968 dated 3-6-13
- 9) ULNRC-06098 dated 3-25-14
- 10) ULNRC-06203 dated 3-31-15
- 11) ULNRC-06292 dated 3-30-16
- 12) ULNRC-06361 dated 3-30-17
- 13) ULNRC-06428 dated 3-29-18
- 14) ULNRC-06497 dated 3-28-19
- 15) ULNRC-06571 dated 3-31-20
- 16) ULNRC-06645 dated 3-31-21

**Attachments:**

1. Changes to the Westinghouse ECCS Evaluation Model and PCT Penalty Assessments
2. ECCS Evaluation Model Margin Assessment for Callaway

cc: Mr. Scott A. Morris  
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