



March 30, 2023

ULNRC-06801

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. There are no changes, error corrections, or enhancements to the Westinghouse ECCS Large Break and Small Break Loss of Coolant Accident (LOCA) Evaluation Models to report for Callaway during the time period from March 2022 to March 2023.

References 1 through 17 (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. Attachment 2 to Reference 17 (ML22081A320) provides the current ECCS Evaluation Model Margin Assessment which remains unchanged from 2022. Reference 17 accounts for all peak cladding temperature (PCT) changes resulting from the resolution of prior issues as they apply to Callaway.

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, Westinghouse informed Ameren Missouri 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)."

In References 9 through 16, Ameren Missouri noted that the commitment to perform the LOCA reanalysis using the FULL SPECTRUM LOCA (FSLOCA) evaluation methodology was on a schedule to be determined as part of the 10 CFR 50.46c rulemaking process. In Reference 17, Ameren Missouri noted that it was in the process of evaluating a change in fuel vendors for Callaway Plant and that after this determination was made, an appropriate LOCA reanalysis schedule would be established. Recently, however, Ameren Missouri signed a fuel contract extension with Westinghouse which includes performance of a LOCA reanalysis using the FSLOCA methodology. The reanalysis needs to be completed and approved prior to Cycle 29 (Fall of 2026) to support certain fuel upgrade features. The license amendment request for use of the FSLOCA evaluation methodology for Callaway would be submitted in 2025 to support this schedule. Consistent with that intent, Attachment 1 of this letter provides an update to the LOCA reanalysis commitment established in previous correspondence.

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

Sincerely,



Todd A. Witt
Manager, Regulatory Affairs

ESS

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
- 17) ULNRC-06725 dated 3-22-22

cc: Mr. Robert Lewis
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The following tables identify the action committed to by Ameren Missouri in the cover letter. Any other statements in the letter are provided for information purposes and are not considered commitments. Please direct questions regarding the revised commitment to Mr. Tom Elwood at (314) 225-1905.

REANALYSIS COMMITMENT WITH ORIGINAL DUE DATE/EVENT

COMMITMENT	DUE DATE/EVENT	COMN
Reanalyze LBLOCA and SBLOCA for Callaway Plant 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)."	In accordance with the final rulemaking package for 10 CFR 50.46c as modified by approved exemptions	50392

REANALYSIS COMMITMENT WITH UPDATED DUE DATE/EVENT

COMMITMENT	DUE DATE/EVENT	COMN
Reanalyze LBLOCA and SBLOCA for Callaway Plant 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)."	Complete reanalysis and submit associated license amendment request prior to the fall of 2025.	50392