ATTACHMENT 1

CHANGES TO THE WESTINGHOUSE AND FRAMATOME

ECCS EVALUATION MODELS AND PCT PENALTY ASSESSMENTS

References:

1. Ameren Missouri letter ULNRC-05475, "Callaway, 10 CFR 50.46 Annual Report, ECCS Evaluation Model Revisions," dated March 4, 2008 (ADAMS Accession No. ML080780469)

WESTINGHOUSE

Metal Mass Changes in Containment

Background

An evaluation was performed for the addition of uninsulated stainless-steel piping in containment, replacing insulated carbon steel Essential Service Water piping in containment, and to account for the sump screen metal in containment. This change affects the Large Break Loss-of Coolant Accident (LBLOCA) analysis of record. This item represents a Change in Plant Configuration or Set Points, as distinguished from an evaluation model change in Section 4 of WCAP-13451.

The evaluation for the addition of uninsulated stainless-steel piping in containment was incorporated into Callaway's licensing basis in 2024. Therefore, the PCT penalty for the addition of uninsulated stainless-steel piping is being accounted for in the March 2024 to March 2025 reporting timeframe. It should be noted that the PCT penalty for the sump screen metal in containment has been accounted for, as described in Reference 1 (above), since the March 2007 to March 2008 timeframe.

Estimated Effect

With respect to impact on the LBLOCA analysis, adding uninsulated stainless-steel piping to containment and accounting for the sump screen metal in containment results in a decrease in containment backpressure and core inlet flooding rate, which in turn results in an estimated LBLOCA peak cladding temperature increase of 6°F. Thus, the increase of 6ºF is for the combined addition or presence of stainless-steel piping and sump screen metal.

The addition of uninsulated stainless-steel piping in containment results in a +3ºF PCT penalty, which is being accounted for in the March 2024 to March 2025 reporting timeframe. As noted above and in Reference 1, a +3ºF PCT penalty for the sump screen metal in containment has been accounted for since the March 2007 to March 2008 timeframe.

FRAMATOME

S-RELAP5 Packing Factor Error

Background

In 2024, Framatome identified an error in the S-RELAP5 code related to the packing factor model that is used to capture the effect of fuel relocation. The documented model is correct, but a typographical error was made when implementing the model in S-RELAP5. Framatome corrected the error and conducted an evaluation to determine the impact of the error on the affected analyses.

Estimated Effect

The evaluation determined that Callaway's RLBLOCA peak clad temperature is not affected by the impact of the S-RELAP5 packing factor error. Also, the Small Break LOCA methodology analysis, which uses Framatome EMF-2328, is not impacted since the error is unique to Framatome EMF-2103P-A Revision 3 applications.