

Supplement to
10 CFR 50.59 Safety Evaluation Summary Report
for Callaway Nuclear Plant

R.R-07558J

End-of-Life Moderator Temperature Coefficient for Cycle 5

The RFR extends the end-of-life (EOL) moderator temperature coefficient (MTC) limit for Cycle 5. Justification for extended range was performed by utilizing available margin in reactor vendor calculations. In order to further extend the range of acceptable EOL MTC surveillance measurements, non-LOCA safety analyses which use the most negative MTC as part of the conservative input assumptions have been evaluated.

Overall protection system design is unchanged from that included in accident analyses in FSAR Chapter 15, in analysis of superheated blowdowns outside containment, and in analysis of Environmental Allowance Modifier/Trip Time Delay. There are no impacts on the LOCA and non-LOCA transient analyses documented in FSAR Chapter 15. Design of plant protection systems and the intended manner of plant operation are unchanged. The Bases for Technical Specification 3/4.1.1.3 ensure that the most negative MTC limit specified in the COLR, corresponding to the most positive moderator density coefficient, is not exceeded. There is no change to peaking factor limits or to the safety analysis DNAR limit. The revised EOL MTC limit has no effect on the results presented in FSAR 15.6.5 and the peak clad temperature remains below the ECCS Acceptance Criteria limit.

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