



Callaway Plant

May 24, 2012

ULNRC-05865

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

10 CFR 50.59(d)(2)

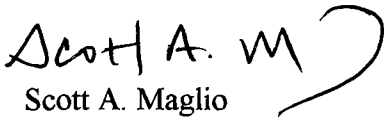
Ladies and Gentlemen:

**DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
10 CFR 50.59 SUMMARY REPORT**

In accordance with 10 CFR 50.59(d)(2), this letter transmits a report which summarizes the evaluations performed pursuant to 10 CFR 50.59(c)(1) for changes, tests, and experiments approved and implemented for activities at Callaway Plant. This report covers all 10 CFR 50.59 evaluations that were implemented from June 30, 2010 to November 25, 2011.

This letter does not contain new commitments. If there are any questions, please contact Tom Elwood at (314) 225-1905.

Sincerely,


Scott A. Maglio
Regulatory Affairs Manager

HAO

Enclosure

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cc: Mr. Elmo E. Collins
Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV
1600 East Lamar Boulevard
Arlington, TX 76011-4511

Senior Resident Inspector
Callaway Resident Office
U.S. Nuclear Regulatory Commission
8201 NRC Road
Steedman, MO 65077

Mr. Andrew Hon
Senior Project Manager, Callaway Plant
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Stop O-8G14
Washington, DC 20555-2738

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Enclosure
to ULNRC-05865

UNION ELECTRIC COMPANY (dba AMEREN MISSOURI)
CALLAWAY PLANT
DOCKET NO. 50-483
10 CFR 50.59 SUMMARY REPORT

Report Period: June 2010 to November 2011

10 CFR 50.59 SUMMARY REPORT FOR CALLAWAY PLANT

EXECUTIVE SUMMARY

In accordance with 10 CFR 50.59(d)(2), a summary report has been prepared which provides summaries of the 10 CFR 50.59 evaluations of changes, tests, and experiments approved and implemented for activities at Callaway Plant.

This report covers all 10 CFR 50.59 evaluations for changes that were implemented from June 30, 2010 to November 25, 2011. During this period there were three changes implemented that required a 10 CFR 50.59 evaluation. For each of these changes it was determined that prior NRC approval was not required, in accordance with 10 CFR 50.59(c)(1).

10 CFR 50.59 SUMMARY REPORT FOR CALLAWAY PLANT

10 CFR 50.59 Evaluation 10-03: Refueling Water Storage Tank (RWST) Recirculation and Cleanup in Modes 1-3 per Procedure OTN-EC-00001 Addendum 03

Activity Description:

The activity/change evaluated is the procedural establishment of a system/piping alignment to permit recirculation of the RWST contents during plant operation using the fuel pool cooling and cleanup system. (The RWST is a Seismic Category 1 structure and contains borated water that is the credited source for the emergency core cooling systems (ECCS) during the injection phase of a design-basis loss-of-coolant accident. The RWST is also described in the FSAR as equipment needed for safe shutdown in response to a hazard, including a seismic event.) The line-up for this operational configuration includes non-seismically qualified piping. Therefore, the noted procedure includes contingent operator action to effect isolation in order to preserve RWST inventory in the event of leakage from the non-safety piping following a seismic event. Per the noted procedure, however, this configuration is only allowed when a safety injection signal (SIS) is capable of being generated as required by the plant's Technical Specifications, i.e., during Modes 1, 2 and 3. (For Mode 3, this is restricted to when the SIS is not blocked with the P-11 permissive in effect, i.e., "high Mode 3.") By plant design, the non-safety piping that is part of the RWST recirculation configuration is automatically isolated upon receipt of an SIS. The evaluated activity/change has no impact on this automatic isolation function.

Summary of Evaluation:

The evaluation determined that RWST recirculation using the fuel pool cooling and cleanup system per procedure OTN-EC-00001, Addendum 3, "RWST Cleanup Operations," is acceptable in Modes 1, 2 and high Mode 3 without prior NRC approval. The procedure is backed by an analysis that demonstrates the capability of the RWST to remain operable following a safe shutdown earthquake (SSE) when the RWST is aligned for recirculation via the non-safety piping. Operator action is credited to support this capability based on the analysis which shows that a plant operator is capable of closing valves BNHCV8800A or -B (to effect isolation) in response to existing off-normal and alarm response procedures well before the time when a malfunction in the non-seismic piping would cause RWST water level to reach the minimum limit specified in the plant Technical Specifications (due to drain-down via the piping malfunction). In addition, implementation of the RWST recirculation procedure does not impact the designed capability of the non-safety piping to be automatically isolated in response to an SIS. It is thus concluded in the evaluation that the proposed change does not result in more than a minimal increase in the likelihood of occurrence of a malfunction of equipment important to safety, nor does it introduce a malfunction with a different result than any previously evaluated in the FSAR.

10 CFR 50.59 SUMMARY REPORT FOR CALLAWAY PLANT

10 CFR 50.59 Evaluation 10-04: Revision of Steam Generator Tube Rupture (SGTR) Accident Analysis Presented in FSAR Section 15.6.3 with Regard to Number of Atmospheric Dump Valves (ASDs) Credited in the Analysis

Activity Description:

The activity/change evaluated is a revision of the analysis summarized in FSAR Section 15.6.3 for the postulated design-basis SGTR. The change reflects crediting two ASDs instead of three (out of a total of four ASDs) for effecting the post-SGTR rapid cooldown of the reactor coolant system (RCS) assumed in the analysis, and it includes reanalysis of the radiological consequences of this postulated event. (To recover from an SGTR, the plant operators are required to perform a rapid cooldown using intact steam generators to establish adequate subcooling as a necessary step for terminating the primary-to-secondary break flow into the ruptured steam generator.)

Summary of Evaluation:

As expected, reducing the number of credited ASDs from three to two extends the duration of the rapid cooldown as well as delaying completion of other portions of the SGTR sequence that occur following completion of the rapid cooldown. Increasing the duration of the SGTR sequence consequently allows iodine spiking to increase calculated inventories of radioactivity in the RCS fluids. The increased quantities of radionuclides in the RCS fluids in turn result in higher calculated releases of radioactivity to the environment. The SGTR consequences were re-analyzed, however, and due to margins in the current analysis, the increase in calculated doses (radiological consequences) was determined to be less than 10% of the difference between previously calculated doses and the regulatory limits. Thus, the change does not result in more than a minimal increase in the consequences of an accident previously evaluated in the FSAR, and NRC approval is not required for implementation of the change. No changes to the FSAR reported values for SGTR consequences are required due to margins contained in the analysis. The updated analysis is documented in a supporting calculation (i.e., Calculation ZZ-469, Rev. 1, Addendum 2).

10 CFR 50.59 SUMMARY REPORT FOR CALLAWAY PLANT

10 CFR 50.59 Evaluation 10-05: Compensatory Actions for Non-conforming Condition Identified for the Refueling Water Storage Tank (RWST)

Activity Description:

The set of changes evaluated are compensatory actions put in place to support an Operability Determination performed to address a non-conforming condition identified for the RWST. The non-conforming condition concerned system/piping alignments for the RWST that include the use of non-seismically qualified piping, which had not been previously evaluated. The subject system-piping alignments occur during Containment Spray pump surveillances, RWST recirculation, and Safety Injection pump surveillances. Compensatory actions are needed to support RWST operability such that it can continue to be considered operable during the noted system/piping alignments. The Compensatory Actions include the imposition of certain administrative limits and controls, as well as the use of reasonable, contingent operator actions to be taken following an accident or seismic event in order to address leakage from the non-safety related piping in the event of a malfunction in that piping with the RWST aligned in one of the noted configurations.

Summary of Evaluation:

The evaluation determined that the Compensatory Actions (i.e., contingent manual operator actions) are acceptable for allowing the RWST to remain Operable during the noted system alignments that involve the use of non-seismically qualified piping, without prior NRC notification. Specific evaluation of the operator actions determined that they are feasible and can be taken in sufficient time such that they do not result in a more than minimal increase in the likelihood of occurrence of a malfunction and do not adversely affect other aspects of the facility. Further, with the implementation of these operator actions, the RWST and ECCS functions can still be met consistent with intended performance requirements and with no introduction of a new malfunction with a different result than previously evaluated in the FSAR.
