Ameren MISSOURI

Callaway Plant

March 6, 2013

ULNRC-05968

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.
FACILITY OPERATING LICENSE NPF-30
10 CFR 50.46 ANNUAL REPORT
ECCS EVALUATION MODEL REVISIONS

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

Ameren Missouri hereby submits the annual report required per 10 CFR 50.46(a)(3) for Callaway Plant. Attachment 1 to this letter describes changes to the Westinghouse ECCS Large Break and Small Break Loss of Coolant Accident (LOCA) Evaluation Models which have been implemented for Callaway during the time period from March 2012 to March 2013. 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 included in these attachments. References 1 through 7 provided annual 10 CFR 50.46 reports that were issued after the LOCA analyses were revised to reflect the installation of the replacement steam generators in 2005.

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. As such, no reanalysis is planned by Ameren Missouri.

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

Sincerely,

Scott M

Scott Maglio
Regulatory Affairs Manager

GGY/nls

Attachments:

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

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. Fred Lyon
Project Manager, Callaway Plant
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Stop O-8B1
Washington, DC 20555-2738

Index and send hardcopy to QA File A160.0761

Hardcopy:

Certrec Corporation
4150 International Plaza Suite 820
Fort Worth, TX 76109
(Certrec receives ALL attachments as long as they are non-safeguards and may be publicly disclosed.)

Electronic distribution for the following can be made via Responses and Reports ULNRC Distribution:

A. C. Heflin
F. M. Diya
C. O. Reasoner III
L. H. Graessle
S. A. Maglio
T. B. Elwood
R. Holmes-Bobo
NSRB Secretary
G. G. Yates
Mr. Paul Parmenter, Director (SEMA)
Mr. Thomas Mohr, Senior REP Planner (SEMA)
Mr. Tom Masso, REP Planner (SEMA)
Mr. Mike Westman (WCNOC)
Mr. Tim Hope (Luminant Power)
Mr. Ron Barnes (APS)
Mr. Tom Baldwin (PG&E)
Mr. Mike Murray (STPNOC)
Mr. Mark Morgan (SCE)
Mr. John O'Neill (Pillsbury Winthrop Shaw Pittman LLP)
Mr. Dru Buntin (DNR)

ATTACHMENT ONE

CHANGES TO THE WESTINGHOUSE ECCS EVALUATION MODEL AND PCT PENALTY ASSESSMENTS

TABLE OF CONTENTS

1. NOTRUMP-EM EVALUATION OF FUEL PELLET THERMAL CONDUCTIVITY DEGRADATION

2. GENERAL CODE MAINTENANCE

1. NOTRUMP-EM EVALUATION OF FUEL PELLET THERMAL CONDUCTIVITY DEGRADATION

An evaluation has been completed to estimate the effect of fuel pellet thermal conductivity degradation (TCD) on peak cladding temperature (PCT) for plants in the United States with analyses using the 1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP (NOTRUMP-EM). This change represents a Non-Discretionary Change in accordance with Section 4.1.2 of WCAP-13451.

Based on the phenomena and physics of the SBLOCA transient, in combination with limited sensitivity calculations, Westinghouse has concluded that TCD has a negligible effect on the limiting cladding temperature transient, leading to an estimated PCT impact of 0°F on existing Small Break LOCA analysis results.

2. GENERAL CODE MAINTENANCE

Various changes have been made to enhance the usability of the codes and to help preclude errors in analyses. This includes items such as modifying input variable definitions, units, and defaults; improving the input diagnostic checks; enhancing the code output; optimizing active coding; and eliminating inactive coding. These changes have been evaluated for impact on existing Large Break and Small Break LOCA analysis results and they represent Discretionary Changes that will be implemented on a forward-fit basis in accordance with Section 4.1.1 of WCAP-13451.

Westinghouse has judged this issue to have an estimated PCT impact of 0°F on existing Large Break and Small Break LOCA analysis results.

ATTACHMENT TWO

ECCS EVALUATION MODEL

MARGIN ASSESSMENT FOR CALLAWAY

LARGE BREAK LOCA

A.	ANALYSIS OF RECORD (AOR)	PCT = 1939°F
B.	PRIOR ECCS MODEL ASSESSMENTS	+ 17°F
C.	CURRENT LOCA MODEL ASSESSMENTS - March 2013	+ 0°F

LICENSING BASIS PCT + MARGIN ALLOCATIONS	1956°F
ABSOLUTE MAGNITUDE OF MARGIN ALLOCATIONS SINCE LAST LBLOCA 30-DAY REPORT	17°F

SMALL BREAK LOCA

A.	ANALYSIS OF RECORD (AOR)	PCT = 1043°F
B.	PRIOR ECCS MODEL ASSESSMENTS	+ 0°F
C.	CURRENT ECCS MODEL ASSESSMENTS - March 2013	+ 0°F

LICENSING BASIS PCT + MARGIN ALLOCATIONS	1043°F
ABSOLUTE MAGNITUDE OF MARGIN ALLOCATIONS SINCE LAST SBLOCA 30-DAY REPORT	0°F