AmerenUE
Callaway Plant

PO Box 620
Fulton, MO 65251

June 24, 2008

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Stop P1-137
Washington, DC 20555-0001

ULNRC-05521

Ladies and Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
REQUEST FOR EXTENSION OF CORRECTIVE ACTIONS COMPLETION DATE FOR NRC GENERIC LETTER 2004-02, "POTENTIAL IMPACT OF DEBRIS BLOCKAGE ON EMERGENCY RECIRCULATION DURING DESIGN BASIS ACCIDENTS AT PRESSURIZED-WATER REACTORS" (TAC NO. MC4671)

References:
1. AmerenUE Letter ULNRC-05461, dated December 10, 2007.
2. AmerenUE Letter ULNRC-05465, dated December 20, 2007.
3. AmerenUE Letter ULNRC-05481, dated February 29, 2008
4. AmerenUE Letter ULNRC-05235, dated December 12, 2005
5. Letter dated November 27, 2007 from USNRC to A. Pietrangelo, Nuclear Energy Institute

By letters dated December 10 and 20, 2007 (Reference 1 and 2), Union Electric Company (AmerenUE) committed to completing all corrective actions associated with Generic Letter (GL) 2004-02 prior to or on June 30, 2008. Although plant-specific tests at the vendor testing facility were completed, the vendor documentation necessary for AmerenUE to complete subsequent analyses and evaluations has been delayed. Additionally, AmerenUE will implement corrective actions for the current containment sump strainer during the fall 2008 outage that will regain margin due to a vendor identified error with the containment sump clean strainer head loss. Consequently, and as further explained in this letter, AmerenUE is requesting an extension to delay the completion of remaining corrective actions until December 15, 2008.

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AmerenUE has successfully completed testing performed at a special test facility at Alden Research Laboratory. The tests were performed based on an established test protocol with input from the NRC Staff. There have been a number of delays in completion of the test report and subsequent analysis due to the number of tests being performed for other licensees and competing resources for completion. AmerenUE was present during testing that was performed at the test facility in January, 2008 for Callaway Plant, which demonstrated that adequate net positive suction head (NPSH) margin would be maintained. In addition, the testing confirmed the effectiveness of the new strainer design and its resistance to blockage from the transported debris. The increase in head loss due to chemical effects was minimal. Bypass testing was also performed which is being evaluated in the downstream effects analysis. Therefore, corrective actions are nearly complete.

In SECY-06-0078, dated March 31, 2006, the NRC staff recognized that licensees may encounter situations that could delay the implementation of corrective actions as committed in response to GL 2004-02. SECY-06-0078 describes that proposed extensions to permit completion of corrective actions after December 31, 2007 may be acceptable if, based on the licensee's request, the staff determines that "the licensee has a plant-specific technical/experimental plan with milestones and schedule to address outstanding technical issues with enough margin to account for uncertainties" and that "the licensee identifies mitigative measures to be put in place prior to December 31, 2007, and adequately describes how these mitigative measures will minimize the risk of degraded ECCS and CSS functions during the extension period."

AmerenUE has the following plant-specific technical/experimental plan with milestones and schedule to address outstanding technical issues with enough margin to account for uncertainties:

- Additional plant-specific tests that support assumptions and corresponding conclusions contained in the GL 2004-02 evaluations for Callaway Plant were completed in January, 2008. The testing included strainer performance testing, head loss testing, and chemical effects/debris bypass testing that included debris transport. Although plant-specific tests at the vendor testing facility were completed, the vendor documentation necessary for AmerenUE to complete subsequent analyses and evaluations has been delayed. AmerenUE expects receipt of the final test report from the vendor by mid-August 2008.
- Following receipt of the final test report from the vendor, numerous additional actions are required by AmerenUE to complete formal verification of design inputs, assumptions and conclusions of AmerenUE calculations / evaluations conducted in response to issues identified in GL 2004-02. These activities include assessing the impact of the test results on strainer NPSH calculations, strainer bypass sampling impact on downstream effects analyses (in-vessel and ex-vessel), as well as potential impact on other Generic Letter 2004-02 corrective action evaluations. These activities also include compliance with

10 CFR 50, Appendix B requirements for design control, document control and quality assurance records. These activities will be complete by December 15, 2008.

The following mitigative measures were put in place prior to December 31, 2007 and continue to be in place:

- New containment emergency recirculation sump strainers were installed within each sump during Callaway's spring 2007 refueling outage. The new strainers have nominal 0.045 inch openings and a total surface area of 6623 square feet.

- Installation of debris barriers in the "A" and "D" loop entrances was also completed during the spring 2007 fueling outage. The debris barriers are designed to reduce the quantity of debris at the containment sumps following a high energy line break (HELB) inside the bioshield. The barriers will diminish the amount of debris that can take the shortest path to the containment sumps, thereby increasing the probability that debris will be held up in low flow areas or deposited on components within the post- HELB flood plain. This debris hold-up will decrease the quantity of debris at the containment sumps, thus minimizing blockage and maximizing NPSH available to the Emergency Core Cooling System (ECCS) and Containment Spray (CS) pumps. Similar barriers are also installed at secondary shield wall penetrations near the sumps and below the post accident water level.

- In August 2003, Callaway increased the minimum Refueling Water Storage Tank (RWST) level to a nominal level of 96.3%. This administratively controlled RWST level assures capacity above the Technical Specification 3.5.4.2 minimum required volume of 394,000 gallons (93.6%), and is also above the current low alarm level of 95.3% (400,674 gallons). This change was performed as a compensatory measure for implementation of NRC Bulletin 2003-01 as described in AmerenUE's response to the bulletin (Ref. 4).

- Implementation of the following Westinghouse Owners Group candidate operator actions was completed at Callaway in April 2005 as part of the overall Emergency Operating Procedure (EOP's) upgrade effort. Additional details are provided in Callaway's response to Bulletin 2003-01.

  a. COA 1A - Operator action to secure one spray pump before recirculation alignment
  b. COA 5 - Refill of RWST
  c. COA 8 - Provide Guidance on Symptoms and Identification of CTMT sump blockage

d. COA 9 - Develop contingency actions to be taken in response to CTMT sump blockage

- Implementation is complete for Callaway plant procedures and processes described in Reference 1 to support the GL 2004-02 hardware modifications and revised operating practices, as well as to support the assumptions, initial conditions and conclusions of the expected final version of GL 2004-02 related evaluations, when the evaluations are completed and documented. Administrative procedures and processes include implementation of changes to programmatic controls for design change processes and containment material controls, as well as implementation of a containment coatings assessment program and a containment latent debris assessment program.

In light of AmerenUE's request for extension of the remaining corrective actions for GL 2004-02, this letter transmits changes to previously identified regulatory commitments (as contained in Reference 1). Consistent with guidance in Reference 5 for licensees with approved extensions, AmerenUE will submit an update to the supplemental response to GL 2004-02 describing the results of the testing and the implementation of calculations, evaluations and other changes described in Reference 1 within 90 days of completion of all actions needed to address GL 2004-02. The commitment changes are being submitted in accordance with guidance provided by industry document NEI 99-04, "Guidelines for Managing NRC Commitment Changes," as endorsed in Regulatory Issues Summary 00-017, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC Staff." Enclosure I lists the AmerenUE commitments contained in this letter and which supersede those previously contained in Reference 1.

Please contact Tom Elwood, Supervising Engineer, Regulatory Affairs and Licensing at 573-676-6479 for any questions you may have regarding this request.

I declare under penalty of perjury that the foregoing is true and correct

Sincerely,

Executed on: June 24, 2008

Luke H. Graessle
Manager, Regulatory Affairs

BFH/nls
Enclosure

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LIST OF COMMITMENTS

The following table provides an update/status for each of the open actions committed to by AmerenUE in Reference 1 of the cover letter. The numbering in this table is maintained consistent with Reference 1. Any other statements in this document are provided for information purposes and are not considered commitments. Please direct questions regarding these commitments to Tom Elwood, Supervising Engineer, Regulatory Affairs and Licensing at 573-676-6479.

COMMITMENT	Status	Due Date/Event
2. The following corrective action activities will be completed:		
b. Downstream effects evaluation.	Initial downstream evaluations have been performed; however, refinements are being pursued using test data and input from PWROG/NRC discussions concerning nuclear fuel.	December 15, 2008
c. Upstream effects evaluation.	Upstream evaluations have been performed and will be included in the Westinghouse team analysis summary report associated with item 4.f. of this table.	December 15, 2008
3. Submit an update to information contained in Callaway's response to Generic Letter 2004-02 Requested Information Item 2	The analyses are proceeding and refinements are being pursued. The update of information contained in section 2(c) of Callaway's September 1, 2005 (ULNRC-05194) response to Generic Letter 2004-02 will be provided after completion of item 4.f. of this table.	December 15, 2008

COMMITMENT	Status	Due Date/Event
4. The following evaluations and testing will be completed:		
b. NEI 04-07 debris generation calculation.	The debris generation calculation has been performed and will be included in the Westinghouse team analysis summary report associated with item 4.f. of this table.	December 15, 2008
c. NEI 04-07 debris transport calculation.	The debris transport calculation has been performed and will be included in the Westinghouse team analysis summary report associated with item 4.f. of this table.	December 15, 2008
d. Evaluate the impact of chemical effects on containment emergency sump strainer head loss during design basis accident conditions	WCAP 16530-NP guidance was used as part of the strainer performance testing performed in January 2008.	December 15, 2008
e. Confirmation that the replacement sump strainer design provides for available NPSH to be in excess of required NPSH.	The current strainer performance test report is based on the March 13, 2006 strainer testing and has been used in the determination of adequate NPSH. This item is currently being revised after receipt of final testing reports from the containment sump strainer testing performed in January 2008.	December 15, 2008
f. Completion of the final site acceptance review of the Westinghouse team analysis summary report.	Several of the items contained in the final report have been completed but the final report will not be issued until all items are completed.	December 15, 2008

COMMITMENT	Status	Due Date/Event
g. Replacement sump screen head loss testing	Strainer performance testing was previously performed during the week of March 13, 2006. This item is currently being revised after receipt of final testing reports from the containment sump strainer testing performed in January 2008	December 15, 2008
5. The following item will be completed::		
c Evaluation and implementation of potential modification to the safety injection system to address downstream effects.	Implementation of potential modification to the safety injection system is dependant on the refinements mentioned in Item 2.b. of this table. Based on the evaluations completed to date, the downstream effects evaluations have been performed and conclude that there are no modifications necessary for the Safety Injection system. However, as GSI-191 evaluations are finalized, this conclusion will be re-evaluated to determine if additional efforts are required.	December 15, 2008
6. Callaway will complete removal of containment spray system (CSS) pump cyclone separators, if required based on the results of the downstream effects evaluation.	Removal of containment spray system (CSS) pump cyclone separators is dependent on the results of the downstream effects evaluation identified as item 2.b of this table.	December 15, 2008
7. The following programs and controls will be implemented at Callaway to control debris sources.		

COMMITMENT	Status	Due Date/Event
a. Changes to design change process procedures to ensure that necessary engineering evaluations will be performed for plant design that either directly or indirectly affects containment, ECCS, or CSS.	Complete	Complete
b. Changes to containment entry and material control procedure requirements for control of materials during work activities conducted in the containment.	Complete	Complete
c. Changes to programs and procedures that have the potential to add tags and labels inside containment.	Complete	Complete
d. Implementation of a containment coatings assessment program	Complete	Complete
e. Implementation of a containment latent debris assessment program	Complete	Complete
f Implementation of changes to the inspection processes for the installed sump strainers	Complete	Complete