AmerenUE
Callaway Plant

PO Box 620
Fulton, MO 65251

June 9, 2009

10 CFR 52.75

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
11555 Rockville Pike
Rockville, MD. 20852

ALNRC 00032

Subject: AmerenUE, Callaway Plant Unit 2 (NRC Docket No. 52-037)
Response to RAI No. 16 (eRAI 2606), Revision 0, SRP Section 14.3.6 - Electrical Systems – Inspections, Tests, Analyses, and Acceptance Criteria

Reference: Surinder Arora (NRC) to David E. Shafer (AmerenUE), "Final RAI No. 16 (eRAI 2606) - Public" email dated May 12, 2009

The purpose of this letter is to respond to the Request for Additional Information (RAI) identified in the NRC e-mail correspondence to AmerenUE, dated May 12, 2009 (Reference). This RAI is associated with Site-Specific ITAAC as discussed in Part 10, Appendix B, of the Callaway Plant Unit 2 Combined License Application (COLA).

Enclosure 1 provides our response to RAI No. 16 (eRAI 2606), Revision 0.

This response does not include any new regulatory commitments or contain proprietary information.

COLA impacts associated with the response to this RAI are noted in Enclosure 2 for Question 14.03.06-1 and Enclosure 3 for Question 14.03.06-2.

If there are any questions regarding this transmittal, please contact me at (573) 676-8519, SBond2@ameren.com or Dave Shafer at (573) 676-4722, DShafer@ameren.com.

D079
NRO

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

Executed on June 9, 2009

Scott Bond

Scott M. Bond
Manager, Nuclear Generation
Development

SMB/AML/slk

Enclosure:

1. Response to RAI No. 16 (eRAI 2606), Revision 0
2. Proposed COLA Changes Associated with the Response to Question 14.03.06-1 of RAI No. 16 (eRAI 2606)
3. Proposed COLA Changes Associated with the Response to Question 14.06.03-2 of RAI No. 16 (eRAI 2606)

cc:

Mr. Elmo E. Collins, Jr. Regional Administrator U.S. Nuclear Regulatory Commission Region IV 612 E. Lamar Blvd., Suite 400 Arlington, TX 76011-4125	Senior Resident Inspector Callaway Resident Office U.S. Nuclear Regulatory Commission 8201 NRC Road Steedman, MO 65077
Bruce Olson, P.E. Environmental Project Manager U.S. EPR Projects Branch Division of New Reactor Licensing Office of New Reactors Bruce.Olson@nrc.gov	Surinder Arora, P.E. Project Manager U.S. EPR Projects Branch Division of New Reactor Licensing Office of New Reactors Surinder.Arora@nrc.gov
Joseph Colaccino, Chief U.S. EPR Projects Branch Division of New Reactor Licensing Office of New Reactors Joseph.Colaccino@nrc.gov	Michael Miernicki Senior Project Manager U.S. EPR Projects Branch Division of New Reactor Licensing Office of New Reactors Michael.Miernicki@nrc.gov
Project Team/Others Distribution List	RACC Members Distribution List

File code: A160.5761

Enclosure 1

Response to RAI No. 16 (eRAI 2606), Revision 0

Question 14.03.06-1

Part 10 "ITAAC & ITAAC Closure:

Table 2.4-20 "Offsite Power System ITAAC," of the Callaway Unit 2 FSAR addresses the interface requirements of U.S. EPR FSAR Tier 1 section 2.5.5. The staff did not find item 5.4 of U.S. EPR FSAR Tier 1 section 2.5.5 which requires verification that the transmission system will not subject the reactor coolant pumps to a sustained frequency decay of greater than 3.5 Hz/second. Provide basis for this exception taken in Table 2.4-20 list of interface requirements.

Response:

An item will be added to the Callaway Plant Unit 2 COLA ITAAC Table 2.4-20 "Offsite Power System Inspections, Tests, Analyses, and Acceptance Criteria" to address the interface requirements of U.S. EPR FSAR Tier 1 section 2.5.5.

COLA Impact

COLA Part 10 ITAAC, Table 2.4-20 will be revised as shown in Enclosure 2 during the next formal revision of the Callaway Plant Unit 2 COLA.

Question 14.03.06-2

Part 10 "ITAAC & ITAAC Closure:

Table 2.4-22 "Class 1E Emergency Power Supply Components for Site-Specific Systems ITAAC," of the Callaway Unit 2 FSAR, addresses site-specific Class 1E systems associated with the Emergency Service Water Emergency Makeup System (ESWEMS). Since these site-specific ESWEMS systems will be an integral part of the Callaway Unit 2 Class 1E electrical system, confirm that all inspections, tests and analyses are to be conducted in accordance with the requirements of U.S. EPR FSAR Tier 1 for Class 1E Emergency Power Supply System (i.e., analysis described in Item 5.11 of Table 2.5.1-3, U.S. EPR FSAR Tier 1) and incorporated by reference in Appendix B to Part 10, Section 2.1 of Callaway Unit 2 ITAAC.

Response:

The site-specific ESWEMS Class 1E Electrical System is an integral part of the Callaway Plant Unit 2 Emergency Power Supply System (EPSS). As such the

commitments listed in the U.S. EPR FSAR Tier 1 Table 2.5.1-3, "Class 1E Emergency Power Supply System Inspections, Tests, Analyses, and Acceptance Criteria", which generally reference the EPSS will inherently include the site-specific Class 1E Electrical System.

For those commitments in U.S. EPR FSAR Tier 1 Table 2.5.1-3 which identify specific equipment to be tested by referencing information contained in Tables 2.5.1-1 or Tables 2.5.1-2, AmerenUE will add a comparable ITAAC item to the site-specific Table 2.4-22, "Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria". These new ITAAC line items will contain the same requirements as those in the U.S. EPR FSAR Tier 1 Table 2.5.1-3 but will identify site-specific equipment to be tested. This will ensure that all requirements of U.S. EPR FSAR Tier 1 for Emergency Power Supply System will be met by the Callaway Plant Unit 2 ESWEMS Class 1E electrical equipment.

COLA Impact:

COLA Part 10 ITAAC, Table 2.4-22 will be revised as shown in Enclosure 3 during the next formal revision of the Callaway Plant Unit 2 COLA.

Enclosure 2

Proposed COLA Changes Associated with the Response to Question 14.03.06-1 of RAI No. 16 (eRAI 2606)

Table 2.4-20—{Offsite Power System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Offsite Power System supplies at least two preferred power circuits, which will be physically independent and separate.	a. Inspections of the as-built system will be conducted. b. Tests of the as-built system will be conducted by powering only one offsite power circuit / system at a time.	a.1 The as-built Offsite Power System has at least two preferred power circuits. a.2 The as-built preferred power circuits from the switchyard to the emergency and auxiliary transformers are separated by a minimum distance of 50 feet. a.3 The as-built offsite transmission lines do not have a common takeoff structure or use a common structure for support. b. Only the circuit under test is powered.
2	Each offsite power circuit shall be sized to supply the station safety-related and non-safety-related loads during normal and off normal operation. The Emergency Auxiliary Transformers and Normal Auxiliary Transformers shall be sized to supply their load requirements.	Analyses of as-built station safety-related and non-safety-related loads will be performed to determine their load requirements during normal and off normal operation.	Each as-built offsite power circuit from the transmission network through the main step-up transformer and including the Emergency Auxiliary Transformers and Normal Auxiliary Transformers is sized to meet the load requirements during normal and off normal operation.
3	Each Emergency Auxiliary Transformer shall be connected to the Switchyard via an independent circuit, sized to supply the four Emergency Power Supply System divisions.	An inspection of the as-built system will be conducted.	Each as-built Emergency Auxiliary Transformer is connected to the as-built Switchyard via an independent circuit, sized to supply the four Emergency Power Supply divisions.
4	The AC power sources may be manually transferred from the normal offsite circuit to the alternate offsite circuit.	Tests of the as-built system will be conducted.	The as-built AC power sources can be manually transferred from the normal offsite circuit to the alternate offsite circuit.
5	The AC power sources may be automatically transferred from the normal offsite circuit to the alternate offsite circuit.	Tests of the as-built system will be conducted.	The as-built AC power sources can be automatically transferred from the normal offsite circuit to the alternate offsite circuit.
6	The transmission system will not subject the reactor coolant pumps to a sustained frequency decay of greater than 3.5 Hz/second.	Analysis of the transmission system will be conducted.	A report exists and concludes that the transmission system will not subject the reactor coolant pumps to a sustained frequency decay of greater than 3.5 Hz/second.

LBDCR 09-0180

Enclosure 3

Proposed COLA Changes Associated with the Response to Question 14.03.06-2 of RAI No. 16 (eRAI 2606)

Table 2.4-22—{Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria}

(Page 1 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Class 1E electrical distribution equipment listed in Tables 8.3-1 and 8.3-2 is qualified as Seismic Category I, and can withstand design basis seismic loads without loss of safety function~~, for the following systems:~~ ~~1. ESWEMS.~~ ~~2. ESWEMS Pumphouse Ventilation System~~.	a. Type testing, analysis, or a combination of type testing and analysis will be performed on the equipment listed in Tables 8.3-1 and 8.3-2 using analytical assumptions, or under conditions, which bound seismic Category I design requirements. b. ~~An inspection of the as-built equipment will be conducted.~~ c. ~~An inspection of the as-built equipment supports and restraints will be performed.~~Inspections will be performed of the as-built Class 1E equipment listed in Tables 8.3-1 and 8.3-2 to verify that the equipment including anchorage is installed as specified on the construction drawings.	a. ~~The Class 1E electrical distribution equipment for the as-built ESWEMS and ESWEMS Pumphouse Ventilation System~~ Tests/analysis reports exist and conlcude that the Class 1E equipment listed in Tables 8.3-1 and 8.3-2 can withstand a design basis seismic load without loss of safety function. b. ~~The Class 1E electrical distribution equipment for the as-built ESWEMS and ESWEMS Pumphouse Ventilation System is installed as designed.~~ c. ~~The as-built equipment supports and restraints for the Class 1E electrical distribution equipment for the ESWEMS and ESWEMS Pumphouse Ventilation System are installed as designed.~~Inspection reports exist and conclude that the as-build Class 1E equipment listed in Tables 8.3-1 and 8.3-2 including anchorage is installed as specified on the construction drawings.
2	Displays for the following Class 1E equipment are retrievable in the main control room: 1. ESWEMS (makeup water pumps, pump test bypass line isolation valves, and strainer blowdown line isolation valves). 2. ESWEMS Pumphouse Ventilation System (air conditioning units and heaters).	An inspection of the as-built main control room will be conducted.	The displays for the following Class 1E equipment exist in the as-built main control room 1. ESWEMS (makeup water pumps, pump test bypass line isolation valves, and strainer blowdown line isolation valves). 2. ESWEMS Pumphouse Ventilation System (air conditioning units and heaters).
3	Controls for the following Class 1E equipment exist in the main control room: 1. ESWEMS makeup water pumps 2 ESWEMS pump test bypass line isolation valves 3. ESWEMS strainer blowdown line isolation valves.	An inspection of the as-built main control room will be conducted.	The controls for the following Class 1E equipment exist in the as-built main control room: 1. ESWEMS makeup water pumps 2 ESWEMS pump test bypass line isolation valves 3. ESWEMS strainer blowdown line isolation valves.

LBDCR 09-0180

Table 2.4-22—{Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria}

(Page 2 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
4	Class 1E ~~switchgear, load centers,~~ motor control centers~~,~~ and transformers as listed in Tables 8.3-1 and 8.3-2 and their feeder breakers and load breakers are sized to supply their load requirements, ~~for the following systems:~~ ~~1. ESWEMS.~~ ~~2. ESWEMS Pumphouse Ventilation System.~~	Analysis and inspections will be conducted of the as-built equipment.	A report exists that establishes that the EPSS ~~ratings for the as-built~~ Class 1E ~~switchgear, load centers,~~ motor control centers~~,~~ and transformers listed in Tables 8.3-1 and 8.3-2 and their feeder breakers and load breaker~~s~~ ratings are greater than their analyzed load requirements~~, for the following as-built systems:~~ ~~1. ESWEMS.~~ ~~2. ESWEMS Pumphouse Ventilation System.~~
5	The functional arrangement of the site-specific EPSS is as shown on Figure 8.3-1 through 8.3-3.	An inspection will be performed.	The as-built EPSS conforms to the functional arrangement as shown in Figures 8.3-1 through 8.3-3.
6	Physical Separation exists between site-specific EPSS equipment listed in Table 8.3-1 and 8.3-2 and non-Class 1E equipment.	An inpsection will be performed.	There is physical separation between site-specific EPSS Class 1E equipment listed in Table 8.3-1 and 8.3-2 and non-Class 1E equipment.
7	EPSS switchgear, load centers, MCCs, and transformers listed in Table 8.3-1 and 8.3-2 are rated to withstand fault currents for the time required to clear the fault from its power source.	An analysis will be performed.	The current capability of the EPSS switchgear, load centers, MCCs, and transformers as listed in Tables 8.3-1 and 8.3-2 are greater than the analyzed fault currents for the time required to clear the fault from its power source as determined by circuit interruption device coordination analysis.

LBDCR 09-0180