

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

Application of Union Electric Company, d/b/a)	
Ameren Missouri for Approval of Decommissioning)	
Cost Estimates and Funding Levels of Nuclear)	
Decommissioning Trust Funds for the Callaway Energy)	
Center and for the Callaway Independent Spent Fuel)	File No. EO-2015-0253
Storage Installation (ISFSI); Approval of Revised)	
Investment Guidelines; and Approval of Investment)	
Managers for Investment of ISFSI Decommissioning Funds.)	

NON-UNANIMOUS STIPULATION AND AGREEMENT

COME NOW Union Electric Company d/b/a Ameren Missouri (“Ameren Missouri” or “Company”) and the Staff of the Missouri Public Service Commission (“Staff”) (collectively, the “Parties”) and submit this Non-Unanimous Stipulation and Agreement to the Missouri Public Service Commission (“Commission”) in resolution of File No. EO-2015-0253.

INTRODUCTION¹

1. On April 1, 2015, Ameren Missouri filed its 2014 Triennial Decommissioning Update for the expected costs for decommissioning of its nuclear plant at Ameren Missouri’s Callaway Energy Center (“Callaway”). On August 15, 2014, in File No. EE-2014-0046, Ameren Missouri filed a request to allow it to file its 2014 Triennial Decommissioning Update pursuant to 4 CSR 240-3.185(3) no later than April 1, 2015, due to its license extension request that was pending before the Nuclear Regulatory Commission (“NRC”) and the potential impact of that request upon the necessary funding level of its decommissioning trust.² The Staff recommended

¹ See Attachment A for the Callaway Energy Center Decommissioning Trust Fund History

² Ameren Missouri’s *Request For Variance Of Date For Decommissioning Cost Estimate Filing And Motion For Expedited Treatment* was based in part on the finding of the U.S. Court of Appeals for the D.C. Circuit on June 8, 2012 that some aspects of the 2010 Waste Confidence Rule rulemaking did not satisfy the Nuclear Regulatory Commission’s (“NRC”) National Environmental Policy Act (“NEPA”) obligations and vacated the rulemaking. *New York v. N.R.C.*, 681 F.3d 471 (D.C. Cir. 2012). In response to the Court's decision, (*continued on next page*)

that the Commission grant the variance. The Commission issued an *Order Granting Variance* on August 27, 2014, granting Ameren Missouri's request.

2. Ameren Missouri's April 1, 2015, Application for Approval of Decommissioning Cost Estimate for Callaway Energy Center and Funding Level of Nuclear Decommissioning Trust Fund related that on March 6, 2015, the NRC approved its Application for a 20-year operating license extension to October 18, 2044. The decommissioning cost estimate and funding adequacy analysis presented with Ameren Missouri's April 1, 2015, Application are based on this extended life of the Callaway Energy Center.³ Attachment 1 to Ameren Missouri's April 1, 2015, Application is the updated decommissioning cost estimates prepared by TLG Services, Inc. ("TLG"), titled *Decommissioning Cost Analysis for the Callaway Energy Center*. The decommissioning trust fund requirement of \$864,734,000 in 2014 dollars is based on the March 2015, TLG estimated cost to decommission the Callaway Energy Center employing the DECON alternative process,⁴ using an assumed 60-year plant operating life, not including the cost of decommissioning the Independent Spent Fuel Storage Installation ("ISFSI") that has been constructed at Callaway. Attachment 2 to Ameren Missouri's April 1, 2015, Application is the Ameren Missouri updated

the NRC decided to stop all licensing activities that relied on the Waste Confidence Rule, including the Callaway Energy Center's license renewal. Before the NRC could lift its suspension of all licensing activities that relied on the Waste Confidence Rule, the NRC had to issue a new rule. On July 21, 2014, the NRC staff submitted to the NRC a proposal for the final Waste Confidence Rule. The NRC staff's submittal also included the necessary proposed Waste Confidence Generic Environmental Impact Statement ("GEIS"). The final rule was scheduled to be issued in early October 2014, which required the NRC to act expeditiously to avoid delays. After the final rule was issued, the NRC would be free to rule on the Callaway Energy Center's license renewal.

³ Ameren Missouri contracted with TLG to perform, under the direction of Ameren Missouri, the site specific cost study to determine the estimated cost for decommissioning the Callaway Energy Center after 2044. Since 1982, TLG has provided engineering and field services for contaminated facilities including estimates of decommissioning costs for nuclear generating units. TLG also is the company that prepared the decommissioning cost estimate that was filed with the Commission by Ameren Missouri in 1991, 1993, 1999, 2002, 2005, 2008 and 2011.

⁴ DECON assumes decontaminating and decommissioning immediately following conclusion of power operations in 2044, when the 60-year operating license expires. Work is anticipated to be completed by 2053. DECON consists of removal of fuel assemblies, source material, radioactive fission and corrosion products, and other radioactive materials immediately after cessation of power operations.

funding adequacy analysis calculating the required annual funding levels to cover the estimated cost to decommission the Callaway Energy Center employing the DECON alternative process using an assumed 60-year plant operating life, not including the cost of decommissioning the ISFSI.

3. Since that time, additional decommissioning scope has developed, specifically the addition of decommissioning costs for an ISFSI facility that has been constructed at Callaway.

4. Attached to this Non-Unanimous Stipulation and Agreement, as Attachment 1, is the “*Callaway Energy Center Independent Spent Fuel Storage Installation Decommissioning Cost Analysis*”, dated February 1, 2016. This documents the expected cost for decommissioning the ISFSI. This represents an additional cost that was not included in Ameren Missouri’s original filing in this case. The Department of Energy (“DOE”) had a contract with Ameren Missouri and nuclear customers were paying in rates fees to remove, transport and dispose of spent nuclear fuel assemblies (high-level radioactive waste) from the Callaway Energy Center to a Nevada - Yucca Mountain repository site. With DOE not taking the spent nuclear fuel assemblies for the Yucca Mountain site, Ameren Missouri has been storing and will continue to store these spent nuclear fuel assemblies on site at the Callaway Energy Center. The ISFSI was constructed to hold the 3,782 spent fuel assemblies that are expected to be produced over the 60-year life of Callaway.

5. The current annual contribution of \$6,758,605 to Ameren Missouri’s nuclear decommissioning trust fund is reasonable given the uncertainties in the numerous forecasted assumptions used to determine the contribution level. The forecasted assumptions include, but are not limited to, capital market expectations, projected decommissioning inflation rates and the costs to decommission Callaway. The Parties agree on the annual contribution level.

6. The *Non-Unanimous Stipulation and Agreement* approved by the Commission in its October 3, 2012 *Order Approving Stipulation and Agreement* in File No. EO-2012-0070, states at paragraph 5:

The Parties agree that, it is reasonable to use capital market return expectation information provided by Ameren Missouri's pension plan consultant, or the 2% real rate of return set forth in 10 CFR §50.75(e)(1)(ii), for purposes of developing expected portfolio returns for Ameren Missouri's nuclear decommissioning trust fund. The Parties agree that any proposed changes to the annual contribution to Ameren Missouri's nuclear decommissioning trust fund shall be based on capital market return expectation information provided by Ameren Missouri's pension plan consultant, or the aforementioned 2% real rate of return, unless the Parties agree to use a different source and/or methodology for capital market return expectations or the Commission finds in a contested case that different source and/or methodology for capital market return expectation are more appropriate.

7. Ameren Missouri, after talking with Staff, also revisited its assumptions used in calculating the level of funds required to be collected from its customers in order to fund the Callaway Energy Center and the ISFSI's decommissioning. The updated funding adequacy analysis calculating the required annual funding levels is attached to this document as Attachment 2. Separate analyses were performed for the Callaway Energy Center and for the ISFSI.⁵ In addition, the following updates were done to the calculations:

⁵ If decommissioning financial assurance is provided by an external sinking fund, as it is with Callaway, 10 CFR § 50.75(e)(1)(ii) requires that "the total amount of funds would be sufficient to pay decommissioning costs at the time permanent termination of operations is expected." 10 CFR § 50.75(e)(1)(ii) also goes on to state, in part:

A licensee that has collected funds based on a site-specific estimate under § 50.75(b)(1) of this section may take credit for projected earnings on the external sinking funds using up to a 2 percent annual real rate of return from the time of future funds' collection through the decommissioning period, provided that the site-specific estimate is based on a period of safe storage that is specifically described in the estimate. This includes the periods of safe storage, final dismantlement, and license termination. A licensee that has collected funds based on the formulas in § 50.75(c) of this section may take credit for collected earnings on the decommissioning funds using up to a 2 percent annual real rate of return up to the time of permanent termination of operations. A licensee may use a credit of greater than 2 percent if the licensee's rate-setting authority has specifically authorized a higher rate.

Because Ameren Missouri does not contemplate shutting down Callaway prior to the end of its license life, the shutdown date used in the economic analysis, which is Attachment 2 to this Non-Unanimous Stipulation and Agreement is 2044, the year in which Callaway's NRC Operating License expires. Ameren Missouri collects (continued on next page)

A. The starting balance in the decommissioning trust fund was updated to December 31, 2015, from that as of December 31, 2014.

B. The total cost of decommissioning was increased by \$9,437,000 (2015 dollars) to reflect the additional costs for decommissioning the ISFSI.

C. Return assumptions were updated to be consistent with the “October 1, 2015 capital market assumptions” provided by Towers Watson, Ameren Missouri’s pension plan consultant.

D. Ameren Missouri adjusted the decommissioning inflation rate assumption to 3.5864%.

8. After recalculating the required contribution levels for the Callaway Energy Center and for the ISFSI, Ameren Missouri and the Staff believe that there is no need to increase the total amount collected from Ameren Missouri’s customers.

9. The Parties agree with the following:

A. The overall, current contribution level of \$6,758,605 annually does not need to be modified at this time.

B. Ameren Missouri will allocate this total contribution amount between the plant and the ISFSI. The majority of the total contribution, \$6,314,620 annually, will be used to fund the decommissioning trust fund for the plant. The remainder, \$443,985 annually, will be used to fund the decommissioning trust fund for the ISFSI. Due to the relatively small amount of the annual ISFSI contribution, these contributions will be invested in mutual funds. The funds for decommissioning the ISFSI will be maintained

decommissioning funds based on a site specific estimate. The economic analysis assumes credit for earnings at an expected 4.415% annual real pre-tax & expense rate of return through 2043 and at 1.100% thereafter.

in a separate sub-account, separate from the funds needed to fund decommissioning the plant itself.

C. In order to allow the above investment in mutual funds for ISFSI decommissioning, the Parties agree the Commission should order Ameren Missouri to use mutual funds offered by one of the major mutual fund companies for this purpose; specifically, the Parties agree Ameren Missouri should use the Vanguard 500 Index Fund Admiral Shares (“Vanguard 500 Index Fund”) for the equity allocation of the ISFSI sub-account and the Vanguard Total Bond Market Index Fund (“Vanguard Bond Index Fund”) for the fixed income allocation of the ISFSI sub-account. In addition, Commission approval of the revision to the “Investment Guidelines for the Callaway Plant Nuclear Decommissioning Trust Fund(s)”, included as Attachment 3, is requested. The revisions to the guidelines primarily involve the investment of the ISFSI funds in the foregoing mutual fund investments. Certain other revisions were also included to update the guidelines and include certain modifications requested by the investment managers.

10. While not a signatory, the Office of the Public Counsel has authorized counsel to state that OPC does not oppose this Non-Unanimous Stipulation and Agreement.

11. Except as explicitly agreed otherwise herein, none of the Parties to this Non-Unanimous Stipulation and Agreement shall be deemed to have approved or acquiesced in any question of Commission authority, decommissioning methodology, ratemaking principle, valuation methodology, cost of service methodology or determination, depreciation principle or method, rate design methodology, cost allocation, cost recovery, or prudence that may underlie this Non-Unanimous Stipulation and Agreement or for which provision is made in this Non-Unanimous Stipulation and Agreement.

12. If the Commission does not unconditionally approve this Non-Unanimous Stipulation and Agreement without modification, and notwithstanding its provision that it shall become void thereon, neither this Non-Unanimous Stipulation and Agreement nor any matters associated with its consideration by the Commission shall be considered or argued to be a waiver of the rights that any Party has to a hearing on the issues presented by the Non-Unanimous Stipulation and Agreement, regarding cross-examination or a decision in accordance with Section 536.080.1 RSMo. or Art. V, Section 18 Mo. Const. The Parties shall retain all procedural and due process rights as fully as though this Non-Unanimous Stipulation and Agreement had not been presented for approval, and any testimony or exhibits that may have been offered or received in support of or in opposition to this Non-Unanimous Stipulation and Agreement shall thereupon become privileged as reflecting the substantive content of settlement discussions, and shall be stricken from and not be considered as part of the administrative or evidentiary record before the Commission for any further purpose whatsoever.

13. To assist the Commission in its review of this Non-Unanimous Stipulation and Agreement, the Parties also request that the Commission advise them of any additional information that the Commission may desire from the Parties related to the matters addressed in this Non-Unanimous Stipulation and Agreement, including any procedures for furnishing such information to the Commission.

14. If requested by the Commission, the Staff shall submit to the Commission a memorandum responsive to the Commission's request. Each Party of record shall be served with a copy of any memorandum and shall be entitled to submit to the Commission within five (5) days of receipt of the Staff's memorandum, a responsive memorandum which shall also be served on all Parties. The contents of any memorandum provided by any Party are its own and

are not acquiesced in or otherwise adopted by the other signatory to this Non-Unanimous Stipulation and Agreement, whether or not the Commission approves and adopts this Non-Unanimous Stipulation and Agreement.

15. The Staff also shall provide, at any agenda meeting at which this Non-Unanimous Stipulation and Agreement is noticed to be considered by the Commission, whatever oral explanation the Commission requests. The Staff shall, to the extent reasonably practicable, provide the other Parties with advance notice of when the Staff shall respond to the Commission's request for such explanation once such explanation is requested from the Staff. The Staff's oral explanation shall be subject to public disclosure, except to the extent it refers to matters that are privileged or protected from disclosure pursuant to any Protective Order issued in this case.

16. Because this is a Non-Unanimous Stipulation and Agreement with the sole purpose of addressing the authority requested by the Application of Ameren Missouri, except as specified herein, the Parties to the Non-Unanimous Stipulation and Agreement shall not be prejudiced, bound by, or in any way affected by the terms of this Non-Unanimous Stipulation and Agreement: (a) in any future proceeding; (b) in any proceeding currently pending under a separate docket; and/or (c) in this proceeding, should the Commission decide not to approve the Non-Unanimous Stipulation and Agreement or in any way condition its approval of the same, except as stated herein. Because this is a Non-Unanimous Stipulation and Agreement for the purpose of settling matters in this case, it shall not be cited as precedent or referred to in testimony in any subsequent or pending judicial or administrative proceeding, except that this shall not be construed to prohibit reference to its existence in future proceedings, including proceedings to enforce compliance with its terms.

17. Pursuant to Section 393.292 RSMo. and 4 CSR 240-3.185, the Parties agree that the Commission may review for good cause, including a change of circumstances of a material nature, and authorize changes to Ameren Missouri's rates and charges as a result of a change in the annual accrual of funding for the Missouri jurisdictional account of the Callaway decommissioning trust, after a full hearing, including but not limited to any general rate increase case or excess earnings complaint case, and after considering all facts relevant to such accrual rate.

18. The provisions of this Non-Unanimous Stipulation and Agreement have resulted from numerous discussions/negotiations among the signatory Parties and are interdependent. In the event that the Commission does not approve and adopt the terms of this Non-Unanimous Stipulation and Agreement in total, it shall be void and no Party hereto shall be bound by, prejudiced, or in any way affected by any of the agreements or provisions hereof unless otherwise provided herein.

19. In the event the Commission accepts the specific terms of this Non-Unanimous Stipulation and Agreement, the signatories waive their respective rights: a) to cross-examine witnesses pursuant to Section 536.070(2) RSMo.; b) to present oral argument and written briefs pursuant to Section 536.080.1 RSMo.; c) to the reading of the transcript by the Commission pursuant to Section 536.080.2 RSMo.; and d) to judicial review pursuant to Section 386.510 RSMo. This waiver applies only to a Commission Order respecting this Non-Unanimous Stipulation and Agreement issued in this proceeding, and does not apply to any matters raised in any subsequent Commission proceeding, or any matters not explicitly addressed by this Non-Unanimous Stipulation and Agreement.

WHEREFORE, the Parties hereto request that the Commission issue an Order:

1. Approving the Non-Unanimous Stipulation and Agreement;
2. Receiving into evidence this Non-Unanimous Stipulation and Agreement; Attachment 1 to Ameren Missouri's original April 1, 2015 filing in this case, TLG's "*Decommissioning Cost Analysis for the Callaway Energy Center*," dated March, 2015; Attachment 1 to this Non-Unanimous Stipulation and Agreement, Ameren Missouri and TLG's "*Callaway Energy Center Independent Spent Fuel Storage Installation Decommissioning Cost Analysis*," dated February 1, 2016; and Attachment 2 to this Non-Unanimous Stipulation and Agreement, Ameren Missouri's funding adequacy analysis calculating the required annual funding levels for the Callaway Energy Center and ISFSI decommissioning, which assumes a decommissioning cost escalation rate of 3.5864%;
3. Approve the actuarial assumptions used in Attachment 2 to this Non-Unanimous Stipulation and Agreement, Ameren Missouri's funding adequacy analysis calculating the required annual funding levels for the Callaway Energy Center and ISFSI decommissioning, specifically:

For the Missouri Jurisdictional Callaway Energy Center annual decommissioning expense and contribution amounts:

- \$6,314,620 of the total decommissioning expense and contribution amount of \$6,758,605 is allocated for Callaway Energy Center decommissioning and is to be contributed to the Callaway Energy Center sub-account
- The beginning balance (after-tax liquidation value) of the Callaway Energy Center sub-account as-of December 31, 2015 is \$513,106,633
- The proposed decommissioning expense and contribution amount is to be effective January 1, 2016

For the Missouri Jurisdictional ISFSI annual decommissioning expense and contribution amount:

- \$443,985 of the total decommissioning expense and contribution amount of \$6,758,605 is allocated for ISFSI decommissioning and is to be contributed to the ISFSI sub-account
- The beginning balance (after-tax liquidation value) of the ISFSI sub-account as-of December 31, 2015 is \$0
- The proposed decommissioning expense and contribution amount is to be effective January 1, 2016

For the Missouri Jurisdictional Consolidated Callaway Energy Center and ISFSI annual decommissioning expense and contribution amounts:

- The Missouri jurisdictional allocator is 100%.
 - The federal income tax rate is 20%.
 - The state income tax rate is 0%.
 - The composite federal & state income tax rate is 20%.
 - An asset allocation of 65% equities and 35% bonds is assumed to exist through 2043, at which time all equity investments will be divested.
 - Investment management and trust fees are estimated at 15 basis points annually.
 - An inflation rate of 2.300% is assumed for general (“CPI”) inflation.
 - The pre-tax & expense nominal return on bonds is assumed to be 3.400%.
 - The pre-tax & expense real return on bonds is assumed to be 1.100%
 - The pre-tax & expense nominal return on equities is assumed to be 8.500%.
 - The pre-tax & expense real return on equities is assumed to be 6.200%
 - The pre-tax & expense nominal weighted-average return is assumed to be 6.715% through the 2043 date of divestiture of equity investments.
 - The pre-tax & expense real weighted-average return is assumed to be 4.415% through the 2043 date of divestiture of equity investments.
 - The pre-tax & expense real weighted-average return is assumed to be 1.100% following the 2043 date of divestiture of equity investments.
4. Finding, pursuant to this Non-Unanimous Stipulation and Agreement, that Ameren Missouri’s Missouri retail jurisdiction annual decommissioning expense accruals and trust fund payments shall continue at the current level of \$6,758,605, with \$6,314,620 allocated to decommissioning the Callaway Energy Center and \$443,985 allocated to decommissioning the ISFSI;
5. Finding, in order for the Callaway decommissioning fund to continue to utilize the external sinking fund method of decommissioning funding, that the current

decommissioning costs for the Callaway Energy Center, including the ISFSI, are in Ameren Missouri's current Missouri retail cost of service and are reflected in its current retail rates for ratemaking purposes;

6. Recognizing that TLG's "*Decommissioning Cost Analysis for the Callaway Energy Center*," dated March, 2015 and Ameren Missouri and TLG's "*Callaway Energy Center Independent Spent Fuel Storage Installation Decommissioning Cost Analysis*," dated February 1, 2016 meet the requirements of 4 CSR 240-3.185(3);
7. Approving, pursuant to 4 CSR 240-20.070(4)(C), the use of a jurisdictional demand allocator of 100.00%;
8. Approving Attachment 3 to this Non-Unanimous Stipulation and Agreement, the revised "*Investment Guidelines for the Callaway Plant Nuclear Decommissioning Trust Fund(s)*."
90. Approving the use of the Vanguard 500 Index Fund and the Vanguard Bond Index Fund for investment of the ISFSI decommissioning contribution amounts (in accordance with 4 CSR 240-20.070(4)(A));
10. Finding that the decommissioning expense and contribution for the ISFSI decommissioning shall be contributed to a separate sub-account of the Company's tax-qualified decommissioning trust unless not allowed by the IRS; if disallowed, then a non-tax qualified trust shall be established and the contributions made to the non-tax qualified trust.

11. Recognizing that any reimbursements for ISFSI decommissioning received by Ameren Missouri from DOE shall be refunded to ratepayers by Ameren Missouri pursuant to a methodology approved by the Commission.

Respectfully submitted,

/s/ Wendy K. Tatro

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CERTIFICATE OF SERVICE

I do hereby certify that a true and correct copy of the foregoing document has been hand-delivered, transmitted by e-mail or mailed, First Class, postage prepaid, this 30th day of March, 2016 to counsel for all Parties on the Commission's service list in this case.

/s/ Wendy K. Tatro