Exhibit No. 15

Staff – Exhibit 15
Murray
Rebuttal
File No. EO-2023-0448

Exhibit No.: _____
Issue(s): Nuclear Decommissioning Trust Fund Contributions
Witness/Type of Exhibit: Murray/Rebuttal
Sponsoring Party: Public Counsel
Case No.: EO-2023-0448

REBUTTAL TESTIMONY

OF

DAVID MURRAY

Submitted on Behalf of the Office of the Public Counsel

UNION ELECTRIC COMPANY
D/B/A AMEREN MISSOURI

CASE NO. EO-2023-0448

November 8, 2024

REBUTTAL TESTIMONY

OF

DAVID MURRAY

UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI

FILE NO. EO-2023-0448

Q. Please state your name and business address.

A. My name is David Murray, and my business address is P.O. Box 2230, Jefferson City, Missouri 65102.

Q. By whom are you employed and in what capacity?

A. I am employed by the Missouri Office of the Public Counsel ("OPC") as a Utility Regulatory Manager.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the OPC.

Q. What are you addressing in your rebuttal testimony?

A. I am responding to Ameren Missouri's position that it needs to continue to collect $6,758,605 annually from its retail customers to fund contributions to its Callaway Energy Center ("Callaway") and Independent Spent Fuel Storage Installation ("IFSI") Nuclear Decommissioning Trust Fund ("NDTF"). Ameren Missouri is misinterpreting the results of the model it relied upon to support its position that the annual contribution level that its retail customers fund should be maintained at $6,758,605, with $6,082,745 allocated to decommissioning Callaway and $675,860 allocated to decommissioning ISFSI (hereinafter, Callaway and IFSI are referred to in the aggregate as "Callaway Plant"). I will explain why Missouri law requires Ameren Missouri to cease collecting $6,758,605 from its ratepayers to fund the Callaway Plant NDTF.

Q. Does the Callaway Plant NDTF contribution level affect Ameren Missouri's profits?

A. No. Since the NDTF is a fund dedicated only to assuring sufficient funds to cover the costs of the final decommissioning of the Callaway Plant and, as Ameren Missouri witness Daniel

E. Deschler testifies in direct, the annual contribution amount is included as an expense when designing Ameren Missouri's rates, Ameren Missouri is not entitled to any profit from the NDTF or Ameren Missouri's contributions to it.

Q. What qualifies you to testify about the aggregate amount Ameren Missouri's retail customers should pay through their Ameren Missouri rates for Ameren Missouri's annual contributions to its Callaway Plant NDTF?

A. Please see Schedule DM-R-1 for my qualifications and experience.

Q. Why did Ameren Missouri file its Application that opened File No. EO-2023-0448?

A. Pursuant to 20 CSR 4240-20.070(4), every three years (*i.e.* triennially) Ameren Missouri is required to file the necessary funding contributions it should make to the Callaway Plant NDTF established to ensure Ameren Missouri has sufficient funds to decommission its Callaway Plant at the end of its useful life. The Commission reviews for "[t]he extent of any change in the level or annual accrual of funding necessary for the utility's decommissioning trust fund; and . . . [t]he changes in rates which would reflect any change in the funding level or accrual rate."[1]

Q. Is Ameren Missouri proposing to change the current annual contribution level of $6,758,745 to the Callaway Plant NDTF that it collects from its retail customers through their electric rates?

A. No.

Q. How did Ameren Missouri evaluate its requested annual contribution amount?

A. It relied on Willis Towers Watson's ("WTW") model and analysis, which assuming no change in the annual contribution amount to the Callaway Plant NDTF, predicts a 67% probability that Callaway Plant NDTF's fund will accumulate at least the minimum amount needed to fund the estimated cost to decommission the Callaway Plant at the end of its current Nuclear Regulatory Commission license on October 18, 2044.

[1] 20 CSR 4240-20.070(9).

Q. Are you disputing the use of Willis Towers Watson's model for purposes of evaluating Ameren Missouri's annual Callaway Plant NDTF contribution level?

A. No. In fact, it is Ameren Missouri's use of WTW's probability-based stochastic modeling methodology which caused me to question the proper way for the Commission to determine whether Ameren Missouri's current customer funded annual contribution to the Callaway Plant NDTF should be changed.

Q. Have you reviewed and analyzed the details of Willis Towers Watson's modeling?

A. No, but I have no reason to dispute the accuracy and reliability of the model considering WTW is a major consulting firm providing opinions about not only the funding adequacy and probabilities of NDTFs, but also for defined benefit pension plans.

Q. Then why do you disagree with Ameren Missouri about the Callaway Plant NDTF contribution level its customers should pay in their rates?

A. I disagree with both Ameren Missouri's interpretation of the WTW model results and the inputs used in WTW's model.

Q. Has Ameren Missouri used WTW's model to derive Callaway Plant NDTF contribution levels before?

A. Not for its prior triennial filings.

Q. If it did not use Willis Towers Watson's model, then how did Ameren Missouri derive Callaway Plant NDTF contribution levels for its past triennial NDTF filings?

A. Ameren Missouri had its own in-house financial model. This model was a "deterministic" model where, instead of analyzing thousands of scenarios based on flexing the parameters, it used fixed inputs (usually based on the mid-point or mean of a range of estimates) based on current annual contribution amounts to provide an estimate of whether the current

contributions would be sufficient to decommission Callaway based on TLG Services, Inc.'s[2] ("TLG") decommissioning cost estimates.

Q. Is there Missouri statutory guidance regarding the funding of nuclear plant decommissioning costs?

A. Yes, section 393.292, RSMo states:

> Notwithstanding any other provision of law to the contrary, the public service commission shall have the power, pursuant to regulations, to review and authorize changes to the rates and charges contained in the schedules of an electric corporation as a result of a change in the level or annual accrual of funding necessary for its nuclear power plant decommissioning trust fund only after a full hearing and after considering all facts relevant to such funding level or accrual rate. The commission shall also have the authority to adopt regulations to govern the procedure for submission, examination, hearing and approval of such tariff changes and **to ensure that the amounts collected from ratepayers and paid into such trust funds will be neither greater nor lesser than the amounts necessary to carry out the purposes of the trusts.** (Emphasis added).

Q. Why did you emphasize the language at the end of Section 393.292?

A. Because this language provides the Commission guidance as to the appropriate policy to apply to assessing the appropriate contribution level to NDTFs.

Q. What policy is that?

A. Not to over- or under-collect from ratepayers. Rephrasing the law into statistical terminology, the language plainly states that the amounts collected from ratepayers for purposes of funding NDTFs are to neither have a higher probability of over- or under-funding the NDTF. According to the statute, the Commission should authorize an annual contribution amount that has an equal chance (50/50) of over- or under-funding the decommissioning cost estimate.

[2] According to Ameren Missouri's application, TLG is an industry leader in nuclear power plant decontamination and decommissioning planning, cost estimating, and project field supervision and has prepared and updated decommissioning cost estimates for the vast majority of nuclear generation units in the United States.

Q. Does Ameren Missouri agree that this is the intent of the law?

A. Yes. In its amended application Ameren Missouri states the following regarding 66% of the outcomes generated by WTW's stochastic modeling analysis:

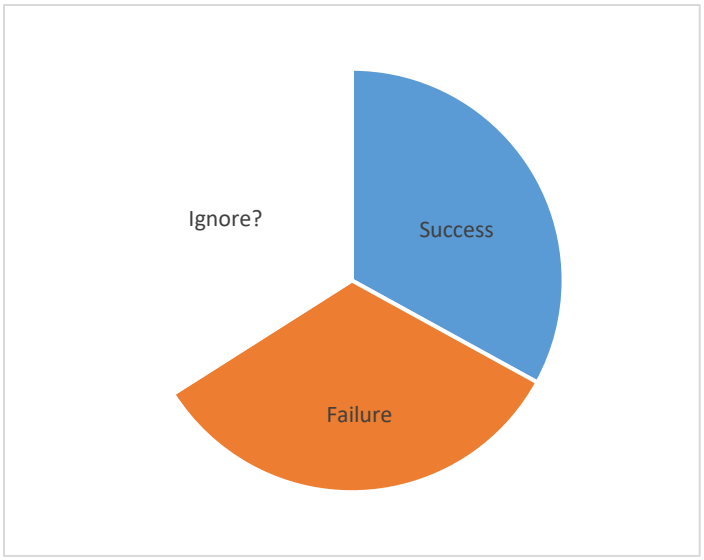
> The Company's recommendation is consistent with 20 CSR 4240-20.070 because the amount being collected into the trust fund is neither greater nor lesser than the amounts necessary to carry out the purposes of the trust fund. Evidence substantiating this position is shown in the Amended Attachment 4, page 14. This graphic shows the average cost remaining for the 33% of scenarios that are underfunded are similar to the average cost remaining for the 33% of scenarios – in surplus order, when there were sufficient funds for decommissioning. These values virtually offset each other and, therefore, support an appropriately funded trust in accordance with 20 CSR 4240- 20.070.[3]

Q. If you and Ameren Missouri agree as to the goal of neither over- nor under-funding the nuclear decommissioning trust fund when selecting the proper annual contribution amount to recover from ratepayers, what is your disagreement with Ameren Missouri?

A. As shown on page 14 of amended Attachment 4 to its amended application, Ameren Missouri is not incorporating 34% of the 5,000 outcomes from WTW's stochastic modeling process. Ameren Missouri starts with the 33% of outcomes that did not generate sufficient funds to finance the estimated cost to decommission the Callaway Plant. The average amount of underfunding for these 33% of outcomes was $132 million. Ameren Missouri then reviews the next 33% of outcomes (in surplus order) and concludes that because the average asset surplus is around $142 million, this establishes that continuation of the current contribution amount would result in an average or mid-point of funding results to approximate a 50/50 chance of over- or under-funding.

However, as shown in Ameren Missouri's pie chart on page 14 of amended Attachment 4 to its amended application, Ameren Missouri ignored 34% of the scenarios for purposes of its conclusion. For convenience, I reproduced the chart as follows:

[3] Amended Application for Acceptance of Decommissioning Cost Estimates for Callaway Energy Center, Including Independent Spent Fuel Storage Installation, and Approval of Funding Level for Nuclear Decommissioning Trust Fund, March 4, 2024, p. 9.



Because the next 34% of the stochastic outcomes capture the largest predicted surpluses, Ameren Missouri's interpretation of the model results is incorrect. Therefore, if the pie chart were consistent with WTW's determination that 67% of the outcomes will provide at least the minimum amount of funding, then the "Success" size of the pie chart should be expanded to include the top 34% of surpluses, i.e., all of the pie, which includes all of the "Success" and "Failure" outcomes. An accurate depiction of determining whether the NDTF is skewed towards over-funding is as follows:

Q. Has Ameren Missouri provided the average amount of surpluses for the top 34% of cases which meet the minimum funding goal which is labeled as "Success" in its pie chart?

A. Yes. In response to Staff Data Request No. 0024.1 (attached as Schedule DM-R-2), Ameren Missouri discloses that the average surplus for the remaining part of the pie chart is $583 million.

Q. What is the average surplus for 100% of the 5,000 outcomes from the WTW model?

A. Ameren Missouri's response to Staff Data Request No. 0024.2 (attached as Schedule DM-R-3), discloses that the average surplus of all 5,000 outcomes is $201.5 million.

Q. If all of the outcomes are considered, rather than the lowest 66% (in surplus order), is Ameren Missouri's current contribution level appropriate?

A. No.

Q. Why not?

A. WTW's model predicts a 67% probability of sufficient funding, but for the 67% of scenarios that provide sufficient funding, the average surplus is approximately $362.5 million ((.5 x 583 + .5 x 142)). But the Missouri legislature's statutory guidance is that the proper probability for determining the annual contribution level ratepayers should fund is fifty percent (50%) ("to ensure that the amounts collected from ratepayers and paid into such trust funds will be neither greater nor lesser than the amounts necessary to carry out the purposes of the trusts"), not sixty-seven percent (67%).

Q. According to Ameren Missouri, what is the probability of Ameren Missouri's Callaway Plant nuclear decommissioning trust fund being sufficiently funded if Ameren Missouri ceased making contributions to it after June 30, 2023?

A. In response to OPC Data Request No. 3008, Ameren Missouri relayed that WTW's model projects a 60% probability of successful funding of estimated nuclear decommissioning costs if Ameren Missouri did not make any contributions from June 30, 2023, until the

current expiration of Callaway's current Nuclear Regulatory Commission ("NRC") nuclear operating license.

Q. In your opinion does a 60% probability of success comply with Missouri law?

A. No. As I testified, the law dictates an equal probably (50/50) of over- or under-funding. A 60% probability of success means that it is more probable that Ameren Missouri would collect from its ratepayers and pay into its Callaway Plant NDTF a greater amount than the amount necessary to carry out the purposes of the Callaway Plant NDTF than the probability that Ameren Missouri would collect from its ratepayers and pay into its Callaway Plant NDTF a lesser amount than the amount necessary to carry out the purposes of the Callaway Plant NDTF.

Q. Based on Willis Towers Watson's modeling, what would be required to achieve a 50% probability of over- or under-funding?

A. Ameren Missouri would have to withdraw funds from the Callaway Plant NDTF.

Q. Are you recommending the Commission require Ameren Missouri to return to its ratepayers any amounts from its Callaway NDTF?

A. No. I am not even sure if the terms of the NDTF would allow them to do so.

Q. Can you identify some of Ameren Missouri's assumptions used in Willis Towers Watson's modeling that, if separately and independently changed, would increase the probability of sufficient funding above 67%?

A. Yes. They are as follows:

(1) Callaway closing year – 2044,
(2) Decommissioning inflation rate – 4.7%,
(3) Incurrence of decommissioning costs to return site to "grassy plain" condition.

Q. Does Ameren Missouri plan to close Callaway in 2044--the expiration date of Ameren Missouri's current Callaway NRC operating license?

A. No. According to Ameren's 2023 SEC Form 10-K filing, Ameren Missouri's preferred resource plan includes the following:

> [T]he expectation that Ameren Missouri will seek and receive NRC approval for an extension of the operating license for the Callaway Energy Center beyond its current 2044 expiration date.[4]

Also, Ameren's CEO, Marty Lyons, stated the following in a recent article published in the November 2024 edition of Public Utilities Fortnightly:

> We're [Ameren] proponents of nuclear energy. We operate a nuclear power plant today. It's licensed to go sixty years. My sense is at some point it'll be licensed to go to eighty years. We are optimistic that in the 2040 timeframe we could see the deployment of small modular reactors in our service territory.[5]

An additional 20 years of operation—until 2064—would allow further compounding of returns on the amount already invested in the Callaway Plant NDTF. OPC requested Ameren Missouri provide the probability of sufficient funding under this scenario. However, in response to OPC DR No. 3001 (*see* attached Schedule DM-R-4), Ameren Missouri responded that "modeling such an outcome has not been completed."

Q. In its response to OPC DR No. 3001 Ameren Missouri also stated that, consistent with the Willis Towers Watson's stochastic modeling analysis, the decommissioning cost inflation rate of 4.7% was not held constant. How did Ameren Missouri determine the assumed 4.7% decommissioning cost inflation rate?

A. This parameter was derived from WTW's stochastic model, which requires the user to provide parameters for the various variables, such as assumed rates of return, portfolio weights, general inflation rates, contribution amounts, and decommissioning cost inflation rates.

[4] Ameren Corp's 2023 SEC Form 10-K Filing, p. 10.
[5] Ameren CEO Looks Ahead – Conversation with Ameren CEO Marty Lyons, Co-moderated by PUF's Steve Mitnick and Guidehouse's Steve Waller, Public Utilities Fortnightly, November 2024, p. 9.

Q. How did Ameren Missouri estimate the decommissioning cost inflation rate that it used in its 2020 Callaway nuclear decommissioning trust fund triennial filing?

A. It used its internal model, not the Willis Towers Watson's model it is now using. After making deterministic assumptions for all of the other variables it used in its internal model, Ameren Missouri performed an iterative calculation to determine the decommissioning cost inflation rate which would cause the Callaway Plant NDTF to be sufficient to cover the cost to decommission the Callaway Plant. Therefore, Ameren Missouri did not apply actual or projected data to a formula to estimate the decommissioning cost inflation rate, but rather solved for the inflation rate which would cause the NDTFs to equate to the estimated decommissioning costs. In Ameren Missouri's 2020 triennial NDTF filing, it determined the decommissioning cost inflation rate could be as high as 4.2% and the fund would still meet Ameren Missouri's estimated Callaway Plant decommissioning costs.

Q. If the 4.2% decommissioning cost inflation rate Ameren Missouri used is based on iterative calculations, how did Willis Towers Watson define the range of potential outcomes for decommissioning cost inflation?

A. I do not know. I issued a data request to Ameren Missouri requesting how WTW determined the inputs for a range of decommissioning cost inflation rates, but I have not yet received Ameren Missouri's response.

Q. What do you know about the other variables used in Willis Towers Watson's stochastic modeling analysis?

A. As shown on page 4 of Ameren Missouri's Amended Attachment 4 to its Amended Application, WTW defined expected arithmetic and geometric returns based on three different holding periods. An essential variable for purposes of determining thousands of potential outcomes in stochastic models is the standard deviation of outcomes for the defined metric. For example, while the one-year arithmetic mean return on US Large Cap Equity assets is 9.6%, the standard deviation of these returns is 17.9%. Based on statistical properties of a normal distribution, this translates into a 68 percent probability that a one-year return on large capitalization stocks could be in the range of -8.3% to 27.5%. WTW's table on page 13 of Amended Attachment 4 identifies a range of possible outcomes based

on the 5th to the 95th percentiles. This equates to 90% of outcomes falling within the identified range, which translates into 1.645 standard deviations. Therefore, the range for 90% of the potential 1-year return outcomes is 9.6 +/- 29.45, or -19.86% to 39.05%. While my figures do not directly correspond to the -19.5% to 35.3% shown in WTW's table on page 12 of Amended Attachment 4, they are fairly similar.

Q. What standard deviation for the decommissioning cost inflation ratio is implied from the Willis Towers Watson's output shown on page 13 of Amended Attachment 4?

A. Approximately 0.85.

Q. If Ameren Missouri or Willis Towers Watson have not compiled data for variations in decommissioning cost inflation data, how could this standard deviation have been determined?

A. I do not know.

Q. Regardless, if Willis Towers Watson had specified the mean decommissioning cost inflation rate to be 3.33% and used the same standard deviation, would the model predict a higher than 67% probability of sufficient funding?

A. Yes.

Q. Why did you ask Ameren Missouri to evaluate an assumed 3.33% annual decommissioning cost inflation rate?

A. Because Evergy Metro Inc. ("Evergy Metro") has an ownership interest in the Wolf Creek Generating Station ("Wolf Creek"), Wolf Creek is nearly identical to Callaway in age and design, and Evergy Metro used 3.33% for the annual decommissioning cost inflation rate in its most recent—filed September 1, 2023—triennial Wolf Creek NDTF filing in Missouri. The Commission assigned File No. EO-2024-0056 to that filing.

Q. Did Evergy Metro rely on Willis Towers Watson's stochastic model for that filing?

A. No.

Q. What type of model did Evergy Metro use for its filing?

A. Its own internal "deterministic" model similar to Ameren Missouri's past internal model.

Q. Did Evergy Metro rely on Willis Towers Watson for inputs it used in its model?

A. Yes. Evergy Metro relied on WTW for inflation and portfolio return assumptions.

Q. How did Evergy Metro calculate the Wolf Creek decommissioning cost inflation rate for that filing (filed September 1, 2023) that it made about six months before Ameren Missouri filed its amended application (March 4, 2024) in this case?

A. Evergy Metro calculated the Wolf Creek decommissioning cost inflation rate by determining the weighted average of WTW's estimate of a 3.72% wage inflation rate and a 2.83% price inflation rate. Evergy Metro applied a 56.03% weighting to wage inflation because this represents the expected proportion of total decommissioning costs related to labor, with the remaining related to materials and other price-oriented costs.[6]

Q. Did Evergy Metro file a Wolf Creek Generating Station NDTF filing in Kansas on or about September 1, 2023?

A. Yes.

Q. What is the basis for Evergy Metro's methodology to estimate the decommissioning cost inflation rate that it used in its September 1, 2023, filing in Missouri?

A. It is a slightly more generic approach than it used for purposes of its triennial NDTF filings with the Kansas Corporation Commission ("KCC"). Evergy Metro's and Evergy Kansas South, Inc.'s ("Evergy South") most recent filing with the KCC (Docket No. 24-WCNE-235-GIE) applied a decommissioning cost inflation rate of 3.07%. Additionally, instead of using WTW as the source for its projected inflation rates, Evergy used Moody's projections for labor and price inflation. For purposes of price inflation, Evergy estimated inflation for the following specific categories identified in TLG's decommissioning cost

[6] Case No. EO-2024-0056, Application of Evergy Missouri Metro for Approval of the Accrual and Funding of Wolf Creek Generating Station Decommissioning Costs at Current Levels and Approval of a Change in Investment Manager, September 1, 2023, Schedule A, p. 69.

estimate: (1) equipment and material cost, (2) energy cost, (3) burial cost and (4) other cost. For more details regarding Evergy Metro's and Evergy South's methodology and estimates related to its overall decommissioning cost inflation rate, please see Schedule DM-R-5, which is the Direct Testimony of Evergy Metro's and Evergy South's Corporate Treasury Manager, Brett L. Lovell, filed at the KCC.

Q. Was the potential of an extension of Wolf Creek's NRC license to 2064 raised in KCC Docket No. 24-WCNE-235-GIE?

A. Yes. While the KCC Staff testified that annual accruals (contributions to the NDTF) must be based on the current license expiration date, they recognized that a 20-year license extension would impact many of the assumptions that drive the determination of the required annual contributions to the NDTF. Therefore, in that case Evergy and the KCC Staff agreed that subsequent triennial NDTF reviews should include an update on the status of the pursuit of extensions to the Wolf Creek nuclear operating license.

Q. What is your opinion about requiring utilities to disclose in their triennial nuclear decommissioning trust fund filings the status of where the owners are in the process of pursuing NRC nuclear operating permits for the generating station for which they are filing their decommissioning trust fund contribution levels?

A. In my opinion it is useful for assessing the funding status of NDTFs. A 20-year license extension would allow future generations of Ameren Missouri customers to benefit from the electricity generated from Callaway. It is fundamentally unfair for current customers to continue to be charged a higher contribution amount if it is fairly certain that Callaway will continue to operate beyond the current NRC license termination date, which will allow additional time for the NDTF portfolio to accrue returns projected to be higher than assumed decommissioning cost inflation rates.

Q. Is the Missouri Public Service Commission required to use the current NRC operating license expiration date for purposes of approving the adequacy of current annual contributions to NDTFs?

A. I do not know.

Q. Do you know anything that sheds light on whether the adequacy of current annual contributions to NDTFs is to be evaluated based on the current NRC operating license end date?

A. I know that in 20 CSR 4240-20.070 (8)(A)5 the Commission states the following:

> The beginning date for the expenditure of funds for decommissioning assumed in the study shall be no later than the expiration date of the unit's current Nuclear Regulatory Commission (NRC) license.

This provision of the regulation is directly addressing the decommissioning cost study rather than the funding of the NDTF, but it seems to imply that if the cost study requires that expenditures must start no later than the expiration date of the current NRC license, then assessment of the adequacy of the fund should correspond to the date of the liability. In any event, at the very least, the knowledge of the expectation that Callaway's NRC operating license will be extended for another twenty years should be a factor for the Commission to contemplate in evaluating all of the factors that skew the probability that the NDTF will be overfunded based on maintaining the current annual contribution level.

Q. Ameren Missouri witness Daniel E. Deschler testifies that Ameren Missouri contracted with TLG Services, Inc. ("TLG") to estimate the costs to decommission the Callaway Plant. Does the TLG decommissioning cost study include any costs that may not be incurred when the Callaway Plant is decommissioned?

A. Yes. The TLG decommissioning cost study assumes that the Callaway site will be returned to a "grassy plain" state.[7] According to the TLG cost study, approximately 10.6% of the $1.098 billion total decommissioning costs are associated with this site restoration. Therefore, approximately $100.1 million of the decommissioning costs assume that the Callaway site would no longer be used and be returned to a "grassy plain."

[7] Section 3.4.8 of TLG Cost Study, p. 14 of 34. (Attachment 3 to Application).

Q. How would a $100.1 million reduction to estimated decommissioning costs impact the probability that the NDTF would be sufficient to cover the approximate $1 billion of remaining decommissioning costs?

A. It would increase the probability, but the Commission would need to require Ameren Missouri to run this scenario through WTW's stochastic model to quantify the impact.

Q. Does the Nuclear Regulatory Commission require nuclear energy sites be returned to a "grassy plain"?

A. No. According to Ameren Missouri's biennial filing with the NRC, Ameren Missouri is required to physically decontaminate and dismantle all radioactive systems and structures before the NRC will allow the nuclear license to be terminated. These costs represent approximately 82.5% of TLG's total Callaway decommissioning cost estimate.

Q. Does Missouri law require the Callaway site to be returned to a "grassy plain"?

A. I am not aware of a Missouri statute requiring such, but apparently Ameren Missouri believes so because in its biennial filing with the NRC, it indicates that its "site-specific decommissioning cost estimates and the funding adequacy" are "based on full green fielding of the site, as would be indicated under Missouri's legal definition of decommissioning."[8]

Q. Has the Commission defined decommissioning?

A. Yes. In rule 20 CSR 4240-20.070(1) it defines decommissioning as follows:

> Decommissioning includes the removal and disposal of the structures, systems, and components of a nuclear generating unit at the time of decommissioning.

[8] NRC Docket No. ULNRC-06798, Ameren Missouri NRC Plant Decommissioning Funding Status Report – 2023, Enclosure 1, p. 4.

Q. For perspective, if Ameren Missouri had retired Callaway as of June 30, 2023, what percentage of the Callaway Plant's decommissioning costs could be funded by the funds already accumulated in Ameren Missouri's Callaway Plant NDTF?

A. Paragraph 15. of Ameren Missouri's Amended Application shows that even with the inclusion of the costs to restore the Callaway site to a "grassy plain," the Callaway Plant NDTF would cover approximately 89% of the cost to decommission the Callaway Plant—a $123.8 million deficiency.

If Ameren Missouri does not incur the $100.1 million in costs to return the Callaway site to a "grassy plain," then the Callaway Plant NDTF would cover 97.62% of the costs to decommission—a $23.7 million deficiency.

Q. What is your opinion of these funding levels?

A. On their face, these funding levels are healthy.

Q. How do these funding levels for Ameren Missouri's Callaway Plant NDTF compare to those for Wolf Creek?

A. They are much higher. Based on TLG's cost estimate of $1,180,585,958 to decommission Wolf Creek (in 2023 dollars) compared to the June 30, 2023, after-tax market value of the NDTF balances ($724,640,270) of all companies (Evergy Metro, Evergy Kansas South and the Kansas Electric Power Cooperative, Inc.) with ownership interest in Wolf Creek, the Wolf Creek NDTF would cover 61.38% of the cost to decommission Wolf Creek—a $455.9 million deficiency.

Q. What is the June 30, 2023, funding level for Evergy Metro's Missouri share of the cost to decommission Wolf Creek?

A. 67.45%—a $99.1 million deficiency.

Q. How did Evergy Metro determine the return parameters it projected for its nuclear decommissioning trust fund portfolio?

A. As I testified earlier in this testimony, Evergy Metro relied on information from its pension fund consultant, which is also Willis Towers Watson. As shown in Schedule B attached to

Evergy Metro's triennial Wolf Creek nuclear decommissioning fund filing, the projected return on large capitalization stocks was 8.52% and the projected return on fixed income (i.e. bonds) was 4.91%.

Q. Using Ameren Missouri's old model, maintaining Ameren Missouri's current annual contribution amount, and applying Evergy Metro's return and inflation assumptions, what is the estimated Callaway Plant nuclear decommissioning trust fund balance after incurring estimated decommissioning costs?

A. Approximately $2 billion.

Q. What happens if after it retires the Callaway Plant the cost of decommissioning the Callaway Plant is less than Ameren Missouri's Callaway Plant nuclear decommissioning trust fund balance?

A. According to 20 CSR 4240-20.070 (16), Ameren Missouri must refund or credit customers any excess funds.

Q. If excess funds are returned to customers, then why is the OPC concerned about whether current nuclear decommissioning trust fund contributions are excessive?

A. Because the current customers funding the annual contribution amount of $6,758,605 are unlikely to be the customers to receive this refund. If Ameren Missouri's Callaway Plant NDTF had $2 billion in excess funds, then customers who have likely contributed only a small amount to the NDTF would receive the benefits of past customers' excess contributions.

Q. But is it not possible to adjust the annual contributions made into the nuclear decommissioning trust fund at any time?

A. Yes. I believe this is the purpose of requiring electric utility companies to update the Commission about the funding level of its NDTF every three years. If circumstances warrant, such as a nuclear operating license extension, a severe market contraction, or market outperformance, then the contributions and the asset allocations can be revisited.

Q. Given the divergence in the funding levels for Wolf Creek and Callaway, is this case a good opportunity for the Commission to provide guidance for how to evaluate the proper target level for nuclear decommissioning trust fund contributions when it reviews them?

A. Yes. As I have already expressed, in my opinion, the statute mandates that contributions to the funds should not be skewed toward under- or over-funding. Based on Ameren Missouri's interpretation of WTW's probability estimates, it believes the Callaway Plant NDTF should strive for an even higher probability of overfunding by targeting the 73% probability of sufficient to excess funding.

Q. What issues do you advise the Commission address as it relates to setting guidelines related to funding nuclear decommissioning trust funds?

A. I recommend the Commission specifically address the following issues:

(1) Translation of the statutory mandate into policy goals for the NDTF. For example, I testified that it is my opinion that the statute requires a 50% probability of over- or under-funding rather than trying to achieve a higher probability of over-funding. That being said, it would be reasonable to have some flexibility within that 50/50 probability. Perhaps, if the probability of over-funding exceeds 55% at the next triennial filing, then this should trigger a reduction to the annual contribution amount and vice versa, if the probability of under-funding exceeds 55%, then this should trigger an increase to the annual contribution amount. These types of guidelines would ensure the NDTF is funded as close as possible to estimated decommissioning costs. It will also reduce the magnitude of intergenerational inequities;

(2) Direct whether required contributions should consider expectations for Nuclear Regulatory Commission license extensions. While a granting of license extension is never guaranteed, as Ameren Corporation has specifically communicated to investors in its SEC Form 10-K filing, its preferred resource plan includes the expectation that Ameren Missouri will seek and receive such an extension. Consequently, this scenario should be considered in determining whether the contribution amount should be amended;

(3) Define a specific methodology for estimating the decommissioning cost inflation estimate. The decommissioning cost inflation estimate for Callaway and Wolf Creek should not be significantly different as they are now (3.33% for Wolf Creek vs. 4.7% for Callaway).

Q. If the Commission does not adopt a policy goal similar to your first recommendation above, should it evaluate other factors when determining not only the level of annual contributions, but also the asset allocation of the nuclear decommissioning trust fund?

A. Yes. Again, although I do not agree that the goal of contributions to the NDTF is to achieve the highest probability of sufficient funding, if this is the Commission's decision, then in future triennial NDTF filings, Ameren Missouri should be required to assess when the NDTF should reallocate its equity investments to fixed-income investments in order to preserve the NDTF's accumulated assets.

Q. Would you explain what point you are making by your recommendation to assess equity investments versus fixed-income investments?

A. Yes. Assuming the Commission agrees with Ameren Missouri that the goal of the NDTF should be to obtain a higher probability of over-funding compared to under-funding. This then begs the question as to what that probability level should be. If Ameren Missouri's NDTF assets achieve 100% of the TLG cost estimate at some point in the future, then the returns required on the NDTF would be exactly equal to the estimated decommissioning cost inflation rate. At this point, the goal of the fund is no longer real gains in returns, but rather capital preservation. Therefore, the NDTF's investments should no longer be exposed to capital losses, but simply pursuing yields consistent with the decommission cost inflation rate.

Q. Based on Callaway's NDTF balance as of June 30, 2023, a 3.33% decommissioning cost inflation rate, no further contributions, and Callaway's current NRC license expiration in 2044, what ROR would be required on the NDTF's assets to ensure funding of the estimated decommissioning costs?

A. Approximately 4.27%.

Q. What are current yields on 20-year UST Bonds?

A. Approximately 4.6% as of November 4, 2024.

Q. What does this information imply?

A. That Ameren Missouri should be considering capital preservation of the NDTF sooner rather than later. Also, this further supports my position that Ameren Missouri can discontinue contributions to its NDTF.

SUMMARY

Q. Would you summarize your testimony?

A. Yes. In my opinion the issue before the Commission is simple and straightforward considering the fact that the OPC is not contesting Ameren Missouri's use of Willis Towers Watson's probability-based model. In fact, this statistically based model better translates whether the current funding level of the Callaway Plant NDTF is consistent with the statutory mandate of not collecting more or less than necessary to ensure the accumulation of adequate funds to decommission the Callaway Plant. Based on Ameren Missouri's current assumptions that Callaway closes in 2044, the annual decommissioning cost inflation rate is 4.7%, and Ameren Missouri incurs costs to restore the Callaway site to a "grassy plain," the WTW's model projects a 67% probability that the Callaway Plant NDTF will be at least sufficient to fund the cost to decommission Callaway Plant. If Ameren Missouri were to cease collecting $6,758,605 annually from ratepayers, the WTW model still projects that the Callaway Plant NDTF will more likely than not (60% probability) be sufficient to fund the cost to decommission the Callaway Plant. If any of the three more restrictive assumptions are loosened, the probability of sufficient funding would be higher.

In light of the fact that the Commission has the responsibility to ensure adequate funding for two NDTFs, which are funding the costs to decommission two very similar nuclear generating stations, and because of the likelihood that Callaway's and Wolf Creek's Nuclear Regulatory Commission's licenses will be extended for another twenty years, this

case is an excellent opportunity for the Commission to define the appropriate policies and goals for these funds.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Approval of Decommissioning Cost Estimate for Callaway Energy and Funding Level of Nuclear Decommissioning Trust Fund	))))))	Case No. EO-2023-0448

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

David Murray, of lawful age and being first duly sworn, deposes and states:

1. My name is David Murray. I am a Utility Regulatory Manager for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

David Murray
Utility Regulatory Manager

Subscribed and sworn to me this 8th day of November 2024.

TIFFANY HILDEBRAND
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
MY COMMISSION EXPIRES AUGUST 8, 2027
COLE COUNTY
COMMISSION #15637121

Tiffany Hildebrand
Notary Public

My Commission expires August 8, 2027.