MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

CASE NO. ER-2019-0335

Jefferson City, Missouri
December 4, 2019

** Denotes Confidential Information **

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I. Executive Summary

Staff has conducted a review in Case No. ER-2019-0335 of all revenue requirement cost of service components (capital structure and return on rate base, rate base, depreciation expense and other operating expenses) which comprise Union Electric Company's d/b/a Ameren Missouri ("Ameren Missouri") revenue requirement. This audit was in response to Ameren Missouri's filing made on July 3, 2019, seeking to decrease its retail rates approximately $774,303 on an annual basis.

Staff's recommended decrease of $65.1 million in revenue requirement is based upon a test year for the twelve months ending December 31, 2018, including true-up estimates through December 31, 2019. Staff recommends a return on equity ("ROE") of 9.25% for Ameren Missouri. This ROE combined with recommended capitalization ratios and senior capital cost rate results in an overall rate of return or cost of capital for Ameren Missouri of 6.921%.

The impact of Staff's recommended revenue requirement for each retail rate customer class will be addressed in Staff's rate design direct testimony and report that is scheduled to be filed on December 18, 2019.

Below are definitions of technical terms that will frequently be used in the Cost of Service Report:

Test Year: The test year income statement is the starting point for determining a utility's existing annual revenues, operating costs, and net operating income. In this case, the test year is the 12 months ending December 31, 2018.

Update: An update period considers factors that occur subsequent to test year through a specific date. Updating a case does not change the test year, but adjusts the test year to reflect the audited results associated with factors considered through the update period. The update period represents the last date through which historical data is available to be audited by Staff prior to filing of direct testimony.

True-Up: A true-up date generally is established when significant changes in a utility's cost of service occur after the end of the update period, but prior to the operation-of-law date, and one or more of the parties has decided these significant changes in cost of service should be considered for cost-of-service recognition in the current case. True-up audits may involve the filing of additional testimony and, if necessary, additional hearings beyond the initial testimony filings and hearings for a case. The true-up date ordered in this case is December 31, 2019, except that the cut-off is January 1, 2020, for certain items where appropriate.

Normalization: Utility rates are intended to reflect normal ongoing operations. A normalization adjustment is required when the test year reflects the impact of an abnormal event. For example, overtime expense may be normalized to remove an unusual weather event, and revenue may be normalized to remove abnormal weather conditions.

Annualization: Annualization adjustments are the most common adjustment made to test year results to reflect the utility's most current annual level of revenue and expenses. Annualization adjustments are required when changes have occurred during the test year and/or update period, which are not fully reflected in the unadjusted test year results. For example, signing a new labor contract would necessitate annualizing the new level of wages to expense. Similarly, an addition of a large industrial customer would necessitate an annualization of billing determinants and revenues.

Disallowances: In examining test year results, Staff makes disallowances to costs that should not be recovered in rates. Examples of these types of costs are certain advertising costs and donations made to charitable organizations.

Return on Equity: The ROE is the return allowed in rates on the shareholders' equity investment in a regulated utility.

Rate of Return: The ROR is the overall cost of capital; that is, the cost of debt and the Commission-selected ROE weighted by the capital structure.

Staff Expert/Witness: Lisa M. Ferguson

II. Background

Ameren Missouri provides electric utility service to approximately 1.23 million retail customers. Ameren Missouri's service area is primarily in the eastern half of Missouri, but also includes limited areas in northwestern Missouri. Ameren Missouri is wholly owned by Ameren Corporation ("Ameren"), which also provides utility service in Illinois through its Ameren Illinois operating subsidiary. Ameren Missouri also operates a natural gas distribution business in Missouri, which serves approximately 134,000 customers.

Ameren Missouri last sought a general change of its electric retail rates when it filed a request for a $206.4 million annual increase on July 1, 2016, in Case No. ER-2016-0179. As a result of the Missouri Public Service Commission's ("PSC" or "Commission") Order approving the Unanimous Stipulation and Agreement in that proceeding, Ameren Missouri was granted an annual rate increase of approximately $92.0 million, effective April 1, 2017.

Staff Expert/Witness: Lisa M. Ferguson

III. Test Year/True-Up Period

Ameren Missouri filed its case based upon a test year of the twelve-month period ending December 31, 2018, and made adjustments to its case to reflect the impacts of anticipated changes through the true-up period ending December 31, 2019, except for certain items where a true-up cut-off date of January 1, 2020 was appropriate. These dates were adopted by the Commission in its Order Setting Test Year and Adopting Procedural Schedule issued on August 15, 2019, which set the test year as the 12 months ending December 31, 2018, updated through June 30, 2019, and trued-up through December 31, 2019 (and January 1, 2020 for certain items).

Based on current information, Staff's revenue requirement as presented in its Accounting Schedules includes the expected changes for certain major items within a true-up period ending December 31, 2019, except for those items that it would be appropriate to true-up for significant changes through January 1, 2020. For example, the plant and depreciation reserve balances have been adjusted to reflect the anticipated additions through the December 31, 2019, true-up cut-off point. Fuel expense has also been adjusted to reflect an increase in coal commodity contract prices and coal transportation contract prices, which become effective on January 1, 2020. Staff will include actual changes to the value of these items in its case, as well as update additional components of the cost of service, within the upcoming true-up filing later in this proceeding. Staff is not now adopting the value of the items quantified in Staff's true-up estimate inclusions for the purpose of setting Ameren Missouri's rates. Staff has only included these items as placeholders, pending Staff's completion of its true-up audit. The true-up information to be filed is described in a footnote to the *Jointly Proposed Procedural Schedule and Procedures* that was filed on August 1, 2019, and adopted by the Commission in its *Order Setting Test Year and Adopting Procedural Schedule* that was issued on August 15, 2019.

Staff Expert/Witness: Lisa M. Ferguson

IV. Rate of Return (Capital Structure, Cost of Debt, Cost of Equity)

A. Summary

Staff estimated the market based cost of common equity ("COE") for Ameren Missouri's vertically integrated electric utility assets by applying widely used methodologies to data derived from a carefully assembled proxy group of comparable companies in the electric utility industry. Concurrently, Staff estimated an updated COE for the gas proxy group Staff presented in the recent Spire Missouri rate cases.[1] Staff compared its COE estimate for the electric proxy group to its COE estimate for the gas proxy group to identify differences in the COE between electric and gas utilities.

A reasonable authorized return on equity ("ROE") for Ameren Missouri maintains consistency and predictability with Commission decisions while balancing industry risks. Staff referenced the Commission's most recent 9.80% authorized ROE decision in the Spire Missouri rate cases when completing Staff's comparative analysis. Staff's Discounted Cash Flow ("DCF") and Capital Asset Pricing Model ("CAPM") analyses for the gas utility proxy group shows that the COE decreased 74 basis points since the Spire Missouri rate cases. DCF and CAPM analyses for the electric proxy group shows that the electric proxy group's COE is 16 basis points higher than Staff's estimate for the gas proxy group.

Staff's recommended authorized ROE for Ameren Missouri's vertically integrated electric assets reflects Staff's estimated COE differential between electric and gas utilities (16 basis points), and Staff's estimated decrease in the COE since the Spire Missouri rate cases (-74 basis points), indicating corresponding changes to the authorized ROE recommendation. Staff's accounting implies that a fair and reasonable authorized ROE for Ameren Missouri Electric is approximately 58 basis points lower than the authorized ROE in the Spire Missouri rate cases.[2] Staff recommends an authorized ROE in the range of 8.75% to 9.75%, with a point estimate of 9.25%.[3] This results in a rate of return ("ROR") range of 6.67% to 7.17%, with a point estimate

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[1] ***In the matter of Spire Missouri (Laclede and MGE Divisions)***, Case Nos. GR-2017-0215 & GR-2017-0216 (***Amended Report & Order,*** issued March 7, 2018) at p.28-45.

[2] Detailed accounting figures are presented in Schedule JS-11.

[3] Staff rounded its point recommendation from 9.22% to 9.25%

of 6.92%. The details of Staff's analysis and recommendations are presented in Schedules JS-1 – JS-12 in Appendix 2.

B. Analytical Parameters

The determination of a fair rate of return is guided by principles of economic and financial theory and by certain minimum Constitutional standards. Investor-owned public utilities such as Ameren Missouri are private property that the state may not confiscate without appropriate compensation. The United States Supreme Court has described the minimum characteristics of a Constitutionally-acceptable rate of return in two frequently-cited cases:[4] ***Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia***, and ***Federal Power Commission v. Hope Natural Gas Co***.

From these two decisions, Staff derives and applies the following principles to guide it in recommending a fair and reasonable ROR:

1. A return consistent with returns of investments of comparable risk;
2. A return sufficient to assure confidence in the utility's financial integrity; and
3. A return that allows the utility to attract capital.

Embodied in these three principles is the economic theory of the opportunity cost of investment. The opportunity cost of investment is the next best return that investors forego in order to invest in their chosen investment. Investors' opportunity sets vary depending on market and business conditions.

Methodologies of financial analysis have advanced greatly since the ***Bluefield*** and ***Hope*** decisions.[5] Additionally, today's utilities compete for capital in a global market rather than a local market. Nonetheless, the parameters defined in those cases are readily met using current methods and theory. The principle of commensurate return is based on the concept of risk. Financial theory holds that the return an investor may expect is reflective of the degree of risk inherent in the investment, risk measured as the likelihood an investment will not perform as expected. Any line

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[4] ***Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia,*** 262 U.S. 679, *43 S.Ct. 675, 67 L.Ed. 1176* (1923); ***Federal Power Commission v. Hope Natural Gas Co.,*** 320 U.S. 591, 64 S.Ct. 281, 88 L.Ed. 333 (1943).

[5] Neither the Discounted Cash Flow ("DCF") nor the Capital Asset Pricing Model ("CAPM") methods were in use when those decisions were issued.

of business carries with it its own risks and it follows, therefore, that the return Ameren Missouri shareholders may expect is equal to that required for comparable-risk utility companies.

The COE is a market-constructed artifact; meanwhile, Commission-authorized ROEs are regulatory-constructed artifacts. The COE, theoretically, is the minimum return investors are willing to accept for their investment in a company relative to returns available in other investments. An authorized ROE is an adjudicated return granted to monopoly industries extending them the opportunity to earn fair and reasonable compensation for their capital investments. Staff intentionally differentiates between market-determined COEs and Commission authorized ROEs because financial officers and stock investment analysts use market-determined COEs, which are much lower than average authorized ROEs, when making capital allocation decisions and valuing utility stocks.

Staff relied on analysis of a comparable group of companies to estimate the market-determined COE for Ameren Missouri, applying a DCF model and a CAPM to the comparable group of companies. Properly used and applied in appropriate circumstances, these models provide accurate estimates of utilities' COE. Commission-authorized ROEs focus on industry authorized ROEs to facilitate capital attraction. As such, Staff's recommended authorized ROE for Ameren Missouri focuses on the Commission's recent adjudicated ROE decision in the Spire Missouri rate cases, and is approximately 310 basis points higher than Staff's estimate of the market-driven COE for Ameren Missouri (*see* Schedule JS-11).

C. Current Economic and Capital Market Conditions

Determining whether a cost of capital estimate is fair and reasonable requires an understanding of economic and capital market conditions, with the former having a significant impact on the latter. Staff emphasizes that estimates of a utility's COE, and ROE recommendation, should pass the "common sense" test considering broader economic and capital market conditions.

<u>1. Economic Conditions</u>

Economic dynamics are important in setting an authorized ROE because they help assess the trajectory of Federal Reserve ("FED") Funds Rates and the path of longer-term interest rates. Interest rates determine utilities' debt costs, an input in their overall cost of capital. The interplay of interest rates' expected effects on capital markets and investors' opportunity costs assists in evaluating how utility stocks behave relative to other assets. Utility stock prices relative to other assets affect their COE, another component in the cost of capital. Understanding these mechanics in an evolving economy helps guide a decision as to what a proper ROE should be going forward.

Real gross domestic product ("GDP") growth in 2017 and 2018 increased by 2.2% and 2.9%, respectively. The Federal Reserve ("FED") projects real GDP growth in 2019 of 2.2%. Long-run projections for real GDP range from 1.7% to 2.1%. Inflation, measured by core Personal Consumption Expenditures ("PCE") for 2017 and 2018 averaged 1.6% and 1.9%, respectively. Core PCE for the 12-months ending September 2019 averaged 1.7%. Long-term, inflation should be expected to be near the FED's 2% target. After more than 10-years and nine 25-basis point rate increases in the FED target Funds Rate ("Funds Rate"), the Federal Open Market Committee ("FOMC"), began cutting the Funds Rate in August 2019, cutting the Funds Rate 25 basis points in each of the August, September, and October 2019 FOMC meetings. Currently, the Funds Rate target is 1.50% - 1.75%. The most recent quarterly Summary of Economic Projections, published by the FOMC on September 18, 2019, shows that FOMC members expected Funds Rate target to be in the range of 1.75% - 2.50% until 2022. Short-term interest rates are likely to remain low for a prolonged period.

An important consideration in assessing the relationship between short-term and long-term Treasury rates is the amount of U.S. Treasuries held by the FED. The September 18, 2019 Federal Reserve press release directs the continued "rolling over at auction of all principal payments from the Federal Reserve's holdings of Treasury securities and to continue reinvesting all principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during each calendar month." The release also notes that principal payments from agency debt and agency mortgage-backed securities up to $20 billion per month will continue to be reinvested in Treasury securities to roughly match the maturity composition of Treasury securities outstanding, and that principle payments in excess of $20 billion per month will continue to be reinvested in agency mortgage-backed securities. This will have the effect of increased demand for Treasuries, increasing their price, while keeping downward pressure on their yields.

Another important factor to consider in the paradigm of long-term and short-term interest rate relationships is foreign central bank ("CB") policies. Research by economists at the Federal Reserve Bank of Chicago finds that "10-year interest rates display a positive and significant response to foreign CBs announcements."[6] Low interest rates offered by other governments, while the U.S. has some of the highest yields in the developed world, increases foreign demand for U.S. Treasuries. Low yields in other developed markets stem from low policy rates and large balance sheets at other central banks. Low opportunity costs in other countries leads investors to seek higher yields in the U.S. Increased demand for U.S. assets increases their costs, reducing their yields and opportunity costs.

The September 19, 2019, Statement on Monetary Policy from the Bank of Japan ("BOJ") shows that the BOJ intends to continue to keep interest rates low. With regard to short-term policy interest rates, the BOJ "will apply a negative interest rate of minus 0.1 percent to the Policy-Rate Balances in current accounts held by financial institutions at the bank." With regard to longer-term interest rates, the BOJ "will purchase Japanese government bonds ("JGBs") so that 10-year JGB yields will remain at around zero percent." [7]

In a similar note, the September 12, 2019, European Central Bank ("ECB") Monetary policy decisions press release shows that the "interest rate on the deposit facility will be decreased by 10 basis points to -0.50%. The interest rate on the main refinancing operations and the rate on the marginal lending facility will remain unchanged at 0.00% and 0.25% respectively." The ECB also announced that starting November 1, 2019 the bank will restart its asset purchase program at a monthly pace of €20 billion, while continuing to reinvest the principle payments from maturing securities purchased under the asset purchase program for an extended period.[8] Low interest rates abroad will continue to put downward pressure on U.S. interest rates.

The relationship between trend GDP growth and estimates of the natural interest rate demarcates when the Funds Rate shifts from accommodative to restrictive, with respect to economic output.[9] Economists at the San Francisco FED estimate a natural interest rate equal to

[6] Anene, D., D'Amico, S., *A tale of Four Tails: Inflation, the Policy Rate, Longer-Term Rates, and Stock Prices.* Federal Reserve Bank of Chicago, December 2017.

[7] Bank of Japan, *Statement on Monetary Policy*, September 19, 2019, https://www.boj.or.jp/en/announcements/release_2019/k190919a.pdf.

[8] European Central Bank, *Monetary policy decisions*, September 12, 2019. https://www.ecb.europa.eu/press/pr/date/2019/html/ecb.mp190912~08de50b4d2.en.html

[9] The natural interest rate is the real short-term interest rate that allows for GDP to grow at its trend rate, while allowing for stable inflation. Short-term rates below the natural rate are thought of as expansionary, short-term rates at the natural rate are thought of as neutral, and short-term rates above the natural rate are thought of as contractionary.

the trend growth rate of output, at the time 2.2%.[10] Given the FOMC's Summary of Economic Projections, FOMC members currently believe longer run GDP to range 1.7% - 2.1%, establishing the bounds of the natural rate.[11] Estimates of the natural interest rate imply that the Funds Rate is slightly accommodative, but near the neutral rate. However, slowing economic growth in the U.S. and abroad may signal to a lower future Funds Rate to provide further accommodative support to economic activity. Similarly, accommodative support from the FED at the longer end of the yield curve, accompanied by a low-yield global interest rate environment, indicates maintained downward pressure on Treasuries, likely leading to lower opportunity costs and sustained lower utility COE levels.

2. Capital Market Conditions

a. Utility Debt Markets

Schedule JS-4-2 shows the average yields for Moody's public utility bonds and 30-year U.S. Treasury bonds, and Schedule JS-4-3 shows spreads and the long-run average spread between yields on public utility bonds and 30-year U.S. Treasury bonds. Since the end of the Great Recession, public utility bonds have had a 0.95 direct correlation with 30-year Treasuries and a 0.82 direct correlation with 10-year Treasuries.

Average public utility bond yields rose throughout most of 2018, but began declining in late 2018 and continued to do so in 2019. Movements in public utility bond yield averages are explained by their high correlation to 30-year Treasuries. For example, average utility bond yields increased approximately 25 basis points from an average of 4.07% in 2017 to an average of 4.32% in 2018, but have declined 27 basis points to an average of 4.05% through the first nine-months of 2019. Driving these movements, average 30-year Treasury bond yields increased approximately 21 basis points from an average of 2.90% in 2017 to an average of 3.11% in 2018, before declining 42 basis points to an average of 2.69% through the first nine-months of 2019. As can be seen on Schedule JS-4-3, spreads between utility bonds and 30-year Treasury bonds were below their long

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[10] Holston, K., Laubach, T., & Williams, C., (2016). *Measuring the Natural Rate of Interest: International Trends and Determinants*. Finance and Economics Discussion Series 2016-073. Washington: Board of Governors of the Federal Reserve System, https://www.federalreserve.gov/econresdata/feds/2016/files/2016073pap.pdf.

[11] Federal Open Market Committee. *Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents under their individual assessments of projected appropriate monetary policy, September 2019*. September 18, 2019.

run average in 2017, began rising in 2018, and have been near their long run average through the first nine-months of 2019.

S&P rates Ameren's ("AEE") and all its subsidiaries' senior unsecured debt 'BBB+'. Similarly, Moody's rates both AEE's and Ameren Missouri's senior unsecured debt 'Baa1'. However, Ameren Missouri's secured debt is assigned an "A" rating by S&P and an equivalent "A2" rating by Moody's. Schedule JS-4-5 shows the average yields on 'A'-rated utility bonds compared to 30-year U.S. Treasury bonds. Average 'A'-rated utility bond yields for 2017, 2018, and the first nine-months of 2019 were 4.00%, 4.25%, and 3.89%, respectively. Average spreads between 'A'-rated utility bonds and 30-year Treasuries for 2017, 2018, and 2019 were 1.10%, 1.14%, and 1.20%, respectively. As can be seen on Schedule JS-4-6, spreads between 'A' -rated utility bonds and 30-year U.S. Treasury bonds were below their long run average in 2017, began rising in 2018, but have remained below their long run average into the first nine months of 2019. If spreads remain below their long-run average for a prolonged period, the long-run average will decline. Staff notes, however, that excluding high spreads that resulted from the Financial Crisis of 2008 – 2009 lowers long-run average spreads to 1.16%, a level more consistent with recent spreads.

To the extent Missouri's utilities or their parent companies have outstanding bonds traded in the secondary markets, it is relevant to analyze this company-specific data to assess how capital market conditions reflect on their capital market instruments. Although this company-specific debt yield information is helpful because it informs the Commission as to the yield investors are currently requiring on Missouri utilities' and/or their parent companies' debt capital, Staff notes that some of the bonds are thinly traded. Additionally, the terms of some of these bonds may differ, such as the coupon, time to maturity, secured/unsecured, callable or not, and call dates. Staff specifically analyzed bonds that had maturities of approximately 10 years or greater and those that had trades during April, May, and June 2017 timeframe (the general period evaluated by Staff in the Spire Missouri rate cases) and trades during July, August, and September, 2019 timeframe (the period analyzed in the current case).

Ameren Missouri had five bonds that met Staff's criteria.[12] These bonds have maturities ranging from 15 – 26 years, coupons ranging from 3.65% to 8.45%, 'A' ratings from S&P, a 'A2'

[12] Symbol AEE3899397, CUSIP 906548CJ9, Symbol AEE4229257, CUSIP 906548CL4, Symbol AEE.IA, CUSIP 906548CH3, Symbol AEE. HN, CUSIP 02360FAB2, and Symbol AEE HE, CUSIP 906548BY7.

ratings from Moody's, are callable, and are secured. Through the three months ended June 30, 2017, the bonds traded at an average yield-to-maturity of 4.01%. During the three months through September 30, 2019, the bonds traded at an average yield-to-maturity of 3.54%, a decrease of 47 basis points. Data related to Ameren Missouri's bond yields reflect a pattern similar to those occurring between public utility bonds and Treasury bonds, lower yields.

Spire Missouri had one outstanding bond that met Staff's criteria. The bond has a maturity date of approximately 10 years, a coupon of 7.00%, an 'A' rating from S&P, an A1 rating from Moody's, is not callable, and is secured. Through the three months ended June 30, 2017, the bond traded at an average yield-to-maturity of 4.07%. During the three months through September 30, 2019, the bonds traded at an average yield-to-maturity of 3.36%, a decrease of 71 basis points. Assessing Spire Missouri's credit ratings and reports gives further insight of the risk profiles between the utilities. Substantially all of Spire Missouri's debt is secured debt. S&P rates both Spire Missouri's and Ameren Missouri's secured debt 'A'. Moody's rates Spire Missouri's secured debt 'A1', one notch above its rating for Ameren Missouri's secured debt, 'A2'.

Comparing Ameren Missouri's credit ratings to Spire's suggests that according to S&P the two companies share similar risk, and according to Moody's Ameren Missouri is slightly riskier. Generally, gas utilities have different financial risk profiles than electric utilities. For example, S&P uses medial volatility benchmarks when assessing electric utilities credit metrics, such as AEE's; meanwhile, it uses low volatility benchmarks when assessing gas utilities credit metrics, such as Spire's.[13] The lower volatility benchmarks S&P uses for gas utilities compared to electric utilities implies that electric utilities are more risky than gas utilities.

b. Utility Equity Markets

Sustained low interest rates have allowed utility stocks to outperform the S&P 500 over the last five years. From September 30, 2014 to September 30, 2019, Staff's electric and gas proxy groups' total returns of 92.96% and 143.83%, respectively, outperformed the S&P 500's total return of 67.27%. During the same timeframe, Staff's electric and gas proxy groups' price appreciation of 77.96% and 113.19%, respectively and average dividend yields of 3.87% and 2.61%, respectively, outperformed the S&P 500's price appreciation and dividend yield of 50.93%

[13] Volatility benchmarks refer to the volatility of companies' cash flows.

and 2.05%, respectively. Electric and gas utility stock returns, at least those in Staff's proxy groups, have been more than adequate to compensate investors for their risk.

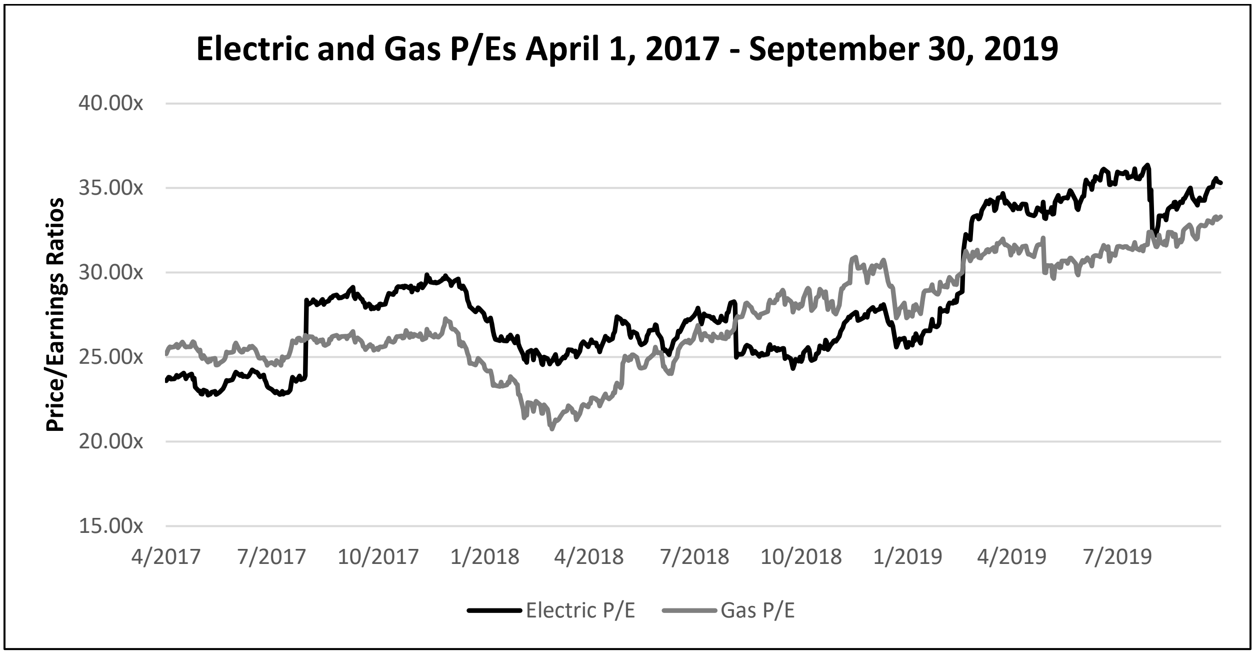
The utility industry's outperformance of the S&P 500 is largely because of high valuation levels of utility stocks due to low long-term interest rates, i.e., a low cost of capital and low opportunity costs, herding investors toward safer, higher yielding securities. Staff has already elaborated on the interest rate environment. Staff will focus on comparing and contrasting dividend yields and Price to Earnings ("P/E") ratios since the spring of 2017 to describe how general costs of capital have changed, and assess an appropriate ROE for Ameren Missouri.

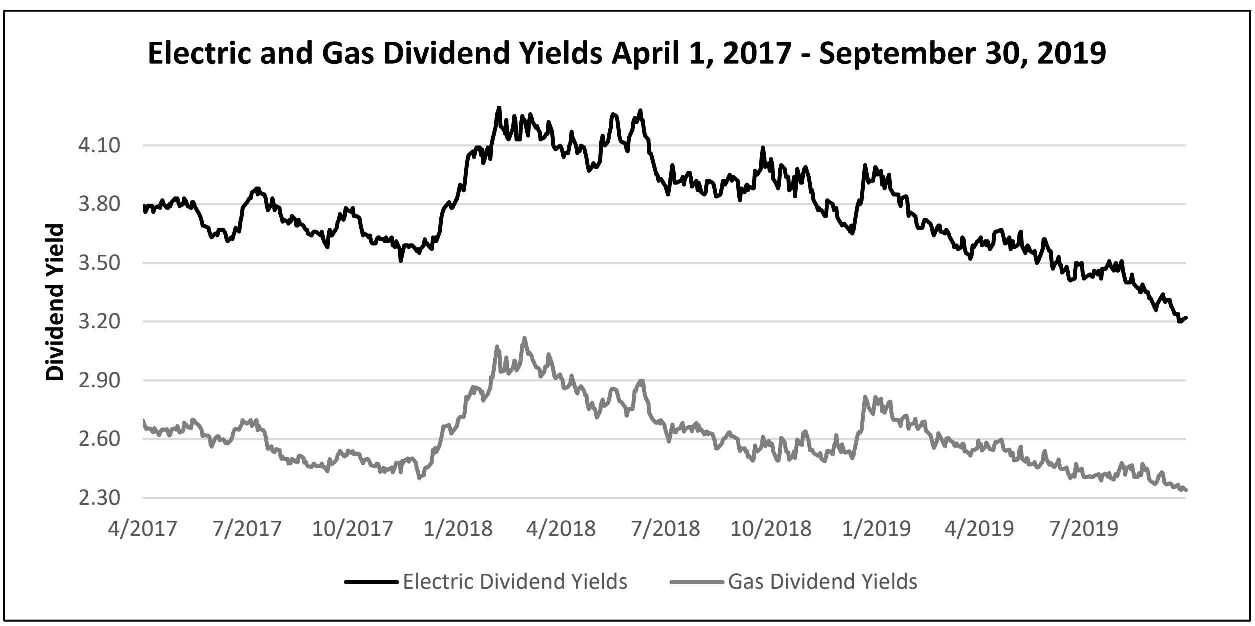
As Staff has explained in recent utility rate case testimonies, the biggest cause for high utility stock P/E ratios has been low long-term interest rates, which have resulted in lower utility dividend yields. Investors willing to pay more for the anticipated earnings of their investment implies reduced required returns. In a world where safer assets have lower yields, investors' search for substitutes has driven up the price of those substitutes, leading to reduced expected returns for investors. For the three-months ended June, 2017, the average dividend yield and average P/Normalized EPS[14] ratio for Staff's electric utility proxy group were 3.74% and 23.49x, respectively. For the three-month period ending September 30, 2019, the average dividend yield and average P/Normalized EPS ratio for the electric proxy group were 3.38% and 34.72x, respectively.

Staff's gas proxy group exhibited similar behavior. For the three-months ended June, 2017, the average dividend yield and average P/Normalized EPS ratio for Staff's gas utility proxy group were 2.64% and 25.26x, respectively. For the three-month period ending September 30, 2019, the average dividend yield and average P/Normalized EPS ratio for the gas proxy group were 2.41% and 32.10x, respectively. The charts below compare average dividend yields and average P/Normalized EPS from April 1, 2017, to September 30, 2019 for Staff's electric and gas proxy groups. Recall that dividend yields run positive to companies' borrowing costs: at higher dividend yields, companies pay more in return for investors' funds than at lower dividend yields. P/E ratios, however, run opposite to companies' borrowing costs; at higher P/E ratios investors are paying companies more for each share of earnings than at lower P/E ratios, meaning that companies receive more funds from investors for each share of earnings the company generates. Notice how

[14] Normalized EPS normalized EPS by adjusting for one-time extraordinary items such as income from asset divestitures.

dividend yields come down as the price investors are willing to pay for each share of earnings goes up.





Broader market data shows borrowing costs increased throughout most of 2018 before plateauing and retreating late in the year and reaching new lows in 2019. Data on Ameren

Missouri's bonds shows that Ameren's borrowing costs displayed similar behavior. Utility equity markets activity resembles that of bond markets. Looking forward, economic data point to sustained low long-term interest rates. Considering that a slowing global economy will likely put downward pressure on Funds Rates and longer-term interest rates, resulting in lower opportunity costs, 9.25% is a fair and reasonable authorized ROE.

D. Ameren Missouri Operations:

The following excerpts from AEE's Form 10-K filing with the United States Securities and Exchange Commission ("SEC") for the 2018 calendar year provides a good description of AEE's current organizational structure and Ameren Missouri's current business operations:

> Ameren, formed in 1997 and headquartered in St. Louis, Missouri, is a public utility holding company whose primary assets are its equity interests in its subsidiaries. Ameren's subsidiaries are separate, independent legal entities with separate businesses, assets, and liabilities. Dividends on Ameren's common stock and the payment of expenses by Ameren depend on distributions made to it by its subsidiaries... Ameren has four segments: Ameren Missouri, Ameren Illinois Electric Distribution, Ameren Illinois Natural Gas, and Ameren Transmission. The Ameren Missouri segment includes all of the operations of Ameren Missouri. Ameren Illinois Electric Distribution consists of the electric distribution business of Ameren Illinois. Ameren Illinois Natural Gas consists of the natural gas business of Ameren Illinois. Ameren Transmission primarily consists of the aggregated electric transmission businesses of Ameren Illinois and ATXI… Ameren Missouri operates a rate-regulated electric generation, transmission, and distribution business and a rate-regulated natural gas distribution business in Missouri. Ameren Illinois operates rate-regulated electric transmission, electric distribution, and natural gas distribution businesses in Illinois. ATXI operates a FERC rate-regulated electric transmission business.

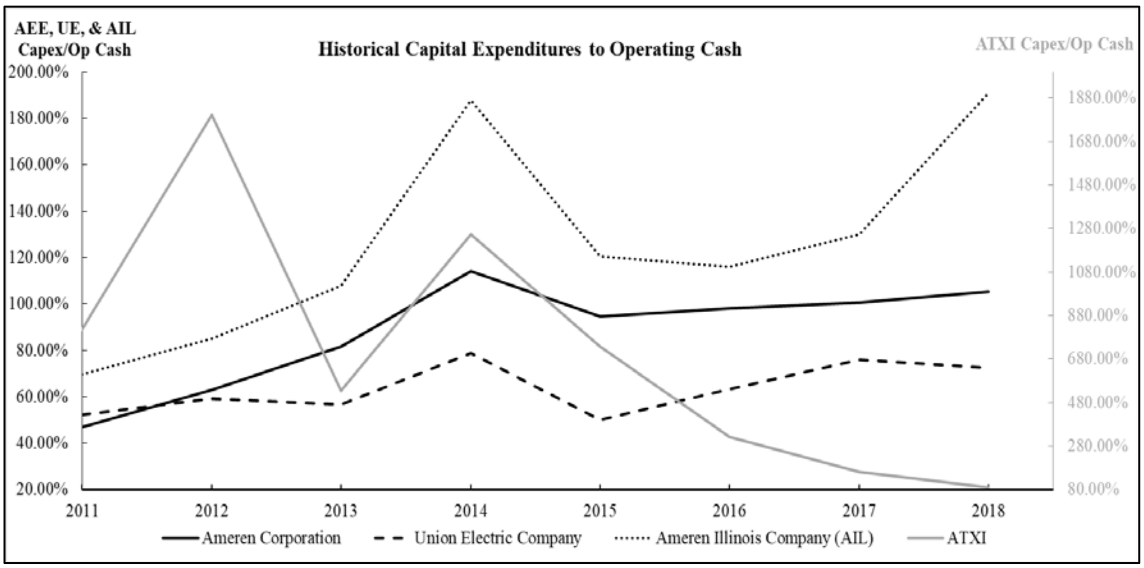
E. Rate of Return

In order to arrive at Staff's recommended ROR, Staff examined (1) an appropriate ratemaking capital structure, (2) Ameren Missouri's embedded cost of debt, and (3) an evaluation of a fair and reasonable authorized ROE.

<u>1. Capital Structure</u>

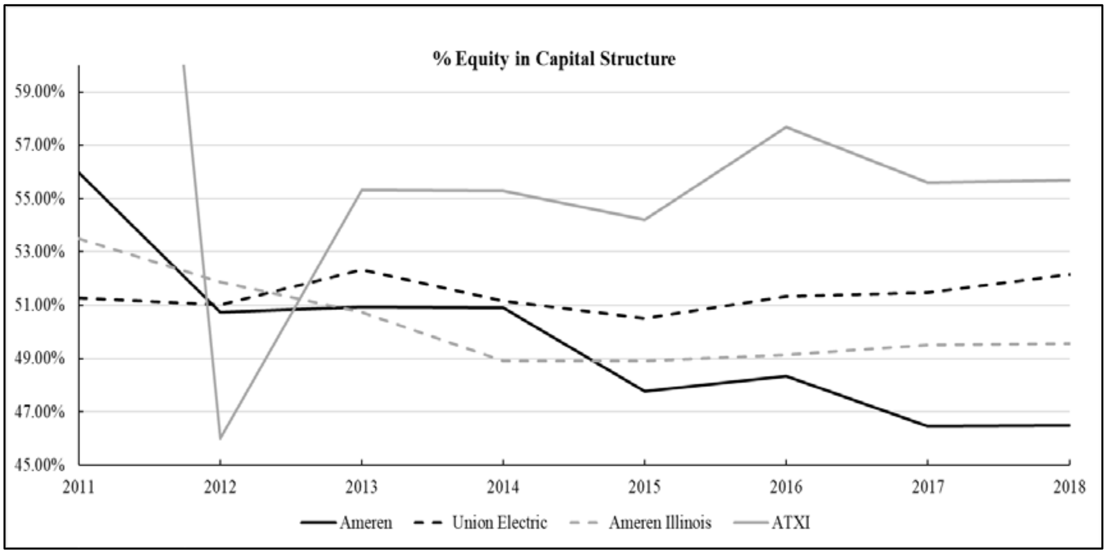
In past Ameren Missouri electric cases, Staff recommended the Commission use Ameren Missouri's operating capital structure for its ratemaking capital structure because it was consistent with how AEE holding company capitalized; consequently, the use of either capital structure would have produced similar revenue requirements. However, recent use of AEE holding company debt has caused AEE to be more leveraged, leading to a divergence between AEE and Ameren Missouri equity ratios. Staff does not think Ameren Missouri's capitalization is reflective of the most cost effective way to provide utility services to Missouri ratepayers; instead, Staff thinks Ameren Missouri's capital structure is being managed for regulatory purposes.

When AEE began undertaking considerable capital expenditures in its operating companies in Illinois, outside sources of financing were required. The chart below shows AEE's, Ameren Illinois', ATXI's, and Ameren Missouri's capital expenditure to operating cash flow ratios from 2011 to 2018.[15]



Much of the financing for excess capital expenditures has come in the form of debt financing. ATXI was unable to access debt markets until recently, therefore AEE issued debt and made equity infusions into ATXI. The chart below shows AEE's, Ameren Illinois', ATXI's, and Ameren Missouri's equity ratios from 2011 to 2018.

[15] A ratio above 100% indicates that a company incurred more in capital expenditures than could be financed with operating cash, requiring other sources of financing.



From 2011 to 2018, dividends Ameren Missouri ratepayers contributed to AEE accounted for substantially all the dividends AEE payed shareholders, and facilitated the servicing of AEE debt. Given AEE's penchant and precedence for using debt to finance significant capital expenditures, and given Ameren Missouri's significant planned capital expenditure forecasts, Staff thinks that the most cost effective way to capitalize Ameren Missouri utilizes more debt. Staff's concern leads to Staff's recommended 50% ceiling on Ameren Missouri's common equity ratio. Staff's assessment of a reasonable equity ratio resembles an agreement Ameren Illinois has with the Illinois Commerce Commission, to limit the amount of equity to 50% in ROR calculations for its gas and electric operations.[16] Schedules JS-6-1 and JS-6-2 show AEE's, Ameren Illinois', ATXI's and Ameren Missouri's historical capital structures from 2011 – 2018. Schedule JS-6-3 shows the companies' capital structures as of June 30, 2019, as well as Staff's recommended capital structure for Ameren Missouri.

2. Cost of Debt

Staff recommends the use of Ameren Missouri's consolidated embedded cost of debt for purposes of setting its ROR, which is 4.60% based on Ameren Missouri's response to Staff Data Request No. 0381.

[16] Illinois Commerce Commission Dockets 18-0463 and 18-0807.

3. Cost of Common Equity and Return on Equity

Staff estimated Ameren Missouri's cost of common equity through a comparable company cost-of-equity analysis using a proxy group of electric utility companies, applying DCF and CAPM analyses. Staff also estimated the current cost of equity for the gas utility proxy group Staff presented in the Spire Missouri rate cases to determine any change in the COE since the Commission authorized a 9.80% ROE. Combining the estimates and applying them proportionately allowed Staff to estimate a reasonable authorized ROE of 9.25% for Ameren Missouri (*see* Schedule JS-11). Staff compared its recommendation to recent authorized ROEs of other Commissions as a check on the reasonableness of Staff's ROE recommendation.

a. The Proxy Group

Staff used a proxy group of vertically integrated regulated electric utilities to estimate the cost of equity for Ameren Missouri (*see* Schedules JS-5-1 and JS-5-2). Staff ensured companies in the proxy group are confined to vertically integrated utility operations by starting with Edison Electric Institute's list of regulated electric companies and then screened these companies further by ensuring that they:

- are publicly traded
- have investment grade credit ratings from two major U.S. credit rating agencies
- have no pending merger or acquisitions
- have not reduced dividends since 2016
- generate at least 80% of income from regulated utility operations
- have long-term growth coverage from at least 2 analysts
- have at least 50% of plant assets from electric utility operations
- have at least 25% of plant assets from electric generation

b. The Constant-growth DCF

Staff started its evaluation of the electric utility industry's cost of common equity by applying values derived from the proxy group to the constant-growth DCF model. The constant-growth DCF model is used by investors to evaluate stable-growth investment opportunities such as regulated utility companies. Expressed algebraically:

$$k = D_1/P_0 + g$$

where: k is the cost of equity,

D_1 is the expected next 12 months dividend,

P_0 is the current price of the stock,

g is the dividend growth rate.

The term D_1/P_0, the expected next 12-months' dividend divided by current share price, is the dividend yield. Staff calculated the dividend yield for each of the comparable companies by dividing the calendar year projected dividends per share from Market Intelligence by the monthly high/low average stock price for the three months ending September 30, 2019. The projected average dividend yield for the electric utility proxy group is approximately 3.17%. The projected average dividend yield for the gas proxy group is approximately 2.51% (*see* Schedules JS-9-1 and JS-9-3).

i. The Inputs

In the DCF method, the cost of equity is the sum of the dividend yield and a growth rate ("g") that represents the projected capital appreciation of the stock. In estimating a growth rate, Staff considered the actual dividends per share ("DPS"), earnings per share ("EPS"), and book value per share ("BVPS") for each of the comparable companies. Staff also reviewed equity analysts' consensus estimates for long-term compound annual growth rates in EPS as reported by Market Intelligence. The average consensus long-term growth rates in EPS for the electric and gas proxy group were 5.10% and 5.60%, respectively, as of September 30, 2019 (*see* Schedules JS-8-3 and JS-8-6).

While Staff may accept that electric and gas utilities' EPS can grow over the next five years at rates higher than consensus long-term nominal GDP growth[17], it would be unreasonable to conclude that these growth rates are sustainable in perpetuity because empirical and logical evidence show utilities' growth has been lower than the overall economy's. A projected long-term nominal GDP growth rate should be conservatively ascribed as an upper constraint when testing the reasonableness of perpetual growth rates used to estimate the cost of equity for regulated

[17] The nominal GDP growth rate, contrasted to the real GDP growth rate introduced earlier, is not adjusted for inflation.

utilities. A high-end estimate for nominal GDP is not much higher than 3.89%, causing an estimated constant growth rate over this rate to be suspect.[18] However, considering that the 10-year annual compound growth rate of DPS, EPS, and BVPS for the electric and gas proxy groups averaged 4.81% and 4.73, respectively, to give consideration to analysts' growth rates, and to maintain consistency in the growth rates used for the different proxy groups, Staff used a growth rate range of 4.20% - 5.00%. Compared to the DCF analysis Staff presented in the Spire Missouri rate cases, it appears the COE has come down (*see* Schedules JS-9-2 and JS-9-3).

c. The CAPM

The CAPM is built on the premise that the variance in returns is the appropriate measure of risk. The CAPM rewards only the non-diversifiable variance (systematic risk). Systematic risks, also called market risks, are unanticipated events that affect almost all assets to some degree because the effects are economy wide. Systematic risk in an asset, relative to the average, is measured by the Beta of that asset. Unsystematic risks, also called asset-specific risks, are unanticipated events that affect single assets or small groups of assets. Because unsystematic risks can be freely eliminated by diversification, the reward for bearing risk depends on the level of systematic risk. The CAPM shows that the expected return for a particular asset depends on the pure time value of money (measured by the risk free rate), the reward for bearing systematic risk (measured by the market risk premium), and the amount of systematic risk incurred by the asset (measured by Beta). The general form of the CAPM is as follows:

$$k = R_f + \beta(R_m - R_f)$$

where: k is the expected return on equity for a security;

R_f is the risk-free rate;

β is Beta; and

$R_m - R_f$ is the market risk premium.

For the risk-free rate ("R_f"), Staff used the average yield on 30-year U.S. Treasury bonds for the three-month period ending September 30, 2019; that figure was 2.29%. For beta ("β"),

[18] Based on the average projections of real GDP growth (1.85%) from the U.S. Federal Reserve, Congressional Budget Office, Energy Information Administration, and Organization for Economic Cooperation and Development compounded by the expected long-term GDP price deflator of 2.00% ((1.0185 * 1.02) - 1 = 3.89%).

Staff relied on Market Intelligence betas; the average beta for the electric proxy group was 0.52; the average beta for the gas proxy group was .58. For the market risk premium ("$R_m - R_f$") estimates, Staff relied on the historical difference between earned total returns on stocks and earned total returns on bonds through the end of 2018.[19] The first risk premium was based on the long-term arithmetic average of historical return differences from 1926 to 2018 (6.00 %). The second risk premium was based on the long-term geometric average of historical return differences from 1926 to 2018 (4.50%). The results using the long-term geometric average risk premium and the long-term arithmetic average risk premium are 4.61% and 5.38% for the electric proxy group, and 4.90% and 5.77% for the gas proxy group, respectively. Comparing Staff's results to the results of the CAPM Staff presented in the Spire Missouri rate cases shows that the COE has come down (*see* Schedules JS-10-1 – JS-10-3).

F. Test of Reasonableness

Staff has tested the reasonableness of its recommended ROE by considering average authorized returns by other Commissions.

1. Average Authorized Returns

Staff recognizes that the Commission has expressed interest in recent authorized ROEs and capital structure decisions for other electric utility and gas utility companies throughout the country. According to Regulatory Research Associates ("RRA"), the average authorized ROE in fully litigated cases for electric utilities from January 1, 2019 through November 30, 2019 was 9.36% (based on five ROE determinations). For further consideration of authorized ROEs and capital structures for electric and gas utility companies across the U.S., the chart below compiles figures published by RRA, describing average authorized ROEs along with the percentage of common equity to total capital in fully litigated, vertically integrated electric, and gas rate cases from 2015 – November 30, 2019.

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[19] From Duff & Phelps *2019 SBBI Yearbook: Stocks, Bonds, Bills, and Inflation.*

Average Authorized ROEs and Equity Ratios Fully Litigated Cases						
Utililty		Electric			Gas	
Year	ROE%	% Equity	No. Cases	ROE%	% Equity	No. Cases
2015	9.74	49.03	13	9.58	51.17	5
2016	9.62	49.47	9	9.59	51.87	9
2017	9.69	47.89	8	9.87	48.86	6
2018	9.66	46.02	8	9.58	50.77	15
2019*	9.36	49.26	5	9.77	51.72	4

* Through November 30, 2019.

Conclusion

In light of recent Commission decisions, it is Staff's opinion that an authorized ROE in the range of 8.75% to 9.75% is fair and reasonable for Ameren Missouri. Considering information Staff has reviewed, Staff recommends the Commission authorize a ROE of 9.25%. A ROE range of 8.75% – 9.75% leads to a ROR range of 6.67% to 7.17%, respectively (*see* Schedule JS-12). Using the point recommended authorized ROE of 9.25% results in an authorized ROR of 6.92%. Ameren Missouri's ROR was calculated by applying an embedded cost of long-term debt of 4.60%, an embedded cost of preferred stock of 4.18% and an authorized return on common equity of 9.25% to a capital structure consisting of 49.02% long-term debt, 0.98% preferred stock, and 50.00% common equity.

Staff Expert/Witness: Jeffrey Smith

V. Rate Base

A. Plant in Service and Depreciation Reserve

Plant in Service – Accounting Schedule 3

Staff adjusted Plant in Service, by account, to reflect the rate base value of Ameren Missouri's actual plant-in-service as of December 31, 2018 with estimated adjustments to reflect the value of plant in service from January 1, 2019 through the true-up cutoff of December 31, 2019. These estimates will be replaced with actual amounts as part of Staff's true-up audit. Staff also adjusted Ameren Missouri's plant balances to allocate a portion of the Company's general plant to Ameren Missouri's retail natural gas business. All adjustments to the test year balances are reflected in Adjustments to Plant in Service – Accounting Schedule 4.

Staff Expert/Witness: Jane C. Dhority

Depreciation Reserve – Accounting Schedule 6

Staff adjusted Depreciation Reserve, by account, to reflect the rate base value of Ameren Missouri's actual depreciation reserves through December 31, 2018 with estimated adjustments to reflect the value of accumulated depreciation reserve from January 1, 2019 through the true-up cutoff of December 31, 2019. These estimates will be replaced with actual amounts as part of Staff's true-up audit. As it did with Plant in Service, Staff adjusted Ameren Missouri's depreciation reserve balances to allocate a portion of the Company's general plant depreciation reserve to Ameren Missouri's retail natural gas business. All adjustments to test-year balances are reflected in Adjustments to Accumulated Depreciation Reserve in Accounting Schedule 7.

Staff Expert/Witness: Jane C. Dhority

B. Cash Working Capital (CWC)

Cash working capital (CWC) represents the amount of cash required for day-to-day expenses incurred in providing service to ratepayers. In some instances, payments for goods and services are paid shortly after, or even before, the goods are utilized or the services are performed. In other instances, the payment for a good or service may occur long after the good or service is received. If, on average, the payment for goods or services utilized in the provision of utility service is made before receipt of related customer revenues, the utility will have a relatively constant investment in cash working capital (i.e., an investment in the prepayment of cash expenses made in advance of the receipt of related service revenue). In this instance, the utility's shareholders are compensated for the funds they provide in advance by inclusion of these funds in rate base. In that way, the shareholders earn a return on the funds they have invested. Conversely, if, on average, the payment for goods or services utilized in the provision of utility service is made after receipt of related customer revenues, the utility will enjoy a relatively constant source of cost-free funds supplied by ratepayers (i.e., ratepayers provide cost free capital to the utility in the form of payment for utility service prior to the time that the utility is required to pay "cash" for goods and services consumed in providing the utility service). Ratepayers under this circumstance are compensated for the funds they provide by reducing rate base consistent with the amount of the customer-provided cash working capital.

To determine the amount of cash working capital provided by both the ratepayers and shareholders, Staff performs a lead/lag study. The lead/lag study involves analysis of the timing of when expenses are paid to suppliers, employees, etc., and when the utility receives revenues from customers for the services it provides. A positive cash working capital requirement indicates that the shareholders provided the working capital for the test year. This means, on average, the utility paid the expenses incurred to provide the electric service to the ratepayers before the ratepayers paid for the service. A negative cash working capital requirement indicates that the ratepayers provided the working capital during the test year. This means, on average, the ratepayers paid for their electric service before the utility paid the expenses incurred to provide that service.

In this case, Staff did not perform a full lead/lag study. However, Ameren Missouri did prepare a lead/lag study specific to costs incurred during the 12 month period ending December 31, 2018. Staff has reviewed both the revenue and expense lags calculated by Ameren Missouri for accuracy and reasonableness. While Staff has adopted many of the revenue and expense lags proposed by Ameren Missouri, Staff determined that an analysis was needed with respect to the revenue and expense lags associated with sales tax and the expense lags for fuel, payroll, and payroll taxes. These differences are discussed in more detail below.

Sales tax is collected by Ameren Missouri from its ratepayers and then remitted to the taxing authorities based on the arrangement established with the taxing authorities. Since the Company collects the tax for the taxing authority and a service is not provided to the ratepayer by the Company, measurement of the revenue and expense lag calculations start with the beginning point of the collection lag for sales tax. The collection lag is the period of time between the day the bill is placed in the mail by the Company and the day the Company receives payment from the ratepayers for services provided. As a result the sales tax has a shortened revenue and expense lag. Staff recommends a shortened revenue and expense lag for sales tax in this case.

** ____

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The negative lead time associated with the pay date change reduces the expense lead for payroll and payroll taxes, and increases the positive net lag associated with these expenses which results in an increase to CWC and its associated rate base value. In calculating the expense lead for payroll and payroll taxes, Staff has set the lead time for the management payroll to zero as it was prior to the change in November 2018.

Staff also completed an analysis of the coal lag using a sample of invoices provided by Ameren Missouri, and is recommending a coal lag of 18.13 days in this case. On November 15th, Staff received a revised CWC schedule from Ameren Missouri that included changes to its proposed fuel expense lag. Staff is evaluating Ameren Missouri's revised CWC schedule and will address it in the true-up phase of this case.

All of Staff's recommended revenue and expense leads can be found in Accounting Schedule 8. Staff's overall lead/lag study resulted in a negative CWC requirement for Ameren Missouri. This means that the ratepayers are currently providing the working capital, in the aggregate, to Ameren Missouri. Therefore, the ratepayers will be compensated for the working capital through a reduction to rate base.

Staff Expert/Witness: Jeremy Juliette

C. Plant-In-Service Accounting ("PISA") Regulatory Asset Balance

Recently approved legislation permits Ameren Missouri to defer certain costs in a regulatory asset account. Staff has included actual PISA deferrals through September 30, 2019 with an estimate through December 31, 2019 as an addition to rate base. As part of Staff's true-up audit, Staff will examine actual deferred amounts through the December 31, 2019 cutoff. For a complete discussion on PISA, please refer to the Plant-In-Service Accounting Amortization section of this revenue requirement cost of service report.

Staff Expert/Witness: John P. Cassidy

D. Prepayments and Materials and Supplies

Ameren Missouri utilizes shareholder funds for prepaid items such as insurance premiums. These items are included in rate base, so that the up-front investment made by Ameren Missouri related to prepayments is recognized in customer rates. Staff included prepayments in rate base at the 13-month average level ending September 30, 2019.

Ameren Missouri also maintains a variety of materials and supplies in its inventory in order to meet the day-to-day needs of its utility operations. Staff included Ameren Missouri's average balance of materials and supplies inventory that was maintained during the 13-months ending September 30, 2019.

Staff will reexamine the level of both materials and supplies and prepayments as part of its true-up audit.

Staff Expert/Witness: Jane C. Dhority

E. Customer Deposits

Customer deposits represent funds received from Ameren Missouri's customers as a security against potential loss arising from failure to pay for utility service received. Until refunded, customer deposits represent a source of funds available to the Company and are included as an offset to the rate base investment. Generally, interest is calculated on customer deposits and paid to the customers for the use of their money. Customers earn an interest rate equal to the prime rate, as published in the Wall Street Journal, plus an additional one percent, on their deposits. The amount of customer deposits represents a 13-month average (September 2018 – September 2019) of Ameren Missouri's customer deposits. Staff will reexamine the amount of customer deposits to include in rate base as part of its true-up audit.

Staff Expert/Witness: Jane C. Dhority

F. Customer Advances

Customer advances are funds provided by individual customers of Ameren Missouri to assist in the costs of the provision of electric service to them. As customer advances are never refunded, and no interest is paid to the customers for the use of their money, unlike the case with customer deposits, these funds represent an interest-free source of capital to the Company. Therefore, it is appropriate to include these funds as an offset to rate base. The amount of customer advances represents a 13-month average (September 2018 – September 2019). The level of Customer Advances will be reexamined as part of the Staff's true-up audit.

Staff Expert/Witness: Jane C. Dhority

G. Renewable Energy Credits (RECs) and Emission Allowances

Ameren Missouri maintains a balance of RECs and Solar RECs (SRECs) which primarily represent the energy generated from renewable energy sources that they receive through their contract with the Pioneer Prairie wind and solar generation respectively. Ameren Missouri also maintains a small balance of emission allowances that are distributed to utilities (and other industries) as part of a cap and trade system which is designed to limit pollution emissions. The cap on greenhouse gas emissions is a firm limit on pollution and becomes stricter over time. The trade part is a market for companies to buy and sell allowances that let them emit only a certain amount of pollution, as supply and demand set the price. An emission allowance authorizes a utility to emit one ton of emissions during a given compliance period. Allowances are a fully marketable commodity. Once allocated to the utility, allowances may be bought, sold, swapped or banked for use in the future. Trading of emission allowances gives utilities an incentive to save money by cutting emissions in a cost effective manner. The Environmental Protection Agency administers this cap and trade system as part of its Acid Rain Program that was established under the 1990 Clean Air Act Amendment.

Staff noted a significant decline in balance of RECs and SRECs from December 2017 through August 2018. In the time period following September 2018 the balances have stabilized but have experienced some variation in monthly levels in the recent months. Ameren Missouri's emission allowance balances levels have also exhibited some variation in recent months as well. Therefore, Staff has included in rate base a 13 month average of emission allowances, RECs and SRECs that existed between October 1, 2018 through October 31, 2019. Staff will continue to examine these balances through the December 31, 2019 true-up cutoff established by the Commission in this rate case and may recommend further adjustments for this issue.

Staff Expert/Witness: John P. Cassidy

H. Fuel Inventories

Fuel Inventory – Coal On-Site and Coal-In Transit

For the coal inventory at Ameren Missouri's coal-fired power plants (Labadie, Rush Island, Sioux Energy Center, and Meramec Energy Center), Staff calculated thirteen-month averages of the actual coal inventory levels during the test year period. Because of weather events in early to mid-2019 that affected Ameren Missouri's energy centers (e.g. bomb cyclone and flooding), Staff found 2019 inventory levels to be unrepresentative of normal operations.

Staff then multiplied the normalized quantity of coal by the current coal prices to calculate the rate base value for coal inventory. Staff's normalized coal inventory does not include an amount of inventory for what was formally referred to as the Hillcrest Pile, as Ameren ceased maintaining the coal pile prior to the December 31, 2019 true-up date.

For all coal plants, Staff has excluded coal-in-transit balances from coal inventory. Coal-in-transit is coal that is in-route to Ameren Missouri facilities, either by truck, train or, barge, but has not yet arrived at the plant. Staff recommends that coal which is not usable to Ameren Missouri should not be included in coal inventory balances in rate base.

Staff will update coal inventory balances in rate base in its true-up case.

Staff Expert/Witness: Matthew R. Young

Fuel Inventory – Non Coal

Ameren maintains fuel inventories of nuclear fuel, natural gas, and oil for its non-coal production facilities. At the time of this report, Staff has not received the September 2019 Fuel Report (requested in Staff Data Request No. 0030) it relies upon to calculate average inventory level. As such, the average inventory levels, calculated as described below, are for periods ended August 31, 2019:

Fuel	**Calculation**
Nuclear	19-month average of unspent fuel in the fuel core and fuel held on-site.
Gas	13-month average of the quantity held multiplied by the current cost of inventory.
Oil	13-month average of inventory balances.

Staff will update its fuel inventories for the December 31, 2019 true-up period.

Staff Expert/Witness: Matthew R. Young

I. Pensions and Other Post Employment Benefit - Rate Base

See the discussion in Income Statement, Payroll and Benefits section of this report.

Staff Expert/Witness: Antonija Nieto

J. Accumulated Deferred Income Taxes ("ADIT")

Ameren Missouri's Accumulated Deferred Income Tax Reserve ("ADIT") represents, in effect, a prepayment of income taxes by Ameren Missouri's customers to Ameren Missouri prior to payment being made by Ameren Missouri to taxing authorities. As an example, because Ameren Missouri is allowed to deduct depreciation expense on an accelerated basis for income tax purposes, the depreciation expense deduction used for income taxes paid by Ameren Missouri is considerably higher than depreciation expense used for ratemaking purposes. This results in what is referred to as a "book-tax timing difference" and creates a deferral of income taxes to the future. The net credit balance in the deferred tax reserve represents a source of cost-free funds to Ameren Missouri. Therefore, Ameren Missouri's rate base is reduced by the deferred tax reserve balance to avoid having customers pay a return on funds that are provided cost-free to Ameren Missouri. Staff has included the ADIT balance as of September 2019 in its direct cost of service. As part of its true-up audit, Staff will re-examine the ADIT balances to make sure all items included in those balances are consistent with the other components of the cost of service and that they reflect the current balances at the true-up cut-off date, December 31, 2019. Based on this true-up examination, Staff may make additional adjustments to the cost of service as necessary.

Staff Expert/Witness: Lisa M. Ferguson

K. Netting of Regulatory Assets and Liabilities for Rate Base

a. Energy Efficiency ("EE") / Demand Side Management ("DSM") - EE Regulatory Asset and Liability Balances for Rate Base

In several previous rate proceedings, Ameren Missouri was allowed to treat Demand Side Management ("DSM" or "Pre-MEEIA") expenditures related to Energy Efficiency ("EE") programs as a depreciable asset through booking the amounts to a regulatory asset account and accruing a carrying charge equal to Ameren Missouri's Allowance for Funds Used During Construction ("AFUDC") rate on those balances. As part of the Unanimous Stipulation and Agreement that was approved by the Commission in Ameren Missouri rate case, Case No. ER-2016-0179, the following ratemaking was specified for certain regulatory asset and liabilities:

> The Signatories agree that in the Company's next general rate proceeding, the balance of each amortization relating to regulatory assets or liabilities that remains, after full recovery by Ameren Missouri (regulatory asset) or full credit to Ameren Missouri's customers (regulatory liability), shall be applied as offsets to other amortizations which do not expire before Ameren Missouri's new rates from that general rate proceeding take effect. If no other amortization expires before Ameren Missouri's new rates from that general rate proceeding take effect, then the remaining unamortized balance of any regulatory asset or liability that did not expire before new rates from that general rate proceeding take effect shall be a new regulatory liability or asset that is amortized over an appropriate period. Any over- or under-recovery of a regulatory asset/liability will be treated in the same manner as the underlying regulatory asset/liability, meaning that if the underlying regulatory asset/liability was included in rate base the over-/under-recovery shall also be included in rate base, but if the underlying regulatory asset/liability was not included in rate base neither shall the over-/under-recovery.[20]

Based upon this language and Staff's assessment of the five existing regulatory asset and liability balances that exist, Staff recommends netting of three of the five remaining balances of over-collected and under-collected EE amortizations as part of a netting of regulatory assets and liabilities amortization adjustment that is discussed in another section of this report.

For rate base purposes, Ameren Missouri has over-collected in total for two of the four EE amortizations that are eligible for rate base treatment. The chart below summarizes Staff's recommended rate base offset for the overall netting of two EE regulatory asset and liability amounts for those amortizations that are eligible for netting treatment as well as the inclusion of two unexpired EE regulatory asset balances that are separately reflected as rate base additions:[21]

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[20] Please refer to item 2, paragraph C. on page 3 of the Unanimous Stipulation and Agreement approved by the Commission as part of Ameren Missouri Case No.: ER-2016-0179.

[21] The netted rate base offset balance is comprised of a netting of EE balances resulting from Ameren Missouri Case Nos. ER-2010-0036 and ER-2012-0166. The EE regulatory asset balance that was established in Ameren Missouri Case No. ER-2008-0318 was not allowed rate base treatment. The EE amortizations that were established in Case No.: ER-2011-0258 and ER-2014-0258 did not expire and therefore are not eligible for netting per the terms of the Stipulation. Staff recommends that the December 31, 2019 unamortized balances of ** ** be included as an addition to rate base, outside of the netting.

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Consistent with the terms of the Commission approved stipulation in the 2016 rate case, Staff included a rate base offset of approximately $2.5 million which reflects the total of two of the four EE regulatory asset and liability balances that eligible for rate base treatment at December 31, 2019 and that are also eligible for netting. In addition Staff has also included two separate regulatory asset balances at December 31, 2019 as rate base additions for the two EE amortizations that have not yet expired and that are not eligible for netting.

b. FASB Interpretation No. 48 ("FIN 48") – Rate Base

Staff has included one of the two FIN 48 unamortized balances as an addition to rate base. Specifically, Staff included the ** ________ ** unamortized balance that will exist at December 31, 2019 in rate base that pertain to the FIN 48 amortizations that addressed three separate tax settlements prior to 2012. However, Staff has excluded the ** ________ ** unamortized balance that will exist at December 31, 2019 that pertains to the FIN 48 tax settlement addressed in the 2012 rate case. Staff excluded the unamortized rate base balance for the 2012 tax settlement because this amortization will be fully recovered by Ameren Missouri by March 31, 2020. By the May 30, 2020 Commission established effective date of rates for the current rate case, Ameren Missouri will have collected an over-recovery from its ratepayers for this amortization. Therefore this over-recovery amount will need to be returned to ratepayers as part of the netting of regulatory assets and liabilities adjustment discussed elsewhere in this Report. It is Staff's position that no inclusion in rate base is required under these circumstances where over-recovery will exist for this particular amortization prior to the effective date of rates. Furthermore, it would be unreasonable to provide a return on this unamortized balance for this 2012 tax settlement amortization at

December 31, 2019 when Ameren Missouri will experience over-recovery soon thereafter and as a result will be required to return the over-recovery as part of the "netting" adjustment that is addressed elsewhere in this Report.

The following chart summarizes the overall netting of regulatory assets and liabilities for rate base:

Rate Base Offset for EE Amortizations	**	________	**
Rate Base Addition for FIN 48	**	__ ________	**
Net Rate Base Offset	**	________	**

Staff Expert/Witness: John P. Cassidy

L. Solar In-Service Criteria

Lambert Community Solar and BJC Solar

In 2018, Ameren Missouri received approval for a community solar pilot program referred to as Subscriber Solar.[22] To support that program, Ameren Missouri contracted with Azimuth Energy to construct an approximately 1 MW DC facility located on St. Louis International Airport property. Construction began in early 2019 and was completed in August 2019.[23]

In late 2016, Ameren Missouri received approval to offer a distributed solar pilot which involved partnering with a local business to install Ameren Missouri-owned solar.[24] Ameren Missouri partnered with Barnes-Jewish Hospital to install an approximately 1.818 MW DC[25] facility on top of a parking garage at 4456 Duncan Avenue.[26] Sachs Electric was selected as the contractor. Construction began in January 2019 and was completed in October 2019.[27]

In order to include the solar facilities in rate base, the plants must be "fully operational and used for service."[28] In-service criteria are a set of operational tests or operational requirements used to determine whether a new unit is "fully operational and used for service."

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[22] EA-2016-0207.

[23] Response to Staff Data Request 460.

[24] EA-2016-0208.

[25] Approximately 1.57 MW AC.

[26] Site Documentation in EA-2016-0208 indicated the address was 4466 Duncan; however, the location is 4456 Duncan per response to Staff Data Request 422.

[27] Response to Staff Data Request 422.

[28] Mo. Rev. Stat. § 393.135 (2000): "Any charge made or demanded by an electrical corporation for service, or in connection therewith, which is based on the costs of construction in progress upon any existing or new facility of the

A new facility may not have any historical operating information from which Staff can make a recommendation to the Commission as to whether the new unit is "fully operational and used for service"; therefore, operational tests must be established and performed in order for Staff to file its recommendation. In-service criteria are then developed, based on review of the new unit's specifications and discussions with the Company.

Staff and Ameren Missouri previously agreed to the in-service criteria attached in Appendix 3, Schedule CME-d1 for use in evaluating the O'Fallon Renewable Energy Center. Staff asserts these criteria are appropriate for the new solar facilities with a modification to account for each site's capacity. The two solar facilities were not operational during the test year or update period but construction was completed during the true-up period per response to Staff Data Request Nos. 0460 and 0422. Staff will evaluate the Lambert Community Solar and BJC Solar projects under the in-service criteria contained in CME-1 and will present its evaluation in its True-up testimony.

Staff Expert/Witness: Claire M. Eubanks

M. Facilities and Donations

During its review in the recent Ameren Missouri gas rate Case No. GR-2019-0077, Staff discovered that Ameren Missouri initiated a facility action plan that received ** ________________ ________________________________ ** The plan called for an evaluation of all facilities with the goal of either combining facilities or exiting older facilities to reduce the number of facilities that were owned or leased by Ameren Missouri for its electric and gas operations. Some of these facilities are used solely for electric operations, some solely for gas operations, and others are used for combined electric and gas operations.

In the gas rate case, Staff proposed adjustments to remove test year costs for facilities that were no longer in service. Additionally, Staff proposed an adjustment to ** ________________

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electrical corporation, or any other cost associated with owning, operating, maintaining, or financing any property before it is **fully operational and used for service**, is unjust and unreasonable, and is prohibited". [Emphasis added.]

a) Facility O&M

Staff has made an adjustment to remove the O&M expenses related to operating the exited facilities.

b) Eldon Donation

As part of Ameren Missouri's facility action plan, the operations that existed at the Eldon and Versailles facilities were consolidated into a single property at 701 Colorado Ave in Eldon, Missouri. Ameren Missouri had previously owned and operated the land and structures that were located at 701 Colorado Ave, and donated the facility to the American Legion Post 229 in December of 2007 to use as a club house, replacing the property on the west side of the Osage River that was being leased to the Legion from Ameren Missouri. Ameren Missouri had been assisting the American Legion to find a new suite for their clubhouse since 2005, when Ameren Missouri had announced its intentions to sell and lease a portion of the land located below Bagnell Dam (which included land that was leased to the American Legion), to Silver Star Development, LLC. Silver Star intended to develop the land for use as a "family-oriented entertainment, shopping, and recreational complex."[29] In a ** ______ **

The operations that were located at 701 Colorado Ave, were relocated to a new facility ** ______ ** at 804 South Walnut in Eldon, Missouri for ** ______ **. At the time of the donation to the American Legion, the 701 Colorado Ave facility had a net book value of ** ______ [30] **. Given the appraised value[31] and the net book value of the 701 Colorado Ave facility at the time of the donation, Ameren Missouri could have offset ** ______ ** of the costs of constructing the replacement facility with the proceeds from selling the 701 Colorado

[29] https://www.lakeexpo.com/news/top_stories/amerenue-donates-building-to-american-legion-post/article_1a2c9069-5bd3-540f-8c57-590f7bff752a html.

[30] ** ______ **

[31] ** ______ **

facility. It is Staff's position that donation of the Eldon facility without Commission approval was imprudent and inappropriate given that Ameren Missouri incurred costs to construct a replacement facility to house the operations that were located at 701 Colorado Ave and ultimately ** ____ ____ ____ ____ **

** ____ ____ ____ ____ ____ ____ **

c) Saint Louis University Donation

During the course of its review Staff discovered that Ameren Missouri intends to donate the land that held the former central substation in midtown St. Louis, to St. Louis University ("SLU") in the fourth quarter of 2019, which was recently appraised at $1,095,000 ($12/sq. ft)[32] ** ____ ____ _____________ [33] ____ **, however during the negotiations regarding the potential sale of the land, SLU approached Ameren Missouri regarding a donation for SLU's fundraising campaign. Ultimately, the decision was made to donate the land rather than make a cash contribution to the campaign. The replacement central substation was constructed on land purchased by Ameren Missouri in 2008 for $1,900,000, and additional costs were necessary to prepare the site for the substation. In total, the replacement substation which went into service in November of 2012, had additional capital costs of $22.2 million.

[32] Appraisal dated 1/8/2019 provided in response to Staff Data Request No. 297.

[33] ** ____ _________________________ **

Staff believes Ameren Missouri's intention to donate the land is imprudent given the value of the land and that they had received an offer to purchase the land from SLU. The proceeds from the sale of the land could have been used to offset the cost of the land purchased for the replacement substation. Staff may propose an adjustment once the donation is completed as part of its true-up audit.

d) Eldon Sale

As part of its audit, Staff has learned that Ameren Missouri entered into a contract to sell the former Eldon operating facility located at 804 South Walnut, that was consolidated into the operations at 701 Colorado Ave in Eldon, MO. As part of its true-up audit, Staff may propose an adjustment to utilize a portion of any gain realized on the sale of the facility to offset the purchase of the replacement facility located at 701 Colorado Ave.

e) Equipment Donations

During its review, Staff discovered that Ameren Missouri has donated several vehicles[34] to outside parties since the previous rate case. As the vehicles still had an expected remaining life at the time of donation, these actions represent a financial loss to Ameren Missouri. Staff is proposing an adjustment to the vehicles depreciation reserve account to hold the ratepayers harmless as a result of these donations.

Staff Expert/Witness: Jason Kunst, CPA

VI. Allocations

A. Corporate Allocations

A subsidiary of Ameren Corporation, Ameren Services Company ("Ameren Services"), provides various management and administrative services to Ameren Missouri and affiliate companies. As part of its audit process, Staff reviewed the methods used by Ameren Services to assign and allocate costs to Ameren Missouri's electric operations. Under Ameren Services' corporate cost allocation system, costs are categorized into four types: Direct, Direct Allocated, Indirect Corporate, and Indirect Functional. The allocations of costs and methods used to allocate costs from Ameren Services are outlined in Ameren Missouri's cost allocation manual ("CAM").

[34] Ameren Missouri's response to Staff Data Request No. 489 indicated that some of the items that were donated included 10 Bucket trucks, a Freight Liner, a Flatbed Truck, a Bobcat Mini Excavator, a Bobcat Skid Loader among other items.

While the Commission has yet to approve a CAM for Ameren Missouri, the Company, Staff, and The Office of the Public Counsel ("OPC") have continued working to establish an agreed upon CAM that is compliant with the affiliate transactions rules for both electric and gas operations as a part of Case No. EO-2017-0176.

Case No. EO-2017-0176 arose from a stipulation and agreement that the Commission approved in the last prior rate case, Case No. ER-2016-0179. Company and Staff filed a stipulation and agreement supporting an updated CAM on November 30, 2018. OPC objected to the stipulation and agreement, and the Commission ordered a procedural schedule. An updated CAM applicable to 2018 was filed in that case on May 15, 2019. Company and Staff filed direct testimony supporting the updated CAM on June 14.

On June 27, 2018, Staff filed a motion to open a working docket, File No. AW-2018-0394, for a review and consideration of rewriting and writing of existing and new Affiliate Transaction Rules. Numerous comments were received concerning the draft affiliate transaction rules, and on July 17, 2019, the Commission ordered Staff to file a new draft rule for its consideration; Staff did so on September 16, 2019. Consequently, on August 16, 2019, Staff and Ameren Missouri filed a Motion to Stay the proceedings of EO-2017-0176 until completion of the workshop docket and a formal rulemaking respecting the Affiliate Transaction Rules. On August 23, 2019, OPC filed a pleading with the Commission indicating that, as a matter of administrative efficiency, it did not oppose the request.

Ameren Services evaluates and updates the allocation factors included in the Ameren Missouri CAM at the beginning of each calendar year, unless there is a significant change in circumstances that would require the allocation factors be updated immediately. Ameren Services Service Request Manual requires that Ameren Services' Internal Audit Department perform an audit and report each year of Ameren Services' Service Request System and Service Request policies, operating procedures, and controls.

2019 Allocation Factors

Ameren Services made no significant changes to the allocation factors for 2019 and made no changes to include new or remove existing allocation factors.

Staff has proposed an adjustment to annualize the Ameren Services costs allocated to Ameren Missouri during the 12 months ending December 31, 2018, using the updated Ameren Services allocation factors for 2019.

Staff Expert/Witness: Keith Majors

VII. Income Statement

A. Rate Revenues

1. Introduction

Since the largest component of operating revenues result from rates charged to retail customers by Ameren Missouri, comparing operating revenues to the cost of service is a fundamental test of the adequacy of the currently effective Missouri jurisdictional retail electricity rates. If the overall cost of providing service to Missouri retail customers exceeds Ameren Missouri's operating revenues, an increase in the current rates Ameren Missouri charges its Missouri retail customers for electricity is required. Conversely, if Ameren Missouri's operating revenues exceed the overall cost of providing service to Missouri retail customers, then a decrease in the current rates is warranted.

Staff Expert/Witness: Jason Kunst, CPA

2. Definitions

Operating Revenues are composed of Rate Revenue, Revenue from Energy and Capacity Sales and Other Operating Revenues. Each is defined respectively as follows:

Rate Revenues: Test year rate revenues consist solely of the revenues derived from the current rates Ameren Missouri charges for providing electric service to its Missouri retail customers (i.e., native load and customer charges). Ameren Missouri's charges are determined by multiplying each customer's usage by the per unit rates established in its tariff. During the year Ameren Missouri's retail customers are charged summer rates (June-September) and winter rates (October-May). These charges are broken down for Missouri retail customers into two categories: (1) a demand charge; and (2) an energy charge. Missouri retail customers' rates are additionally broken down by rate class based upon the type and amount of usage. These rate classes include: Residential, Small General Services, Large General Service, Small Primary Service, Large Primary Service, Public and Private Lighting. Additionally there is a separate category for Metropolitan Sewer District ("MSD"), a large industrial customer. The revenues Ameren Missouri collects from its fuel adjustment clause ("FAC") represent the collections or refunds of prior period fuel costs and are excluded from the calculation of annualized ongoing rate revenues.

Revenue from Energy and Capacity Sales: Revenue from energy and capacity sales is realized as a result of Ameren Missouri's sale of electricity to other utilities at non-regulated prices. The gross revenue from these sales, less the generation or purchased power expense incurred by Ameren Missouri to make these sales, is the profit margin on energy and capacity sales. The rationale for assigning the profit margin on energy and capacity sales to ratepayers and including it in operating revenues is that the electricity sold by Ameren Missouri is generated by power plants that are being paid for by ratepayers through the electric rates charged by Ameren Missouri.

Other Operating Revenues: This category includes the various revenues Ameren Missouri collects from charges such as rental income from affiliates, rental of pole space, and other miscellaneous charges.

Staff Expert/Witness: Jason Kunst, CPA

3. Regulatory Adjustments to Test Year Sales and Rate Revenue

a. Remove Unbilled Revenues

Staff has made an adjustment to remove unbilled revenue from its calculation of the revenue requirement. The recording of unbilled revenue to the books of Ameren Missouri recognizes the sales of electricity that have occurred, but have not yet been billed to the customer. Therefore, it is necessary to remove unbilled revenue in order to accurately determine revenue requirement based upon electricity sales actually billed and to ensure that only 365 days of revenue are included in the calculation of normalized and annualized revenues.

Staff Expert/Witness: Jason Kunst, CPA

b. Remove Gross Receipts Tax

Ameren Missouri acts as a tax collector for certain taxes imposed on utility service revenues by municipalities and other taxing authorities. These taxes include gross receipt taxes ("GRT"), which Ameren Missouri collects from customers and passes on to the appropriate taxing authority. Since GRT is a pass through item, Staff has made an adjustment to remove it from both Ameren Missouri's revenues and expenses in the cost of service calculation; however because of timing differences the adjustments may be similar but not identical. The elimination of both the expense and revenue associated with the GRTs ensures that there will be no impact on the calculation of net income for revenue requirement purposes.

Staff Expert/Witness: Jason Kunst, CPA

c. Removal of Income Tax Impact to Test Year Revenue

The test year rate revenues do not reflect the full amount of the changes to Ameren Missouri's tariffed rates made on August 1, 2018, as a result of the federal tax rate reduction approved by the Commission in Case No. ER-2018-0362. This results in test year revenues being overstated by the difference between the amount that was actually billed to customers during the test year and the amount that would have been billed to customers by Ameren Missouri if the reduction in rates had been in effect throughout the entire test year. Staff has proposed an adjustment to remove the income tax impact to revenues for each rate class by multiplying the actual test year kWh for the months of January through July by the appropriate class' tax credit as established in the above case.

Staff Expert/Witness: Jason Kunst, CPA

d. Adjustment to Eliminate MEEIA Revenue

The Missouri Energy Efficiency Investment Act ("MEEIA") was passed by the Missouri legislature and signed into law by the governor in 2009. The MEEIA program is designed to encourage Missouri's investor-owned electric utilities to offer energy efficiency programs and projects designed to reduce the amount of electricity used by the utility's customers. Commission rule 20 CSR 4240-20.093 makes available a Demand-Side Program Investment Mechanism that allows for the periodic rate recovery of MEEIA program costs, recovery of lost revenues related to the programs, and a utility performance incentive for investment in demand-side programs. As these program costs are recovered through the MEEIA Rate Rider mechanism rather than base rates, it is necessary to make an adjustment to exclude the MEEIA revenues from the calculation of electric retail revenues in the cost-of-service calculation.

Staff Expert/Witness: Jason Kunst, CPA

e. Removal of Rate Refunds

Ameren Missouri's fuel costs are currently recovered through the fuel adjustment clause (FAC). The provision for rate refunds is an accrual for any possible overcollection that may occur since the previous FAC filing. As these revenues are considered within Ameren Missouri's FAC filings and not part of permanent rate calculations, it is necessary to remove them to reflect an accurate revenue requirement for ratemaking purposes.

Staff Expert/Witness: Jason Kunst, CPA

f. The Development of Rate Revenue in this Case

This section discusses Staff's determined normalized and annualized test year usage and revenues by rate class. The intent of Staff's adjustments is to determine the level of revenue that Ameren Missouri would have collected on an annual, normal-weather basis, based on information "known and measurable" at the end of the test year (in this case, updated through June 2019, as explained below). The two major categories of revenue adjustments are known as "normalizations" and "annualizations."[35]

Staff Expert/Witness: Robin Kliethermes

g. Update Period Adjustment

The purpose of the update period adjustment is to provide a more current level of normalized and annualized billing determinants in which to establish rates in this case. In this case Staff was able to update billing determinants to reflect the 12-month period ending June 2019.

Staff Expert/Witness: Kim Cox

h. Revenue Annualization

Staff made adjustments to reflect the impact in the change in customer levels on test year kWh sales and revenues. Staff's customer growth adjustments reflect the level of kWh sales and rate revenues that would have occurred if the number of customers taking service at the end of September 30, 2019, had existed throughout the test year. Staff has calculated customer growth for the following customer classes: Residential Time of Use and Non-Time of Use, Small General Service Time of Use and Non-Time of Use, Large General Service Time of Use and Non-Time of Use, Small Primary Service Time of Use and Non-Time of Use. The customer growth adjustment takes into account normalized weather and usage, as well as the adjustments for 365 days and rate changes that occurred during the test year. Customer classes that did not exhibit growth remain at

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[35] Consistent with the Company, Staff did not include an annualization for solar rebates in its direct filing. The Company provided workpapers to Staff on November 10, 2019 regarding the calculation of an annualization for solar rebates paid through June 30, 2019. However, upon review of the data, additional data requests were required in order to obtain sufficient data. At this time Staff does not have sufficient data to calculate an annualization for solar rebates.

test year levels, and they are: Outdoor Lighting and Metropolitan Sewer District (MSD). As part of its true-up audit, Staff will review customer growth through the December 31, 2019, true-up cut-off and make adjustments as necessary to reflect the change in customer levels.

Staff Expert/Witness: Jason Kunst, CPA

i. Large Customers Annualization

Staff's adjustments to billing units and revenues were based upon an "update period" of July 1, 2018, through June 30, 2019, to be adjusted for known and measurable changes through the true-up period ending December 31, 2019. There were 64 customers in the LPS rate class during the update period. Staff performed a data check for billing corrections prior to doing other adjustments and annualized LPS customers on an individual customer (account) basis.

The other LPS adjustments are as follows:

- Interclass Rate Switching Adjustment
  One SPS customer switched to LPS in October 2018. Staff accounted for this customer switching to LPS in the annualization adjustment.
- Annualization
  The general intent of an annualization is to restate the update period billing units results as if conditions known at the end of the update period had existed throughout the entire time period. Staff annualized the billing units and revenues for the one customer that switched to LPS for months of July 2018 through October 2018.
- Weather Normalization
  Staff normalized update period usage data provided by Ameren Missouri by applying weather normalization factors calculated by Staff witness Michael Stahlman for each month. Staff adjusted the billing units by these factors, and applied current rates to determine weather-normalized revenue. The difference between these weather-normalized revenues and the update period revenues determined the amount of the Weather Normalization Adjustment.
- 365-Days Adjustment
  Staff measured rate revenues and billing units by billing month (the period of time over which the staggered bill cycles result in each customer being billed precisely once) rather than by calendar month. The number of days in the twelve (12) billing months comprising

the update period for each customer was compared to a 365-day calendar year. For those LPS customers with greater or less than 365 days, a per-day kWh adjustment was made, with Staff applying the appropriate rates to determine the revenue adjustment. 365-Days adjustments are also known as “unbilled” sales and “unbilled” revenues on financial statements.

- MEEIA Revenue Adjustment

The Missouri Energy Efficiency Investment Act (“MEEIA”), § 393.1075, RSMo Supp. 2010, was passed by the Missouri legislature and signed by the governor in 2009. The MEEIA program is designed to encourage Missouri’s investor-owned electric utilities to offer energy efficiency programs and projects designed to reduce the amount of electricity used by the utility’s customers. Commission rules 20 CSR 4240-20.093 and 20 CSR 4240-3.162 promulgated a mechanism that allows for periodic rate recovery of the MEEIA program costs as well as the recovery of lost revenues related to the programs and a utility performance incentive for investment in demand-side programs. During the test year, Ameren Missouri collected MEEIA program costs through a MEEIA Rate Rider mechanism.

Staff witness Michael L. Stahlman provided total kWh adjustment for the LPS class. The kWh adjustments were applied to eliminate the test year MEEIA revenues from the electric retail revenues.

Staff Expert/Witness: Kim Cox

j. MEEIA Annualization

The Stipulation and Agreement in File No. EO-2018-0211 requires that, during a rate case, an adjustment be made to account for energy efficiency measures that were installed during the test period. Staff is still investigating whether the savings provided in Ameren Missouri’s responses to Staff Data Request 0385 include measures that should be excluded from the rate case adjustment, such as education programs and home energy reports. With that proviso, these adjustments were calculated and provided to Kim Cox. The MEEIA annualization will also be addressed and recalculated through the true-up period.

Staff Experts/Witnesses: Michael L. Stahlman

k. Weather Normalization of Revenue and 365 Day Adjustment

Staff normalized and annualized update period usage data provided by Ameren Missouri for the Res, SGS, LGS and SPS rate classes. For the months of June, July, and August, Staff applied a regression to model the relationship between average usage per customer and the percentage of update period usage that is priced in the first rate block for the Res rate classes. For the remaining months, Staff used the bill frequency provided by Ameren Missouri to determine the predicted first block. The percentages were then applied to monthly usage per customer before and after the weather and 365-day adjustments using the normalization factors provided by Staff witness Michael Stahlman. This computation resulted in normalized usage by rate block, which was then converted to the total normalized revenues by multiplying rate block usage by the appropriate rates found in Ameren Missouri's effective tariff sheets. For the SGS class, Staff applied the regression results to the 12 months ending June 30, 2019. For the LGS and SPS class the weather adjustment factor was combined with the 365-day adjustment factor and applied to each block. The difference between these normalized and annualized revenues and the update period revenues determined the amount of the overall revenue adjustment.

Staff Expert/Witness: Kim Cox

l. Weather Normalization

In many of the classes of service, electricity consumption is highly responsive to the weather, specifically temperature. As the temperature reaches higher levels, the demand for cooling, air conditioning and fans increases the customers' consumption of electricity. As the weather becomes cold and temperature falls, the demand for additional heating, electric space heating for example, also forces an increase in electricity consumption. Electric air conditioning and space heating is prevalent in Ameren Missouri's service territory, therefore, it follows that Ameren Missouri's electric load is linked with and responsive to temperature.

Ameren Missouri's test year ran from January 1, 2018, through December 31, 2018. In an attempt to capture a more likely forward-looking indictor of non-weather electricity usage per customer, Staff decided to use the most recent temperature and load data available and, therefore, based its analysis on an updated period of July 1, 2018, through June 30, 2019.

For the update period, Staff's weather analysis showed that the summer months were generally warmer than normal and the winter months, except for the revenue month of January

2019, were cooler than normal. Staff also found some irregularities with the January 2018 load research data and is still looking into the matter.[36]

The method and model used by Staff is similar to those used by Ameren Missouri. Staff's model and methodology contained elements important in the class-level weather normalization process: use of daily load research data to determine non-linear, class-specific responses to changes in temperature with the incorporation of different base usage parameters to account for different days of the week, months of the year and holidays. The results of Staff's analysis were provided to Staff witness Kim Cox to be used in the normalization of revenues for weather sensitive classes, Residential (RES), Small General Service (SGS), Large General Service (LGS), Small Primary Service (SPS) and Large Primary Service (LPS).

Staff Expert/Witness: Michael L. Stahlman

m. Weather Variables

Historical Data Used to Calculate Weather Variables - Each year's weather is unique; consequently, test year usage, hourly loads, revenue, and fuel and purchased power expense need to be adjusted to "normal" weather so that rates will be designed on the basis of normal weather rather than any anomalous weather in the test year. In the quantification of the relationship between test year weather and energy sales, Staff used weather observations of Lambert - St. Louis International Airport ("STL"), Missouri for the update period, July 1, 2018, through June 30, 2019.

Weather Variables - Staff obtained weather data from the Midwest Regional Climate Center (MRCC). Weather data of STL was used for the service territory of Ameren Missouri. The weather data sets consist of actual daily maximum temperature ("Tmax") and daily minimum temperature ("Tmin") observations. Staff used these daily temperatures to develop a set of mean daily temperature ("MDT") values.

Normal Weather - According to the National Oceanic and Atmospheric Administration ("NOAA"), a climate "normal" is defined as the arithmetic mean of a climatological element computed over three consecutive decades.[37] In developing climate normal temperatures, the

[36] Depending on the cause of the irregularities it may impact Staff's overall weather adjustment in this case.

[37] Retrieved on October 17, 2013, https://www ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/climate-normals

NOAA focuses on the monthly maximum and minimum temperature time series to produce the serially-complete monthly temperature ("SCMT") data series.[38]

Staff utilized the SCMT published in July 2011 by the National Climatic Data Center ("NCDC") of the NOAA. For the purposes of normalizing the test year electric usage and revenues, Staff used the adjusted T_{max} and T_{min} daily temperature series for the 30-year period of January 1, 1987, through December 31, 2016, at STL. The series are consistent with NOAA's SCMT during the most recent NOAA 30-year normal period ending 2010.

There may be circumstances under which inconsistencies and biases in the 30-year time series of daily temperature observations occur, (e.g. such as the relocation, replacement, or recalibration of the weather instruments). Changes in observation procedures or in an instrument's environment may also occur during the 30-year period. The NOAA accounted for documented and undocumented anomalies in calculating its SCMT.[39] The meteorological and statistical procedures used in the NOAA's homogenization for removing documented and undocumented anomalies from the T_{max} and T_{min} monthly temperature series is explained in a peer-reviewed publication.[40]

Subsequent to determining the homogenized monthly temperature time series described above, the NOAA also calculates monthly normal temperature variables based on a 30-year normal period, e.g. maximum, minimum, and average temperatures. These monthly normals are not directly usable for Staff's purposes, because the NOAA daily normal temperatures values are derived by statistically "fitting" smooth curves through these monthly values. As a result, the NOAA daily normal values reflect smooth transitions between seasons and do not directly relate to the 30-year time series of MDT as used by Staff. However, in order for Staff to develop adjustments to normal weather for electric usage, Staff must calculate a set of normal daily temperature values that reflect the actual daily and seasonal variability.

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[38] Retrieved on October 17, 2013, http://www1 ncdc.noaa.gov/pub/data/normals/1981-2010/source-datasets/.The SCMT, computed by the NOAA, includes adjustments to make the time series of daily temperatures homogeneous.

[39] Arguez, A., I. Durre, S. Applequist, R. S. Vose, M. F. Squires, X. Yin, R. R. Heim, Jr., and T. W. Owen, 2012: NOAA's 1981-2010 U.S. Climate Normals: An Overview. Bulletin of the American Meteorological Society, 93, 1687-1697.

[40] Menne, M.J., and C.N. Williams, Jr., (2009) Homogenization of temperature series via pairwise comparisons. *J. Climate*, **22**, 1700-1717.

Staff used a ranking method to calculate normal weather estimates of daily normal temperature values, ranging from the temperature that is "normally" the hottest to the temperature that is "normally" the coldest, thus estimating "normal extremes." Staff ranked MDTs for each month of the 30-year history from hottest to coldest and then calculated the normal daily temperature values by averaging the ranked MDTs for each rank, irrespective of the calendar date. The ranking process results in the normal extreme being the average of the most extreme temperatures in each month of the 30-year normals period. The second most extreme temperature is based on the average of the second most extreme day of each month, and so forth. Staff's calculation of daily normal temperatures is not the same as NOAA's calculation of smoothed daily normal temperatures because Staff calculated its normal daily temperatures based on the rankings of the actual temperatures of the test year, and the test year temperatures do not follow smooth patterns from day to day.[41] More details of a ranking method for normal weather are explained in a peer-reviewed publication.[42] Using these normal daily temperatures, Staff calculated normal MDT for each day of the test year. I then used this information for weather normalization of the test year kWh usage and update period hourly loads.

Staff Expert/Witness: Michael L. Stahlman

n. 365-Days Adjustment

Calendar months and revenue months differ from one another because the periods they cover begin and end at different times. Calendar months coincide with the calendar, beginning on the first day of the month and ending on the last day of the month. Staff calculated a normalization adjustment to Ameren Missouri's kWh usage to reflect a calendar year's (i.e., 365 days') worth of usage. Ameren Missouri's customers' usage is measured and rate revenues are collected over a period known as a revenue month, which is the interval over which Ameren Missouri reads customers' meters and issues bills. A bill rendered for a given revenue month may charge for usage in parts of two calendar months. Revenue months usually take their names from the calendar month in which the customer's bill is rendered. For example, assume a

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[41] It is important to note that Staff's calculation of daily weather normal temperatures do not assign a temperature to a specific calendar date; the method assigns a rank to a normal temperature which is matched to the rank of the actual temperature for a given period.

[42] Won, S. J., Wang, X. H., & Warren, H. E. (2016). Climate normals and weather normalization for utility regulation. Energy Economics, 54, 405-416.

customer's meter was read and usage determined on June 8 and then again on July 8 and that the bill was sent to the customer on July 15. The revenue month for this bill is July even though 22 days of the usage measured for this bill occurred from June 9 through June 30 and it contained only eight days of usage in July.[43]

The length of a revenue month is dependent upon the interval between meter readings and does not necessarily have the same number of days that occur in a given calendar month of the same name; that is, a revenue month may have more than or less than the number of days for the same-named calendar month. For the example given above, the usage is for 30 days (June 9 through July 8), even though the revenue month is July, which has 31 days. When revenue month usage is totaled over the year, the resulting revenue year will include usage from the immediately prior calendar year and assign usage to the next calendar year, meaning a revenue year may contain more than or less than 365 days' usage. Therefore, since the costs and expenses are accounted over a calendar year, Staff calculates an annualization adjustment to bring the revenue year kWh into a 365-days interval. This adjustment is stated in kWh and is referred to as the 365-Days Adjustment. Staff calculated the 365-Days Adjustment by adjusting individual bill cycles that had more than or less than 365 days' usage from the first date in that cycle's revenue test year to the last meter read date in that cycle's revenue test year. The overall average usage per day of that cycle was then multiplied by the days over/under 365 days to determine the kWh adjustment.

The 365-Days Adjustment for RES, SGS, LGS, SPS, and LPS were provided to Staff witness Kim Cox, who used the 365-Days Adjustment to adjust the revenues of the weather-normalized class revenues months to the twelve months ended June 30, 2019.

Staff Expert/Witness: Michael L. Stahlman

o. Load Requirement at Transmission

Hourly load requirement is the hourly electric supply necessary to meet the energy demands of both the company's customers and the company's own needs. The hourly loads used

[43] Primary months are used to distinguish in which month the usage is billed under and whether summer or winter rates apply. For example, a customer's sixth bill of the year is deemed the customer's June bill even if it is billed to the customer on May 29. In this example, the primary month is June and the summer rate will apply to all usage on the bill, even though the revenue month would be May

in the analysis of the update period July 2018, through June 2019, were obtained from Ameren Missouri's data provided in accordance with 20 CSR 4240-3.190 (1)(C).

Due to the high saturation of air conditioning, and the presence of significant electric space heating in Ameren Missouri's electric service territory, the magnitude and shape of Ameren Missouri's load requirement are directly related to daily temperatures. The actual daily temperatures for the update period differed from normal conditions. Therefore, to reflect normal weather, daily peak and average load requirement are adjusted independently, but using the same method.

Independent adjustments are necessary because average loads and peak loads respond differently to weather. Daily average load is calculated as the daily energy divided by twenty-four hours and the daily peak is the maximum hourly load for the day. Separate regression models estimate both a base component, which is allowed to fluctuate across time, and a weather sensitive component, which measures the response to daily fluctuations in weather for daily average loads and peak loads. The regression parameters, along with the difference between normal and actual cooling and heating measures, are used to calculate weather adjustments to both the average and peak loads for each day. The adjustments for each day are added respectively to the actual average and peak loads for each day. Staff witness Michael L. Stahlman provided actual and normal daily temperatures used in this analysis.

The starting point for allocating both the weather-normalized daily peak and the weather-normalized average loads to the hours is the actual hourly loads. A unitized load curve is calculated for each day as a function of the actual peak and average loads for that day. The corresponding weather-normalized daily peak and average loads, along with the unitized load curves, are used to calculate weather-normalized hourly loads. This process includes many checks and balances, which are included in the spreadsheets that are used. In addition, the analyst is required to examine the data at several points in the process. For more information, the process is described in greater detail in the document "Weather Normalization of Electric Loads, Part A: Hourly Net System Loads".[44]

[44] "Weather Normalization of Electric Loads, Part A: Hourly Net System Loads" (November 28, 1990), written by Dr. Michael Proctor, Manager of the Economic Analysis Department.

Once Staff's normalized, annualized test year usage for Ameren Missouri's retail customer classes is completed, weather-normalized wholesale usage is added. Then, the non-LTS class annual usage was increased by the average annual loss factor supplied by Staff witness Alan J. Bax. The LTS class' annualized usage was added to the non-LTS annual usage to produce an annual sum of the hourly load requirement that equals the adjusted test year usage and is consistent with Staff's normalized revenues.

A factor was applied to each hour of the weather-normalized loads to produce an annual sum of the hourly load requirement that equals the adjusted test year usage, plus losses, and is consistent with normalized revenues. Once completed, the test-year hourly normalized system loads were given to Staff witness Shawn E. Lange to be used in developing the test year fuel and purchased-power expense.

Staff Experts/Witnesses: Michael L. Stahlman and Shawn E. Lange

p. Lighting Revenues

Ameren Missouri has two lighting classes: Street and Outdoor Area Lighting – Company Owned, and Street and Outdoor Area Lighting – Customer Owned. Staff made adjustments to Ameren Missouri's lighting revenue to update revenue through the twelve months ending June 2019. Staff also removed the billed credits related to the tax reduction that took effect on August 1, 2018 for the twelve months ending June 2019. Staff will update revenue from both lighting classes for growth through December 31, 2019 in the true-up.

Staff Expert/Witness: Joseph P. Roling

q. Removal of Loss on Disposition of Allowances

During the test year, Ameren Missouri recorded a loss on the sale of SO2 allowances. Staff is proposing an adjustment to eliminate this loss as it relates to a non-recurring revenue stream, to properly reflect actual billed retail revenues and non-retail revenues that are recognized for revenue normalization purposes.

Staff Expert/Witness: Jason Kunst, CPA

r. Miscellaneous Other Revenues

Ameren Missouri collects other various revenues such as rents from third parties and Ameren affiliate use of Ameren Missouri property, customer connection and disconnection fees, customer installation fees, late fees, etc. Staff has analyzed the historical data for the various revenue streams to determine the ongoing level of revenue to include based on the type of each revenue collected. Based upon Staff's review, the level of revenue for miscellaneous other revenues, except for intercompany rents and software leasing, that occurred in the test year ending December 31, 2018, appears to be reasonable for the inclusion in the cost of service calculation.

a) Software Lease Revenue

Ameren Missouri owns software assets that it leases to other affiliates and which Ameren Missouri records rental revenue for. Staff has made an adjustment to annualize the intercompany software rental revenue Ameren Missouri receives from its affiliates.

b) Building Leases Revenue

Ameren Missouri receives rental revenue from its affiliates for the use of space in the Ameren general office building and other buildings, ** ________________________________ ________________ **. Staff has made an adjustment to these intercompany rental revenues to reflect the current use of the space.

Staff will continue to review the miscellaneous revenues through the true-up cut-off date of December 31, 2019.

Staff Expert/Witness: Jason Kunst, CPA

B. Non-Rate Revenues

1. <u>Coal Refinement Projects</u>

The Cross-State Air Pollution Rule ("CSAPR") issued by the Environmental Protection Agency requires reductions in emissions of pollutants, such as Sulfur Dioxide ("SO_2") and Nitrogen Oxide ("NOx"). To this end, Ameren Missouri has installed measures at its Rush Island, Sioux, and Labadie Energy Centers to treat its coal through a refinement process to reduce regulated emissions. Under current IRS guidelines, the Section 45 tax credits regarding refined coal are expected to end on December 31, 2021.

Ameren Missouri has contracted with outside parties for utilization of refined coal at Rush Island and Sioux. The coal-refinement process is designed to reduce emissions of NO_X and SO_2, which are generated from burning coal. The coal refiners lease a portion of the property at each location to obtain the space needed to place their equipment for the refinement process. This process involves Ameren Missouri selling its coal to a third party who applies the refinement process and then in turn sells the refined coal back to Ameren Missouri. The contracts which Ameren Missouri has entered into produce revenues in the form of lease payments to Ameren Missouri, coal handling costs and license fees. There are no incremental costs to Ameren Missouri associated with this process as the coal is sold for the same price as it is repurchased.

a. Rush Island Energy Center

On December 14, 2011, Ameren Missouri was granted approval by the Commission in Case No. EO-2012-0146 to undertake the coal-refinement process, through a third party, Buffington Partners, LLC ("BP"), at its Rush Island Energy Center. In January 2013, Ameren Missouri began the coal-refinement process at the Rush Island facility and continues this process today.

b. Sioux Energy Center

In Case No. EA-2013-0502 Ameren Missouri was granted approval on July 27, 2013, for a similar project at its Sioux Energy Center. Due to the variances in the type of boilers at the Sioux facility, Ameren Missouri has contracted with GS RC Sioux, LLC, to provide refinement of the coal for its Sioux Energy Center based on different technology than that of the Rush Island Energy Center refinement process. The coal refinement process continues at this energy center today.

c. Labadie Energy Center

Ameren Missouri was granted approval on December 28, 2013, in Case No. EO-2014-0149 for refinement of coal, through the third party Larkwood Energy, LLC, at its Labadie Energy Center similar to the process at the Rush Island Energy Center. Larkwood Energy LLC, based on the tax environment surrounding refined coal, discontinued the agreement with Ameren Missouri through issuance of a suspension letter and refined coal operations at the Labadie Energy center ended as of May 1, 2016.

At that time, the refined coal industry was waiting for a Technical Advice Memorandum ("TAM") to be issued by the Internal Revenue Service ("IRS") Office of Chief Counsel based on the findings of a Section 45 audit of a refined coal facility unrelated to Ameren Missouri. The ruling on this TAM was issued on July 21, 2017 and the IRS also released a guidance memorandum on March 9, 2018. The ultimate decision regarding the TAM was that the facts of the transaction demonstrated a plan to sell refined coal tax credits and other tax benefits, rather than the investors to become producers of refined coal through an investment in the tax payer. The IRS ruled that the investors' only possible incentive was making additional capital contributions for the ultimate goal of claiming additional tax benefits. The implications of this TAM were that investors were not as interested in refined coal. The coal refinement processes at Rush Island and Sioux were unaffected by the TAM but it created a delay for the coal refiner to secure a new investor for the Labadie facility. The coal refiner, CERT, partnered with a new investor at Labadie for which Ameren Missouri does not know the identity. CERT informed Ameren Missouri that they would be resuming the refinement of coal at Labadie under the existing contract and coal refinement resumed at Labadie on November 16, 2018.

Due to resuming the refinement of coal at Labadie Energy Center, revenues will increase subsequent to test year as well as from coal handling services. Ameren Missouri does not anticipate a change in the level of activated carbon due to resuming coal refinement, though a different type of activated carbon began to be used in the summer of 2019. Staff has included an annualized ongoing amount in its cost of service calculation related to the amounts received by Ameren Missouri for lease payments, coal handling charges and license fees for the Sioux, Labadie, and Rush Island energy centers. In addition, CERT has reimbursed Ameren Missouri for some capital and operations & maintenance costs at Rush Island. Ameren Missouri does not know if this reimbursement came from the refined coal investors or CERT. This reimbursement was for air preheater corrosion mitigation caused by refined coal. The capital reimbursements made by CERT were paid in quarterly installments to replace the corroded air preheater baskets. CERT also reimburses Ameren Missouri annually for maintenance work to tighten the air preheater baskets. The maintenance payments are fixed and paid on an annual basis through the term of the refined coal agreement. Labadie and Sioux do not expect any further maintenance costs as a result of refined coal. Rush Island does expect to have ongoing maintenance costs of $75,000 per year total to tighten the enamel coated air preheater baskets. However, CERT is reimbursing Ameren Missouri for these costs until the end of the term of the refined coal agreement. The refined coal contracts also provide for reimbursements for scale calibrations that Ameren employees perform at Rush Island and Labadie. These payments are paid as hours worked/hourly wage. These are ongoing reimbursements that will cease at the end of the term of the refined coal agreements. Due to the reimbursement of costs incurred by Ameren Missouri regarding refined coal, Staff has included no additional maintenance costs outside of power plant maintenance in the cost of service.

Staff will re-examine this issue as part of its true-up audit to determine if any additional changes regarding Ameren Missouri's expenses or revenues have taken place in conjunction with the refinement process.

Staff Expert/Witness: Lisa M. Ferguson

2. <u>Energy and Capacity Sales</u>

a. Capacity

When not necessary to serve its own load, Ameren Missouri is able to sell a portion of its generation capacity to other utility companies. Receipt of revenues from capacity sales to other utilities reduces Ameren Missouri's cost-of-service. Ameren Missouri is able to sell its capacity first through independent contracts with other utility parties. Any remaining capacity is sold through the Midcontinent Independent System Operator ("MISO") planning resource auction ("PRA"). The MISO planning year spans the period of June 1 to May 31. The MISO resource adequacy auction is annual, with the PRA only covering the immediate planning year. Ameren Missouri's capacity revenue changes each year as of June 1 as that date coincides with the start of the next planning year. Ameren Missouri clears all available generation remaining after independent contracts in each planning year's PRA. The MISO resource adequacy construct does not differentiate capacity requirements by month, but does establish an annual value. The capacity which satisfies the requirements as set by MISO is a fixed annual volume.

In this case Staff has included the levels of capacity sales from current contracts as well as capacity revenue from the MISO 2019-2020 planning year. Staff will re-examine the level of capacity sales and any new capacity contracts as part of its true-up audit using information through year-end 2019.

b. Energy

Sales of electricity on the MISO market are made after Ameren Missouri has met all obligations to serve its native load customers, both retail and wholesale. By engaging in energy sales, Ameren Missouri generates profits which represent the net of gross proceeds and the associated cost of generation or purchased power. It is appropriate to include the revenues earned from energy sales in the cost of service because the facilities used in generating the electricity sold are paid for by ratepayers, as is the electricity purchased in order to meet Ameren Missouri's native load. For these reasons, the customers should benefit from these revenues earned by Ameren Missouri. Energy sales represent an efficient utilization of Ameren Missouri's electric facilities and systems that have been put in place to meet the electricity needs of its customers.

Energy sales revenues were calculated in Staff's production cost model by using the hourly-market energy prices as determined by Staff witness Shawn Lange. Staff's cost of service calculation includes the annualized energy sales revenue as calculated by Staff witness Shawn E. Lange using Staff's production cost model. It should be noted that Staff has reflected contracts for sale of power to Missouri municipalities as energy sales, consistent with its treatment for these contracts in previous rate proceedings. Staff will continue to examine energy sales revenues through December 31, 2019, which represents the true-up cut-off date.

Staff Expert/Witness: Lisa M. Ferguson

3. <u>Bilateral Sales, Financial Swaps, and Real-time Deviation Adjustments</u>

Staff made three adjustments outside the production cost model to account for revenues earned from net physical bilateral energy trades, financial swaps, and real time market transactions. The bilateral adjustment is for net sales (sales minus purchases) made by the Company to counterparties outside the MISO market to increase revenues. The financial swap adjustment is for transactions made by the Company to lock-in the sales price of underlying generation assets. The real-time market adjustment is for those transactions that took place at real time prices rather than the day-ahead prices used in the production cost modeling.[45] Physical bilateral margins, financial swaps, and real time deviation of ** ______________________________ ** should be utilized for these adjustments. Staff will continue to review the bilateral transactions, financial swaps and real time adjustments through the true-up period ending December 31, 2019, and will update these adjustments as necessary.

Staff Expert/Witness: Shawn E. Lange

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[45] The level of Self-Commit may impact the day-ahead as well as the real time market prices. Hour to hour generation deviations will occur no matter the level of self-commit mainly because those deviations are largely caused by items such as fuel quality, temperature, water quality, partial outages, etc. At this time, the only entity that has the data necessary to redispatch the day-ahead and real time markets to determine the impact of self-commit on day-ahead and real time market prices is MISO.

C. Midcontinent Independent System Operator ("MISO")

1. **<u>Capacity Expenses</u>**

Similar to Staff's discussion of off system sales capacity revenue, the MISO utilizes an annual resource adequacy method to determine the amount of capacity expenses Ameren Missouri incurs. Ameren Missouri owns sufficient generation to meet the MISO resource adequacy requirements; however, to meet MISO's capacity planning requirements during each planning year (June – May), Ameren Missouri utilizes "self-scheduling" for capacity offers and purchases as opposed to using a Fixed Resource Adequacy Plan ("FRAP"), which must be used in "retail choice" states, such as Illinois. Ameren Missouri incurs capacity expense due to self-scheduling whereas it would not from utilizing the FRAP, because with self-scheduling all capacity is offered and purchased in the auction versus only the capacity in excess of demand (and the reserve requirement) with the FRAP method. However, Ameren Missouri also experiences benefits from self-scheduling that it would not be able to enjoy if it utilized the FRAP. The capacity expense for the entirety of the 2019-2020 planning year which ends May 31, 2020, is fixed as a result of the MISO auction. Staff adjusted capacity expense based on the new planning year information. Ameren Missouri's current capacity expenses are not affected by the Federal Energy Regulatory Commission ("FERC") ROE complaint ruling discussed below. Staff will re-examine the level of capacity expense as part of its true-up audit using information through year-end 2019.

Staff Expert/Witness: Lisa M. Ferguson

2. **<u>Day 2 Revenues and Expenses</u>**

Ameren Missouri participates in MISO activities, including the MISO day-ahead and real-time energy markets (often called the MISO "Day 2 Market"). As part of its participation in the MISO Day 2 market, Ameren Missouri received payments during the test year from the MISO related to the Revenue Sufficiency Guarantee ("RSG") provision of MISO's tariff. These payments are determined hourly and are designed to ensure that companies participating in the MISO Day 2 markets are made whole when utilities' total energy offer prices in the market are not covered by the actual market prices. MISO Day 2 revenue is purely energy market related and is not affected by changes in load. However, that is not the case for MISO Day 2 expenses. MISO Day 2 expenses are based on the amount of energy settled at the "AMMO.UE" Commercial Pricing node. Since these offer prices include a margin for profits, it is important not to exclude the profit margins in the calculation. Currently, Staff is utilizing a 79.51% profit margin rate based on the calculations of margins embedded in the RSG make-whole payments during the recent 12-months ending October 2019. In addition, Staff has annualized both test year revenue and expense levels for Day 2 Market items based on data provided for the 12-months ending October 2019. Staff will re-examine these adjustments through December 31, 2019, during its true-up audit.

In addition, Price Volatility and Net Regulation revenues were received by Ameren Missouri during the test year. Price Volatility payments are received when there is a deviation from real-time prices and Net Regulation Adjustment revenues are received to make generators price neutral for deploying energy above or below the dispatch target price. Staff has removed this amount from its cost of service calculations and Net Base Energy Cost ("NBEC") calculations given the fact that Staff's fuel model does not model non-economic dispatch; therefore, these revenues would not be reflected in the model's output. However, these items are taken into account in subsequent FAC filings to ensure that the actual revenues and costs experienced by Ameren Missouri are being flowed through to ratepayers.

Staff Expert/Witness: Lisa M. Ferguson

3. <u>Transmission Revenue and Expense</u>

All transmission revenues and expenses since September 2016 reflect the reduced ROE from the order in the first ROE complaint proceeding discussed further below. However, transmission revenue and expense will be subject to change due to the recent decision from those proceedings. In addition, the decrease in the federal income tax rate was reflected in MISO transmission rates as of January 1, 2018. The flow back of excess deferred income taxes was reflected in Ameren Missouri's revenue requirement as of June 1, 2019 as this calculation was based on 2018 information. Ameren Missouri is reflecting its excess deferred income taxes that flow through the transmission rates in the same manner as was agreed with the parties to the stipulation & agreement in Case No. ER-2018-0362. The protected excess is being returned using the Average Rate Assumption Method (ARAM) and the unprotected excess is being returned over a 10 year period.

Staff has adjusted the test year level of MISO transmission revenue and expense, with the exception of Transmission schedule 26A charges, by using test year, a three year average, or data provided for the 12-months ending April 2019, which annualizes each item to a current ongoing level. Schedule 26A charges deal with Multi-Value Projects ("MVPs") that are determined by the

MISO and for which costs are allocated to the individual transmission owner ("TO") members. These projects are regional projects that originally began as reliability projects and have since developed into market efficiency projects. When determining costs for the next year, MISO will estimate a total "revenue requirement" early each year. Around September or October of the year prior to the new MISO rates being put into effect, the individual TOs will estimate what their individual cost allocation responsibility for the total MISO revenue requirement costs will be regarding schedule 26A charges. Then in January the new MISO rate will be known and will go into effect. In direct testimony, Ameren Missouri proposed an estimated increase in 2019 schedule 26A costs of approximately 11.25%. In the last rate case, Ameren Missouri's initial estimate of the percentage increase to schedule 26A costs was higher than the actual percentage MISO revenue requirement increase that became known in January 2017. For purposes of direct filing, Staff annualized the schedule 26A expenses using Ameren Missouri's twelve months ending December 31, 2019 pro forma expense without the estimated MISO schedule 26A percentage increase. Staff is not formally adopting this amount, rather Staff is using this as a placeholder until the actual 2019 schedule 26A expense and allocation of total MISO revenue requirement for Ameren Missouri is known at true-up. Staff will continue to review all of Ameren Missouri's transmission transactions and the transmission transactions affecting Ameren Missouri as additional information becomes available through the true-up period.

FERC Return On Equity ("ROE") Complaint Cases

The MISO Transmission Owners' return on common equity of 12.38% was the subject of two FERC complaint proceedings, the November 2013 complaint case (EL14-12-000) and the February 2015 complaint case (EL15-45). These complaint cases challenged the allowed base return on common equity for MISO Transmission Owners and resulted in a 15 month period for which transmission rate refunds may be required. For a detailed narrative background of the origins of the FERC Return on Equity complaint cases, the litigation and status of both FERC cases as of the true-up cutoff in Ameren Missouri's last rate proceeding, please refer to page 83, line 3 through page 86, line 12 of Staff's Cost of Service Report filed in the last Ameren Missouri rate case, No. ER-2016-0179 (also included in Appendix 3, Schedule LMF-d1). The total allowed return on equity for the Ameren Transmission Owning Companies was 10.82% until the order that was just recently issued in the second complaint proceeding made by FERC regarding ROE on November 21, 2019.

Staff had initially included the calculation amount of the initial refund in its direct cost of service revenue requirement report in ER-2016-0179, filed on December 9, 2016 as a regulatory liability to be returned to Missouri retail customers over three years beginning with the effective date of rates in this case. However, because (1) Ameren Missouri still had to submit for approval its ordered refund reports to the FERC, (2) the FERC Docket No. EL14-12-000 appeal that has been sought in the D.C. Circuit Court of Appeals by the transmission owners ("TOs") was still pending, and (3) there were various requests for rehearing by the affected parties; Staff believed it was premature to include the actual amounts for this refund in the cost of service for the last rate proceeding because the actual amount refunded was not known until after the true-up date in that case. Staff recommended deferral of the amount of the first refund, as a regulatory liability, until Ameren Missouri's current general rate case, where that actual known balance would be returned to customers as determined by the Commission based on parties' proposals in this case. However, Staff's position, and ultimately Ameren Missouri's position, in the last rate case was that the transmission costs that were the subject of the first FERC ROE refund were initially charged to Missouri retail customers through the FAC and were collected 95% from customers through the FAC and the remaining 5% of transmission costs were retained by Ameren Missouri. Thus, the transmission refund amounts that should be refunded to Missouri retail customers due to the first FERC complaint case should be the 95% collected from Missouri retail customers.

Ameren Missouri recorded an accrual upon receipt of the final FERC order for the first complaint case and then a regulatory liability was established in March and May of 2017. Due to the transmission settlement process, the actual refunds were returned in two parts. Approximately $1.3 million was returned to customers with Ameren retaining approximately $70,000 for the initial MISO settlement in January 2017 and approximately $126,000 was returned to customers with Ameren Missouri retaining approximately $6,700 in the MISO true-up in May 2017. Staff has submitted a data request seeking additional information regarding the calculation of the FERC ROE refund in 2017.

The second ROE complaint case at the FERC had not been fully litigated as of the conclusion of Ameren Missouri's last rate proceeding. In the last rate case, Staff proposed to defer the financial impact of any refund that was eventually determined from that FERC case until Ameren Missouri's current general rate case where it would be treated by Staff as a regulatory liability. As stated above, on November 21, 2019 the FERC reached a decision on the EL15-45-

000 case that will ultimately affect the refunds returned through the FAC for the previous FERC complaint case, EL14-12-003. The FERC determined the following:

- MISO Transmission Owners' base ROE is set at 9.88 percent with a total or maximum ROE including incentives not to exceed 12.24 percent, effective as of September 28, 2016, as discussed in the body of the order.
- MISO and MISO Transmission Owners are directed to provide refunds, with interest calculated pursuant to 18 C.F.R. § 35.19a (2019), within thirty (30) days of the date of the order, for the 15-month refund period for the First Complaint from November 12, Docket Nos. EL14-12-003 and EL15-45-000 - 261 - 2013 through February 11, 2015 and for the period from September 28, 2016 to the date of the order, as discussed in the body of the order.
- MISO and MISO Transmission Owners are directed to file a refund report detailing the principal amounts plus interest paid to each of their customers within forty five (45) days of the date of the order.

Staff recommends that the Commission order Ameren Missouri to provide the FERC ordered refunds from both complaint cases that are applicable to Ameren Missouri either through the FAC or alternatively defer these refund amounts in a regulatory liability account so that appropriate ratemaking treatment can be proposed in Ameren Missouri's next rate proceeding.

Entergy Complaint

This case concerned ** ** As part of case ER-2016-0179, Staff removed the accrual that was booked during the test year of that rate case and included an amortization to return that revenue previously received by Ameren Missouri over three years beginning on April 1, 2017, the effective date of rates in that case. Ameren Missouri continues to collect this amortization, however it is due to expire on April 1, 2020, which is two months prior to the operation of law date in this case. This means that Ameren Missouri will over collect this amortization once rates change as a result of the current rate proceeding. In order to avoid this, Staff has calculated the over/under balance as of May 2020 as well as removed the test year amortization regarding the Entergy amortization, and have provided the remaining balance to Staff Witness John Cassidy to be included in the overall netting of over/under collected amortizations.

Staff Expert/Witness: Lisa M. Ferguson

4. Ancillary Services Market Revenue and Expense

Ameren Missouri also participates in MISO's Ancillary Services Market ("ASM") where services beyond that of generation and transmission can be acquired to maintain grid stability and security. These services include frequency control, spinning reserves and operating reserves. Ameren Missouri entered the ASM to acquire ancillary services for its retail load and to be able to sell the ancillary services from its generation. Staff has accepted test year ASM revenue and expense levels and will continue to review Ameren Missouri's ASM transactions as additional information becomes available through the true-up period.

Staff Expert/Witness: Lisa M. Ferguson

5. MISO Inadvertent Related Revenues and Expenses

Ameren Missouri also incurs revenues and expenses that are determined daily as a result of receiving/providing inadvertent energy from MISO. Staff has accepted test year revenue and has included inadvertent expense based on the actual amounts for the 12-months ending October 2019. Staff will continue to review Ameren Missouri's revenues resulting from inadvertent energy from MISO as additional information becomes available through the true-up period.

Staff Expert/Witness: Lisa M. Ferguson

D. Fuel and Purchased Power Expense

1. Fuel and Purchased Power Prices

Ameren Missouri's electric supply is primarily generated from Company owned generation centers; however Ameren Missouri does at times purchase power in instances such as when energy centers have outages, extreme weather conditions, or availability of power at a lower cost than generation. As part of its audit in this rate case, Staff reviewed Ameren Missouri's coal commodity and coal transportation contracts, as well as nuclear, natural gas, fuel oil prices and purchased power agreements as provided in Ameren Missouri's fuel reports, workpapers, and responses to Staff data requests. The chart below identifies the generating facilities that Ameren Missouri owns and operates for the production of electric power with descriptions of each facility:

Unit	**Type**	**Year Placed in Service**	**Summer Net MW Capability**	**Primary Fuel**
Callaway	Base Load	1984	1,194 MW	Nuclear
Rush Island 1 - 2	Base Load	Unit 1: 1976 Unit 2: 1977	1,178 MW	Coal
Labadie 1 - 4	Base Load	Unit 1: 1970 Unit 2: 1971 Unit 3: 1972 Unit 4: 1973	2,372 MW	Coal
Sioux 1 - 2	Base Load	Unit 1: 1967 Unit 2: 1968	972 MW	Coal
Meramec 1 - 2[46]	Base Load/ Cycled Based on Economics	Unit 1: 2016 Unit 2: 2016	236 MW	Natural Gas
Meramec 3 - 4	Base Load/ Cycled Based on Economics	Unit 3: 1958 Unit 4: 1961	591 MW	Coal
Keokuk	Run of River	1914	144 MW	Water
Osage	Ponded Hydro	1931	235 MW	Water
Taum Sauk	Pump Storage	1963	440 MW	Pumped Water
Kirksville	Peaking	1967	Retired 6/30/18	Natural Gas
Venice CT 2 - 5	Peaking	Unit 2: 2002 Unit 3-5: 2006	492 MW	Natural Gas
Fairgrounds	Peaking	1974	55 MW	Natural Gas
Meramec CT 1	Peaking	1974	55 MW	Oil
Meramec CT 2	Peaking	2000	46 MW	Natural Gas

[46] Meramec Units 1 and 2 converted to natural gas in early 2016.

Unit	Type	Year Placed in Service	Summer Net MW Capability	Primary Fuel
Mexico	Peaking	1978	54 MW	Natural Gas
Moberly	Peaking	1978	54 MW	Natural Gas
Moreau	Peaking	1978	54 MW	Natural Gas
Peno Creek 1 - 4	Peaking	2002	192 MW	Natural Gas
Pinckneyville 1 - 8	Peaking	Units 1-4: 2000 Units 5-8: 2001	316 MW	Natural Gas
Kinmundy 1 - 2	Peaking	2001	210 MW	Natural Gas
Audrain 1 - 8	Peaking	2001	608 MW	Natural Gas
Goose Creek 1 - 6	Peaking	2003	438 MW	Natural Gas
Raccoon Creek 1 - 4	Peaking	2002	304 MW	Natural Gas
Maryland Heights	Renewable	2012	8 MW	Methane Gas
O'Fallon	Renewable	2014	3 MW	Solar
Total			**10,251 MW**	

Staff witness Shawn E. Lange also reviewed multiple years of market energy prices. Staff's annualized and normalized level of fuel and purchased power expense was calculated to be sufficient for Ameren Missouri to serve its native load and to enable it to make off-system sales through the MISO day-ahead market. Staff's fuel expense adjustment includes all changes to coal commodity and transportation costs based upon contracts in effect January 1, 2020. Staff's fuel expense adjustment for nuclear fuel is based on generation and cost data for June 2019 through September 2019 (Callaway's most recent refueling operation concluded in May 2019).

Staff's fuel cost calculation also includes the fixed and variable demand cost of natural gas and costs associated with fly ash, both of which are discussed in their respective sections of testimony in this cost of service report. Staff's annualized purchased power expense is based upon the output of the fuel model, as sponsored by Staff witness Shawn Lange. Staff will continue to examine each component of fuel expense through the true-up period ending December 31, 2019, so that any significant changes that occur through that date are addressed.

Staff Expert/Witness: Lisa M. Ferguson

a. Coal Prices

i. Accounting Coal Prices

Staff's coal prices are used to compute Ameren Missouri's fuel costs based on the total coal unit generation that is determined by Staff's production cost model. Staff performed a review of all of Ameren Missouri's current coal commodity and transportation contracts. Staff's coal prices on a per-MMBtu basis reflect Ameren Missouri's mine-specific coal commodity, coal rail car costs including depreciation, and coal rail and barge transportation contracts that will be in effect as of January 1, 2020. Staff also included an ongoing level of expense of fuel hedge surcharges associated with rail transportation. These hedges are tied to the prices of on-highway diesel as reported by the Energy Information Administration, an agency of the U.S. Department of Energy ("DOE").

ii. Fly Ash

Historically, Ameren Missouri's expenses associated with fly ash have been partially or entirely offset by revenues generated by selling the fly ash to third parties. However, due to Ameren Missouri's use of activated carbon as a fuel additive, there have been questions as to whether the fly ash generated by Ameren Missouri's coal plants would retain its marketability to those third parties. Staff has accepted Ameren Missouri's test year level of fly ash expense in its cost of service. Staff will continue to review information regarding fly ash costs and sales through the true-up cut-off in this case.

Staff Expert/Witness: Lisa M. Ferguson

b. Nuclear Fuel Prices

i. Nuclear Fuel Rod Assembly Prices

Uranium is a naturally radioactive metal that undergoes a complex three-stage process, involving conversion, enrichment, and fabrication, in order to be transformed into fuel rod assemblies (long metal tubes filled with precisely fashioned small fuel pellets) that are used in the Callaway reactor as its source of fuel. The nuclear fuel price calculated by Staff represents the cost of all of the fuel rod assemblies that are currently loaded into the reactor. Staff used available data through September 30, 2019, to calculate the fuel price used in its direct filing. Staff will reexamine the actual nuclear fuel prices through December 2019 as part of its true-up audit, and will reflect these costs as part of its true-up filing.

Staff Expert/Witness: Lisa M. Ferguson

c. Natural Gas Cost

i. Fixed Natural Gas Cost

Staff has included the fixed demand cost of gas for the twelve months ending December 31, 2018 test year, in its recommended revenue requirement. Staff's production cost model only includes variable commodity gas costs. Therefore, the cost of fixed gas must be added to the production cost model's results to determine the total net fuel and purchased-power expense. Staff will examine this cost through the true-up cut-off date of December 31, 2019, in this case.

i. **Variable Natural Gas Cost**

Staff has provided a three year average of variable natural gas costs as an input to Staff's production cost model. The annualized amount produced from the production cost model is utilized to determine the net fuel and purchased power expense. Staff will examine this cost through the true-up cut-off date of December 31, 2019, in this case.

d. Fuel Oil

Fuel oil represents a small portion of the total fuel costs for Ameren Missouri, it is mainly used for startup and auxiliary purposes at generating stations. Staff included a three year average of fuel oil costs as an input to Staff's Production Cost Model. Staff will examine this cost through the true-up cutoff date, December 31, 2019.

Staff Expert/Witness: Lisa M. Ferguson

e. Market Prices

The market price represents the dollar-per-megawatt-hour amount paid for electric energy in the Midcontinent Independent System Operator ("MISO") market in any given hour. A market price for each hour of the test year is used as a key input in Staff's fuel modeling. For each hour the fuel model is programmed to determine whether or not it is economic for each unit to generate, and at which level it is most economic to generate. The market price therefore sets the marginal generator and determines which of the Company's generators will run, and the cost of fuel for those generators.

Staff developed a set of prices by looking at three years of market data ending June 2019 and calculating monthly peak and off-peak prices and then developing factors for each month based on the ratio of the three-year averages to the monthly averages in the test year. This method eliminates extreme price points caused by such things as weather, new market operation, hurricanes, economic down turns, flooding and etc.

Staff Expert/Witness: Shawn E. Lange

2. Fuel and Purchased Power Cost Modeling

a. Normalization of Hourly Load Requirements at Transmission

i. System Energy Losses

In the Midcontinent Independent System Operator ("MISO") market, Ameren Missouri "bids" its load into the associated market at the transmission level, rather than at the generation level. Hence, transmission losses are not accounted for when Ameren Missouri bids its loads into the MISO market. In order to model fuel and purchased power costs appropriately, hourly loads utilized in the fuel models used to estimate fuel and purchased power expense need to be determined at the transmission level rather than at the generation level, identified as the Load Requirement at Transmission ("LRT"). The LRT needs to include the customers' energy requirements and associated primary and secondary losses ("System Energy Losses").

The basis for calculating energy losses is that LRT equals the sum of Total Sales, Company Use, and System Energy Losses. This can be expressed mathematically as:

LRT = Total Sales + Company Use + System Energy Losses

LRT, Total Sales, and Company Use are known, measured values. System Energy Losses (at the transmission level) may be calculated as follows:

System Energy Losses = LRT – Total Sales – Company Use

The System Energy Loss percentage is the ratio of the System Energy Losses at the transmission level to LRT multiplied by 100:

System Energy Loss Percentage = (System Energy Losses ÷ LRT) X 100

LRT is also equal to the sum of Ameren Missouri's net generation and net interchange, considered at the transmission level. Net interchange is the difference between off-system purchases and sales. Net generation is the total energy output of each generating plant minus the energy consumed internally to enable its production of electricity at each plant. The output of each generation plant is monitored continuously, as is the net of off-system purchases and sales.

Using this methodology, Staff calculated a loss percentage of 4.17% of LRT for the twelve-month period ending December 2018, the test year in this case. Staff Witness Michael L. Stahlman used Staff's calculated loss percentage in the development of hourly loads for Staff's fuel model.

Staff Expert/Witness: Alan J. Bax

b. Variable Fuel Expense

Staff estimates the variable fuel and purchased power expense for Ameren Missouri for the update period, as defined in the Rate Revenue Section of Staff's Cost of Service Report, ending June 30, 2019, to be $390,113,922. For the same period, Staff estimates the value of Ameren Missouri's generation in the Midcontinent Independent System Operator ("MISO") integrated marketplace ("IM") to be $1,178,519,471, and the cost of purchases of energy for Ameren Missouri's customers (including wholesale customers) to be $904,991,372. The net of these values is $273,528,100.

Staff uses the Plexos production cost model to perform an hour-by-hour chronological simulation of a utility's generation and power purchases. Staff uses this model to determine annual variable cost of fuel and net purchased power energy costs and fuel consumption necessary to economically serve the utility's load and operate within the MISO energy market. These amounts are supplied to Auditing Department Staff who use these inputs in the annualization of net fuel and purchased power expense.

Staff used market prices in its fuel model dispatch to simulate Ameren Missouri's operations in the MISO IM. The price for energy in the IM dictates the amount of energy Ameren Missouri sells in the IM. Consequently, Staff's fuel run dispatches Ameren Missouri's generation to match the MISO market price, thus simulating how the MISO would dispatch generation if it were being dispatched into the MISO IM based on prices set by the MISO's regional load requirements. Similar to constraints applied in Ameren Missouri's modeling, Staff applies constraints within the model to reasonably align the modeled unit performance with historical unit performance. This is intended to simulate Ameren Missouri's IM bidding strategies.

The model operates in a chronological fashion, meeting each hour's energy demand before moving to the next hour. It will schedule generating units to dispatch in a least cost manner based upon fuel cost and purchased power cost while taking into account generation unit operation constraints and firm purchased power contract requirements. This model closely simulates the way a utility should dispatch its generating units and purchase power to meet the net system load in a least cost manner.

Model inputs calculated by Staff are: fuel prices, spot market purchased power prices and availability, hourly load requirements at transmission, and unit planned and forced outages. Staff relied on Ameren Missouri responses to data requests and workpapers for factors relating to each generating unit. These factors include: capacity of the unit, unit heat rate curve, primary and startup fuels, ramp-up rate, startup costs, fixed operating and maintenance expense as well as information from Ameren Missouri's wholesale loads. Firm purchased power contract information, such as hourly energy available and prices, are also inputs to the model.

The Staff model was benchmarked by using Ameren Missouri's model inputs. The difference between Staff's model benchmark results and the Ameren Missouri model results, supported by Hande Berk direct testimony, was, for the coal and nuclear generation units, less than 1% difference in the level of generation.

Staff Expert/Witness: Shawn E. Lange

c. Planned and Forced Outages

Planned and forced outages are infrequent in occurrence, and variable in duration. In order to capture this variability, the Ameren Missouri generating unit outages were normalized by averaging six years (2013 through June, 2019) of actual values taken from data Ameren Missouri supplied to comply with 20 CSR 4240-3.190.

Staff Expert/Witness: Shawn E. Lange

d. Capacity Contract Prices and Energy

Capacity contracts are contracts for a specific amount of capacity (megawatts or MW) and a maximum amount of hourly energy (megawatthours or MWh). Prices for the energy from these capacity contracts are based on either a fixed contract price or the generating costs of providing the energy. The capacity contract relevant to this case is the Horizon Pioneer Prairie wind contract.

Actual hourly contract transaction prices were obtained from the Horizon Pioneer Prairie contract provided by Ameren Missouri. The hourly energy was developed by averaging the actual hourly energy from 2010 through June, 2019 from data Ameren Missouri supplied to comply with 20 CSR 4240-3.190 Reporting Requirements for Electric Utilities and Rural Cooperatives.

Staff Expert/Witness: Shawn E. Lange

3. Other Fuel-Related Items

a. Fuel Additive – Limestone for Sioux Scrubbers

In order to properly operate the Sulfur Dioxide (“SO_2”) scrubbers at the Sioux Energy Center (“Sioux”), Ameren Missouri utilizes limestone as a fuel additive. After being purchased, but before being transported to Sioux, the limestone must undergo a pulverization process in order to meet the standards of quality necessary for use in the scrubbers. Ameren Missouri maintains contracts with three vendors for this operation—one from whom the limestone is purchased, one to process the limestone so that it is useable, and one who will transport the processed limestone to Sioux.

Staff included the twelve months ending September 2019 purchases and consumption for limestone and will continue to review limestone data through December 2019 to be reflected in its true-up filing.

Staff Expert/Witness: Lisa M. Ferguson

b. Fuel Additive – Activated Carbon

In order for Ameren Missouri to comply with mercury emission limits established by the EPA’s Mercury and Air Toxics Standards (“MATS”), powdered activated carbon is used at Ameren Missouri’s generating units to reduce mercury emissions. The activated carbon is processed (or “activated”) so that it produces carbon particles with high porosity and greater surface area. The activated carbon is injected into and absorbed by the flue gas and is then captured in the electrostatic precipitators at the Labadie, Rush Island, Meramec, and Sioux Energy Centers. Ameren Missouri has contracted with a handful of vendors to acquire and transport activated carbon to its plants as necessary.

Staff annualized the cost of activated carbon by including the twelve months ending September 30, 2019 actual consumption of activated carbon.

Staff will continue to review activated carbon use data at all energy centers through December 2019 to be reflected in its true-up filing.

Staff Expert/Witness: Lisa M. Ferguson

c. Heat Rate and Efficiency Testing

Whenever an electric utility requests that a rate adjustment ("RAM") such as a Fuel Adjustment Clause ("FAC") be continued or modified, Commission Rule 20 CSR 4240-3.161 (3)(Q) specifies that the electric utility shall file specific information as part of its direct testimony in a general rate proceeding:

> (Q) The results of heat rate tests and/or efficiency tests on all the electric utility's nuclear and non-nuclear steam generators, HRSG,[47] steam turbines, and combustion turbines conducted within the previous twenty-four (24) months;

The Commission first authorized Ameren Missouri's FAC in Case No. ER-2008-0308. The FAC was continued with modifications in Case Nos. ER-2010-0036, ER-2011-0028, ER-2012-0166, ER-2014-0258, ER-2016-0179, and ER-2018-0362. Ameren Missouri is requesting that its FAC again be continued with modifications in the current general rate case proceeding, Case No. ER-2019-0335.

Ameren Missouri witness Marci L. Althoff filed testimony that included Schedule MLA-D1 with several attachments that identify supply-side and demand-side resources expected to meet Ameren Missouri's load requirements and which also contain the results of the most recent heat rate/efficiency tests for many of the Ameren Missouri generating units.

Staff's review of the provided heat rate tests and work papers confirmed that each generating unit met the previous "24 month" heat rate testing rule requirement.

Staff Expert/Witness: Jordan Hull

d. Spent Fuel and Department of Energy (DOE) Breach of Contract Settlements with Ameren Missouri

For a detailed narrative synopsis of the origins of the spent-fuel fee previously (but no longer) paid by Ameren Missouri to DOE, the eventual discontinuance of the fee, and the resulting lawsuits filed by Ameren Missouri against the government, please refer to page 81, line 26 through page 87, line 7 of Staff's Cost of Service Report filed in Ameren Missouri rate case No. ER-2014-0258, included in Appendix 3 as Schedule LMF-d2.

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[47] HRSG is an acronym for heat recovery steam generators.

Ameren Missouri has maintained with the United States Department of Energy an executed settlement agreement in 2011 with several addendums to the original agreement in 2014 and 2017. The current addendum is set to expire on December 31, 2019; however Ameren Missouri intends to extend the Settlement Agreement beyond 2019 and has requested that extension with the U.S. Department of Justice. Ameren Missouri has been advised that a settlement extension is pending and should be concluded no later than the first quarter of 2020. The Settlement Agreement and addendums to extend said agreement delineate the original reimbursement amount as well as sets out the process for subsequent claims for reimbursement related to spent nuclear fuel costs, allowable costs and cost categories to be claimed, modifications to the generation plant, final determinations of costs and other legal requirements.

During the calendar year after a calendar year where costs are incurred related to its Independent Spent Fuel Storage Installation (ISFSI), Ameren Missouri submits a written claim per the terms of the settlement agreement to the DOE. The DOE assesses Ameren Missouri's claim against the regulations set out in the Settlement Agreement and then determines the amount to reimburse to Ameren Missouri at a later date.

Ameren Missouri has requested and received the following reimbursements:

Year	**Requested Reimbursement**	**Reimbursement Received**	**Disallowed by DOE**
2009/2010	$79,634	$73,894*	$5,740
2011	$849,544	$818,692	$30,851
2012	$6,264,937	$6,227,978	$36,959
2013	$15,107,849	$14,933,364	$174,485
2014	$15,032,120	$13,847,006	$1,185,114
2015	$23,682,151	$23,586,656	$95,495
2016	$2,960,860	$2,920,420	$40,440
2017	$11,859,249	$11,035,375	$823,874
2018	$21,293,549	$21,176,040	$117,508

*The total amount received for 2009/2010 from the DOE was $10,551,468. This amount includes reimbursement for spent fuel racks of $10,477,574 in addition to the dry cask storage reimbursement shown above

The difference between the amounts claimed and the amounts reimbursed were due to the DOE determining that certain costs claimed for reimbursement did not meet the criteria set forth in the Settlement Agreement.

Ameren Missouri has received the reimbursement for all capital costs incurred relative to the ISFSI for which the DOE has classified as meeting the criteria set out in the Settlement Agreement. As discussed above, Ameren Missouri is in the process of extending its Settlement Agreement with the DOE, however the Company cannot provide Staff any estimates of future reimbursements due to the fact that the extension has not been authorized at this time and the costs themselves fluctuate based on actual expenses that are incurred based on the tasks that are completed during a calendar year. Typically during the year prior to a loading of spent fuel into the ISFSI, significant costs for materials are incurred. Also, the reimbursements for years where spent fuel loading takes place can differ due to the number of fuel canisters loaded into dry cask storage and labor. Ameren Missouri is not incurring capital costs at this time but continues to receive reimbursements for ongoing spent nuclear fuel expenses. Ameren Missouri is recording the ongoing spent nuclear fuel as a receivable on its balance sheet and then offsetting that receivable when the reimbursement is applied. Staff has no changes to this method at this time.

Staff Expert/Witness: Lisa M. Ferguson

E. Payroll and Benefits

1. <u>Payroll</u>

Staff computed annualized payroll by adjusting the test year labor costs as of the twelve months ending December 31, 2018 in order to reflect:

- Staff's elimination of all incentive compensation and restrictive stock (as these issues will be addressed by Staff witness Matthew R. Young) as well as discretionary and one time bonuses that were included in payroll expense as of December, 31, 2018;
- Staff's inclusion of wage increases to each payroll class, ** ____________________ ** for management employees effective January 1, 2019 and January 1, 2020 and ** ____ ** for union employees effective July 1, 2019;
- The reduction of payroll expense resulting from severed employees during the test year;
- Staff's removal of portions of certain employees' salaries dedicated to lobbying activities;

- Staff's normalization of the overtime associated with Callaway nuclear refueling that occurs every 18 months;
- Staff's inclusion of the headcount charged to Ameren Missouri as of June 30, 2019.

As part of its direct case, Ameren Missouri witness Laura Moore proposed a proforma labor adjustment to reflect payroll through January 2020. This consisted of two parts, the salary increase adjustment and an adjustment for ongoing headcount. During its review, Staff discovered that Ameren Missouri provided workpapers for both the salary and headcount adjustment, but only the salary adjustment through January 2020 was actually included in Ameren Missouri's revenue requirement. Staff has proposed inclusion of an adjustment increasing expense in the amount of ** ________ ** to account for the change in Ameren Missouri's headcount from January 1, 2019 through June 30, 2019 as part of its direct filing. Staff's adjustment for payroll expense was distributed by account based on the actual payroll distribution experienced by Ameren Missouri during the test year ending December 31, 2018.

Callaway Refueling Overtime

Staff normalized the overtime associated with Callaway refueling by including an average of the overtime associated with the last three refuelings, dividing by 18 months (the time between refuelings) and multiplying by twelve in order to include an annual level of overtime in the cost of service. This is consistent with how Staff normalized non-labor Callaway maintenance expense.

Severance

In addition, Staff examined the severance payments recorded during the test year and compared that payout to the savings resulting from the salary, incentive compensation, employee benefits, and payroll taxes of the severed employees. The savings resulting from the severance of the employees calculated through the operation of law date was significant enough to offset the severance paid to the employees during the test year. Staff has proposed an adjustment to remove the severance paid during the test year as this cost is non-recurring.

MEEIA Labor

In addition, on June 4, 2018, Ameren Missouri filed its application for approval of its MEEIA Cycle 3 plan. On October 25, 2018, a stipulation and agreement was filed, which the Commission approved, effective January 4, 2019. The stipulation and agreement for the MEEIA Cycle 3 program in Case No. EO-2018-0211 requires that Ameren Missouri charge any increase in incremental labor and benefit costs for those employees solely dedicated to MEEIA programs using a unique project code for incremental labor ("M3PC activity code") and include the costs in Rider EEIC. MEEIA cycle 3 began on March 1, 2019, subsequent to the test year. Staff has issued Data Request No. 530 to verify the number of employees that have been hired solely for the MEEIA program and will propose to exclude those MEEIA dedicated employee costs from inclusion in Staff's base rate adjustment for payroll and employee benefits during its true-up audit, as those costs will be recovered by Ameren Missouri in the MEEIA rider.

Staff will reexamine payroll and any related costs during its true-up audit in order to determine whether any further adjustments to the cost of service are necessary.

Staff Expert/Witness: Paul K. Amenthor

2. Payroll Taxes

Staff applied the current tax rates for the Federal Insurance Contributions Act (FICA), the Federal Unemployment Tax Act (FUTA), and the State Unemployment Tax Act (SUTA) to Staff's annualized payroll to determine the ongoing level of payroll taxes. Staff's payroll tax adjustment reflects the level of employees that existed at June 30, 2019, the wage increases for both contract and management employees, and the normalized overtime of Callaway nuclear refueling. Staff also removed from the cost of service calculation all payroll taxes paid during the test year for employees that are no longer with Ameren Missouri. Staff will reexamine this issue as part of its true-up audit through December 31, 2019 to determine whether any adjustments are necessary.

Staff Expert/Witness: Paul K. Amenthor

3. Other Employee Benefits

Ameren Missouri offers employee benefits comprised of medical, dental, and vision insurance provided by the company to its employees. Staff annualized this expense based on the benefit plan in place during the test year as applied to the actual level of employees for each payroll class (contract and management) at June 30, 2019. Similar to payroll, Ameren Missouri proposed an adjustment to the headcount for employee benefits but did not include that adjustment in their overall revenue requirement. Staff will reexamine employee benefit costs through the December 31, 2019, true up cutoff date.

Staff Expert/Witness: Paul K. Amenthor

4. **Pensions and Other Post-Employment Benefits ("OPEBs")**

The Financial Accounting Standards Board ("FASB") issued ASU-2017-07, an accounting standard update ("ASU") in March 2017 regarding topic 715, Compensation – Retirement Benefits. The update was released to improve the presentation in the financial statements of net periodic pension cost and net periodic postretirement benefit cost in order to improve the consistency, transparency, and usefulness of financial information. The update applies to all employers that offer defined benefit pension plans and other postretirement benefit plans to their employees. Public business entities were required to account for this update for annual periods beginning after December 15, 2017, including any interim periods. Defined benefit pension cost and postretirement benefit cost consist of several components, referred to as service costs and non-service costs, that are grouped in a company's financial statements. Service costs are the present value of pension benefits earned during the year, whereas non-service costs are mostly related to prior service of employees. This update requires that an employer report the service cost component in the same line item or items as other compensation costs arising from services performed by employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of the income from operations. The service cost must be disaggregated from the remaining parts of the net benefit costs and is the only component that is now eligible for capitalization.

The amendments delineated in this update are to be applied retrospectively for the presentation of the service cost component and the other components of net periodic pension cost and net periodic postretirement benefit cost in the income statement and prospectively for the capitalization of the service cost component of net periodic pension cost and net periodic postretirement benefit cost in assets on the balance sheet. Disclosures in the financial statements are required for the first period of adoption.

FERC Office of Enforcement issued an accounting guidance order on December 28, 2017 to the industry on how to apply the accounting and reporting requirements when adopting ASU-2017-07. FERC directed that there would be no change in recording of the non-service costs; they would remain in account 926. However, FERC provided two options to utilities:

1. continuance of capitalizing all or a portion of service and non-service net

benefit costs; or

2. follow the capitalization requirements under the ASU, and elect to make a one-time non-revocable election to switch to fully expensing the non-service costs to conform to generally accepted accounting principles ("GAAP") reporting and then provide notice of that change to FERC.

Ameren Missouri instituted the new FASB guidance in January 2018 and utilized FERC's one-time election for expense treatment. Staff agrees that this treatment is appropriate. Since that point Ameren Missouri has been fully expensing the non-service pension and OPEB costs and capitalizing a portion of the service cost component.

a. Pensions

1. Accounting Standards Codification ("ASC") 715-30 (Formerly FAS 87)

Ameren has one qualified pension plan called the Ameren Retirement Plan that covers all of Ameren's operations. Ameren's actuarial consultants, Willis Towers Watson, determine the allocation valuation for Ameren Missouri's portion of net benefit cost. The results for January 1, 2019 will be requested before the end of 2019 in an updated data request. Staff will reflect actual plan year 2019 costs through December 31, 2019 in its true-up audit.

i. ASC-715-30 Pension Tracker

In Case No. ER-2007-0002, a stipulation and agreement was established that required Ameren Missouri to fund its qualified annual pension expense through an external trust and track the difference between the annual funded pension expense and the level included in rates as established in a previous rate case. The agreement between the parties established the ongoing ratemaking treatment for annual qualified pension cost under FASB ASC Subtopic 715-30 (formerly FAS 87). Ameren Missouri's pension expense and rate base amounts include direct charged costs as well as allocated costs from Ameren Services. To calculate whether an addition or reduction to ongoing pension expense should be applied, Staff accumulates the difference between the annual funded pension cost and the amount included in rates in the tracking mechanism and then includes that balance in rate base and amortizes it over a period of five years. Ameren Missouri also has non-qualified pension expense, which relates to the Ameren Supplemental Retirement Program. This plan is unfunded, and the plan benefit payments are made on a monthly basis. Non-qualified pension expense is not included in the pension tracking mechanism.

Staff recommends combining all prior pension tracker amounts into one tracker going forward and recommends a five year amortization of the balance as of September 30. Staff has updated the pension tracker amounts through September 30. Staff will re-examine the amounts in the pension tracking mechanism and associated amortization and reflect actual amounts through the December 31 cut-off date, in its true-up audit.

ii. Annualization

Staff annualized the qualified pension expense to reflect the Plan Year 2019 estimated expense for FAS 87 recommended by the actuarial firm of Willis Towers Watson for Ameren Missouri's qualified pension plan. Staff includes this amount to ensure that the amount collected in rates is sufficient to recover the estimated pension expense provided by Willis Towers Watson. This is the new base expense level that will be utilized in the pension tracker, after rates are established in this case, in order to determine the difference between pension expense included in rates and the amount actually incurred and funded by Ameren Missouri on an ongoing basis for qualified pension expense.

Staff is including Ameren Missouri's estimated pension cost as included in its direct filing and provided by Ameren Missouri's actuary, Willis Towers Watson, until Staff can update these estimated amounts with actual Plan Year 2019 costs. This level should be the amount used in the pension tracker, after rates are established in this case, to determine the difference between pension expense included in rates and the amount actually incurred and funded by Ameren Missouri. Staff will re-examine pension expense through the December 31, 2019 cut-off date, during its true-up audit.

Staff Expert/Witness: Antonija Nieto

b. Other Post-Employment Benefits ("OPEBs")

1. ASC 715-60 (formerly FAS 106) OPEBs

Ameren has a postretirement benefit plan, the Ameren Retiree Welfare Benefit Plan, which covers all of Ameren's operations and is a component of the Ameren Retiree Welfare Benefit Plan which provides health benefits to eligible retirees, their spouses and other eligible dependents.

The 2019 plan year costs will be requested before the end of 2019 in an updated data request; Staff will reflect actual plan year 2019 costs through December 31, 2019 in its true-up audit.

i. ASC 715-60 OPEBs Tracker

The stipulation and agreement in Case No. ER-2007-0002 also addresses the ratemaking treatment for the annual OPEBs cost under FASB's ASC Subtopic 715-60 (formerly FAS 106). As with pension expense, the agreement among the parties requires Ameren Missouri to externally fund annual OPEB expense and establish a tracker for the difference between the amount of OPEB expense in rates from the previous rate case and the actual expense incurred. The agreement between the parties established the ongoing ratemaking treatment for annual OPEBs under FASB ASC Subtopic 715-60, formerly known as Financial Accounting Standard No. 106 ("FAS 106"). Ameren Missouri's OPEB expense and rate base amounts include direct charged costs as well as allocated costs from Ameren Services. Staff accumulates the difference between the annual funded OPEB cost and the amount included in rates in the tracking mechanism, and has then included that balance in rate base and amortized it over a period of five years as an addition or reduction to OPEB expense.

Staff is proposing to reflect OPEB tracker amounts as reflected in Ameren Missouri's direct case, however, those amounts contain estimates and Staff intends to reflect actual OPEB expense and tracking amounts once that information is available. Staff recommends combining all prior OPEB tracker amounts into one tracker going forward and recommends a five year amortization of the balance as of September 30. Staff will re-examine the amounts in the OPEB tracking mechanism and associated amortization, and reflect actual amounts through the December 31, 2019 cut-off date, in its true-up audit.

ii. Annualization

Staff also annualized OPEB expense to reflect the projected ASC 715-60 cost provided by Ameren Missouri's actuary, Willis Towers Watson. This level will be the amount used in the OPEB tracker, after rates are established in this case, to determine the difference between ASC 715-60 expense included in rates and the amount actually incurred and funded by Ameren Missouri. Staff adjusted test year OPEBs expense to reflect the Plan Year 2019 estimated expense for FAS 106 provided by the actuarial firm Willis Towers Watson for Ameren Missouri's postretirement benefit plan. Staff used this estimated amount to determine the adjustment necessary to ensure the amount collected in rates is sufficient to recover the estimated OPEBs expense provided by Willis Towers Watson.

Staff is accepting Ameren Missouri's estimated OPEB cost as included in its direct filing and provided by Ameren Missouri's actuary, Willis Towers Watson, until Staff can update these estimated amounts with actual Plan Year 2019 costs. Staff will re-examine OPEB expense through the December 31, 2019 cut-off date, during its true-up audit.

Staff Expert/Witness: Antonija Nieto

c. Non-Qualified Pension Expense

In addition to offering qualified pension plan benefits to all of its employees, Ameren has a non-qualified pension plan called the Ameren Supplemental Retirement Plan, which is available to provide certain management employees and retirees with a supplemental benefit when their qualified pension plan benefits are capped in compliance with Internal Revenue Code limitations. The plan provides for annuity and lump sum payment options. The lump sum payments can be significant and the timing of these payments is often difficult to predict. To calculate Staff's normalized non-qualified pension expense, Staff used a three year average of annuity payments and a two year average of lump sum payments, based on the data provided to Staff.

Staff Expert/Witness: Antonija Nieto

5. Short-Term and Long-Term Incentive Compensation

Ameren Missouri offers three types of incentive compensation to its employees: short-term compensation, long-term compensation, and an exceptional performance bonus award. Ameren Missouri's cost of service reflects incentive compensation paid to Ameren Missouri employees as well as a portion of the payouts earned by employees of Ameren Services, which provides various management and administrative functions to Ameren Missouri. Staff normalized the actual incentive compensation payouts earned in plan years 2016, 2017, and 2018, adjusted for amounts assigned to shareholders, to include in Ameren's cost of service.

Staff has relied upon the criteria established by the Commission in the Union Electric Co. Report and Order, Case No. EC-87-114: "At a minimum, an acceptable management performance plan should contain goals that improve existing performance and the benefits of the plan should be ascertainable and reasonably related to the plan."[48] Additionally, in Kansas City Power & Light Co. Report and Order, Case No. ER-2006-0314, the Commission stated that, "because maximizing [earnings per share] could compromise service to ratepayers, such as by reducing customer service or tree-trimming costs, the ratepayers should not have to bear that expense."[49] Based upon Commission guidance, Staff recommends assigning the cost of any incentive compensation that is based on Ameren Missouri achieving earnings related goals to shareholders, who are the primary beneficiaries of earnings related metrics.

a. Short Term Incentive Compensation

Ameren's short term incentive compensation consists of the following plans:

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[48] Staff of the Missouri Public Service Commission v. Union Electric Company, 29 Mo P.S.C. 313, 325 (Dec. 21, 1987).

[49] In the Matter of the Application of Kansas City Power & Light Company, ER-2006-0314, pg. 58 (Dec. 21, 2006).

[50] ** . **

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b. Long Term Incentive Compensation

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[redacted] **

c. Exceptional Performance Bonus

Ameren offers an Exceptional Bonus Performance (EBP) Program. This program is designed to award non-ALT management level employees for outstanding performance. The awards are limited to performance that is considered truly outstanding. Staff does not recommend an adjustment for these awards in the cost of service.

d. Capitalized Incentive Compensation

Staff's assignment of short-term and long-term incentive compensation to shareholders is reflected in Staff's adjustments to rate base and as well as expense. Staff's adjustments to Plant-in-Service and Accumulated Depreciation Reserve remove the shareholder's portion of incentive compensation capitalized from 2002 to current from the rate base. Staff will update its adjustment to rate base through December 31, 2019 in its true-up accounting schedules.

Staff Expert/Witness: Matthew R. Young

F. Other Expenses

1. <u>Rate Case Expenses</u>

<u>Sharing</u>

Rate case expense is a sum of the costs a utility incurs in preparing and filing a rate case. In the instant case, Ameren Missouri has incurred expenses in conjunction with legal counsel, regulatory consulting, and outside consultants. Staff recommends assigning Ameren Missouri's discretionary rate case expense to both ratepayers and shareholders based upon a 50/50 split and full recovery of the depreciation study over five years. This allocation was utilized by the Commission in the recent Spire Missouri Inc. ("Spire Missouri") rate cases, Case Nos. GR-2017-0215 and GR-2017-0216. The total amount of rate case expense is based on a three case average of the three prior Ameren Missouri rate cases.

Staff's recommended cost sharing methodology is based on the following rationale:

1) Rate case expense sharing creates an incentive and eliminates a disincentive on the utility's part to control rate case expenses to reasonable levels;
2) Both ratepayers and shareholders benefit from the rate case process. The ratepayer is receiving safe and adequate service at a just and reasonable rate and the shareholder is receiving an opportunity to receive an adequate return on investment;
3) Ratepayers will continue to pay for the majority of the rate case and regulatory process expenses under any form of sharing mechanism; it is fair and equitable to expect shareholders to carry a reasonable portion of the rate case cost burden; and
4) There is a high probability that some recommendations advocated by utilities through the rate case process will ultimately be found by the Commission to not be in the public interest.

Rate case expense is defined as all incremental costs incurred by a utility directly related to an application to change its general rate levels. These applications are usually initiated by the utility, but rate case expenses may also be incurred as a result of the filing of an earnings complaint case by another party. The largest amounts of rate case expense usually consists of costs associated with use of outside witnesses, consultants, and external attorneys hired by the utility to participate in the rate case process.

Generally, utility management has a high degree of control over rate case expense. Attorneys, consultants, and other services can either be provided by in-house personnel, or can be acquired from an outside party. Some Missouri utilities employ in-house counsel and primarily utilize internal labor to process rate filings; therefore, the use of outside attorneys and consultants in rate proceedings is not always necessary. Rate case expenses subject to a sharing mechanism do not include internal labor costs as those are included in the cost of service through payroll annualization and are not incremental expenses resulting from the rate case process. These costs are fully paid for by ratepayers.

During rate case proceedings and generally in the utility regulatory process, there are four broad categories of costs involved:

1. The cost incurred by the Commission for itself and Staff,
2. The cost incurred by the Office of Public Counsel,
3. The cost incurred by intervenors in Commission proceedings, and
4. The cost incurred by the utility in the regulatory process.

Category 1 is the cost incurred by the Commission. This includes all operating expenses, salaries, wages, and benefits of the Commission and Staff. The Commission's operating expenses are limited to the amount the Missouri General Assembly appropriates for that purpose. An annual amount of operating expenses is assessed by the Commission and paid by the utilities it regulates, and subsequently passed on to ratepayers through rates. The utility is not charged the direct cost of processing its filings or regulating company-specific activities. Ameren Missouri is charged based on an assignment of the Commission's budget to regulation of the electric industry with this amount allocated to Ameren Missouri based on the percentage of its regulated revenues compared to the total electric regulated revenues in Missouri. The utility, in turn, passes this expense to its ratepayers through rate case process. Ultimately customers pay these expenses through rates for utility services.

Category 2 is the cost incurred by the Office of the Public Counsel. Public Counsel represents the public and the interests of utility customers in proceedings before the Commission. An amount for Public Counsel's annual operating expenses is appropriated by the Missouri General Assembly, which is sourced from general revenue paid by Missouri taxpayers.

Category 3 is the cost incurred by intervenors in Commission proceedings. Intervenors may be involved in Commission proceedings for a variety of reasons, but most frequently for reasons related to revenue requirement and rate design issues raised in general proceedings. Some intervening parties represent a large individual utility customer or group of customers. There are several intervenors in this case, some of whom have retained their own counsel and experts to review Ameren Missouri's rate increases/decreases. Each intervenor is responsible for its own rate case expenses.

Category 4 is the cost incurred by the utility in the regulatory and rate setting process. In prior rate cases, the Commission allowed utilities to pass through to ratepayers the full amount of normalized and prudently incurred rate case and regulatory expenses in the rate-setting process. When utilities are allowed to pass full rate case costs on to ratepayers, the utilities are the only rate case participants that do not face an inherent limit in the amount of rate case expense they chose to incur. All of the other participants in the rate case process are limited in the amounts of rate case expense they can incur by the budgetary decisions of General Assembly or by the willingness of the intervening parties to fund rate case activities. With full rate case expense recovery, utilities are free to plan their rate case activities with knowledge that the associated cost of those activities will be passed on to customers.

The practice of allowing utility to recover all, or almost all, of its rate case expense from customers creates an inherent disincentive for the utility to control rate case expense. For all other parties to the rate case process, the funds spent are ultimately limited by a budget and financial restraints. Having significant financial resources to fund rate case activities combined with the ability to pass through the entire amount of the expenses creates what can be perceived as an unfair advantage over all other parties in the rate case process.

Some of a utility's other discretionary expenses are not recovered by the utility in the rate making process. For example, charitable contributions, which are discretionary amounts paid to individuals or organizations for charitable reasons with no direct business benefit, have historically not been included as an expense in the cost of service. While the utility may believe it has a responsibility to be a "good corporate citizen," including charitable contributions in the cost of service would equate to an involuntary contribution by the ratepayer. Cost associated with political activities ("lobbying") are another type of cost routinely disallowed from inclusion in customer rates. These are examples of costs that are not necessary for the provision of safe and adequate utility service in Missouri. While both charitable contributions and lobbying expenses are not recovered by utilities in the cost of service, this fact does not and has not discouraged utilities from participating in such activities. Similarly, while any form of sharing of rate case expense may act as an incentive to control these costs, Auditing Staff has not identified substantial curtailing of incremental rate case expenses by the utilities affected by sharing.

In 2011, the Commission established Case No. AW-2011-0330 to investigate current rules and practices regarding recovery of rate case expense by Missouri utility companies. Both sharing rate case expenses 50/50 and sharing based on ordered rate increase versus requested rate increase were discussed in that report.

The Commission ordered a sharing of KCPL's rate case expenses in its *Report and Order* in Case No. ER-2014-0370:

> The Commission finds that in order to set just and reasonable rates under the facts of this case, the Commission will require KCPL shareholders to cover a portion of KCPL's rate case expense. One method to encourage KCPL to limit its rate case expenditures would be to link KCPL's percentage recovery of rate case expense to the percentage of its rate increase request the Commission finds just and reasonable. The Commission determines that this approach would directly link KCPL's recovery of rate case expense to both the reasonableness of its issue positions and the dollar value sought from customers in this rate case.
>
> The Commission concludes that KCPL should receive rate recovery of its rate case expenses in proportion to the amount of revenue requirement it is granted as a result of this Report and Order, compared to the amount of its revenue requirement rate increase originally requested. This amount should be normalized over three years. The Commission also finds that it is appropriate to require a full allocation to ratepayers of the expenses for KCPL's depreciation study, recovered over five years, because this study is required under Commission rules to be conducted every five years. [Footnotes omitted][51]

The footnote omitted in the above reference further clarifies the Commission's conclusions concerning recovery of rate case expenses:

> It is understood that some of the issues litigated in this case do not directly affect the overall revenue requirement granted by the Commission; but it is also clear that the vast majority of litigated issues do have a direct or indirect impact on the revenue requirement. Accordingly, percentage sharing is a reasonable approach to correlating recovery of rate case expense to the relationship between the amount of litigation that benefited both

[51] *Report and Order*, Case No. ER-2014-0370 page 72.

> ratepayers and shareholders and that which benefited only shareholders[52].

More recently, in the Spire Missouri rate cases, the Commission ordered a 50/50 split of rate case expenses:

> Therefore, it is just and reasonable that the shareholders and the ratepayers, who both benefited from the rate case, share in the rate case expense. The Commission finds that in order to set just and reasonable rates under the specific facts in this case, the Commission will require Spire Missouri shareholders to cover half of the rate case expense and the ratepayers to cover half with the exception of the cost of customer notices and the depreciation study.[53]

Staff examined the facts and circumstances in Ameren Missouri's filing and recommends the Commission order a 50/50 sharing of rate case expense.

Staff divides rate case expense over the period of time it estimates will pass before the utility's next rate case and includes an annual amount in the utility's revenue requirement. Typically, this cost is not "amortized" for ratemaking purposes, and the utility's recovery of this expense in rates is not tracked against its actual rate case expense for consideration of over or under recovery. Staff recommends this cost should be "normalized" by including a normal level in the cost of service. In the current case, Staff recommends a two year normalization of rate case expenses because of the historical frequency of Ameren Missouri rate cases. Staff has also included depreciation study expenses over five years with no sharing, which is the required time interval for Ameren Missouri to conduct depreciation study.

Staff Expert/Witness: Antonija Nieto

<u>Normalization</u>

Staff recommends including a 50% share of a three case average of Ameren Missouri's incurred rate case expense over its previous three general rate cases. Staff's recommendation regarding 50% ratepayer recovery is sponsored by Staff witness, Antonija Nieto.

Ameren Missouri's actual rate case expense incurred over the last three rate cases is summarized in the following table:

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[52] *Report and Order*, Case No. ER-2014-0370 page 72, Footnote 251.

[53] *Report and Order*, Case Nos. GR-2017-0215 and GR-2017-0216, page 52.

Case Number	Actual Rate Case Expense Incurred
ER-2016-0179	$792,211[54]
ER-2014-0258	$2,588,900[55]
ER-2012-0166	$1,484,647[56]
Average	$1,621,919

Staff recommends including a 50% share of the average rate case expense from the most recent three Ameren Missouri rate cases and normalizing that cost level over a two year period. The annual amount of rate case expense included in Staff's recommended revenue requirement is $405,480. This amount would not be subject to true-up for actual expense incurred, or any over or under-recovery recognized.

Staff also made an adjustment for the cost recovery of Ameren Missouri's depreciation study which the Company is required to provide every five years. Staff used the cost of the last depreciation study, $272,254, from Case No. ER-2014-0258, for the expense incurred in this current case. Staff used Ameren Missouri's last depreciation study since it is the last full depreciation study with known costs. Staff's recommendation for cost recovery of the depreciation study is also consistent with Ameren Missouri's recommendation. Staff used an amortization period of five years to determine the revenue requirement impact. This results in an annual amount of $54,451.

Staff Expert/Witness: Jeremy Juliette

2. Dues and Donations

Staff reviewed all membership dues paid and donations made by Ameren Missouri, or allocated to Ameren Missouri from Ameren Corporate and Ameren Services, to various organizations during the test year ending December 31, 2018. Staff proposed adjustments to disallow various dues and donations to organizations that were incurred during the test year

[54] Information received from Company's response to DR 120 in ER-2019-0335.

[55] Information received from Company's response to DR 156 in ER-2016-0179, this amount also excludes the cost of the depreciation study.

[56] Information received from Company's response to DR 305 in ER-2014-0258.

because they are not necessary for the provision of safe and adequate service. Examples of such organizations include Civic Group Inc., Partnership for Downtown St Louis, the Utility Water Act Group, Midwest Ozone Group, Illinois Environmental Group, among others.

As part of its direct testimony, Ameren Missouri witness Laura Moore proposed an adjustment to remove membership fees related to the Utility Air Regulatory Group (UARG) due to this organization disbanding in early 2019. Staff agrees that the UARG membership costs in the test year should be removed; however Staff has also removed all travel costs in the test year related to UARG and the other groups discussed above.

This position is consistent with prior Commission decisions, including *Re: Missouri Public Service, a Division of UtiliCorp United, Inc.,* Case Nos. ER-97-394, et al., Report and Order, 7 Mo.P.S.C.3d 178, 212 (1998), where the Commission stated:

> The Commission has traditionally disallowed donations such as these. The Commission finds nothing in the record to indicate any discernible ratepayer benefit results from the payment of these donations. The Commission agrees with the Staff in that membership in the various Organizations involved in this issue is not necessary for the provision of safe and adequate service to the MPS ratepayers.

Staff Expert/Witness: Paul K. Amenthor

3. **Lobbying**

Staff determined that during the test year some of the organizations, for which Ameren Missouri is a member, provide funding for lobbying activities on behalf of their members. Staff traditionally disallows costs related to lobbying costs recorded above the line and, therefore, has removed any portion of costs related to lobbying from test year expense. Staff also reviewed the calendars and itineraries of certain executives who dedicated time to lobbying activities during the test year and removed a portion of their salaries proportionate to the time spent on those activities. See elsewhere in this cost of service report for further discussion as part of the Payroll issue.

Staff Expert/Witness: Paul K. Amenthor

4. **Edison Electric Institute Dues**

Based on information from the Edison Electric Institute's (EEI's) website (www.eei.org), EEI is an association of investor-owned electric utilities and industrial affiliates. From the information concerning EEI reviewed by the Staff in this case, it is clear that part of EEI's function is to represent the interests of the electric utility industry regarding legislative and regulatory matters on local, state and federal levels. This role includes engagement in lobbying activities by EEI.

In Case No. ER-83-49, *In the Matter of Kansas City Power & Light Co.*, 26 Mo.P.S.C. 104, 155 (1983), the Commission stated its position respecting EEI dues:

> In the Company's last rate case, ER-82-66, the Commission reiterated its position that while there may be some possible benefit to the Company's ratepayers from Company's membership in EEI, the dues would be excluded as an expense until the Company could better quantify the benefit accruing to both the Company's ratepayers and shareholders.

This position has been re-affirmed by the Commission in subsequent rate proceedings.

In *Re: Kansas City Power & Light Co.*, Case Nos. EO-85-185 et al., Report and Order, 28 Mo.P.S.C. (N.S.) 228, 259 (1986), the Commission stated:

> The argument that allocation is not necessary if the benefits lessen the cost of service to the ratepayers by more than the cost of the dues misses the point.
>
> It is not determinative that the quantification of benefits to the ratepayer is greater than the EEI dues themselves. The determining factor is what proportion of those benefits should be allocated to the ratepayer as opposed to the shareholder. It is obvious that the interests of the electric industry are not consistently the same as those of the ratepayers. The ratepayers should not be required to pay the entire amount of EEI dues if there is benefit accruing to the shareholders from EEI membership as well. The Commission finds this to be the case. The Company has been informed in prior rate cases that it must allocate its quantified benefits from membership in EEI. That has not been done herein. Therefore, no portion of EEI dues will be allowed in this case.

Based on the above criteria and the lack of providing quantification of benefits on the part of Ameren Missouri, Staff has disallowed all EEI dues incurred during the test year.

Staff Expert/Witness: Paul K. Amenthor

5. <u>Insurance Expense</u>

Ameren Missouri maintains insurance policies with various third-party insurance providers for the purpose of mitigating potential risk of financial loss. Insurance coverage of Ameren Missouri includes crime, nuclear property, non-nuclear property, nuclear liability, terrorism, boiler and machinery, directors and officers, worker's compensation, fiduciary, marine, and cyber liability. Staff adjusted the expenses associated with each of these policies to take into account the most current premium amounts in order to determine an on-going level of insurance expense. Staff also removed a portion of the marine insurance policy relating to coverage of non-utility property. In addition to the portion of the insurance removed for the non-utility property, Ameren Missouri indicated in response to Staff Data Request No. 0365 that maintenance costs for the non-utility boat were incorrectly charged to Ameren Missouri, Staff has made an adjustment to remove these costs from the test year.

Staff reviewed all insurance policies through December 31, 2018. However, certain insurance contracts that were renewed as of September 1, 2019 were not available for Staff to review at this time. Staff will continue to review this issue through the true-up cutoff.

Staff Expert/Witness: Christopher D. Caldwell

6. Interest on Customer Deposits

Customer deposits represent funds received from Ameren Missouri's customers as a security against potential loss arising from failure to pay for utility service received. Until refunded, customer deposits represent a source of funds available to the Company and are included as an offset to the rate base investment. Generally, interest is calculated on customer deposits and paid to the customers for the use of their money. Customers earn an interest rate equal to the prime rate, as published in the Wall Street Journal, plus an additional one percent, on their deposits. Staff has adjusted expense in the income statement to include interest calculated on Staff's level of customer deposits reflected in rate base. Staff will reexamine the amount of interest on customer deposits to include in rate base as part of its true-up audit.

Staff Expert/Witness: Jane C. Dhority

7. Property Tax Expense

Property taxes are computed using the current assessed property values and property tax rates. Utilities are required to file with the taxing authorities a valuation of utility property on January 1, the beginning of each assessment year. Several months later, the taxing authorities provide the utilities with the assessed values, with due dates by December 31, based on the property tax rates applied to assessed values. Staff has included, in the cost of service, the actual taxes paid by Ameren Missouri as of December 31, 2018, which are based on utility investment as of January

1, 2018. Staff will continue to review this issue as part of its true-up audit through December 31, 2019.

Staff Expert/Witness: Paul K. Amenthor

8. <u>Uncollectible Expense</u>

Uncollectible expense, or “bad debt expense,” is the portion of retail rate revenues that Ameren Missouri is unable to collect from retail customers due to non-payment of bills. After a certain amount of time, these accounts are “written off” by Ameren Missouri and turned over to third party collection agencies for collection efforts. Ameren Missouri is sometimes successful in collecting on accounts that have previously been written off due to the efforts of third party collection agencies. These collections are then netted with the write-offs to determine “net write-offs”.

** ____
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Staff traditionally determines the amount of uncollectible expense to include in rates by analyzing the actual historical net write-offs for a period of time. Staff has proposed an adjustment to normalize the amount of uncollectible expense to include in rates by reflecting the actual net write-offs for the test year ending December 31, 2018.

Additionally, Staff has removed the costs incurred by Ameren Missouri for the ** ____
____
______________________________ **

Staff will continue to review the actual net write-offs incurred by Ameren Missouri through the true-up date of December 31, 2019, and may make further adjustments as part of its true-up audit.

Staff Expert/Witness: Jason Kunst, CPA

9. Advertising Expense

In determining its recommended level of allowed advertising expense for Ameren Missouri, Staff applied the principles in the Commission's decision in Re: Kansas City Power and Light Company, Case Nos. EO-85-185 et al., 28 Mo.P.S.C. (N.S.) 228, 269-71 (1986). In that case, the Commission adopted an approach that classifies advertisements into five categories and provides rate treatment of recovery or disallowance based upon a specific rationale. The five categories of advertisements recognized by the Commission are as follows:

1. General: informational advertising that is useful in the provision of adequate service;
2. Safety: advertising which conveys the ways to safely use electricity and to avoid accidents;
3. Promotional: advertising used to encourage or promote the use of electricity;
4. Institutional: advertising used to improve the company's public image;
5. Political: advertising associated with political issues.

The Commission utilized these categories of advertisements to explain that a utility's revenue requirement should: (1) always include the reasonable and necessary cost of general and safety advertisements; (2) never include the cost of institutional or political advertisements; and (3) include the cost of promotional advertisements only to the extent the utility can provide cost-justification for the advertisements. (Report and Order in KCPL Case Nos. EO-85-185, et al., 28 Mo.P.S.C. (N.S.) 338, 269-271 (April 23, 1986)).

In a prior Ameren Missouri rate case, No. ER-2008-0318, the Commission issued a Report and Order that indicated that the KCPL standard for advertising continued to be useful but also introduced an additional test which essentially required that advertising costs should also be reviewed and analyzed on a campaign basis. Specifically, the Commission's Order in ER-2008-0318 indicated the following:

> If on balance a campaign is acceptable then the cost of individual advertisements within that campaign should be recoverable in rates. If the campaign as a whole is unacceptable under the Commission's standards, then the cost of all advertisements within that larger campaign should be disallowed.

In accordance with the standards set out in KCPL Case Nos. EO-85-185, et al., 28 Mo.P.S.C. (N.S.) 338, 269-271 (April 23, 1986), as well as the Report and Order issued in Case

No. ER-2008-0318, Staff recommends adjustments to exclude the costs of institutional, promotional and political advertising and social media from recovery in rates in the current case. A quantification of Staff's disallowed advertising adjustments as well as the advertisements themselves are included in Appendix 4. General and safety advertising costs that were directed towards benefiting existing customers were not adjusted by Staff. Staff proposed adjustments to remove costs relating to certain advertising items as Staff believes the responses that were received from Ameren Missouri did not provide sufficient information for Staff to justify inclusion in the cost of service calculation. Additionally, Staff reviewed advertising related items that were allocated from the Ameren corporate level. Consistent with the categorization of Ameren Missouri direct advertising, Staff recommends adjustments to remove the allocated advertising costs associated with items found to be institutional, political or promotional in nature.

Staff recognizes the guidance established in Ameren Missouri case number ER-2008-0318; however, Staff's position is that reviewing advertising strictly on a "campaign" basis would not be appropriate in this particular circumstance given the very broad nature of Ameren Missouri's advertising campaign in question. Ameren Missouri has structured this one campaign in such a manner that full recovery of the campaign costs would allow inclusion of costs that would be classified as institutional in nature. The Energy at Work campaign encompasses advertisements that would be clearly allowable under the KCPL Standard, but it also includes cost categories that have consistently not been allowed in the past by the Commission, such as costs associated with items of clothing and the Missouri Dance Team sponsorship. Therefore, Staff's position in this case is that it is appropriate to allow only the costs of the individual ads that qualify for rate recovery under the guidance from the KCPL Standard. However, should the Commission choose to allow the entire amount of the campaign as structured by Ameren Missouri, Staff has also attached a workpaper reflecting costs on the campaign basis.

Staff Expert/Witness: Jane C. Dhority

10. **Callaway Refueling Non-Labor Adjustment**

Ameren Missouri's Callaway nuclear power plant undergoes routine refueling and maintenance outages every eighteen months. During these outages, in addition to the refueling process, Ameren Missouri typically performs maintenance tasks, inspections, and testing that can only be completed when the reactor is offline. The most recent outage of this nature occurred in spring 2019 and is known as "Refuel 23." Ameren Missouri, as part of its direct case, has proposed to average the actual non-labor costs from the last three refuels to establish a normalized level of Callaway refueling expense. This is due to the fact that a refueling did not occur during the test year twelve months ending December 31, 2018. Staff has included two thirds of the average of the non-labor costs from the last three Callaway refuelings, but has removed and normalized any special project costs that occurred during those refuelings so as to build in an appropriate level of ongoing costs in the cost of service. All labor and overtime related costs associated with the Callaway refueling are addressed in Staff's payroll section of the cost of service report.

Staff Expert/Witness: Paul K. Amenthor

11. <u>Nuclear Regulatory Commission ("NRC") Fees</u>

The Nuclear Regulatory Commission is an agency that regulates the operation of nuclear power plants within the United States. Ameren Missouri is subject to NRC's regulation because it owns and operates the Callaway Nuclear power plant, and thus must also pay fees to fund such regulation. There are two components to the NRC Fees: 1) a fixed annual fee, which Ameren Missouri pays in quarterly installments, for the maintenance of its license to operate the Callaway Nuclear facility, and 2) a variable fee, based on the number of hours billed to Ameren Missouri by the NRC for costs such as baseline inspections, resident inspector expenses, and operator licensing activities. Both of these fees are set each year by statute.

Staff annualized the cost of these fees by using the most recent, effective fixed annual fee and per hour fee amounts. Staff multiplied the number of hours billed to Ameren Missouri during the twelve-months ending December 31, 2018 by the most current NRC fee as of August 2019, and then add the fixed annual fee to it. The result of this calculation is the total annualized expense level associated with NRC Fees that Staff has included in its cost of service calculation. Staff will continue to review NRC fees as part of its true-up audit.

Staff Expert/Witness: Christopher D. Caldwell

12. <u>Board of Directors Expense</u>

During the test year ending December 31, 2018, Ameren Missouri was allocated certain expenses related to the activities of the Ameren Corporation Board of Directors. ** ____

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____ **. Ameren

Missouri witness Laura M. Moore proposed an adjustment to remove $651,000 of these expenses as part of Ameren Missouri's direct filing. The costs proposed for removal relate to the ** ____ ____ **.

Staff made an adjustment to remove additional expenses beyond those proposed for removal by Ameren Missouri witness Moore. These additional costs which Staff disallowed are related to the ** ____ ____ **. Staff also disallowed additional amounts related to the use of ** ____________ ** that were not included in the adjustment proposed by Ameren Missouri as part of its direct filing. It is Staff's position that these costs are ** ________________ ** and should not be borne by the ratepayers.

** ____ ____ ____ **.

Staff Expert/Witness: Jason Kunst, CPA

13. <u>Rents and Leases</u>

a. Lease Expense

During the test year, Ameren Missouri incurred lease expense for items such as land, equipment and facilities that are utilized to provide service to ratepayers. Staff performed a review of leases to remove leases that have expired and were not renewed, to include an annualized level of cost associated with new leases, and to annualize the expense for leases with premiums that have increased. Staff has identified specific leases, outlined below, which it believes require additional disclosure as they are primarily responsible for the increase in lease costs.

In August 2019 Ameren Missouri entered into a five year lease for a "swing space" at 800 Market Street in downtown St. Louis. The swing space is necessary as Ameren Missouri is in the process of renovating its corporate headquarters and it needed additional space to house up to ** ___ ** employees and vendors. While Ameren Missouri is a party to the lease, the swing space is currently occupied by ** ____ ____ **. Staff has annualized the lease cost to include the full annual cost of the lease, ** ____ ____ **. ** ________________________ ____

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b. **Intercompany Rental Expense**

Staff has made adjustments to reflect the current level of intercompany rental expense incurred by Ameren Missouri for software and building rentals.

c. **Software Maintenance Expense**

Staff submitted Data Request No. 433 requesting copies of current contracts for software maintenance and licensing agreements, as of this filing Staff has not yet received current copies for some of the agreements. Staff has made adjustments to remove expired software maintenance and licensing agreements that have expired and no current copies of the agreements were provided for review. For agreements that were renewed Staff has made adjustments to reflect the current agreement.

Staff Expert/Witness: Jason Kunst, CPA

14. <u>PSC Assessment</u>

The operations of the Commission are funded by assessments levied upon the utility companies under its jurisdiction. The required funding level from each utility is re-evaluated each year, and a new assessment is billed to each regulated utility on July 1. All of the assessments collected in total are used to meet the Commission's operating costs for regulating those utilities. Staff's PSC assessment adjustment represents the difference between the amount of PSC assessment recorded on Ameren Missouri's electric books during the test year, or the twelve months ending December 31, 2018, and the most recent PSC assessment that went into effect as of July 1, 2019 (fiscal year 2020), which is within the Commission-established true-up cutoff of December 31, 2019. Staff annualized Ameren Missouri's PSC assessment expense by using the most current assessment that was issued on July 1, 2019.

Staff Expert/Witness: Jane C. Dhority

15. <u>Corporate Franchise Tax</u>

Corporate franchise taxes are paid as a cost of doing business within a state. Ameren Missouri has assets in the state of Missouri and in the state of Illinois. The State of Illinois through Senate Bill 689, as of June 5, 2019, will start phasing out the Illinois Franchise Tax for domestic and foreign businesses specifically;

- On or after January 1, 2020 and prior to January 1, 2021 the first $30 in liability is exempt from the franchise tax imposed;
- On or after January 1, 2021 and prior to January 1, 2022 the first $1,000 in liability is exempt;
- On or after January 1, 2022 and prior to January 1, 2023 the first $10,000 in liability is exempt;
- On or after January 1, 2023 and prior to January 1, 2024 the first $100,000 in liability is exempt;
- No payment of any franchise tax will be due and payable on or after January 1, 2024.

Missouri eliminated the corporate franchise tax in January 2016. Staff verified the amount recorded on Ameren Missouri's books is the actual amount paid for 2018 as filed with the state of Illinois and no adjustment is needed.

Staff Expert/Witness: Christopher D. Caldwell

16. <u>Miscellaneous Expenses</u>

Miscellaneous expenses are recorded in the FERC Uniform System of Accounts (USOA) 900 accounts and are expenses that have not been included within lobbying, dues & donations, memberships, advertising, and board of directors' expenses. Staff reviewed these miscellaneous expenses along with the monthly expense reports of Ameren Missouri and Ameren Services officers. Staff removed from the test year costs for items such as contributions to civic groups, sponsorships of community events, and various charges that are not necessary in the provision of safe and adequate service. Staff included half of the test year costs incurred for the Celebrate Ameren diversity and safety event as this event is biannual, and finally, Staff included a three year normalization of some of the large non-recurring expenses that occurred during the test year such as the Ernst and Young professional services related to the call center and the costs incurred for the ** ____________ ** relating to gathering customer segmentation information.

Staff Expert/Witness: Paul K. Amenthor

17. <u>Mark Twain Transmission Costs</u>

In case EA-2017-0345, Ameren Missouri applied for and received a certificate of convenience and necessity ("CCN") to construct transmission lines that would carry 345,000 volts of electricity 96 miles from Palmyra, Missouri through Northeast Missouri to the Iowa border.

The project also includes a 161,000 volt line to interconnect the existing Adair substation to the new Zachary substation. This project was approved by the Missouri Public Service Commission on January 10, 2018 after receiving multiple counties' approval, and the project is being constructed by Ameren Missouri's affiliate, Ameren Transmission Company of Illinois ("ATXI"). The Mark Twain Transmission Project is a MISO multi-value project ("MVP") approved in 2011 that was developed to address grid reliability, relieve congestion, promote renewable energy and meet local load serving needs. ATXI broke ground on the project in May 2018. The Zachary substation and the transmission lines from Kirksville to the Iowa border are now complete. These components went into service on June 30, 2019. ATXI has begun construction on the remaining transmission line segments between Palmyra and Kirksville and the anticipated in-service date is December 2019.

As part of this rate proceeding, Staff must make an adjustment to account for the Commission's Order in a separate case, EO-2011-0128. In that case, the Commission agreed with The Office of the Public Counsel's ("OPC") concern about potential conflicts of interest between Ameren Missouri and its affiliates regarding capacity markets and construction of transmission resources. Under FERC Order 1000, a utility with a certificated service territory, such as Ameren Missouri, no longer has a right of first-refusal to construct transmission projects within its service territory if the reliability projects are subject to regional cost allocation. That means that both Ameren Missouri's affiliate company, ATXI, and other transmission companies not affiliated with Ameren Missouri, may be allowed to develop such projects within Ameren Missouri's service territory. Due to FERC Order 1000 and Ameren Missouri's participation in MISO, ATXI or another Ameren subsidiary could build transmission projects in Missouri, including MVP projects such as the Mark Twain Transmission Project. MISO would allocate a part of the cost of those projects to Ameren Missouri, with the costs ultimately to be recovered from Ameren Missouri's ratepayers.

Another complication is the "filed rate doctrine" which ensures that sellers of wholesale power governed by FERC can recover the costs incurred by their payment of just and reasonable FERC-set rates. When FERC sets a rate between a seller of power and a wholesaler-as-buyer, a state may not exercise its undoubted jurisdiction over retail sales to prevent the wholesaler-as-seller from recovering the costs of paying the FERC-approved rate; such so-called "trapping" of costs is prohibited. This means that Ameren Missouri cannot be denied the ability to recover in rates the amounts that it must pay to transmission owners for FERC-established rates for power transmission, even if those FERC-established transmission rates are higher than would have been approved by the Missouri Public Service Commission. That is also true even if the transmission owner with a FERC-established rate is affiliated with Ameren Missouri. In order for Ameren Missouri to follow the "filed rate doctrine", and for Missouri ratepayers to not be disadvantaged in rates for affiliates using ROE values authorized by FERC that are higher than what has been established by the Missouri Public Service Commission, the Commission ordered in EO-2011-0128, pages 29-30 part S:

> For transmission facilities located in Ameren Missouri's certificated service territory that are constructed by an Ameren affiliate and that are subject to regional cost allocation by the MISO, for ratemaking purposes in Missouri, the costs allocated to Ameren Missouri by the MISO shall be adjusted by an amount equal to the difference between: (i) the annual revenue requirement for such facilities that would have resulted if Ameren Missouri's Commission-authorized ROE and capital structure had been applied and there had been no CWIP (if applicable), or other FERC Transmission Rate Incentives, including Abandoned Plant Recovery, recovery on a current basis instead of capitalizing pre-commercial operations expenses and accelerated depreciation, applied to such facilities and (ii) the annual FERC-authorized revenue requirement for such facilities.

Because Ameren Missouri is being allocated costs for construction of the Mark Twain Transmission Project that ATXI is constructing, Staff has, for purposes of this direct testimony, accepted Ameren Missouri's adjustment to remove the revenue requirement difference between FERC's previously established ROE, 10.82 percent (after taking into account the FERC ROE order from September 28, 2016), and Ameren Missouri's ROE that was established as part of their last general rate case, 9.53 percent. The 10.82% ROE above should change to 10.32% based on the latest FERC decision regarding ROE as of November 21, 2019. The base ROE is now set at 9.88 percent with a 50 basis point adder.

The Mark Twain Transmission Project is ongoing, which means that Ameren Missouri will continue to be billed its allocated portion of costs for a period into the future. Staff will continue to review the amount to be removed and will update that value based on the latest billings from MISO and Ameren Missouri's updated calculation reflecting the new ordered FERC ROE during the true-up phase of this rate case.

Staff Expert/Witness: Lisa M. Ferguson

18. **Netting of Amortizations of Regulatory Assets and Liabilities**

The *Unanimous Stipulation and Agreement* that was approved by the Commission in Ameren Missouri Case No. ER-2016-0179 provided guidelines for the accounting treatment for over and under-recovery of various regulatory assets and liabilities as part of this rate case. This stipulation language is referenced in the "Energy Efficiency Demand Side Management - EE Regulatory Asset and Liability Balances for Rate Base" section of this Report.

Staff has examined all of Ameren Missouri's existing amortizations related to various regulatory assets and liabilities as part of its audit in this rate proceeding. Consistent with the terms of the Commission approved *Unanimous Stipulation and Agreement* referenced above, Staff recommends a "netting" of the following fourteen[57] amortization balances that will exist at the May 30, 2020 operation of law date:

1. Energy Efficiency – DSM "Pre-MEEIA" ER-2010-0036 - With Rate Base Inclusion
2. Energy Efficiency – DSM "Pre-MEEIA" ER-2012-0166 – With Rate Base Inclusion
3. FIN 48 – Case No. ER-2014-0258 – With Rate Base Inclusion
4. FIN 48 – Case No. ER-2016-0179 – No Rate Base Inclusion[58]
5. Energy Efficiency – DSM "Pre-MEEIA" ER-2008-0318 – No Rate Base Inclusion
6. Vegetation Management and Infrastructure Inspections – ER-2014-0258 – No Rate Base Inclusion
7. Vegetation Management and Infrastructure Inspections – ER-2016-0179 – No Rate Base Inclusion
8. Renewable Energy Standard AAO ER-2012-0166 – No Rate Base Inclusion
9. Renewable Energy Standard AAO ER-2014-0258 – No Rate Base Inclusion

[57] Staff recommends that two energy efficiency – DSM amortizations (ER-2011-0028 and ER-2014-0258) be reset over three years outside of the this netting balance, because these two amortizations will not be expired at the May 30, 2020 operation of law date.

[58] Staff recommends no inclusion in rate base for this amortization balance at December 31, 2019 because the amortization will result in an over-recovery by Ameren Missouri at the May 30, 2020 operation of law date.

10. Renewable Energy Standard AAO ER-2016-0179 – No Rate Base Inclusion
11. Solar Rebate Amortization ER-2014-0258 – No Rate Base Inclusion
12. Solar Rebate Amortization ER-2016-0179 – No Rate Base Inclusion
13. Entergy (SPP/MISO) Dispute ER-2016-0179 – No Rate Base Inclusion
14. Over/Under Collection Amortization ER-2016-0179 – No Rate Base Inclusion

By the May 30, 2020 effective date of rates, Ameren Missouri will have over-recovered approximately $17.6 million for these fourteen amortizations collectively. Staff recommends that the total balance of these fourteen "netted" amortizations be returned to ratepayers through an amortization over three years, beginning with the effective date of rates in this rate case. The intended goal of the recommended ratemaking treatment is to simplify the accounting required for all of these various amortizations, as well as to ultimately prevent over-recovery or under-recovery of the costs associated with all of these amortizations that are addressed above.

Staff Expert/Witness: John P. Cassidy

19. Energy Efficiency ("EE") / Demand-Side Management ("DSM") Regulatory Asset Amortization

Ameren Missouri had four existing EE regulatory asset amortizations[59] and five existing EE regulatory asset or liability balances[60] pertaining to deferred pre-MEEIA program costs that were continued or reset as part of Case No. ER-2016-0179. The EE regulatory asset that was first established by the Commission in Case No. ER-2010-0036 was not assigned a continued amortization as part of Case No. ER-2016-0179 because it was scheduled to expire on the anticipated May 28, 2017 operation of law date that was established in the 2016 rate case. When the 2016 rate case was globally settled and rates were implemented on April 1, 2017 this resulted in a two month unrecovered regulatory asset balance that still exists. The following chart summarizes the existing EE DSM regulatory assets and (liability) balances quantified as of the May 30, 2020, operation of law date for this rate case:

[59] The four regulatory asset amortizations are listed on Exhibit C as part of the Unanimous Stipulation and Agreement that was approved by the Commission in Case No.: ER-2016-0179.

[60] The five existing regulatory asset and liability balances are listed on Exhibit D as part of the Unanimous Stipulation and Agreement approved by the Commission in the 2016 rate case.

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Staff recommends that three of the five existing EE balances be included in the netting of regulatory assets and liabilities that is discussed in another section in this Report.[61] Consistent with the netting of amortizations, Staff has included a netting of two EE regulatory balances

[61] Specifically, the regulatory asset and liabilities balances resulting from Case Nos.: ER-2008-0318, ER-2010-0036 and ER-2012-0166 resulted in a ** ________ ** total over-collection from Ameren Missouri electric ratepayers at May 30, 2020. Staff recommends that the regulatory asset balances resulting from Case Nos.: ER-2011-0028 and ER-2014-0258, ** ________ ** and ** ________ ** respectively, be excluded from the netting of regulatory assets and liabilities since these two amortizations did not expire prior to May 30, 2020. Staff recommends that these two regulatory assets be reset and separately amortized over three years.

at December 31, 2019, totaling to ** ________ ** as an offset to rate base.[62] Staff also has included the regulatory asset balances at December 31, 2019 associated with Case No. ER-2011-0028 and ER-2014-0258, ** ________ ** and ** ________ ** respectively as rate base additions. Please refer to the DSM Costs for Energy Efficiency – Rate Base section found elsewhere in this Report for additional discussion regarding Staff's proposed rate base treatment for all of the EE DSM regulatory asset and liability balances.

Staff Expert/Witness: John P. Cassidy

20. Renewable Energy Standard

The Missouri Renewable Energy Standard ("RES")[63] was enacted as a voter initiative petition in November 2008. Provisions of the resulting statute and regulations require Ameren Missouri (and the other investor-owned utilities) to meet certain requirements regarding the use of renewable energy while not exceeding the one percent (1%) retail rate impact limit. The investor-owned utilities demonstrate compliance by retiring Renewable Energy Credits ("REC") in the commission-approved tracking system, the North American Renewables ("NAR") registry. A REC represents that 1 MWh of electricity has been generated from a renewable energy resource. A REC expires three years from the date the electricity associated with that REC was generated; however, a REC may be used for compliance in the calendar year it expired as long as it was valid at any time in that year.[64] When the investor-owned utilities retire a REC it means that action has been taken to remove the REC from circulation within the NAR system; in other words, it no longer can be traded, sold, or transferred to another party.

The RES required Ameren Missouri to provide a rebate[65] to its retail customers for installation of solar electric systems on their premises. Ameren Missouri filed a request to suspend solar rebate payments on October 11, 2013 in Case No. ET-2014-0085. The Commission approved a non-unanimous stipulation and agreement, by an order effective November 23, 2013, which set

[62] The ** ________ ** rate base offset is comprised of a netting of EE balances resulting from Ameren Missouri Case Nos.: ER-2010-0036 and ER-2012-0166. The EE regulatory asset balance that was established in Ameren Missouri Case No. ER-2008-0318 was not allowed any rate base treatment.

[63] Mo. Rev. Stat. § 393.1020 (2000).

[64] 20 CSR 4240-20.100(1)(M) and 20 CSR 4240-20.100(2)(B).

[65] Currently, the solar rebate is $0.25 per watt for systems becoming operational between June 30, 2019 and December 31, 2023.

a specified level[66] for solar rebate payments.[67] The Commission approved a tariff, effective September 19, 2014, allowing Ameren Missouri to suspend payment of solar rebate payments in 2014 and beyond once they reach the specified level.[68] Ameren Missouri paid out the specified level of solar rebate payments as of ** ___________ . ** Section 393.1670 RSMo (effective August 28, 2018) included a requirement for Ameren Missouri to spend $28 million on solar rebates in the aggregate from 2019 through 2023.

Ameren Missouri was granted a Renewable Energy Standard Rate Adjustment Mechanism ("RESRAM") in December 2018.[69] Existing RES costs were excluded from the RESRAM but all new RES compliance costs and benefits, including new REC purchases and solar rebates authorized under Section 393.1670 RSMo will flow through the RESRAM.[70]

For calendar years 2018 through 2020, the RES requires Ameren Missouri to generate or purchase ten percent (10%) of its retail sales using renewable energy resources.[71] Ameren Missouri must derive two percent (2%) of the renewable energy requirement from solar energy.[72] RECs can be banked for three (3) years and utilized for future compliance purposes.[73] Ameren Missouri files annually a RES Compliance Plan and RES Compliance Report.[74] Each RES Compliance Plan provides information regarding the utility's plan for the current calendar year and the subsequent two (2) calendar years. The RES Compliance Report is a status report on the utility's compliance for the preceding calendar year. For the 2018 calendar year, Ameren Missouri retired RECs from Keokuk Hydro-electric Generation Station, the Pioneer Prairie wind PPA, Maryland Heights Renewable Energy Center, and solar RECs ("S-RECs") for the non-solar requirement. Ameren Missouri also retired S-RECs from its customer-generators and the O'Fallon Renewable Energy

[66] $91.9 million incurred subsequent to July 31, 2012.

[67] ET-2014-0085.

[68] ET-2014-0350.

[69] EA-2018-0202.

[70] EA-2018-0202, *Third Stipulation and Agreement*

[71] Mo. Rev. Stat. § 393.1030.1(1) (2000).

[72] Mo. Rev. Stat. § 393.1030.1 (2000).

[73] "An unused credit may exist for up to three years from the date of its creation." Mo. Rev. Stat. § 393.1030.2 (2000).

[74] Ameren Missouri filed its RES Plan for 2019-2021 and its RES Report for calendar year 2018 in EO-2019-0320.

Center for the solar requirement.[75] Ameren Missouri's next RES Compliance Report (for 2019 compliance) and RES Compliance Plan (2020-2023) is due in April 2020.

Ameren Missouri's RES Compliance Plan for 2019-2021 includes the addition of between 700-800 MW of wind generation to comply with the RES requirement of 15% of total retail electric sales to Missouri customers in 2021 and beyond. Ameren Missouri was recently granted a Certificate of Convenience and Necessity ("CCN") for the High Prairie Wind Farm (approximately 400 MW)[76] and the Outlaw Wind Farm (approximately 299 MW).[77,78]

** ____

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________ . ** RECs not used may be banked for compliance in following years.

Staff Expert/Witness: Claire M. Eubanks, P.E.

a. <u>Renewable Energy Standard Costs</u>

Renewable Energy Standard ("RES") related expense consists of items such as customer solar renewable energy credits ("RECs"), non-customer solar RECs, wind RECs and Maryland Heights Energy Center fuel costs. For purposes of its direct filing, Staff has reflected approximately $9.3 million for RES related expense in the Staff's cost of service calculation which includes an annualized cost of methane fuel used to power its Maryland Heights Energy Center. Staff will analyze actual RES spending through the December 31, 2019, true-up cut-off and may recommend further adjustment to this level as a result of the true-up audit.

Staff Expert/Witness: John P. Cassidy

b. <u>Maryland Heights</u>

The Maryland Heights Renewable Energy Center began operations in 2012 and is an 8MW facility where methane gas from the nearby landfill is used to power combustion turbine generators. Methane gas is considered a renewable resource for meeting Ameren Missouri's required RES requirement. As such, the cost of the methane gas that Ameren Missouri procures

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[75] EO-2019-320, *Renewable Energy Standard Compliance Report 2018*, pg 9.

[76] EA-2018-0202.

[77] EA-2019-0181.

[78] Ameren Missouri was also granted a CCN for the Brickyard Hills wind farm; however, the project was terminated in July 2019.

for operations is included in rates through its Renewable Energy Standard Accounting Authority Order (RES AAO) deferral. This cost will remain in the RES AAO per the stipulation & agreement between the parties as ordered by the Commission in case EA-2018-0202. Staff has annualized the cost for methane gas for inclusion in the cost of service by pricing out the actual volumes experienced in 2016 by the most recent cost per MMBtu of methane gas. Staff utilized the volumes experienced in 2016 as that is the last year that normal volumes were utilized. For further discussion on this issue, please see the non-labor power plant maintenance testimony of Staff witness Paul K. Amenthor. This amount has been provided to Staff witness John P. Cassidy for inclusion in the RES AAO calculation. Staff will review this issue again as part of its true-up audit.

Staff Expert/Witness: Lisa M. Ferguson

c. <u>Renewable Energy Standard AAO Amortization</u>

As part of Case No. ER-2016-0179, the Commission established a base level of approximately $16.5 million for Ameren Missouri's Renewable Energy Standard Compliance Cost Tracker. As part of its audit in this rate proceeding Staff examined all RES costs incurred by Ameren Missouri during the period covering January 1, 2017, through June 30, 2019[79] and that are eligible for deferral and recovery in the existing RES AAO regulatory deferral rate mechanism. Based upon this examination, Staff determined that a regulatory liability balance of approximately $5.9 million exists.[80] Staff has included a three-year amortization of this regulatory liability balance in the cost of service calculation, with no rate base treatment for the unamortized balance. This ratemaking treatment is consistent with the Commission's decision that established the ongoing AAO treatment for deferred RES costs in Ameren Missouri Case No. ER-2012-0166. Staff has continued to follow the Commission's guidance from that Order concerning all RES

[79] SB 564 and the terms of the Stipulation and Agreement approved by the Commission in Ameren Missouri Case No. EA-2018-0202 specify how Ameren Missouri is required to seek recovery of certain RES costs going forward under the RESRAM rate mechanism. As part of Case No. ER-2020-0086, Ameren Missouri is seeking recovery of certain renewable energy standard costs that were incurred during the period covering January 1, 2019 through July 31, 2019 through the RESRAM rate mechanism and that are not eligible for recovery through the existing RES AAO regulatory deferral mechanism.

[80] Based upon actual costs through June 30, 2019 plus cost estimates for the period covering July 2019 through December 2019.

AAO regulatory asset and liability balances.[81] Staff will examine all actual RES costs eligible for recovery through the RES AAO through December 31, 2019 and may recommend further adjustments as part of its true-up audit in this rate proceeding.

Staff Expert/Witness: John P. Cassidy

d. **Renewable Energy Standard Rate Adjustment Mechanism (RESRAM)**

Ameren Missouri's RESRAM became effective on January 1, 2019. The RESRAM tariff states,

> RESRAM Rate Adjustment Filings: The Company shall adjust its RESRAM Rate by filing a revised RESRAM Rate Schedule (1) no later than 60 days after the end of each AP to take effect on the first day of February following each AP, (2) concurrent with rate schedules effectuating a general rate proceeding as applicable to reset the RESRAM Rate and to update Base Amount unless otherwise ordered, and (3) in compliance with any Commission order as applicable to incorporate an Required Offset Amount ("ROA") as the result of a Commission order.

Ameren Missouri's direct filed test year included the 12 months ending December 2018 with projected adjustments through December 2019. However, Ameren Missouri did not address the RESRAM tariff or contemplate incorporating RESRAM costs into base rates in the case. Staff's direct filed revenue requirement includes the 12 months ending June 30, 2019, which includes approximately 6 months of the RESRAM effective period. Given that Ameren Missouri's RESRAM only became effective on January 1 of this year, at this time Staff does not have the information to determine an appropriate level of RESRAM costs to be included in base rates. Staff is not recommending a RESRAM base amount be reset in the revenue requirement in its direct filed Cost of Service Report in this case, but will make an adjustment to rebase the RESRAM in its true up filing once it has 12 months' worth of data.

Staff Expert/Witness: Robin Kliethermes

[81] Staff has netted all three prior RES AAO amortizations that were established in Case Nos.: ER-2012-0166, ER-2014-0258 and ER-2016-0179. These amortizations are included in the netting of regulatory assets and liabilities section of this Report.

21. <u>Solar Rebates from Case No. ET-2014-0085</u>

The Commission approved a *Non-Unanimous Stipulation and Agreement* in Ameren Missouri Case No. ET-2014-0085, allowing Ameren Missouri to record solar rebate spending up to $91.9 million, plus a 10% cost adder account for "carrying costs," in a regulatory asset to be considered for recovery in subsequent general rate cases, utilizing a three-year amortization. The Stipulation also stated that if Ameren Missouri had not paid $91.9 million by the completion of its next rate case, then one or more regulatory assets shall be subsequently reflected on Ameren Missouri's books to record additional solar rebate payments made, equaling the difference between the amount of solar rebate payments deferred in the initial regulatory asset and $91.9 million, plus a 10% adder. Ameren Missouri cannot defer in the regulatory asset balance any solar rebate amounts paid that are in excess of the $91.9 million cap. Finally, once the $91.9 million cap is met, Ameren Missouri is required to track and to produce a true-up of all differences and between the normalized billing units used to calculate rates in a general rate proceeding where some or all of the balance of the regulatory asset will be included in rates through a three year amortization and the actual billing units associated with cost recovery, among other factors,[82] once Ameren Missouri had paid solar rebates totaling $91.9 million. This tracking and true-up, shall be addressed in the first general rate case occurring after the general rate case when the last dollar of the $91.9 million balance of solar rebates has been paid out to customers. As of September 30, 2019 Ameren Missouri has paid out $91.9 million of solar rebates to customers.

a. Solar Rebate Regulatory Asset Balance Established in Case No. ER-2014-0258

In Ameren Missouri rate case, Case No. ER-2014-0258, Staff determined that through the December 31, 2014, true-up cut-off in that case Ameren Missouri deferred and accumulated approximately $88.1 million for solar rebates in a regulatory asset account. Coupled with the 10% cost adder of approximately $8.8 million, Ameren Missouri was eligible to seek recovery of approximately $96.9 million over a three-year amortization period. Therefore, in the 2014 rate case, Ameren Missouri received approximately $32.3 million annually in amortization expense in the cost-of-service calculation, consistent with the terms of the *Non-Unanimous*

[82] Tracking and true-up is specifically addressed in subparagraph e. found on pages 6 through 7 in the Nonunanimous Stipulation and Agreement approved by the Commission in Ameren Missouri Case No. ET-2014-0085.

Stipulation and Agreement in Case No. ET-2014-0085. This three-year amortization began on May 30, 2015, and continued until April 1, 2017, the effective date of new rates in Ameren Missouri's most recently completed rate case, Case No. ER-2016-0179. Beginning April 1, 2017 Ameren Missouri received recovery through an annual amortization of approximately $16.16 million. By the May 30, 2020 operation of law date in this rate case, Ameren Missouri will have an over-collection balance that will be collected in rates for this particular solar rebate amortization of approximately $13.5 million. Staff recommends that this $13.5 million over-collection balance be included in a netting of over and under collected regulatory asset and liability balances. Please refer to the section of the report that describes this netting process.

b. Solar Rebate Regulatory Asset Balance Established in Case No. ER-2016-0179

Staff determined that Ameren Missouri had deferred and accumulated approximately $3.4 million for solar rebates in a regulatory asset account for the period covering January 1, 2015, (the first day following the true-up cut-off established by the Commission in Case No ER-2014-0258) through December 31, 2016. Coupled with the 10% cost adder of approximately of approximately $339,829, Ameren Missouri was eligible to seek recovery of approximately $3.7 million over a three year amortization period, beginning with the April 1, 2017, effective date of rates in Case No. ER-2016-0179. As part of the 2016 rate case, Staff included approximately $1.25 million in amortization expense in the cost-of-service calculation to be consistent with the terms of the stipulation approved by the Commission in Case No. ET-2014-0085. By the May 30, 2020 operation of law date in this rate case, Ameren Missouri will also have an over-collection balance of approximately $207,673. Staff recommends that this $207,673 over-collection balance be included in a netting of over and under collected regulatory asset and liability balances. Please refer to the section of the report that describes this netting process.

c. Solar Rebate Regulatory Asset Balance established in Case No. ER-2019-0335

Staff determined that Ameren Missouri has deferred and accumulated approximately $367,933 for solar rebate payments in a regulatory asset account for the period covering January 1, 2017, (the first day following the true-up cut-off established by the Commission in Case No.: ER-2016-0179) through September 30, 2019. Coupled with the 10% cost adder of approximately of approximately $36,793, Ameren Missouri is eligible to seek recovery of approximately $404,726 over a three year amortization period, beginning with the May 30, 2020, effective date of rates in Case No. ER-2019-0335. Staff has verified that Ameren Missouri has now paid $91.9 million of solar rebates and that it has not attempted seek recovery in the deferred regulatory asset for any amount that exceeds the $91.9 million solar rebate cap agreed to in Case No.: ET-2014-0085. Finally, Staff found no evidence of any imprudently incurred solar rebate payments.

d. Over or Under-Collection of Solar Rebates

Since Ameren Missouri has now paid a total of $91.9 million of solar rebates to its customers according to the terms and conditions of the stipulation in Case No. ET-2014-0085, Ameren Missouri is required to track and provide a true-up as part of its next general rate case as outlined in the stipulation in subparagraph e. as follows:

> Because of the likely difference between the normalized billing units used to calculate rates in a general rate proceeding where some or all of the balance of the regulatory asset provided for in subparagraph d will be included in rates through the three-year amortization and actual billing units associated with cost recovery, and also because of the likely difference between the three year amortization period and the actual time interval between when rates are set in rate cases, a true-up will be required to reflect whether the sums billed to customers through the amortization are greater or less than the sums that it was assumed would be billed to customers based on the billing units and amortization period used to calculate rates in the general rate proceeding. Because of this, Ameren Missouri shall track such differences. In the first general rate case occurring after the general rate case when the last dollar of the balance of the regulatory asset provided for in subparagraph d was included in rates, the difference shall be included as either a positive or negative amortization in rates over a three-year period. It is the intent of the Signatories that Ameren Missouri shall ultimately bill customers for an amount as close as reasonably practicable (separately for the residential and non-residential customer classes) to the total solar rebates paid plus the additional amount provided for in subparagraph d above.

Staff will examine this issue as part of Ameren Missouri's next general rate case.

Staff Expert/Witness: John P. Cassidy

22. <u>Callaway License Extension and Regulatory Asset Amortization</u>

On March 6, 2015, the Nuclear Regulatory Commission ("NRC") issued a license extension that will allow Ameren Missouri to continue to operate its Callaway Nuclear Power

Plant through 2044. Ameren Missouri recorded the costs associated with obtaining the Callaway license extension from the NRC in FERC plant account 302, Franchises and Consents, soon after the NRC issued the license extension. None of these costs were included in the cost of service calculation in Ameren Missouri rate case ER-2014-0258. Instead, as part of a Commission approved *Amended Nonunanimous Stipulation And Agreement Regarding Certain Revenue Requirement Issues,* in that case a specific accounting procedure was developed to address these costs as follows:

> …Ameren Missouri should be granted accounting authority to defer carrying costs (at its short-term interest rate) and amortization accruals related to the cost of the Callaway relicensing request balance at the effective date of the Report and Order in this case. The parties agree this accounting authority should be effective until rates are implemented in Ameren Missouri's next rate case. The parties agree Ameren Missouri should be allowed to recover the deferred costs beginning with the first rate case after the license extension is issued consistent with the authority granted in this case. Finally, the parties agree the costs should be amortized over the life of the license extension and that the deferred amounts should be included in rate base in a regulatory asset account in the first rate case after the license extension is issued.

This approved stipulation allowed Ameren Missouri to defer and amortize certain items pertaining to its completed efforts to extend Callaway's operating license through 2044. In Case No. ER-2016-0179, Staff reflected an appropriate amortization of these costs that were recorded through the December 31, 2016 true-up cutoff that was established by the Commission in that general rate case. This amortization was included in the cost of service calculation in the prior rate case and the recovery period was synchronized with the remaining life of the Callaway license, which is effective through October 2044. This amortization required no adjustment. As part of this rate case, and according to the terms of the stipulation quoted above, Ameren Missouri incurred approximately $411,052 of short term interest rate carrying costs and amortization accruals during the period covering January 1, 2017 through March 31, 2017.[83] As part of this rate case, Staff included an amortization of this additional Callaway Life Extension regulatory asset amount in the cost of service calculation over a recovery period that is synchronized with the remaining life of the Callaway license, which is effective through October 2044.

[83] The Commission authorized new permanent electric rates for Ameren Missouri that went into effect on April 1, 2017.

Staff Expert/Witness: John P. Cassidy

23. Sioux Construction Accounting

Ameren Missouri began construction of the Sioux Wet Flue Gas Desulfurization Project ("scrubbers") during April 2005 and the project was declared in service in November 2010. As part of Case No. ER-2010-0036, Ameren Missouri was granted construction accounting as part of the Commission ordered First Non-Unanimous Stipulation and Agreement. Ameren Missouri was allowed to defer the depreciation expense (but no other Sioux scrubber-related expense) of the Sioux Scrubbers until the Sioux scrubbers were booked to plant in-service. As a result, two separate construction accounting deferrals were amortized over 22 years and 20 years, respectively, in prior rate case proceedings. In this current case, Staff reviewed the test year amortization expense levels and verified that Ameren Missouri is correctly amortizing these two amounts in accordance with the Stipulation.

Staff Expert/Witness: Christopher D. Caldwell

24. FASB Interpretation No. 48 ("FIN 48") Amortization

Generally Accepted Accounting Principles ("GAAP") provide rules for recording the effect of tax deferrals resulting from temporary book-tax differences in Financial Accounting Standards Board Interpretation No. 48 ("FIN 48") and Statement of Financial Accounting Standard 109 ("SFAS 109"). FIN 48 (mostly codified at ASC 740-10) is an official interpretation of United States accounting rules that requires businesses to analyze and disclose income tax risks. During the course of Ameren Missouri's tax filings with the Internal Revenue Service ("IRS"), certain amounts will be proposed for inclusion related to uncertain tax positions that Ameren Missouri has taken with respect to temporary book-tax differences. At the time they file their taxes, Ameren Missouri will not know whether the uncertain tax positions will be allowed or disallowed until the completion of the audits of its tax returns by the IRS. When a business takes uncertain tax positions, which may not be sustained by tax authorities, those risks must be disclosed for financial reporting purposes. Income tax expense, just as any other expense, must be generally recognized when income is earned. Credits or other items that reduce this tax are recognized only if it is more likely than not that the reductions will be sustained by tax authorities.

Per the 2011 Stipulation and Agreement[84] in Ameren Missouri Case No. ER-2011-0028, in order to resolve ratemaking issues involving Ameren Missouri's FIN 48 liability balance for that case, reflecting uncertain tax positions, it was agreed that the Company would establish a tracking mechanism to account for the time value of the differences, if any, between the amounts accrued to reflect uncertain tax positions in the FIN 48 liability balance, and the amounts that the Company actually must pay pursuant to final, unappealable resolution of the uncertain tax positions based on final settlements with the Internal Revenue Service ("IRS") or final, unappealable rulings from administrative agencies or courts to which IRS audits are appealed ("Final Resolution"). If the IRS determined that the uncertain tax position was allowable, then Ameren Missouri would receive a settlement based on the amount that was filed as uncertain.

** ** Several of these past amortizations have been reset in previous rate cases.

Ameren Missouri has indicated to Staff that there are no outstanding uncertain tax positions at this time. Ameren Missouri applied to the IRS for "continual audit" treatment/status, which allows Ameren Missouri to receive a decision from the IRS about uncertain tax positions prior to filing its yearly tax return. As such, Staff has calculated the over/under balances as of May 2020 as well as removed the test year amortizations regarding the FIN 48, and have provided these balances to Staff witness John P. Cassidy to be included in the overall netting of over/under collected amortizations.

All unamortized balances for the FIN 48 tax settlements have been included in rate base with the exception of the unamortized balance pertaining to the 2012 tax settlement. Please refer to the Section of the Report entitled Netting of Regulatory Assets and Liabilities for Rate Base sponsored by Staff witness John Cassidy.

Staff Expert/Witness: Lisa M. Ferguson

25. Vegetation Management & Infrastructure Inspections

Prior to Ameren Missouri Case No. ER-2014-0258, the rate treatment for the costs related to the Vegetation Management and Infrastructure Inspection Program included three different

[84] The Commission approved the *Nonunanimous Stipulation and Agreement Regarding Tax Issues* in an Order effective on June 1, 2011.

components: (1) the ongoing annual expense level, (2) the current results of the tracker mechanism, and (3) the amortizations related to the reconciliations of prior tracked periods. The Commission determined in Case No. ER-2014-0258 that the tracker which was approved in Case No. ER-2008-0318 was no longer necessary as sufficient historical data existed to determine an annualized/normalized level of these costs going forward. In the current case, Staff has included an annualized level of costs for the Vegetation Management and Infrastructure Inspection Programs and addressed the remaining amortizations.

a. Annual Expense

During the course of its review, Staff discovered that Ameren Missouri has initiated an **

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____ **, the historical non-labor vegetation management costs reviewed by Staff show that the cost is decreasing over time, therefore Staff is proposing to include the actual costs for the 12 months ending September 30, 2019, for vegetation management.

Staff has reviewed the historical costs for the infrastructure inspection program and has made an adjustment to reflect a normalized level based on the 12 months ending September 30, 2019.

Staff will continue to examine the actual costs for each of the programs through the end of the true-up period of December 31, 2019, and make further adjustments if necessary based upon updated information.

b. Amortizations

Ameren Missouri had two outstanding amortizations relating to the previous vegetation management and infrastructure inspection tracker which were discontinued in ER-2014-0258: (1) the remainder of the unamortized regulatory asset associated with the tracker prior to December 31, 2014, and (2) a regulatory liability for the tracker balance that occurred between January 1, 2015 and May 30, 2015. As part of the Unanimous Stipulation and Agreement approved by the Commission in ER-2016-0179, these amounts were to be amortized through July 2019 and March 2020, respectively. Staff has removed the test year amounts associated with these amortizations as they are scheduled to be fully amortized before the operation of law date in the current case. I am sponsoring and have provided the amount of the regulatory over collection for the regulatory asset and liability above to be included in the netting of over/under collection of regulatory assets and liabilities as sponsored by Staff witness John Cassidy.

Staff Expert/Witness: Jason Kunst, CPA

26. Storm Restoration Costs

a. Annualization

In order to determine the ongoing level of non-labor storm restoration expenses, Staff has reviewed historical non-labor major storm related expenses for Ameren Missouri. Staff is recommending inclusion of a normalized level of major storm restoration expense based upon a five year average ending September 30, 2019. As part of its true-up audit, Staff will continue to review the actual non-labor major storm costs through December 31, 2019.

b. Amortization

In Ameren Missouri Case No. ER-2012-0166, the Commission approved Ameren Missouri's request to implement a two-way tracking mechanism for its non-labor major storm restoration costs. As part of the approval, a base level of expected major storm restoration costs was established and included in Ameren Missouri's revenue requirement. The actual non-labor storm costs incurred by Ameren Missouri were tracked against the base level to create a regulatory asset if the costs exceeded the base level or a regulatory liability if the costs were below the base level. The resulting regulatory asset or liability would then be amortized as part of the next general rate case. In Ameren Missouri Case No. ER-2014-0258, the Commission determined that the storm tracker was no longer appropriate.

There are two outstanding regulatory assets that were being amortized from the tracker that was previously authorized. The regulatory asset established in ER-2014-0258 is being amortized through May 31, 2020, and is scheduled to be fully amortized by the operation of law date, therefore the test year amortization expense has been removed from the revenue requirement calculation. However, if rates were to be implemented early in the current case for any reason, it may be necessary to make an adjustment for the under recovery of the asset. The regulatory asset that was established as part of Case No. ER-2016-0179, will continue to be amortized through March 31, 2022, and no adjustment to the test year amortization expense is necessary.

Staff Expert/Witness: Jason Kunst, CPA

27. Amortization of Excess ADIT

The Tax Cuts and Jobs Act was signed into law in December 2017, and as part of that a reduction in the corporate tax rate required the revaluation of accumulated tax timing differences that were previously valued at 35% to be revalued at 21%. This excess deferred tax value is required to be returned to customers based on whether the excess deferred taxes are protected or unprotected. Protected excess ADIT is the portion associated with accelerated depreciation tax timing differences that must be "normalized" for rate making purposes and where the flow back of excess ADIT cannot be returned to customers any more quickly than over the estimated life of the assets that gave rise to the ADIT. Unprotected excess ADIT is the portion of the deferred tax reserve that resulted from normalization treatment of tax timing differences other than accelerated depreciation. As part of the Stipulation & Agreement in case ER-2018-0362, the Parties agreed to track the protected excess ADIT and return that using the Average Rate Assumption Method (ARAM) as described above and return the unprotected ADIT over a 10 year period.

Staff recommends inclusion of the amortization of the return of excess ADIT in rates for Ameren Missouri electric customers as part of restating rates in this rate proceeding.

Staff Expert/Witness: Lisa M. Ferguson

28. Nuclear Safety Study Costs Amortization

In Case No. ER-2014-0258, a ten-year amortization of costs associated with a mandatory study to address nuclear power safety in the aftermath of the Fukushima incident was first included in Ameren Missouri's rates. A full year of amortization expense was included in the cost of service calculation in Ameren Missouri's previous rate case, ER-2016-0179. The amortization began on May 30, 2015, the effective date of rates established in Ameren Missouri Case No. ER-2014-0258 and is scheduled to expire on May 29, 2025. In this case, during the test year ending December 31, 2018, Ameren Missouri recorded a full year of amortization expense associated with this nuclear power safety study, therefore Staff proposes no adjustment to this amortization as part of this general rate proceeding.

Staff Expert/Witness: John P. Cassidy

29. Plant in Service Accounting Amortization

On June 1, 2018, Senate Bill 564 (SB 564) was signed into law. This recently approved legislation allows investor owned electric utilities in the state of Missouri to elect use of plant-in-service accounting (PISA) which is a special accounting treatment applied to all plant additions, except new coal, nuclear or natural gas generating plant and any capital additions necessary to provide service to new electric utility customers. PISA allows electric utilities the option to defer up to eighty-five percent of all depreciation expense associated with qualifying electric plant recorded to plant-in-service on the utility's books as well as a rate of return that is applied to the net qualifying plant balance as a regulatory asset commencing on or after the date the utility elects to use PISA. In each general rate case after election of PISA, the balance of the regulatory asset must be included in the cost of service calculation as an amortization over twenty years and the unamortized balance is also included in rate base and allowed to earn a return on that existing balance. Following election of PISA, SB 564 also requires that electric utilities file a five year capital investment plan (or budget) every February 28th before the Commission with specific capital investments detailed within the plan. In addition, every February 28th beginning with the year following the submission of the first five year capital investment plan, the utility must also submit a report detailing actual capital investments made during the prior year. The law also specifies eligible plant items and requirements for additions related to grid modernization projects. At least 25% of the investment plan must be for grid modernization projects. PISA remains in effect until December 31, 2023 until such time that the electric corporation requests and the Commission approves another five year continuation of PISA deferral accounting prior to that cutoff date. If continued past 2023, PISA would then expire on December 31, 2028. Any existing balances that still remained at the time of expiration would continue to be amortized and recovered through rates by the electric utility.

On September 1, 2018, Ameren Missouri filed its election to use PISA as part of Case No. EO-2019-0044. On February 14, 2019, Ameren Missouri submitted a five year capital investment plan in compliance with PISA requirements as part of Case No. EO-2019-0044. This five year capital investment plan detailed grid modernization project expenditures that exceeded 25% of the planned capital expenditure for each year covering January 1, 2019 through December 31, 2023.

Starting on September 1, 2018, Ameren Missouri established a regulatory asset account on its books and has recorded eighty-five percent of depreciation expense on eligible plant additions as well as a return that was applied to the net qualifying plant balance. As part of this rate case, Staff has examined the amounts included in Ameren Missouri's deferred regulatory asset account during the period covering September 1, 2018 through September 30, 2019. In addition, Staff met with Ameren Missouri officials on October 30, 2019 to discuss how it determined and accounted for all PISA eligible amounts as well as all PISA calculations and amounts that were included in the proposed deferred regulatory asset balance. Staff determined that the deferred PISA amounts comply with the new law and therefore Staff, as part of its direct testimony filing, has included an appropriate level of amortization expense in Staff's cost of service calculation through use of a twenty year amortization of the September 30, 2019 regulatory asset balance with an inclusion of an estimated level through December 31, 2019. Staff also included the September 30, 2019[85] unamortized balance of this regulatory asset in rate base which is also consistent with the guidelines established by the new law. As part of Staff's true-up audit, Staff will examine deferred amounts through the Commission established December 31, 2019 true-up cutoff and will further adjust the amortization and rate base inclusion based upon that examination of actual costs. Eligible PISA amounts incurred subsequent to December 31, 2019 will again be deferred in a new regulatory asset account until the true-up cutoff established by the Commission in Ameren Missouri's next rate proceeding for inclusion in base rates established in that future rate case.

Staff Expert/Witness: John P. Cassidy

30. TCJA Stub Period Amortization

The Trump administration introduced a Congressional revenue act that amended the Internal Revenue Code of 1986, called the Tax Cuts and Jobs Act ("TJCA"). This Act became law on December 20, 2017, and modified both personal and business tax law effective for tax years subsequent to December 31, 2017. A major change to the tax code that was brought about due to this Act was a reduction in the corporate tax rate on businesses from 35% to 21%. This tax rate reduction affected the current income tax calculation as well as the accumulated deferred income tax (ADIT) calculation included in the base rates of a utility. The ADIT tax timing changes were initially calculated assuming a 35% rate but going forward they were overstated as the new tax rate was only 21%. This difference in the tax rate as applied to individual tax timing differences is considered "excess" ADIT.

[85] Staff also included estimated amounts through December 31, 2019.

On February 16, 2018, the Missouri Commission Staff filed a *Motion to Open Rate Case and to Require Company to Show Cause*, docket ER-2018-0226. As part of that case, the Commission's order imposed the following requirements, among others:

> 1. Ameren Missouri was to show cause, if any, why the Commission should not order it to promptly file tariffs reducing its rates for every class and category of electric service to reflect the percentage reduction in its federal-state effective income tax rate.
>
> 2. Ameren Missouri was to quantify and track all impacts of the Tax Cuts and Jobs Act of 2017 potentially affecting electric service rates from January 1, 2018, going forward.
>
> 3. Ameren Missouri was to quantify and track its excess protected and unprotected ADIT for future possible flow back to ratepayers, and was to advise the Commission on how best such flow-back may be accomplished.

In its response to the "show cause" case, Ameren Missouri agreed that the cost savings from the income tax rate reduction should, and ultimately would, be passed on to utility customers, but the Company cited that Missouri law requires that utility rates only be adjusted based on the Commission's consideration of "all relevant factors" (i.e., all cost and revenue changes must be properly considered). As a consequence, Ameren Missouri argued that rates may not be adjusted to reflect a change in tax law, or any other single factor, in isolation. Ameren Missouri argued that the Commission should not and could not order the Company to file tariffs reducing its rates for every class and category of service to reflect the percentage reduction in its federal-state effective income tax rate, citing that such an order would unlawfully violate the prohibition against single-issue ratemaking. Ameren Missouri insisted that there was no avenue under Missouri law for effectuating a change to utility rates based solely on a single event or circumstance (i.e., a single issue such as tax reform) that, in isolation, causes a change in utility revenues or expenses, unless there is a statute that authorizes such a change. Ameren Missouri believed that the only way to effectuate a tax rate reduction was through a rate case when considering all relevant factors or to change the law through statute. Ameren Missouri was not planning on filing an electric rate case at that time, but rather was working on efforts to change utility legislation with Senate Bill 564.

This case was voluntarily dismissed by Staff on May 17, 2018 due to Senate Bill 564 that had, at that time, been passed by the Missouri General Assembly and was awaiting the Governor's signature. Senate Bill 564 became effective on June 1, 2018 and contained the following language making Case No. ER-2018-0226 superfluous:

> **Section 393.137.1** This Section applies to electrical corporations that do not have a general rate proceeding pending before the commission as of the later of February 1, 2018, or June 1, 2018 [sic].
>
> **Section 393.137.3** If the rates of any electrical corporation to which this section applies have not already been adjusted to reflect the effects of the federal 2017 Tax Cut and Jobs Act, Pub. L. No. 115-97, 94 Stat. 2390, the commission shall have one time authority that shall be exercised within ninety days of June 1, 2018, to adjust such electrical corporation's rates prospectively so that the income tax component of the revenue requirement used to set such an electrical corporation's rates is based upon the provisions of such federal act without considering any other factor as otherwise required by section 393.270. **The commission shall also require electrical corporations to which this section applies, as provided for under subsection 1 of this section, to defer to a regulatory asset the financial impact of such federal act on the electrical corporation for the period of January 1, 2018, through the date the electrical corporation's rates are adjusted on a one-time basis as provided for in the immediately preceding sentence. The amounts deferred under this subsection shall be included in the revenue requirement used to set the electrical corporation's rates in its subsequent general rate proceeding through an amortization over a period determined by the Commission.**

Once Senate Bill 564 was signed into law, the 90 day deadline mandated under Section 393.173.3 began for the Commission to reflect the tax rate change, establish excess accumulated deferred income tax (ADIT) deferrals, and order the amount that would be included in a regulatory liability for the "stub period" *(the period of January 1, 2018, through the date the electrical corporation's rates were adjusted on a one-time basis for the tax rate change).*

On June 4, 2018, Case No. ER-2018-0362 was opened to reflect the impact of the TCJA on the rates of Ameren Missouri electric customers as called for under SB 564. The Parties joined a unanimous stipulation and agreement that reflected an annualized tax reduction of $167 million dollars to reflect the ongoing reduction in the corporate federal tax rate, and also established a tracking mechanism and amortization periods for excess ADIT. The protected plant related excess ADIT would be returned to customers using the Average Rate Assumption Method (ARAM) and the unprotected plant and non-plant related excess ADIT would be returned over a 10 year period. Within the stipulation and agreement it was agreed that the amortization period for the stub period deferrals would also be determined in Ameren Missouri's next rate case. The stipulation & agreement was approved by Commission on July 5, 2018 with new rate schedules going into effect on August 1, 2018. This action also established the stub period deferral period as running from January 1, 2018 through July 31, 2018.

In this case, Staff recommends amortizing the stub period regulatory liability back to customers over a 3 year period.

Staff Expert/Witness: Lisa M. Ferguson

31. <u>Low-Level Radioactive Waste Expense</u>

For a detailed narrative synopsis of the nature of low-level radioactive waste, a history of its disposal practices, and historical accounting practices for these costs, refer to pages 131, line 19 through page 133, line 12 of Staff's Cost of Service Report filed in Ameren Missouri rate case, No. ER-2014-0258 (included herein in Appendix 3, Schedule LMF-d3).

In its cost of service calculation, Staff has included the amount of actual expense incurred by Ameren Missouri associated with low-level radioactive waste disposal during the test year. Staff will continue to examine these costs through the true-up cut-off date in this case and evaluate whether revision of its recommendation is warranted.

Staff Expert/Witness: Lisa M. Ferguson

32. <u>Non-Labor Power Plant Maintenance Expense</u>

Staff has reviewed Ameren Missouri's actual historical non-labor power plant maintenance costs for the period of January 1, 2014 through September 30, 2019, including major outages that have occurred over the last five years. Ameren Missouri retired the Howard Bend and Kirksville Combustion Turbine Generators (CTGs) in 2016 and 2018, respectively. However, Staff has included the test year expense for these CTGs as there are still costs incurred for security at these locations until final dismantling of the facilities. Staff has normalized the operations and maintenance costs related to the Sioux, Labadie and Rush Island coal generation facilities using a 6 year average ending September 30, 2019.

In addition, during a meeting with Ameren Missouri personnel, ** ____________

** This caused the level of operations and maintenance expense to be high during the test year. Due to this, Staff has normalized the maintenance expense associated with Maryland Heights using a five year average with twelve months ending data through September 30, 2019. Staff will continue to review non-labor maintenance through the true-up period of this case.

Staff Expert/Witness: Paul K. Amenthor

33. <u>Cybersecurity Expense</u>

Ameren Missouri incurred expenses in the test year related to cybersecurity expenditures to protect its infrastructure and customer and employee data, among other things. During the test year ending December, 31 2018, Ameren Missouri implemented two larger cybersecurity initiatives, Identity Access Management ("IAM") and Cybersecurity Operations Center ("CSOC"). IAM is an enterprise-wide platform that manages and defines roles and access granted to individual network users. Additionally, it provides end user self-service functions for passwords. The CSOC project is a Security Information and Event Management platform that improves Ameren Missouri's ability to detect and respond to threat incidents. The implementation of IAM and SCOC initiatives, along with other cybersecurity projects, caused an increase in Ameren Missouri's cybersecurity expense during the twelve months ending December 31, 2018. As part of its analysis Staff has reviewed the non-labor cybersecurity expenses incurred by Ameren Missouri for the period of January 1, 2014 through September 30, 2019. Staff recommends an adjustment to include a three year average, of the 12 months ending September 30 non-labor cybersecurity costs in the cost of service calculation. Staff will continue to review non-labor cybersecurity expenses through the December 31, 2019 true-up cut-off date in this case.

Staff Expert/Witness: Jason Kunst, CPA

34. <u>Software Allocations</u>

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Staff Expert/Witness: Jason Kunst, CPA

35. Cloud Computing

Cloud computing is a method for delivering information technology services by using a network of remote servers (off-premise) to manage and process data as opposed to a direct connection to a local server (on-premise). **

[87] ** In contrast on-premise software is installed and runs on the utility premises rather than at a remote facility like cloud based solutions. Cloud based arrangements include, Infrastructure as a Service ("IaaS"), Platform as a Service ("PaaS") and Software as a Service

[86] ** **

[87] Case No. ER-2019-0335, OPC Data Request 8513

("SaaS"). IaaS allows cloud-based customers to utilize computing equipment through the internet and use their own applications. PaaS allows cloud-based customers to utilize computing equipment through the internet and the operating system. SaaS allows cloud-based customers to access applications on the internet. The SaaS applications are not owned by the customer but instead owned by the vendor who manages and processes the data.

Based on Ameren Missouri's response to OPC data request 1316, cloud computing costs may be paid monthly, annually, or prepaid at the beginning of the contract term. This is dependent, at least in part, on the technology solution and vendor. To the extent cloud computing costs are prepaid at the beginning of the contract term; prepaid amounts are amortized to expense accounts monthly over the term of the contract.[88]

** ____

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____.[89] **

As previously discussed, the cloud-based service provider owns the off-premise hardware and manages and processes the data. In contrast, on-premise software is owned, operated and managed by the utility. Since on-premise computer solutions are owned by the utility, the costs associated with the software is treated as an asset and included in a utility's rate base. Since SaaS applications are not owned by the customer but instead owned by the vendor who manages and processes the data, the costs associated with the application are expensed.

Staff recommends that the costs incurred by Ameren Missouri for its SaaS applications, Microsoft Office 365 and Salesforce be treated as an expense. Staff included an annualized level of expense through the September 30, 2019.

In addition to the cloud based applications discussed above, Ameren Missouri incurs implementation costs associated with Cloud based solutions. Implementation costs are upfront costs incurred during the application development. Examples of these types of costs include but are not limited to system reconfiguration, creation of an interface, consultant and labor costs. On August 29, 2018, the Financial Accounting Standards Board ("FASB") issued new guidance for

[88] Case No. ER-2019-0335, OPC Data Request 1316.

[89] Case No. ER-2019-0335, Staff Data Request 247.

implementation, set up, and other upfront costs incurred in a cloud computing arrangement that is a service contract.[90] The new guidance allows capitalization of implementation costs for these cloud computing arrangements to be consistent with on-premise implementation costs. Staff included implementation costs incurred by Ameren Missouri through September 30, 2019 in Staff's recommended rate base.

Staff Expert/Witness: Karen Lyons

36. Electric Vehicle Employee Incentive

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______________________________ ** Staff has made an adjustment to remove the incentive payments that were recorded in the test year for Ameren Missouri as these charges should not be borne by ratepayers. Staff has also requested the amount of electric vehicle incentives allocated by Ameren Services to Ameren Missouri. To the extent Ameren Services allocated these incentives to Ameren Missouri, Staff will make an adjustment to remove these costs during the true up phase of this case.

Staff Expert/Witness: Karen Lyons

37. Charge Ahead Program

In Case No. ET-2018-0132 the Commission approved Ameren Missouri's electric vehicle charging corridor sub-program and authorized a deferral accounting mechanism. At the time of its direct filing, Staff understands that Ameren has not incurred costs associated with this program. However, it is possible that costs may be incurred before the true-up period ending December 31, 2019. During the true-up phase of this case, Staff will review costs for the electric vehicle charging corridor sub-program to the extent Ameren Missouri incurs these costs before December 31, 2019.

Staff Expert/Witness: Karen Lyons

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[90] Financial Accounting Standards Board Accounting Standards Update, No. 2018-15, August 2018.

38. **Misbooking of Electric Costs During Test Year**

During the discovery process, Staff reviewed the electric charges that were erroneously allocated to gas operations in Case No. GR-2019-0077. These instances were limited to the administrative and general accounts, ("A&G") 921 through 935 because of the recording process in which Ameren Missouri allocates electric and gas costs in these particular accounts. During the recent gas case No. ER-2019-0077, after the problem was brought to Ameren Missouri's attention in the spring of 2019, Ameren Missouri relayed to Staff that a special code would be added to the general ledger recording process that will distinctly identify electric and gas charges in order to prevent this mis-recording. It appears to Staff from review of the general ledger that as of September 2019, this new coding for the general ledger process has not yet been instituted.[91]

In this current electric rate case, Staff has included the mis-recorded charges for the Alliance for Transportation Electrification, FIS Energy Systems, Inc., North American Electric Reliability Corp., Electric Power Research Institute, the Alliance for Transportation Electrification, and the cost for the Tan-Tar-A-Resort - Adopt-the-Shoreline Recognition Dinner. The recognition dinner is an appreciation event held for the volunteers who clean-up the Osage borders and surrounding environment. Ameren Missouri holds this appreciation dinner as it is less costly to have volunteers clean up the Osage borders and surrounding environment and fund a dinner than for Ameren Missouri employees to incur overtime.

Staff is not including the mis-recorded charges for Edison Electric Institute dues, USWAG Annual Dues (Lobbying Org.), 2017 Utility Air Regulatory Group (UARG) Fees, and Steptoe & Johnson (Midwest Ozone Group) fees. Please see elsewhere in this report for discussion on Staff's treatment of these types of costs.

Staff Expert/Witness: Christopher D. Caldwell

39. **Employee Relocation Expense**

Ameren Corporation provides relocation benefits to its employees to provide financial and service needs for employees who relocate at the Company's request. In response to Staff data request 435, ** ____

[91] Staff will follow up with Ameren Missouri to determine if this coding process has been instituted during its true-up audit.

** The policies govern the type and amount of expenses covered such as miscellaneous expense, lease cancellations, home sales, travel expenses, and moving of household items. Ameren Missouri incurred direct charged and allocated costs during the test year related to employee relocations. Staff has reviewed the actual relocation expense for the period of January 1, 2014 through December 31, 2018. Due to the fluctuation over time, Staff is proposing to normalize the employee relocation expense using a five year average for inclusion in the cost of service.

Staff Expert/Witness: Paul K. Amenthor

40. <u>MEEIA Training and Customer Segmentation</u>

Starting December 1, 2017, Staff performed its prudence review regarding Ameren Missouri's MEEIA Cycle 2 as part of Case No. EO-2018-0155. The prudence review covered the period of March 1, 2016 through October 31, 2017. Staff concluded at the end of its review that out of state travel and training costs should be considered an indirect labor cost and, therefore, should not be recovered through the MEEIA rider. As a consequence, Ameren Missouri is proposing to recover in base rates administrative and training costs related to energy efficiency. Prior to the filing of this current rate case, on November 20, 2018, Ameren Missouri filed a tariff to adjust the rate of its MEEIA Rider "EEIC Rider" for the period ending October 30, 2018. The tariff was approved by the Commission and went into effect on January 25, 2019. Staff is verifying if any amount of these administrative and training costs were already included in that filing and are currently being recovered through the EEIC rider. Staff issued data request 240.1 on November 8, 2019 to verify the status of these costs; however at the time of drafting testimony Staff has not received the response to this data request in order to perform its analysis. Staff will address this issue in its rebuttal testimony once it has had the opportunity to review.

Staff *Expert/Witness: Paul K. Amenthor*

41. <u>MEEIA Non-Labor Expense</u>

The MEEIA was established through Senate Bill 376 and became law on August 28, 2009. Due to the ongoing use of the Demand Side Investment Mechanism (DSIM) rider, it is necessary to remove all MEEIA-related revenues and expenses from the test year to avoid double recovery of these expenses and revenues. Therefore, Staff has removed the MEEIA test year expense from inclusion in the cost of service calculation in this rate case due to recovery of these costs through the MEEIA Rider. For a complete discussion of the MEEIA revenue removal from test year, refer to the MEEIA revenue section of this report, sponsored by Staff witness Jason Kunst.

Staff Expert/Witness: Paul K. Amenthor

42. <u>Legal Expense</u>

Prior to January 2019, Ameren Missouri and Ameren Services would accrue legal expense and then compare that to the actual legal spending each month and then adjust the accrual accordingly. In January 2019, Ameren Missouri and Ameren Services still maintain an accrual reserve; however the comparison and, if needed, adjustment of the accrual to the actual legal payouts is now completed on an annual basis. This change in mechanics or procedure has no effect on expenses incurred in any given period.

Amongst other litigation, Staff will specifically address two specific issues currently litigated for which costs are flowing to Ameren Missouri: the Environmental Protection agency's case against Ameren Missouri regarding the Clean Air Act and 2 complaint cases for Ameren's (Ameren Missouri, Ameren Illinois and Ameren transmission) arguments for maintaining a higher return on equity for the FERC formula rate allocation.

a. Rush Island Clean Air Act Litigation

In 2011, the United States Environmental Protection Agency (USEPA) filed a case against Ameren Missouri for violating the Clean Air Act (CAA) for not having the proper emission controls on the Rush Island power plant.

Rush Island is a pulverized coal-fired power plant located in Jefferson County, directly adjacent to the Mississippi River. It was grandfathered into the amended Clean Air Act of 1977, due to the two units coming on-line in 1976 and 1977, immediately before the 1977 Amended Clean Air Act. The 1977 amendments to the Clean Air Act allowed existing plants to continue to operate for their natural lifespan without pollution controls, as long as they were not modified in any way beyond routine maintenance that increased emissions. Rush Island's major boiler components were experiencing performance problems which required Ameren Missouri to take the aging units offline often for repairs. After Ameren Missouri completed these capital improvements at each unit, each unit's electric generating capacity as well as emissions increased.

Ameren Missouri must comply with the federal environmental regulations including the Clean Air Interstate Rule (CAIR), published in the Federal Registry on May 12, 2005, the Clean Air Mercury Rule (CAMR), published in the Federal registry on May 18, 2005, the Missouri NOx SIP (State implementation Plan) Call, PM2.5 standards, Ozone Standards and Regional Haze rules. In addition, the State of Missouri participates in the Central Regional Air Planning Organization which is one of five regional planning organizations (RPO) that determines the requirements for emission controls known as Best Available Retrofit Technology (BART). Ameren Missouri's generation that is BART eligible under the rule are Labadie Unit Nos. 1-4, Rush Island Unit Nos. 1-2 and Sioux Unit Nos. 1-2, however only Sioux Unit Nos. 1-2 are currently outfitted with scrubbers.

On January 23, 2017, the federal court initially ruled against Ameren Missouri, stating that the Rush Island power plant violates the Clean Air Act due to the plant emitting significantly more pollution after Ameren Missouri made major modifications to boost the output of the power generating units without obtaining proper permits. Ameren Missouri appealed and on February 27, 2019, the Eastern District Court of Missouri upheld the previous ruling of Ameren Missouri violating the Clean Air Act and ordered Ameren to apply for a permit within 90 days. Ameren has appealed again and was yet again ruled against on September 30, 2019. At this time Ameren Missouri has issued a motion to stay the remedy portion of the latest appeal and is considering future action. The costs that Staff has received at the time of this direct filing intermingle the legal and consultant fees and as such cannot be divided into separate adjustments for legal and consulting fees[92]. Due to the expected continuation of litigation, Staff has included the level of legal expense and consultant fees that were incurred during the twelve months ending September 30, 2019 that specifically pertained to this legal matter. Staff will continue to examine all of these expenses through the December 31, 2019 true-up cutoff established by the Commission for this rate case and may propose further adjustments for this issue.

[92] Staff will work with Ameren Missouri to obtain additional information than that provided to date in very recent responses to Staff Data Request Nos. 374 and 377. Staff also has further questions regarding how the Rush Island legal fees are recorded on Ameren Missouri's books (whether directly expense or accrued) all of which may require additional adjustment as part of the true-up audit.

b. FERC ROE Complaint Litigation

During the last Ameren Missouri electric rate case, Case No. ER-2016-0179, Staff discovered that two complaint cases were filed before the FERC regarding the adequacy of Midcontinent Independent System Operator (MISO) transmission costs due to the level of return on equity incorporated within the calculation of those costs. These transmission costs are allocated down to some of Ameren's affiliates, including Ameren Missouri.

For more background and detail regarding the FERC ROE complaint cases, please see the direct testimony of Staff witness Lisa M. Ferguson, in this cost of service report.

The legal fees regarding the FERC ROE complaint are incurred for the benefit of Ameren and its affiliates because the level of ROE is purely a benefit for shareholders and not customers. As such, customers should not have to pay the legal fees associated with arguing for a higher ROE. Staff has disallowed the legal and consultant fees related to the FERC ROE complaint cases that have been incurred during the test year.

Staff Expert/Witness: Christopher D. Caldwell

43. <u>Injuries and Damages</u>

Injuries and damages represent the portion of legal claims against a utility that are not subject to reimbursement under the utility's insurance policies. Ameren Missouri records an accrual for injuries and damages for an anticipated amount of future payouts. Staff reviewed the actual injuries and damages payment levels and compared them to on-going reserves recorded for this item by Ameren Missouri electric from June 2007 through September 2019. Staff has annualized injuries and damages using a 3 year average of actual payouts that occurred during the period covering October 1, 2016 through September 30, 2019. Staff excluded all payments pertaining to the municipal tax settlement in its analysis. The municipal tax settlement is addressed by Staff witness Jason Kunst in another section of this report.

Staff *Expert/Witness: Christopher D. Caldwell*

44. <u>Municipal Tax Lawsuit Settlement Amortization</u>

In November 2011, the Cities of Winchester and Creve Coeur, Missouri filed a class action lawsuit against Ameren Missouri stating that Ameren Missouri had been underpaying Business License Taxes or "gross receipt taxes" because Ameren Missouri had excluded certain revenues from the municipal license tax base when calculating the tax. In April of 2017, Ameren Missouri reached a settlement agreement with the parties and agreed to pay past tax and future tax on certain miscellaneous revenue accounts and the court approved the settlement. In January and February of 2018, Ameren Missouri paid approximately $13.4[93] million to the Cities and their attorneys for the back taxes and a portion of the accrued taxes.

As part of her direct testimony, Ameren Missouri witness Laura M. Moore proposed inclusion of an amortization of the settlement payments over a five year period. Staff does not recommend including the amortization as proposed by Ameren Missouri and intends to fully address the issue as part of its rebuttal testimony.

Additionally, Staff has made an adjustment to normalize the legal fees incurred by Ameren Missouri in the test year in regards to the Municipal Tax Lawsuit.

Staff Expert/Witness: Jason Kunst, CPA

45. <u>Keeping Current Low-Income Pilot Program</u>

Ameren Missouri first introduced its Keeping Current Low-Income Pilot Program ("Program") in October 2010, pursuant to the third Non-Unanimous Stipulation and Agreement approved by the Commission in Case No. ER-2010-0036, as a 2-year low-income pilot program. Since then, the Commission has approved continuation of the pilot program in each general rate case that has followed,[94] the most recent being Case No. ER-2016-0179, where the Commission approved a Unanimous Stipulation and Agreement. The Program has shown continued improvement, which can be attributed to each EM&V and the resulting changes and recommendations.

The Program was developed in collaboration with AARP, Consumers Council of Missouri, Missouri Office of Public Counsel, Staff, Missouri Industrial Energy Consumers, and the Missouri Retailers Association ("Collaborative").

The objectives of the Program are to improve affordability for low-income customers, promote a healthy and safe level of energy usage, utilize agencies that already serve low-income households, and link participation to applications for the Low-Income Weatherization

[93] As part of the settlement Ameren Missouri agreed to pay $13,000,000 in back taxes, as well as an additional $108,333a month in accrued taxes. The attorneys for the municipalities were awarded $5,188,888 of the settlement.

[94] Case Nos. ER-2012-0166, ER-2014-0285, and ER-2016-0179.

Assistance Program ("LIWAP") and the Low Income Home Energy Assistance Program ("LIHEAP").

To participate in the program, customers are screened for income eligibility by the local Keeping Current agency ("Agency")[95] in their area. The goal of the Program is to help make utility payments more affordable for very low-income electric customers. Two important features of the Program are: 1) a year-round program (Keeping Current) that provides monthly bill credits and arrearage reduction for customers who stay current on monthly payments, and 2) a cooling program (Keeping Cool) that provides bill credits in June, July, and August to offset the costs of air conditioning usage.

The program is available for electric bill payment assistance to residential customers meeting the income eligibility requirements of the Program. The availability of this Program is limited to residential customers who: a) have an income level at or below 150 percent of the Federal Poverty Level ("FPL") for the heating provisions; or b) have an income level up to 150 percent of the FPL who use electricity for cooling and are either elderly, disabled or with a chronic medical condition, or live in households with children five (5) years of age or younger.

The monthly heating bill credits, monthly arrearage bill credit and Keeping Cool bill credits are determined by range of FPL, as listed below:

[95] A Keeping Current Agency is a community action agency, either a local private or a non-profit organization, designated and trained by the Company to enroll customers in the Keeping Current Low-Income Pilot Program within their area.

Table 1	
Electric Heating Customers Monthly Bill Credit	
0%-50% FPL	$90.00
51%-150% FPL	$60.00
Non- Electric Heating Customers Monthly Bill Credit	
0%-50% FPL	$40.00
51%-150% FPL	$35.00
Keeping Cool Monthly Bill Credit	
June through August	
0%-100% FPL	$25.00
101%-150% FPL	$25.00
Participants may not receive Keeping Cool Bill Credits concurrently with Electric Heating Bill	

<u>Evaluations</u>

Since the implementation of the Program, there have been three evaluations conducted and completed by Applied Public Policy Research Institute for Study and Evaluation ("APPRISE" or "Evaluator(s)"). APPRISE is a nonprofit research institute dedicated to collecting and analyzing data and information to assess and improve public programs. APPRISE has completed the following the evaluations regarding the Program:

1. "Ameren Keeping Current Program Final Evaluation Report" completed in November 2012
2. "Ameren Keeping Current Program Final Evaluation Report" completed in March 2015
3. "Ameren Keeping Current Program Draft Evaluation Report" completed March 2016

A fourth evaluation is in the final stages but not yet completed. APPRISE is working with the Collaborative to get the report finalized. APPRISE worked with the Collaborative prior to each evaluation to make sure APPRISE captured the effect of the implemented changes to the Program that resulted from the prior evaluations.

In the November 2012 evaluation, an assessment was conducted of the Program's design, operations, and impact, as well as an evaluation of the Collaborative's planning conference calls, program documents, interviews of Ameren Missouri's managers, and two sets of interviews concerning the program's operations.

The evaluators also conducted telephone interviews of participants and performed an analysis of the effect of the Program on affordability, bill payment, and collections actions. An overview of the findings and recommendations of that evaluation was discussed in Staff's Cost of Service testimony in Case No. ER-2014-0258.[96]

The March 2015 evaluation and stakeholder discussion focused more on the impact of changes made to program design as a direct result of the evaluator's findings and recommendations derived from the November 2012 evaluation.

The 2015 evaluation found several improvements in multiple areas of the Program since the completion of the 2012 evaluation. The changes implemented to the program showed an impact in the areas of:

1. Improved bill payment regularity and reduced collections;
2. Keeping Cool helps participants afford air conditioning;
3. More bill credits received than in phase I;
4. Greater arrearage reduction than previous evaluation;
5. Improved impacts on affordability due to increased benefits;
6. Less likely to receive LIHEAP and other assistance; and
7. Greater reductions in collections actions than previous evaluation.

The November 2016 evaluation and stakeholder discussion focused more on the impact of changes made to program design as a direct result of the evaluator's findings and recommendations derived from the March 2015 evaluation. This evaluation also took an in-depth look into participants who defaulted from the program in the participant interviews.

The 2016 evaluation found several improvements in multiple areas of the Program since the completion of the 2015 evaluation. The changes implemented to the program showed an impact in the areas of:

1. Improved affordability, but participants still face high energy burdens
2. Positive impacts on payment regularity and bill coverage rates for the year round participants (Keeping Current);

[96] Case No. ER-2014-0258, *Staff Report Revenue Requirement Cost of Service*, pgs. 142-147.

3. Participants were less likely to enroll and receive LIHEAP and other energy assistance than they were prior to Keeping Current participation;
4. Greater arrearage reduction and reduction in service terminations than previous evaluations;

As a result of the 2016 evaluation the Company made key changes, shown in Table 2, to the Program, which became effective in April 2017:

Table 2

	Previous	2017-Present
Eligibility	Heating - 125% FPL Cooling -	Heating - 150% FPL Cooling -
Payment Due Date	Date assigned by Ameren	Participants may choose date
Flexibility	No Flexibility	Participants may miss one payment, receive credit, still current

Recommendation

Staff recommends the Commission approve funding of the Keeping Current Low-Income Pilot Program at the current annual funding level of $1,331,000, with the ratepayers' customer's responsible for $706,000 and Ameren Missouri's contribution of $625,000.[97]

Staff also recommends Ameren Missouri: 1) continue to work with the Collaborative to further discuss the recommendations made by the evaluators and timely implement viable options, and 2) work with designated Keeping Current agencies to provide continuing education and support, and remove agencies no longer wanting to participate as a designated agency.

Staff Expert/Witness: Kory J. Boustead

46. "Keeping Current" Revenue and Expense

Staff has removed all test year revenue and expense amounts related to Ameren Missouri's low-income surcharge, titled the "Keeping Current" program. This program's costs and revenues are accounted for outside of Staff's cost of service calculation.

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[97] Case No. ER-2016-0179, *Unanimous Stipulation and Agreement*, paragraph 4B, page 8.

Staff Expert/Witness: Jason Kunst, CPA

47. Low-Income Weatherization Assistance Program ("LIWAP")

Ameren Missouri's Low-Income Weatherization Assistance Program ("Program" or "LIWAP") was authorized on August 14, 2007, in Case No. ER-2007-0002. In that case, the Commission approved the agreement entered into by Ameren Missouri, the Missouri Department of Natural Resources, and Division of Energy ("DE") to provide supplemental funding to the U.S. Department of Energy ("DOE") national Low-Income Weatherization Assistance Program.

DE is charged with the responsibility to oversee and allocate the Program funds to the thirteen weatherization agencies operating in Ameren Missouri's service territory. The annual funding for the Program was approved for $1.2 million to be paid in one lump sum by the Company to the State Environmental Improvement and Energy Resources Authority ("EIERA").[98] The Program has been approved by the Commission to continue at the current funding level in Case Nos. ER-2011-0028, ER-2012-0166, ER-2014-0285 and ER-2016-0179.[99]

On February 23, 2017, in Case No. ER-2016-0179, a Unanimous Stipulation and Agreement was filed resolving all issues. Paragraph 5.I states the Low-Income Weatherization agreement as follows:

> I. Low-Income Weatherization. Ameren Missouri agrees to cooperate with interested stakeholders to discuss how its low-income weatherization program should be administered going forward, and to develop a report to be submitted to the Commission by the end of 2017. Ameren Missouri will convene at least two meetings (teleconference or in person) with stakeholders to allow an exchange of information and ideas. For purposes of this case, the Signatories agree that DE shall continue to administer the weatherization program, and the funding of $1.2 million for the program shall continue to be included in Ameren Missouri's revenue requirement.

Ameren Missouri held the first stakeholder meeting on August 31, 2017, in Jefferson City and the second stakeholder meeting was held by conference call on November 6, 2017. The required report was submitted to the Commission in EFIS on December 27, 2017.

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[98] In Case No. ER-2011-0028, Report and Order, the terms of how the program funds are administered by the State Environmental Improvement and Energy Resources Authority are detailed.

[99] Third party evaluations of the Program are completed every 5 years, with the last completed by Evergreen Economics in July 2015, and the next scheduled evaluation to be completed in July 2020.

It was recently agreed in the Stipulation and Agreement of Case No. GR-2019-0077 that Ameren Missouri would work with DE to smoothly transition the administration of the program to Ameren Missouri.[100]

It is Staff's recommendation that the Commission (1) authorize Program funding at the current level of $1.2 million annually and (2) direct Ameren Missouri to take over administration of the Program from DE, and work with DE to smoothly transition administration of the Program to the Company.

Staff Expert/Witness: Kory J. Boustead

VIII. Depreciation

A. Depreciation Rates

1. Staff Recommendation

Staff's recommended depreciation rates for Ameren Missouri electric operations are shown in Appendix 3, Schedule DTB-d1.

2. Staff's Review of Ameren Missouri's Submitted Depreciation Study

Staff continues to review Ameren Missouri's depreciation study sponsored by its witness Mr. Spanos. At this time, Staff has reviewed the historical retirement and the cost of removal and salvage data files, conducted a depreciation analysis using Staff's version of the Gannett Fleming depreciation software, and verified the depreciation rates Mr. Spanos proposes on behalf of Ameren Missouri. Staff agrees with using most of the depreciation rates proposed by the Company. However, Staff disagrees with the depreciation rates for the amortized general plant accounts, general plant assets recorded in generating accounts, and training assets in general plant accounts. These amortized plant accounts are listed in the following table.

Depreciable Plant Account		Depreciation Rate
316.21	Miscellaneous Power Plant Equipment - Office Furniture	5.00

[100] GR-2019-0077 In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Increase Its Annual Revenues for Natural Gas Service, Stipulation and Agreement, page 4 paragraph 14.

316.22	Miscellaneous Power Plant Equipment - Office Equipment	6.67
316.23	Miscellaneous Power Plant Equipment - Computers	20.00
325.21	Miscellaneous Power Plant Equipment - Office Furniture	5.00
325.22	Miscellaneous Power Plant Equipment - Office Equipment	6.67
325.23	Miscellaneous Power Plant Equipment - Computers	20.00
335.21	Miscellaneous Power Plant Equipment - Office Furniture	5.00
335.22	Miscellaneous Power Plant Equipment - Office Equipment	6.67
335.23	Miscellaneous Power Plant Equipment - Computers	20.00
346.21	Miscellaneous Power Plant Equipment - Office Furniture	5.00
346.22	Miscellaneous Power Plant Equipment - Office Equipment	6.67
346.23	Miscellaneous Power Plant Equipment - Computers	20.00
391	Office Furniture and Equipment - Furniture	5.00
391.2	Office Furniture and Equipment - Personal Computers	20.00
391.3	Office Furniture and Equipment - Equipment	6.67
393	Stores Equipment	5.00
394	Tools, Shop, and Garage Equipment	5.00
394.05	Tools, Shop, and Garage Equipment - Training Assets	20.00
395	Laboratory Equipment	5.00

397	Communication Equipment	6.67
398	Miscellaneous Equipment	5.00

The depreciation rates included in the table are the depreciation rates that were ordered in Case No. ER-2014-0258, in which these General Plant accounts switched to General Plant Amortization since they met the requirements set forth by FERC. These accounts are comprised of high-volume, low-value assets. In using this method of amortization accounting, assets are retired when they reach the end of the amortization period selected for each account and vintage. By the end of the amortization period the asset will be fully recovered. As an example, assets that have a 10-year amortization period will be fully recovered after 10 years in service. These assets would have a 10% depreciation rate in order to be fully accrued at the end of the amortization period. At the end of the amortization period, the assets are then removed from the Company's books, but not necessarily removed from service.

3. Staff's Depreciation Summary

Staff's recommended depreciation rates for Ameren Missouri electric operations would result in depreciation expense ~$45,000 greater as compared to that proposed by Ameren Missouri. The table below compares the annual depreciation accruals, using plant balances as of December 31, 2018, based on Ameren Missouri's currently ordered depreciation rates versus Ameren Missouri's proposed depreciation rates and Staff's currently recommended depreciation rates.

Function	**Current**		**Company Proposed**		**Staff Proposed**	
	Rates	Expense	Rates	Expense	Rates	Expense
Steam	3.46	$157,453,361	4.23	$192,375,575	4.22	$192,244,826
Nuclear	2.26	$73,591,028	2.54	$82,770,779	2.53	$82,503,715
Hydraulic	2.26	$11,352,723	2.56	$12,849,916	2.55	$12,842,088
Other	2.24	$28,152,561	1.79	$22,536,295	1.79	$22,501,916
Transmission	2.64	$32,182,201	2.45	$29,820,800	2.45	$29,820,800
Distribution	2.99	$178,100,715	2.98	$177,253,815	2.98	$177,253,815
General	5.92	$38,326,411	5.60	$36,201,049	5.67	$36,686,154
Total		$519,159,000		$553,808,229		$553,853,314

Staff's recommended depreciation rates are shown in Appendix 3, Schedule DTB-d1.

Staff Expert/Witness: David T. Buttig, PE

B. Negative Accumulated Reserve

Utility companies utilize mass asset accounting in regulation and due to this some assets are retired before their useful life and others after. If assets are retired early or there is incorrect booking by the utility company, a negative reserve balance can occur. Staff has therefore reallocated negative reserve balances for the following accounts:

Account 335 – Miscellaneous Power Plant Equipment – Osage

The remaining negative balance in this account was split in half and reallocated to Account 332 (Reservoirs – Osage) and Account 333 (Water Wheels/Generators). The reduction in the depreciation reserve for Accounts 332 and 333 will have little effect on the depreciation rate needed to fully recover these accounts.

Account 360 – Land/Land Rights – Distribution Plant

The negative balance remaining on this account has been reallocated to Account 364 (Poles, Towers, and Fixtures). The reduction in the depreciation reserve for Account 364 will have little effect on the depreciation rate needed to fully recover the accounts.

Account 389 – Land/Land Rights – General Plant

The negative balance remaining on this account has been reallocated to Account 390 (Structures and Improvements - Large). The reduction in the depreciation reserve for Account 390 will have little effect on the depreciation rate needed to fully recover the accounts.

Staff has not removed the negative reserve balance for Account 332 (Reservoirs – Taum Sauk) since it is such a large negative balance and the value has been included in the depreciation rate for the account.

Staff Expert/Witness: David T. Buttig, PE

C. Capitalized O&M Depreciation Expense

Construction related costs are accumulated in construction-work-in-progress accounts, and are then capitalized and included in rates subsequent to the completion of the project, when that project goes into service. Capitalized expenses include depreciation expense that is associated with assets used in construction, such as power operated equipment and transportation equipment. Capitalized depreciation expense must be subtracted from annualized depreciation expense calculated using Ameren Missouri's total plant-in-service balances in order to prevent double recovery. Therefore, Staff deducted capitalized depreciation from its annualized depreciation expense in order to arrive at the amount of depreciation expense associated with operations and maintenance related functions.

Staff Expert/Witness: Jane C. Dhority

D. Elimination of Depreciation on Coal Cars

Staff removed from its case the estimated amount of depreciation expense accrued for Ameren Missouri's coal cars as estimated through December 31, 2019. Because this cost is reflected as part of fuel costs that are included as an input in Staff's production cost model, it should be excluded from annualized depreciation expense to avoid double-counting.

Staff Expert/Witness: Jane C. Dhority

IX. Income Tax

Income tax expense, as calculated by Staff, begins by taking adjusted net operating income before taxes and adding to or subtracting from net income various timing differences in order to obtain net taxable income for ratemaking purposes. These "add back" and/or subtraction adjustments are necessary to identify new amounts for the tax deductions that are different from those levels reflected in the income statement as revenues or expenses. The adjustments are the result of various book versus tax timing differences and the effect of such differences under separate tax ratemaking methods: flow-through versus normalization. A tax timing difference occurs when the timing used in reflecting a cost (or revenue) for financial reporting purposes (book purposes) is different than the timing required by the IRS in determining taxable income (tax purposes). Current income tax reflects timing differences consistent with the timing required by the IRS. The tax timing differences used in calculating taxable income for computing current income tax are as follows:

Add Back to Operating Income Before Taxes:

- Book Depreciation Expense
- Book Depreciation Charged to O&M
- Intangible Amortization
- Hydraulic Amortization
- Transmission Amortization
- Callaway Post Operational Costs

- Non-Deductible Parking Lot Expenses

Subtractions from Operating Income:

- Interest Expense – Weighted Cost of Debt X Rate Base
- Tax Straight-Line Depreciation
- Nuclear Decommissioning
- Preferred Dividend Deduction

For ratemaking purposes, the tax normalization method defers the deduction taken for tax purposes for certain tax timing differences. The effect of using tax normalization is to allow utilities the net benefit of certain net tax deductions for a period of time before those benefits are passed on to the utility's customers in rates. The flow-through tax method essentially provides for the same tax deduction taken as a deduction for ratemaking purposes as is taken for tax purposes.

In Ameren Missouri's last electric rate case, ER-2016-0179, normalized deductions and credits were unable to be used due to the Net Operating Loss situation that Ameren and Ameren Missouri had. Ameren Missouri had to first use its loss before it was able to take advantage of its normalized credits or deductions. Ameren Missouri has paid tax to the Ameren consolidated group for 2017 and 2018, and will also pay in 2019, which means that Ameren Missouri is in a taxable position. In this case, Staff has included the flow-through preferred dividend deduction, research tax credit, fuel tax credit, city tax credit and the St. Louis Payroll credit.

Under either the tax normalization or tax flow-through approach, the resulting net taxable income for ratemaking is then multiplied by the appropriate federal, state and city tax rates to obtain the current liability for income taxes. A federal tax rate of 21.00 percent as a result of the recent TCJA federal tax reform, a state income tax rate of 4.00 percent as a result of Missouri state tax reform beginning January 1, 2020, and a city tax rate of 0.122 percent were used in calculating Ameren Missouri's current income tax liability. The difference between the calculated current income tax provision and the per book income tax provision is the current income tax provision adjustment.

Staff will review income tax expense as part of its true-up audit and make additional adjustments as necessary.

Staff Expert/Witness: Lisa M. Ferguson

X. Fuel Adjustment Clause ("FAC")

A. Policy

In summary, Staff makes the following recommendations to the Commission regarding Ameren Missouri's Fuel Adjustment Clause ("FAC"):

- Continue Ameren Missouri's FAC with modifications;
- Order Ameren Missouri to include Attachment C of Marci Althoff's direct testimony either within the tariff or as an attachment to the tariff, to clarify the major/minor accounts affiliated with the Fuel Adjustment Clause;
- Order Ameren Missouri to continue to provide monthly filings, with all the additional information previously provided in November 2018 FAC Monthly Reports and prior, that will aid the Staff in performing FAC tariff, prudence and true-up reviews (including the information previously included in tabs Supplement P1 through Supplement P10, Appendices A, B, and C page 1 through C page 5);
- Order Ameren Missouri to include in its FAC Monthly Reports information related to the Renewable Choice Program, as agreed to in the Non-Unanimous Stipulation and Agreement, in Case No. ET-2018-0063;
- Continue to include one Base Factor for summer and one Base Factor for winter in the FAC tariff sheets, calculated from the Net Base Energy Costs that the Commission includes in the revenue requirement upon which it sets Ameren Missouri's general rates in this case; and
- Clarify that the only transmission costs and revenues that are included in Ameren's FAC are those that Ameren Missouri incurs for Purchased Power and Off-System Sales.

Staff Expert/Witness: Lisa Wildhaber

B. History

The Commission first approved Ameren Missouri's request for an FAC in Case No. ER-2008-0318. In Case Nos. ER-2010-0036, ER-2011-0028, ER-2012-0166, ER-2014-0258, and ER-2016-0179, Ameren Missouri requested and received authorization to continue its FAC.

The primary features of Ameren Missouri's present FAC (tariff sheet numbers 74 through 74.13) include:

- Three 4-month accumulation periods: February through May, June through September, and October through January;
- Three 8-month recovery periods: October through May, February through September, and June through January;
- One Base Factor for June through September calendar months (Summer) and one Base Factor for October through May calendar months (Winter);
- A 95%/5% sharing mechanism;
- FAR rates for individual service classifications adjusted for the three Ameren Missouri service voltage levels, rounded to the nearest $0.00001, and charged on each kWh billed; and
- True-up of any over- or under- recovery of revenues following every recovery period with a true-up amount being included in the determination of FAR for a subsequent recovery period.

Staff Expert/Witness: Lisa Wildhaber

C. Summary of Ameren Missouri's Fuel and Purchased-Power Costs Net of Off-System Sales Revenues

Chart 1 below shows, for each full accumulation period[101] since the Commission authorized Ameren Missouri's FAC, a summary of Ameren Missouri's Actual Net Energy Cost ("ANEC"),[102] Net Base Energy Cost ("NBEC"), and the over- or under-collection of fuel and purchased-power costs minus off-system sales revenues through its permanent rates.

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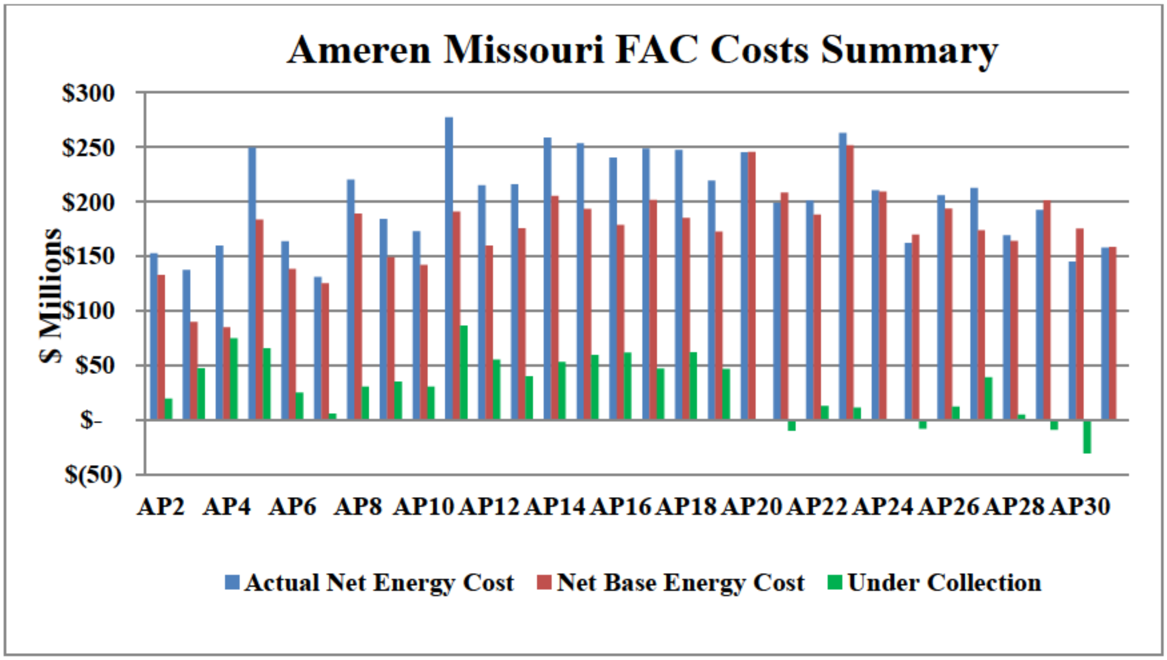
[101] Accumulation Period 1 was not a full accumulation period because it only covered the three calendar months of March 2009 through May 2009. All other accumulation periods cover four calendar months.

[102] Actual Net Energy Cost is defined in Ameren Missouri's current FAC tariff sheet, MO. P.S.C. Schedule 6, Original Sheet No. 73.1, as: Fuel costs and revenues (FC) plus purchased-power costs and revenues (PP) plus costs and revenues for SO_2 and NO_x emissions allowances (E) minus off-system sales revenues (OSSR). The formula appears as: ANEC = FC + PP + E – OSSR.

Chart 1

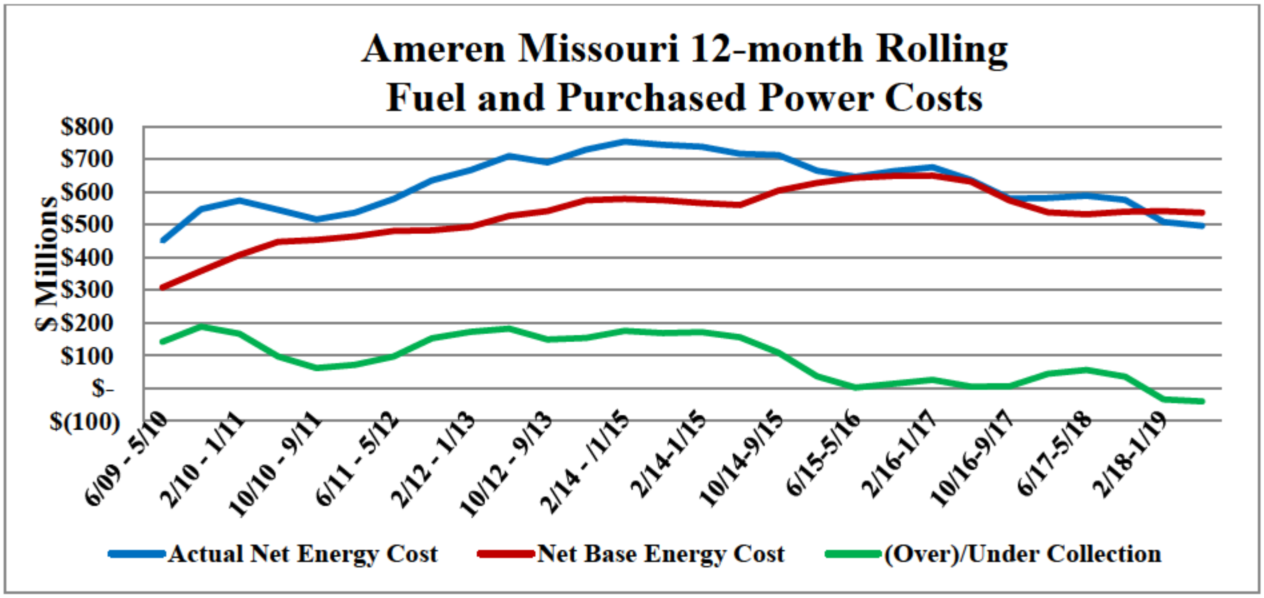


At the conclusions of its general electric rate cases, during AP5, AP8, AP12, AP22, and AP26 – Case Nos. ER-2010-0036, ER-2011-0028, ER-2012-0166, ER-2014-0258, and ER-2016-0179, respectively – the BFs in Ameren Missouri's FAC were re-set. Over all full accumulation periods, except for AP20, AP21, AP25, AP29, AP30, and AP31, Ameren Missouri under-collected its fuel and purchased-power costs in its permanent rates as a result of Ameren Missouri's ANEC exceeding the NBEC for the accumulation period.

Chart 1 also shows that the range of Ameren Missouri's ANEC varies from approximately $131 million for AP7 (February 2011 – May 2011), to approximately $278 million for AP11 (June 2012 – September 2012).

Chart 2, below, shows Ameren Missouri's 12-month rolling ANEC, NBEC, and under-collection of fuel and purchased-power costs minus off-system sales revenues through its permanent rates since its FAC was approved by the Commission. Chart 2 shows that Ameren Missouri's ANECs have continued to be large and volatile.

Chart 2



D. Revising the Base Factor

Correctly setting the Base Factor in Ameren Missouri's FAC tariff sheets is critical to both a well-functioning FAC and a well-functioning FAC sharing mechanism. For the reasons below, Staff recommends the Commission require the Base Factor in Ameren Missouri's FAC be set based on the Net Base Energy Cost that the Commission includes in the revenue requirement, which is set in Ameren Missouri's general rates in this case.

Table 1 shows three scenarios in which the FAC Base Energy Cost used to set the FAC Base Factor are equal to, less than, or greater than the Base Energy Cost in the revenue requirement upon which the Commission sets general rates:

Table 1: Base Energy Cost Case Studies				
		Case 1	Case 2	Case 3
Line	**95%/5% Sharing Mechanism**	Energy Cost in FAC **Equal To** Base Energy Cost in Rev. Req.	Energy Cost in FAC **Less Than** Base Energy Cost in Rev. Req.	Energy Cost in FAC **Greater Than** Base Energy Cost in
a	Revenue Requirement	$ 10,000,000	$ 10,000,000	$ 10,000,000
b	Base Energy Cost in Rev. Req.	$ 4,000,000	$ 4,000,000	$ 4,000,000
c	Base Energy Cost in FAC	$ 4,000,000	$ 3,900,000	$ 4,100,000
	Outcome 1: Actual Energy Cost **Greater Than** Base Energy Cost in Revenue Requirement			
d	Actual Total Energy Cost	$ 4,200,000	$ 4,200,000	$ 4,200,000
	Billed to Customer:			
= b	in Permanent Rates	$ 4,000,000	$ 4,000,000	$ 4,000,000
e = (d - c) x 0.95	through FAC	$ 190,000	$ 285,000	$ 95,000
f = b + e	Total Billed to Customers	$ 4,190,000	$ 4,285,000	$ 4,095,000
g = f - d	**Kept/(Paid) by Company**	**$ (10,000)**	**$ 85,000**	**$ (105,000)**
	Outcome 2: Actual Energy Cost **Less Than** Base Energy Cost in Revenue Requirement			
h	Actual Energy Cost	$ 3,800,000	$ 3,800,000	$ 3,800,000
	Billed to Customer:			
= b	in Permanent Rates	$ 4,000,000	$ 4,000,000	$ 4,000,000
i = (h - c) x 0.95	through FAC	$ (190,000)	$ (95,000)	$ (285,000)
j = b + i	Total Billed to Customers	$ 3,810,000	$ 3,905,000	$ 3,715,000
k = j - h	**Kept/(Paid) by Company**	**$ 10,000**	**$ 105,000**	**$ (85,000)**

Case 1 illustrates that if the FAC Base Energy Cost used for the Base Factor is equal to the Base Energy Cost in the revenue requirement used for setting general rates, the utility does not over or under-collect as a result of the level of total actual energy costs. The FAC works as it is intended to do.

Case 2 illustrates that if the FAC Base Energy Cost used for the Base Factor is less than the Base Energy Cost in the revenue requirement used for setting general rates, the utility will collect more than was intended and customers pay more than the FAC was designed for them to pay, regardless of the level of actual energy costs.

Case 3 illustrates that if the FAC Base Energy Cost used for the Base Factor is greater than the Base Energy Cost in the revenue requirement used for setting general rates, the utility will not collect all of the costs that was intended in the FAC design, and customers pay less than the entire amount intended regardless of the level of actual energy costs.

These three cases illustrate the importance of setting the Base Factor in the FAC correctly, i.e., revising the Base Factor to match the Base Energy Cost in the revenue requirement used for setting general rates. Case 1 is the preferred case, and illustrates how the FAC is intended to work.

Table 2 below contains a comparison of Ameren Missouri's FERC account expenses and revenues, annual kWhs, cents per kWh, and NBEC approved in the last general rate case, Case No. ER-2016-0179, and Ameren Missouri's proposed NBEC in this case. Ameren Missouri's proposed fuel and purchased-power expenses decreased a total of 29.86%, compared to the fuel and purchased-power expenses approved in Case No. ER-2016-0179. Ameren Missouri's proposed FAC revenues decreased a total of 40.53% compared to the revenues approved in Case No. ER-2016-0179. This decrease in revenues and fuel and purchased-power expenses explains why the proposed BF is decreasing.

Table 2
Comparison of Ameren Missouri's NBEC From ER-2016-0179 to ER-2019-0335

		ER-2016-0179	ER-2019-0335	Difference	Percent Difference
FERC Account Expenses	**501 Coal**	$ 697,112,000	$ 555,799,309	$ (141,312,691)	-20.27%
	502 AQCS	$ -	$ 8,261,348	$ 8,261,348	100.00%
	518 Nuclear	$ 88,467,000	$ 80,655,000	$ (7,812,000)	-8.83%
	547 Natural Gas	$ 14,789,060	$ 20,548,506	$ 5,759,446	38.94%
	555 Purchased Power	$ 39,707,858	$ 48,263,337	$ 8,555,479	21.55%
	565 Transmission by Others	$ 962,204	$ 1,612,893	$ 650,689	67.62%
	Capacity Expense	$ 198,940,966	$ 13,577,287	$ (185,363,679)	-93.18%
	925 Replacement Power Ins.	$ -	$ 673,024	$ 673,024	100.00%
Total FERC Account Expenses		**$ 1,039,979,088**	**$ 729,390,704**	**$ (310,588,384)**	**-29.86%**
FERC Account Revenues	**447 OSSR Energy**	$ 260,825,000	$ 263,660,350	$ 2,835,350	1.09%
	447 Capacity Sales	$ 243,814,713	$ 22,572,986	$ (221,241,727)	-90.74%
	447 Other (Note 1)	$ 20,561,710	$ 25,285,412	$ 4,723,702	22.97%
	456 Transmission Revenues	$ -	$ 793,871	$ 793,871	100.00%
Total FERC Account Revenues		**$ 525,201,423**	**$ 312,312,619**	**$ (212,888,804)**	**-40.53%**
Net Base Energy Costs		**$ 514,777,665**	**$ 417,078,085**	**$ 97,699,580**	**18.98%**
	Annual kWh	33,286,417,241	33,938,600,000	(652,182,759)	-1.96%
	Annual Cents per kWh	$ 15.47	$ 12.29	$ 3.176	20.54%
	Winter 1 Cents per kWh	$ 1.536	$ 1.208	$ (0.328)	-21.35%
	Winter 2 Cents per kWh	$ 1.536	$ 1.208	$ (0.328)	-21.35%
	Summer Cents per kWh	$ 1.565	$ 1.266	$ (0.299)	-19.11%

Note 1: Other revenues in FERC Account 447 include the following:

- MISO Make Whole Payments Margins
- Ancillary Services Revenue
- Financial Swaps
- Real-Time Load and Generation Deviation

Source: Column ER-2016-0179 amounts were approved per order by the Commission in Case No. ER-2016-0179.
Column ER-2019-0335 amounts are from Company Witness Laura M. Moor's Schedule LMM-18.

Staff recommends continuation of Ameren Missouri's FAC. Ameren Missouri's fuel and purchased-power costs, less off-system sales revenues, continue to be volatile, beyond the control of Ameren Missouri, and large at $417,078,085, representing approximately 13.76% of Ameren Missouri's proposed annual revenue requirement for this case.

In the current rate case (Case No. ER-2019-0335) Ameren Missouri is proposing to re-base the Base Factor to $0.01266 per kWh for June to September calendar months and $0.01208 per kWh for October through May calendar months. At this time Staff does not have its estimate for the Base Factor for the FAC, but will provide it and a discussion on the calculation of the Base Factor when Staff files its Class Cost of Service/Rate Design Report on December 18, 2019. Staff will use the Base Energy Cost and the kWh at the generator from its fuel run to develop the Base Factor.

Staff Expert/Witness: Lisa Wildhaber

E. Loss Study as it Applies to the Fuel Adjustment Clause

Ameren Missouri filed a request to continue its Fuel Adjustment Clause ("FAC") in the current case. Commission Rule 20 CSR 4240-20.090(13)[103] requires Ameren Missouri to provide Staff with a loss study in conjunction with any request to continue a Rate Adjustment Mechanism ("RAM"), such as an FAC. Ameren Missouri complied with this requirement by supplying Staff with its loss study containing analysis based on data collected during calendar year 2018, in response to Staff Data Request No. 190.

Utilizing information included in the aforementioned loss study, Staff has calculated the following voltage adjustment factors:

$$VAF_{Pri} \; – \; 1.0248$$

$$VAF_{Sec} \; – \; 1.0567$$

These voltage adjustment factors account for the energy losses experienced in the delivery of electricity. These factors will be utilized in Staff's determination of Fuel Adjustment Rates

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[103] 20 CSR 4240-20.090(13) states:

(13) Rate Design of the RAM. The design of the RAM rates shall reflect differences in losses incurred in the delivery of electricity at different voltage levels for the electric utility's different rate classes as determined by periodically conducting Missouri jurisdictional system loss studies.

(A) When the electric utility initially seeks authority to use a RAM, the end of the twelve- (12-) month period of actual data collected that is used in its Missouri jurisdictional system loss study must be within twenty-four (24) months of the date the utility files its general rate proceeding first requesting a RAM.

(B) When the electric utility seeks to continue or modify its RAM, the end of the twelve- (12-) month period of actual data collected that is used in its Missouri jurisdictional system loss study must be no earlier than four (4) years before the date the utility files the general rate proceeding seeking to continue or modify its RAM.

Therefore, the electric utility shall conduct a Missouri jurisdictional system loss study within twenty-four (24) months prior to the general rate proceeding in which it requests its initial RAM. The electric utility shall conduct a Missouri jurisdictional loss study no less often than every four (4) years thereafter, on a schedule that permits the study to be used in the general rate proceeding necessary for the electric utility to continue to utilize a RAM.

(”FARs”), applicable to the individual voltage service classification of a particular customer in the corresponding FAC tariff, should the Commission authorize Ameren Missouri to continue its FAC tariff as a result of this case.

Staff Expert/Witness: Alan J. Bax

F. Additional Filing Requirements

Due to the accelerated Staff review process necessary with FAC adjustment filings,[104] similar to what it did in the last Ameren Missouri rate cases (Case Nos. ER-2010-0036, ER-2011-0028, ER-2012-0166, ER-2014-0258, and ER-2016-0179), Staff is recommending the Commission order Ameren Missouri to do the following to aid Staff in performing FAC tariff, prudence, and true-up reviews:

- As part of the information Ameren Missouri submits when it files a tariff modification to change its Fuel and Purchased Power Adjustment rate, include Ameren Missouri’s calculation of the interest included in the proposed rate;
- In addition to the monthly reports required by 20 CSR 4240-20.090(5), provide Ameren Missouri’s MISO Ancillary Services Market (“ASM”) market settlements and revenue neutrality uplift charges;
- Maintain at Ameren Missouri’s corporate headquarters, or at some other mutually-agreed-upon place within a mutually-agreed-upon time for review, a copy of each and every nuclear fuel, coal, and transportation contract Ameren Missouri has that is or was in effect for the previous four years;
- Within 30 days of the effective date of each and every nuclear fuel, coal, and transportation contract Ameren Missouri enters into, provide both notice to Staff of the contract and opportunity to review the contract at Ameren Missouri’s corporate headquarters or at some other mutually-agreed-upon place;
- Maintain at Ameren Missouri’s corporate headquarters, or provide at some other mutually-agreed-upon place within a mutually-agreed-upon time, a copy for review of each and every natural gas contract Ameren Missouri has that is in effect;

[104] The Company must file its FAC adjustment 60 days prior to the effective date of its proposed tariff sheet. Staff has 30 days to review the filing and make a recommendation to the Commission. The Commission then has 30 days to approve or deny Staff’s recommendation.

- Within 30 days of the effective date of each and every natural gas contract Ameren Missouri enters into, provide both notice to Staff of the contract and an opportunity for review of the contract at Ameren Missouri's corporate headquarters or at some other mutually-agreed-upon place;
- Provide a copy of each and every Ameren Missouri hedging policy that is in effect at the time the tariff changes ordered by the Commission in this rate case go into effect for Staff to retain;
- Within 30 days of any change in an Ameren Missouri hedging policy, provide a copy of the changed hedging policy for Staff to retain;
- Provide a copy of Ameren Missouri's internal policy for participating in the MISO ASM, including any Ameren Missouri sales/purchases from that market that are in effect at the time the tariff changes ordered by the Commission in this rate case go into effect, for Staff to retain;
- If Ameren Missouri revises any internal policy for participating in the MISO ASM, within 30 days of that revision provide a copy of the revised policy, with the revisions identified, for Staff to retain;
- The monthly as-burned fuel report supplied by Ameren Missouri required by 20 CSR 4240-3.190(1)(B) shall explicitly designate fixed and variable components of the average cost per unit burned including commodity, transportation, emission, tax, fuel blend, and any additional fixed or variable costs associated with the average cost per unit reported (Staff is willing to work with Ameren Missouri on the electronic format of this report); and
- Include within the FAC Monthly Reports information related to the Renewable Choice Program, as referenced in the Non-Unanimous Stipulation and Agreement approved in ET-2018-0063.

Staff Expert/Witness: Lisa Wildhaber

XI. Other Issues

A. Cost Savings Measurement Reporting

In previous Ameren Missouri rates cases, Ameren Missouri has indicated in response to Staff through data requests, that they do not track and quantify cost savings associated with various initiatives. Staff enquires about cost savings initiatives in each Ameren Missouri rate case and

Ameren Missouri responds with a list of initiatives that the company is currently undertaking but has up this point conveyed that it has been unable to quantify cost savings, even when that cost savings is the goal of the initiative. ** ____

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____ ** As part of the Stipulation and Agreement approved by the Commission in the previous Ameren Missouri gas rate case GR-2019-0077, Ameren Missouri agreed to meet with Staff to discuss the parameters around the tracking of coast savings. Since the approval of the Stipulation and Agreement in the gas rate case, Staff has met with Ameren Missouri and discussed the basis for the cost reduction measurement. During the meeting Staff clarified to Ameren Missouri that it is requesting a list of all cost savings initiatives that have projected cost savings over a certain threshold and a corresponding quantitative measurement of the savings achieved by each initiative in the form of a report.

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Staff is not requesting that Ameren Missouri keep track of Continuous Improvement ("CI") initiatives which result in operational efficiencies/productivity gains, such as the number of "mouse clicks". Staff is requesting that Ameren Missouri quantify and report to Staff on an annual basis the savings associated with initiatives that have a projected cost savings of $250,000 or more. As Ameren Missouri has shown that it can identify costs that are increasing and propose adjustments on this basis in rate cases, provision of savings information would allow Staff to more readily identify decreasing costs during a rate case and make adjustments if necessary to reflect the cost savings. Therefore, Staff is recommending that the Commission order Ameren Missouri to quantify and report on cost savings initiatives/projects with a projected cost savings of $250,000 or more. Additionally, Staff would recommend that the Commission order Ameren Missouri to begin the reporting with calendar year 2019 and that the first report be provided to Staff no later than September 1, 2020. Staff also recommends that Ameren Missouri measure and report its projected gas savings in the same format described above.

1. ** __________________ **

During the test year Ameren Missouri was allocated costs for the ** _____________ ____ ____

**

Staff Expert/Witness: Jason Kunst, CPA

B. Smart Energy Plan

In February 2019, Ameren Missouri introduced their Smart Energy Plan that includes $5.3 billion of electric investment and $1 billion in wind investment from 2019 through 2023. This plan is meant to accelerate investment in smart grid technologies and renewable energy while hardening and upgrading the electric grid for efficient and reliable use. This will establish an Integrated Grid where energy and information is bi-directional and flowing to and from customers and generation sources. Ameren Missouri plans to complete projects to upgrade the grid in their service territory to promote safety, security, reliability and resiliency. These projects include:

1. Installation of switching devices and communications technologies to reduce the length of outages
2. Installation of 12,000 new and fortified utility poles to better withstand severe weather
3. Upgrading aging and under-performing assets such as substations to improve service reliability
4. Standardize various distribution voltages at the 12kV level to streamline voltages and operate more efficiently
5. Upgrading infrastructure and incorporating route diversity and smart grid sensor technology into operations for reliability and faster outage response times
6. Employing smart grid technologies into new and existing substations
7. Developing communications network to monitor and enable analytics from connected grid devices

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**

There are several ways Ameren Missouri intends to accomplish the above strategy. Ameren Missouri plans to design and upgrade sub-transmission circuits, develop a pilot portfolio to develop a test facility for a microgrid, and installing Automated Meter Infrastructure.

1. Smart Metering Program

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Staff Expert/Witness: Jane Dhority

C. Green Tariff

On November 27, 2017, Ameren Missouri filed an application in case ET-2018-0063 requesting approval of an accounting authority order, along with tariff sheets in order to implement a new service known as the Renewable Choice Program, or Green Tariff program.

The program is designed to provide customers with a load of 2.5 MW or greater, or governmental entities, the opportunity to subscribe to wind energy either through construction of wind generation or through a wind purchased power agreement. The subscriptions are in addition to, not a replacement for, a customer's normal electric service. Customers acquire the renewable characteristics of the wind energy acquired or produced for the Program by obtaining the renewable energy credits (RECs) associated with the energy they are subscribed. As part of the stipulation & agreement, the Parties agreed that the Commission should grant the Company an Accounting Authority Order authorizing Ameren Missouri to create a regulatory asset or liability to reflect an amount equal to (after the 95/5 sharing mechanism as part of the FAC) amounts recorded in FERC Account 555 associated with subscribed portions of purchased power acquired under Power Purchase Agreements dedicated to specific customers under the Program. The AAO is also authorized to include in the deferral after FAC sharing those amounts recorded in FERC Account 447 associated with the output of generation assets or subscribed portions of Power Purchase Agreements dedicated to specific customers under the Program. The deferral is to begin on the effective date of the tariff filing through the effective date of rates of the next electric rate proceeding, in this case, May 30, 2020. It was also agreed that the deferral would be included in the Company's next rate proceeding through a three year amortization. The deferral is necessary to determine what purchased power and off system sales are specific to the renewable choice tariff versus the fuel adjustment clause. This requires the language for the fuel adjustment clause to be modified in this current rate case to encompass the green tariff so as not to double count any purchased power or off system sales. The Commission ordered the approval of the stipulation & agreement establishing the renewable energy tariff. The tariff became effective on August 15, 2018. The program has multiple phases that began with a period of time to solicit interest from potential customers, which took place through the end of the test year 2018. The program then entered a phase of resource acquisition and a request for proposal (RFP) was issued for purposes of identifying wind resources that could be developed and acquired or contracted for dedication to the program in May 2019. Evaluation of proposals that were received pursuant to the RFP and negotiations are currently ongoing. Once a resource has been selected and contracted, customers that expressed interest in the program will then be given the option to formally enroll and construction or acquisition of a purchased power agreement will commence. As of October 2019 no costs or revenues have been incurred or deferred related to this program.

Staff Expert/Witness: Lisa M. Ferguson

Appendix 1 - Staff Credentials

Appendix 2 - Support for Staff Cost of Capital Recommendations

Appendix 3 - Other Staff Schedules

Appendix 4 - Advertising

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company	)	
d/b/a Ameren Missouri's Tariffs to Decrease	)	Case No. ER-2019-0335
Its Revenues for Electric Service	)	

AFFIDAVIT OF PAUL K. AMENTHOR

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COMES NOW PAUL K. AMENTHOR and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Paul K. Amenthor

PAUL K. AMENTHOR

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF ALAN J. BAX

STATE OF MISSOURI COUNTY OF COLE	)))	ss.

COMES NOW ALAN J. BAX and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Alan J Bax

ALAN J. BAX

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF KORY J. BOUSTEAD

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW KORY J. BOUSTEAD and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Kory J Boustead
KORY J. BOUSTEAD

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF DAVID T. BUTTÍG, PE

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COMES NOW DAVID T. BUTTIG, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

David Buttig

DAVID T. BUTTIG, PE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF CHRISTOPHER D. CALDWELL

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW CHRISTOPHER D. CALDWELL and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Christopher D. Caldwell
CHRISTOPHER D. CALDWELL

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF JOHN P. CASSIDY

STATE OF MISSOURI COUNTY OF COLE	)))	ss.

COMES NOW JOHN P. CASSIDY and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

John P. Cassidy

JOHN P. CASSIDY

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF KIM COX

STATE OF MISSOURI COUNTY OF COLE	)))	ss.

COMES NOW KIM COX and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Kim Cox

KIM COX

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company	)	
d/b/a Ameren Missouri's Tariffs to Decrease	)	Case No. ER-2019-0335
Its Revenues for Electric Service	)	

AFFIDAVIT OF JANE C. DHORITY

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COMES NOW JANE C. DHORITY and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

JANE C. DHORITY

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company	)	
d/b/a Ameren Missouri's Tariffs to Decrease	)	Case No. ER-2019-0335
Its Revenues for Electric Service	)	

AFFIDAVIT OF CLAIRE M. EUBANKS, PE

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COMES NOW CLAIRE M. EUBANKS, PE and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Claire M Eubanks

CLAIRE M. EUBANKS, PE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company	)	
d/b/a Ameren Missouri's Tariffs to Decrease	)	Case No. ER-2019-0335
Its Revenues for Electric Service	)	

AFFIDAVIT OF LISA M. FERGUSON

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COMES NOW LISA M. FERGUSON and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Lisa M Ferguson

LISA M. FERGUSON

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF JORDAN HULL

STATE OF MISSOURI COUNTY OF COLE	)))	ss.

COMES NOW JORDAN HULL and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Jordan Hull

JORDAN HULL

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 2nd day of December 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF ROBIN KLIETHERMES

STATE OF MISSOURI COUNTY OF COLE	)))	ss.

COMES NOW ROBIN KLIETHERMES and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

ROBIN KLIETHERMES

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 3rd day of December 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF JEREMY JULIETTE

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF JACKSON	)	

COMES NOW JEREMY JULIETTE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

JEREMY JULIETTE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Jackson, State of Missouri, at my office in Kansas City, on this 26th day of November 2019.

Notary Public

NOTARY PUBLIC STATE OF MISSOURI NOTARY SEAL

EBONEY JACKSON-SPOTWOOD
My Commission Expires
April 8, 2023
Clay County
Commission #19865798

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF JASON KUNST, CPA

STATE OF MISSOURI COUNTY OF COLE	)))	ss.

COMES NOW JASON KUNST, CPA and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

JK CPA

JASON KUNST, CPA

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D. Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF SHAWN E. LANGE

STATE OF MISSOURI COUNTY OF COLE	)))	ss.

COMES NOW SHAWN E. LANGE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Shawn E Lange
SHAWN E. LANGE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF KAREN LYONS

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

COMES NOW KAREN LYONS and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Karen Lyons
KAREN LYONS

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Jackson, State of Missouri, at my office in Kansas City, on this 26th day of November 2019.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

M. RIDENHOUR
My Commission Expires
July 22, 2023
Platte County
Commission #19603483

M. Ridenhour
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF KEITH MAJORS

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

COMES NOW KEITH MAJORS and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Keith Majors
KEITH MAJORS

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Jackson, State of Missouri, at my office in Kansas City, on this 3rd day of December 2019.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

M. RIDENHOUR
My Commission Expires
July 22, 2023
Platte County
Commission #19603483

M. Ridenhour
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF ANTONIJA NIETO

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

COMES NOW ANTONIJA NIETO and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

ANTONIJA NIETO

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Jackson, State of Missouri, at my office in Kansas City, on this 26th day of November 2019.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

M. RIDENHOUR
My Commission Expires
July 22, 2023
Platte County
Commission #19603483

M. Ridenhour
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF JOSEPH P. ROLING

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW JOSEPH P. ROLING and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Joseph P. Roling

JOSEPH P. ROLING

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 2nd day of December 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF JEFFREY SMITH

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW JEFFREY SMITH and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Jeff Smith

JEFFREY SMITH

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 2nd day of December 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF MICHAEL L. STAHLMAN

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COMES NOW MICHAEL L. STAHLMAN and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

[signature]
MICHAEL L. STAHLMAN

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 2nd day of December 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF LISA WILDHABER

STATE OF MISSOURI COUNTY OF COLE	)))	ss.

COMES NOW LISA WILDHABER and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Lisa Wildhaber

LISA WILDHABER

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of November 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service	)))	Case No. ER-2019-0335

AFFIDAVIT OF MATTHEW R. YOUNG

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

COMES NOW MATTHEW R. YOUNG and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff's Direct Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Matt Young

MATTHEW R. YOUNG

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Jackson, State of Missouri, at my office in Kansas City, on this 26th day of November 2019.

Eboney Jackson-Spotwood

Notary Public

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

EBONEY JACKSON-SPOTWOOD
My Commission Expires
April 8, 2023
Clay County
Commission #19865798