MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

REVENUE REQUIREMENT

COST OF SERVICE

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

CASE NO. ER-2014-0258

Jefferson City, Missouri
December 5, 2014

**** <u>Denotes Highly Confidential Information</u> ****

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I. Executive Summary

Staff has conducted a review in Case No. ER-2014-0258 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" or "Company") revenue requirement. This audit was in response to Ameren Missouri's filing made on July 3, 2014, seeking to increase its retail rates to recover an additional approximately $264 million on an annual basis.

Staff's recommended increase in revenue requirement is based upon an adjusted test year for the twelve months ending March 31, 2014, including true-up estimates through January 1, 2015. Staff's recommended revenue requirement for Ameren Missouri is $113,139,943 based upon Staff's midpoint return on equity (ROE) recommendation of 9.25%.

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 19, 2014.

Staff Expert/Witness: John P. Cassidy

II. Background of Ameren Missouri

Ameren Missouri provides electric utility service to approximately 1.2 million retail customers primarily in the eastern half of Missouri, but also to a limited extent 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 127,000 customers.

Ameren Missouri last sought a general change of its electric retail rates when it filed a request for a $375.6 million annual increase on February 3, 2012, in Case No. ER-2012-0166. As a result of the Missouri Public Service Commission's ("PSC" or "Commission") Report and Order in that proceeding, Ameren Missouri was granted an annual rate increase of approximately $259.6 million, effective January 2, 2013.

Staff Expert/Witness: John P. Cassidy

III. Test Year/True-Up Period

Ameren Missouri filed its case based upon a twelve-month period ending March 31, 2014 test year and made adjustments to its case to reflect the impacts of anticipated changes through the true-up period ending December 31, 2014 except for certain items where a true-up cut-off date of January 1, 2015 was appropriate. These dates were ordered by the Commission on August 20, 2014, in its *Order Adopting Procedural Schedule, Establishing Test Year, And Delegating Authority*.

Based on current information, Staff's revenue requirement as presented in its Accounting Schedules includes expected changes for certain major items within a true-up period ending December 31, 2014 except for those items that it would be appropriate to true-up for significant changes through January 1, 2015. For example, the plant and depreciation reserve balances have been adjusted to reflect the anticipated additions through the December 31, 2014, true-up cutoff point. Fuel expense has also been adjusted to reflect increase in coal commodity contract prices and coal transportation contract prices, effective on January 1, 2015. Staff expects to consider actual changes to the value of these items, as well as additional components of the cost of service, during the upcoming true-up audit. Staff is not now adopting for the purpose of setting Ameren Missouri's rates, the value of the items quantified in Staff's true-up estimate inclusions. 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 parties' *Jointly Proposed Procedural Schedule* that was filed on August 15, 2014 and adopted by the Commission in its *Order Adopting Procedural Schedule, Establishing Test Year, And Delegating Authority* that was issued on August 20, 2014.

Staff Expert/Witness: John P. Cassidy

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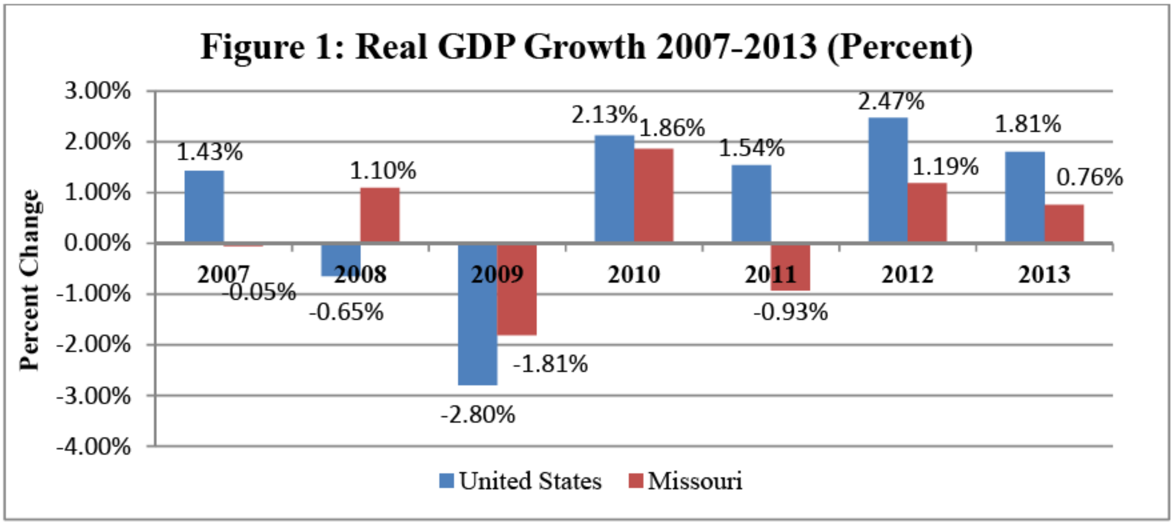
IV. Economic Considerations

Missouri's general economic condition, specifically of the counties[1] that compose the service area of Ameren Missouri, continues to experience challenges in the wake of the recession from December 2007 to June 2009. Figure 1 below shows that the real gross domestic product (GDP) growth of Missouri has been smaller than the United States as a whole since the recession ended, and was even negative for Missouri in the year 2011.

Figure 1

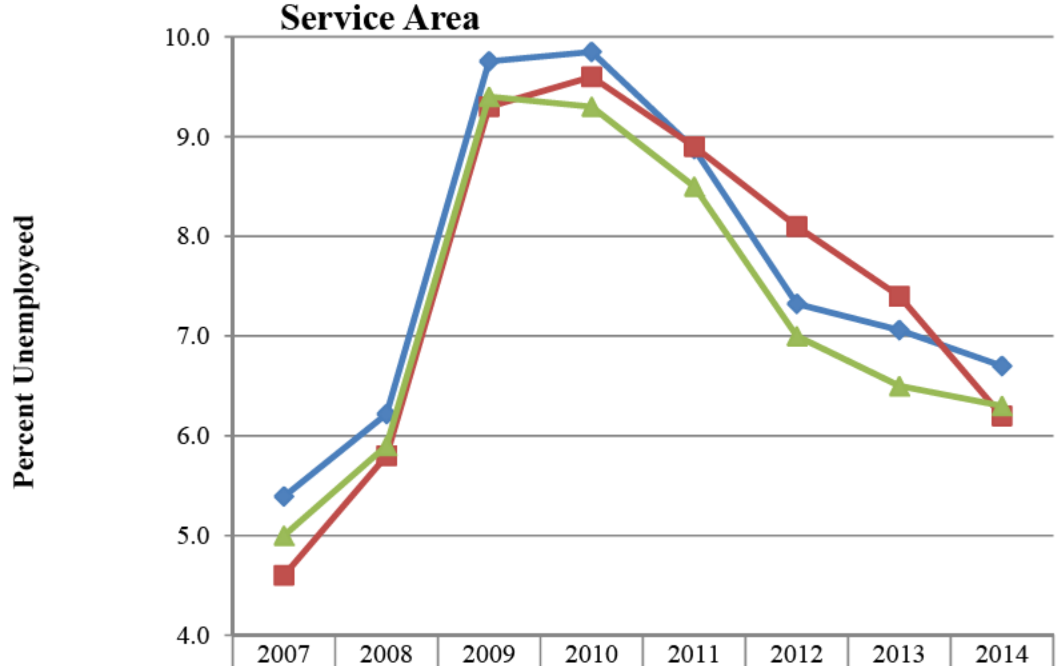


As seen in Figure 2, the unemployment levels are still above the pre-recession levels. Although the unemployment rates for 2014 are preliminary estimations, the trend appears to show the Missouri unemployment rate leveling-off above six percent and the national trend continuing on a downward trajectory. The employment numbers from the Bureau of Labor and Statistics show that the number of jobs in Ameren Missouri's service territory, which peaked in 2007, is still below 2004 levels, but has increased every year since 2010 (Figure 3). The city and county of St. Louis possess just over half of the jobs in Ameren Missouri's service area. The combined unemployment rate for all of the counties that Ameren Missouri serves is within +/- 0.1% of Missouri's unemployment rate, which is to be expected given the scope of Ameren

[1] According to Schedule 2 of the minimum filing requirements and the current tariffs, Ameren Missouri serves a total of 60 counties and the unincorporated City of St. Louis. The Quarterly Census of Employment and Wages designates the independent unincorporated City of St. Louis as a county, making the Ameren Missouri service area a total of 61 counties.

Missouri's territory. The combined unemployment rate for the city and county of St. Louis tends to reflect the same trajectory as Missouri's unemployment rate, but at a higher level.

Chart 2: Unemployment Comparison for Ameren Missouri Service Area



	2007	2008	2009	2010	2011	2012	2013	2014
St. Louis City and County	5.4	6.2	9.8	9.8	8.9	7.3	7.1	6.7
United States	4.6	5.8	9.3	9.6	8.9	8.1	7.4	6.2
Missouri	5.0	5.9	9.4	9.3	8.5	7.0	6.5	6.3

Figure 3. Ameren Service Territory Employment

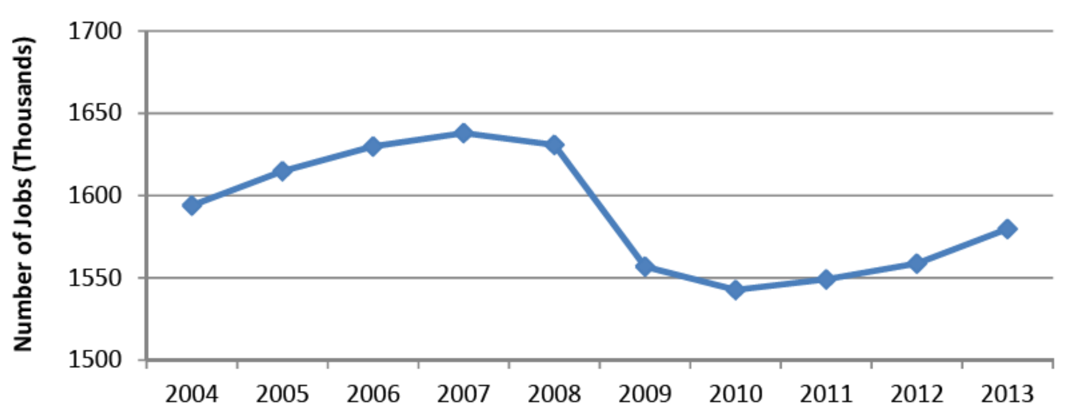


Figure 4 provides a comparison of the increase in average weekly wages for the counties in the Ameren Missouri service area, Consumer Price Index (CPI), Producer Price Index (PPI),[2] and Ameren Missouri electric rates. From 2007 to 2013, the counties in the Ameren Missouri service area collectively experienced a 10.51% increase in average weekly wages. This was slightly lower than the overall Missouri compounded increase in average weekly wages of 11.56%. During that same time period, the CPI increased 12.35% and electric rates for customers served by Ameren Missouri increased, in Case Nos. ER-2007-0002, ER-2008-0318, ER-2010-0036, ER-2011-0028, and ER-2012-0166, a cumulative total of 43.16%, which accumulated to a total increase of approximately $867 million, shown in Table 1. However, Ameren Missouri has also experienced inflationary pressure illustrated by a 17.84% increase in the PPI for Industrial Commodities from 2007 to 2013.[3] Ameren Missouri is currently requesting an additional $264 million or a 9.64% increase in rates. From 2007 to 2013, the increase in average weekly wages for counties in the Ameren Missouri service area is less than one-quarter of the increase in electric rates for Ameren Missouri customers. If Ameren Missouri receives its requested 9.64% increase, the increase in average weekly wages would be less than one-fifth of the increase in electric rates.

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[2] The PPI represents the Producer Price Index for Industrial Commodities which includes textile products and apparel, hides, skins, leather and related products, fuels and related products and power, chemicals and allied products, rubber and plastic products, lumber and wood products, pulp, paper and allied products, metals and metal products, machinery and equipment, furniture and household durables, nonmetallic mineral products and transportation equipment.

[3] Detailed information on Ameren Missouri's expenditures and revenues can be found later in Staff's Cost-of-Service Report.

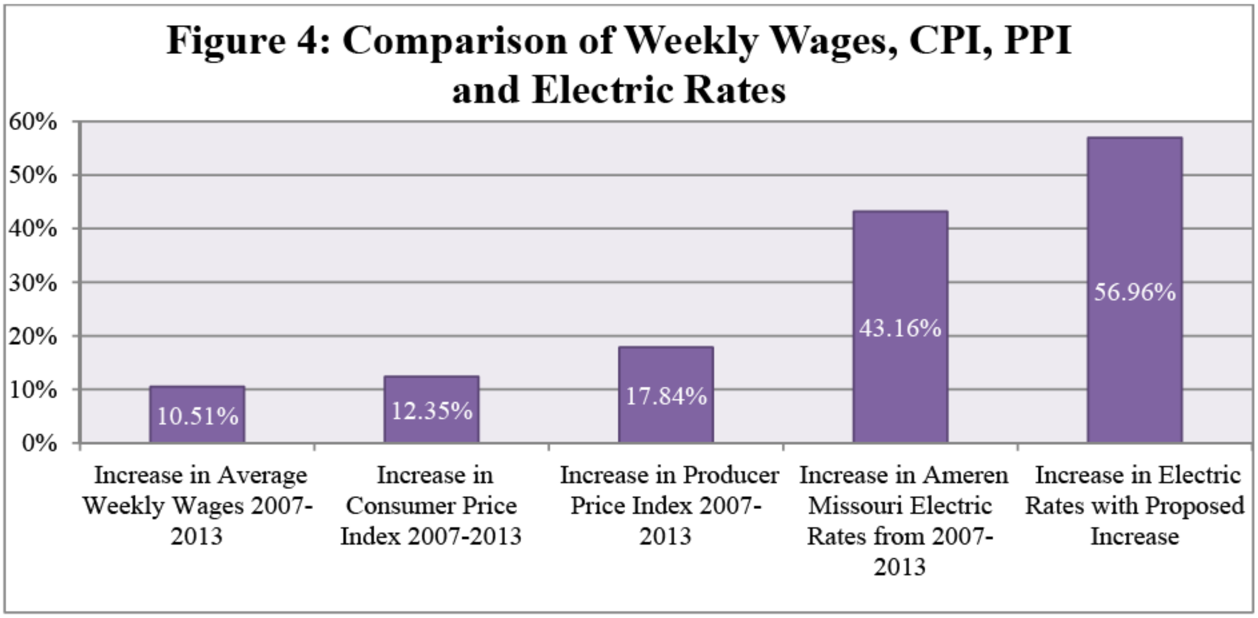

Table 1: Ameren Missouri Rate Case History 2007 - 2014

Case Number	Effective Date	Dollar Value	Percent Increase
ER-2007-0002	1-Jun-07	$41,777,474	2.07%
	23-Jul-07	$1,010,430	
ER-2008-0318	1-Mar-09	$161,709,205	7.75%
ER-2010-0036	21-Jun-10	$229,552,309	10.43%
ER-2011-0028	31-Jul-11	$173,225,030	7.11%
ER-2012-0166	2-Jan-13	$259,647,340	10.05%
Total Dollars		$866,921,788	
Total Compounded Increase			43.16%
ER-2014-0258	(Proposed)	$264,099,796	9.64%
Total with Proposed		*$1,131,021,584*	*56.96%*

According to the *2009 Residential Energy Consumption Survey*,[4] the most recent survey available by the U.S. Department of Energy -- Energy Information Administration, Missouri households consume about 12% more energy than the U.S. average. However, the historically lower residential electricity prices result in the average Missouri household paying slightly less for energy than the national average. Overall, the median Missouri household spends about

[4] U.S. Energy Information Administration. (2014). "Residential Energy Consumption Survey." U.S. Department of Energy, www.eia.gov/consumption/residential/index.cfm (18NOV14).

2.37% of its income on electricity. For households that were identified as being at or below the 150% poverty line, the median increased to 7.68%.

The U.S. Census Bureau provides limited economic data on a zip code basis.[5] The city and county of St. Louis, which include zip codes from 63001 through 63199, were analyzed by Staff. Information was not available for all zip codes in that range since many zip codes were specific to an entity (e.g. Monsanto) or related to a P.O. Box rather than a locale. For the zip codes that had information available, Staff was able to develop an estimate of the average annual wage for a person working within that zip code. Staff used this information and identified eight zip codes of generally lower wages, two of which were removed since they were P.O. Boxes. Table 2 below displays the data of the remaining six zip codes. The names listed in the General Name column are somewhat subjective and based on an attempt to better refine where the zip code is located. The largest class of establishment, in both employment size (two of the three establishments in the 250-499 range) and numbers (411 of 1605 establishments) in these regions is Health Care and Social Assistance, as defined by the Industry Code Description. The region also contains 244 establishments classified as retail, 190 as "other services" excluding public administration, and 160 as accommodation and food services. Sixty-one percent of all establishments had one to four employees, and 88% of all establishments had less than twenty employees.

Table 2. Economic Data of Zip Codes with Generally Lower Estimated Average Payrolls

Zip Code	General Name	Employees	Estimated Average Annual Payroll	Number of Establishments by Employment Size							
				1 - 4	5 - 9	10 -19	20-49	50-99	100-249	250-499	500+
63033	Black Jack	7644	$22,285	410	117	88	49	24	12	1	0
63034	Old Jamestown	1541	$21,964	128	40	16	9	2	3	0	0
63113	St. Louis (Kingsway East)	2563	$24,954	125	36	21	26	2	3	2	0
63135	Ferguson	2412	$22,709	168	40	26	18	7	3	0	0
63138	Spanish Lake	2186	$25,461	142	30	22	14	4	5	0	0
63140	Kinloch	239	$24,598	3	3	2	3	1	0	0	0

[5] U.S. Census Bureau. (2014). "County Business Patterns." https://www.census.gov/econ/cbp/ (19NOV14).

The current economic outlook suggests that steady growth will continue for the foreseeable future. The most recent version of *Business Cycle Conditions* from the American Institute for Economic Research ("AIER") rated the majority of leading indicators and nearly all coincident and lagging indicators as expanding or probably expanding. However, Charles Plosser, the president of the Federal Reserve Bank of Philadelphia, has recently expressed concerns that the interest rates set by the Federal Reserve have remained too low for far too long.[6] However, even those who are concerned about the interest rates being too low do not predict, assuming current monetary policy holds, any recession until late 2016.

Staff Expert/Witness: Michael L. Stahlman

V. Major Issues

The following are the major issues between Staff and Ameren Missouri based on their respective pre-filed direct revenue requirement cases. These issues are discussed here because of their estimated revenue requirement dollar value. A brief explanation for each issue follows, together with an estimate of the dollar value of the difference between the positions of Staff and Ameren Missouri on the issue.

Return on Equity (ROE) – Issue Value – ($61.1 million difference). Staff supports the 9.25% ROE midpoint of its ROE recommended range of 9.00% to 9.50%. Ameren Missouri is requesting a 10.40% ROE. This issue is addressed in detail in Section VI of this report by Staff witness David Murray.

Depreciation Expense – Issue Value – ($17.2 million difference). The primary difference between Ameren Missouri and Staff centers on differing treatment for negative net salvage accruals. Staff recommends limiting negative net salvage accruals for cost of removal on two Distribution Plant accounts to a maximum of 100% of original cost. The Company's proposal for these two accounts would allow accrual of more than twice the original cost in depreciation expense over the life of the asset. One of these accounts, (account 369.1 Overhead Services), already has accumulated depreciation that exceeds the original cost by approximately 35% with an expected remaining life exceeding 25 more years. Overall, Ameren Missouri has already accrued approximately $800 million in accumulated depreciation reserves for future cost of removal.

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[6] Jones, Marc and Jamie McGeever. "Too low U.S. rates should make Fed nervous: Plosser." *Reuters* 11 Nov. 2014. Web. 19 Nov. 2014.

Off-Systems Sales Revenue - Bilateral Sales and Financial Swaps – Issue Value ($16.0 million difference). Staff proposes to include revenues associated with Bilateral Sales and Financial Swaps. Ameren Missouri has excluded all such revenues from its cost of service calculation.

Pension Expense – Issue Value – ($10.0 million difference) Staff recommends a level of pension expense that is significantly lower than what was incurred during the test year in order to reflect a declining trend in pension costs. Ameren Missouri is recommending that a higher level of pension expense be used in this case.

Accounting Authority Order (AAO) to Recover Lost Revenue – Issue Value – ($7.1 million). In Case No. EU-2012-0027, the Commission granted Ameren Missouri permission to defer certain lost revenues (or "fixed costs" as characterized by Ameren Missouri) that it was unable to recover when the Noranda Aluminum Smelter lost power in late January 2009 due to a severe ice storm that struck southeast Missouri. Due to the power outage, Noranda ceased operations for several months. Ameren Missouri is proposing to include approximately $7.1 million in the cost-of-service calculation in this rate case, which represents a five-year amortization of the $35.6 million of total lost revenues associated with the Noranda Aluminum Smelter outage. Staff opposes Ameren Missouri's proposal to include an amortization of the lost revenues for recovery in rates.

Ameren Services Company ("AMS") Allocations – Issue Value ($6.3 million difference). Ameren Missouri has included an adjustment to reflect a projected estimate of increases in expenses that are allocated to Ameren Missouri from an affiliate service company, AMS. Staff has excluded this estimate from its cost of service calculation.

Property Taxes – Issue Value – ($5.7 million difference). Ameren Missouri reflected a projected property tax expense at the time of the filing of their rate case. Staff has included actual property tax payments made for calendar year 2013 until such time that actual property tax expense for calendar year 2014 becomes known and measurable.

There are other significant differences between Staff and the Company, based upon their respective direct filings. However, these other differences are less significant than the items discussed above.

Staff Expert/Witness: John P. Cassidy

VI. Rate of Return

A. Introduction

An essential ingredient of the cost-of-service ratemaking formula is the rate of return ("ROR"), which is usually premised on the goal of allowing a utility the opportunity to recover the costs required to secure debt and equity financing. If the allowed ROR is based on the costs to acquire capital, then it is synonymous with the utility's weighted average cost of capital ("WACC"), which is calculated by multiplying each component ratio of the appropriate capital structure by its cost and then summing the results. While the proportion and cost of most components of the capital structure are a matter of record, the cost of common equity must be determined through expert analysis. Staff's expert financial analyst, David Murray, has estimated Ameren Missouri's cost of common equity by applying well-respected and widely-used methodologies to data derived from a carefully-assembled group of comparable companies. Staff then used that cost of common equity and compared it to Staff's cost of common equity estimate in Ameren Missouri's last rate case to determine what, if any changes should be made to Ameren Missouri's allowed return on common equity (ROE).[7] Staff recommends the Commission set Ameren Missouri's allowed ROR based on the March 31, 2014, test year as follows based on Staff's estimate that Ameren Missouri's cost of equity has declined by approximately 25 to 75 basis points:

			Allowed Rate of Return Using Common Equity Return of:		
Capital Component	Percentage of Capital	Embedded Cost	9.00%	**9.25%**	9.50%
Common Stock Equity	52.96%	-----	4.77%	**4.90%**	5.03%
Preferred Stock	1.12%	4.18%	0.05%	**0.05%**	0.05%
Long-Term Debt	45.92%	5.565%	2.56%	**2.56%**	2.56%
Total	**100.00%**		7.37%	**7.50%**	7.63%

[7] The cost of common equity is the return required by investors, determined by expert analysis of market data relating to a carefully-constructed group of proxy companies. The allowed return on equity ("ROE"), on the other hand, is the value selected by the Commission for use in calculating a utility's forward-looking rates for implementation at the end of the rate case.

Staff estimates, based upon its expert analysis, a cost of common equity range of 7.60% to 8.40%, mid-point 8.00%. However, because the Commission decided an allowed ROE of 9.7% to 9.8% was appropriate in 2012, Staff is recommending that the Commission simply reduce the allowed ROE by 25 to 75 basis points to allow ratepayers to share in the reduced cost of equity to Ameren Missouri. This would result in an overall ROR of 7.37% to 7.63%, mid-point 7.50%. Staff recommends that the Commission authorize an ROE of 9.25% based on a reasonable reduced cost of equity of at least 50 basis points. The details of Staff's analysis and recommendations are presented in Schedules 1-17 in Appendix 2. Staff's workpapers will be provided to the parties at the time of filing Staff's Cost of Service Report. Staff will make any source documents of specific interest available upon the request of any party to this case or upon the Commission's request.

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 Constitution requires, therefore, that utility rates set by the government must allow a reasonable opportunity for the shareholders to earn a fair return on their investment. The United States Supreme Court has described the minimum characteristics of a Constitutionally-acceptable rate of return in two frequently-cited cases.[8] In *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, the Court stated:[9]

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the

[8] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 64 S.Ct. 281, 88 L.Ed. 333 (1943); *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).
[9] 262 U.S. at 692-693, 43 S.Ct. at 679, 67 L.Ed. at 1176, 1182-83

> money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally.

Similarly, in the later of the two cases, *Federal Power Commission v. Hope Natural Gas Co.*, the Court stated:[10]

> '[R]egulation does not insure that the business shall produce net revenues.' But such considerations aside, the investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.

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 return that investors forego in order to invest in similar risk investment opportunities that vary depending on market and business conditions.

The methodologies of financial analysis have advanced greatly since the *Bluefield* and *Hope* decisions.[11] 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 the 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 being a measure of the likelihood that an investment will not

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[10] 320 U.S. at 603, 64 S.Ct. at 288, 88 L.Ed. at 345.

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

perform as expected by that investor. Any line of business carries with it its own peculiar risks and it follows, therefore, that the return Ameren Missouri's shareholders may expect is equal to that required for comparable-risk utility companies.

Financial theory holds that the company-specific Discounted Cash Flow ("DCF") method satisfies the constitutional principles inherent in estimating a return consistent with those of companies of comparable risk;[12] however, Staff recognizes that there is also merit in analyzing a comparable group of companies as this approach allows for consideration of industry-wide data. Because Staff believes the cost of equity can be reliably estimated using a comparable group of companies and the Commission has expressed a preference for this approach, Staff relies primarily on its analysis of a comparable group of companies to estimate the cost of equity for Ameren Missouri.

In this case, Staff has applied this comparable company approach through the use of both the DCF method and the Capital Asset Pricing Model ("CAPM"). Properly used and applied in appropriate circumstances, both the DCF and the CAPM methodologies can provide accurate estimates of a utility's cost of equity. Because it is well-accepted economic theory that a company that earns its cost of capital will be able to attract capital and maintain its financial integrity, Staff believes that authorizing an *allowed* return on common equity based on the *cost* of common equity is consistent with the principles set forth in ***Hope*** and ***Bluefield***. However, as Staff will discuss extensively throughout this section of the report, Staff believes it is common practice for commissions to allow returns on equity that are higher than the costs of equity for utilities. Consequently, Staff's recommended allowed ROE is higher than Staff's estimate of Ameren Missouri's cost of equity.

Because the Commission authorized an ROE in Ameren Missouri's last rate case that it deemed to be fair and reasonable, Staff believes it can best serve the Commission by providing it an estimate of the relative change in electric utilities' cost of equity in general, and Ameren Missouri's in particular, since Ameren Missouri's last rate case, Case No. ER-2012-0166. Staff believes the cost of equity has declined by approximately 50 basis points since Ameren

[12] Because the DCF method uses stock prices to estimate the cost of equity, this theory not only compares the utility investment to other utilities, but it compares the utility investment to all available assets. Consequently, setting the allowed ROE based on a market-determined cost of equity is necessarily consistent with the principles of *Hope* and *Bluefield.*

Missouri's last rate case. Consequently, Staff recommends the Commission allow Ameren Missouri an ROE in a range of 9.00 to 9.50 percent with a point estimate of 9.25 percent.

C. Current Economic and Capital Market Conditions

Determining whether a cost of capital estimate is fair and reasonable requires a good understanding of the current economic and capital market conditions, with the former having a significant impact on the latter. With this in mind, Staff emphasizes that an estimate of a utility's cost of equity should pass the "common sense" test when considering the broader current economic and capital market conditions.

1. Economic Conditions

Although the economy contracted in the first quarter of 2014, it has since grown at a fairly rapid pace in the second and third quarters. Real Gross Domestic Product ("GDP") contracted by 2.1 % in the first quarter, increased 4.6 % in the second quarter, and increased 3.9 % in the third quarter.[13] Some economists attributed the contraction in real GDP in the first quarter to the extremely cold winter. As of September 2014, the Federal Reserve Board Members and the Federal Reserve Bank Presidents projected real GDP would grow between 2.6 % and 3.0 % in 2015, 2.6 to 2.9 percent in 2016 and 2.3 to 2.5 percent in 2017. The longer run projections for real GDP growth were between 2.0 to 2.3 percent.[14]

Information released from the recently held Federal Open Market Committee ("FOMC") meeting held on October 30, 2014, share the FOMC's explanation as to why it has made its decision to conclude its bond purchase program and also its intention regarding any future changes in the Federal Funds Rate. The following excerpt from the FOMC's press release provides direct comments from the FOMC regarding its views:

> The Committee judges that there has been a substantial improvement in the outlook for the labor market since the inception of its current asset purchase program. Moreover, the Committee continues to see sufficient underlying strength in the broader economy to support ongoing progress toward maximum employment in a context of price stability. Accordingly, the Committee decided to conclude its asset purchase program this month. The Committee is maintaining its existing policy of reinvesting principal

[13] http://www.bea.gov/national/index htm#gdp. "Real" GDP is adjusted to reflect inflation.
[14] http://www federalreserve.gov/monetarypolicy/files/fomcprojtabl20140917.pdf

> payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.
>
> To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to 1/4 percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess progress--both realized and expected--toward its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments. The Committee anticipates, based on its current assessment, that it likely will be appropriate to maintain the 0 to 1/4 percent target range for the federal funds rate for a considerable time following the end of its asset purchase program this month, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored. However, if incoming information indicates faster progress toward the Committee's employment and inflation objectives than the Committee now expects, then increases in the target range for the federal funds rate are likely to occur sooner than currently anticipated. Conversely, if progress proves slower than expected, then increases in the target range are likely to occur later than currently anticipated.
>
> When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.[15]

2. Capital Market Conditions

a. Utility Debt Markets

Utility debt markets indicate a lower cost-of-capital environment than that which existed in 2012. If one were to assume that the risk premium[16] required for investing in utility stocks

[15] Federal Reserve Press Release October 30, 2014.
[16] Risk Premium in this context is the excess required return to invest in a company's equity rather than its debt.

rather than utility bonds was constant, then the current lower utility debt yields translate into a lower required return on equity than in 2012.

Although utility bond yields increased during the 2013 calendar year, they have generally declined through October 31, 2014, and on average are below the yields in 2012. The average utility bond yield for the first 6 months of 2012 (the general time frame in which capital market data was analyzed in the 2012 rate cases) was 4.94%. The average utility bond yield for the most recent 6 months in 2014 was 4.36%, a decline of approximately 60 basis points. (*see* Schedules 4-1 and 4-3). For the most recent 6 months through October 2014, the average spread between 30-year T-bonds (3.27 %) and average utility bond yields (4.36 %) was 109 basis points. For the first 6 months in 2012, the average spread between 30-year T-bonds (3.04 %) and average utility bond yields (4.94 %)[17] was 190 basis points. The decline in the spread is explained mainly by the decline in utility bond yields because the 30-year T-bond yields have increased slightly since 2012. (*see* Schedules 4-3 and 4-4). Consequently, it appears that utility bond yields may have already factored in an expected increase in yields on treasury bonds at some point in time.

b. Utility Equity Markets

For the twelve months ending September 30, 2014, the total return on the Dow Jones Industrial Average was 12.65%, the total return on the Standard & Poor's 500 ("S&P 500") was 18.78%, and the total return on the Edison Electric Institute ("EEI") Index of electric utilities was 15.58%. Typically, over long holding periods utility indices tend to lag behind broader market indices that are increasing or decreasing. Regulated utilities are not expected to be as cyclical as the broader markets because of low demand elasticity; however, utilities with significant non-regulated operations are likely to be more affected by general economic trends. The equally weighted returns for the EEI's indices of electric utility companies since 2009 are as follows:

	2009	2010	2011	2012	2013	2014[18]
EEI Broad Index	14.1%	11.9%	21.4%	4.8%	17.3%	17.3%
Regulated	14.2%	15.8%	22.3%	4.7%	17.0%	16.8%

[17] For utility bond yields prior to September 2010, Staff used Mergent Bond Record. For utility bond yields subsequent to this period, Staff used data it receives from BondsOnline pursuant to a subscription agreement.
[18] For the first 6 months of 2014 because as of December 4, 2014, EEI had not updated the returns through September 30, 2014.

Mostly Regulated	15.6%	8.5%	19.5%	5.8%	16.0%	18.2%
Diversified	8.1%	-5.2%	21.4%	0.8%	47.5%	16.1%

Chain linking[19] these returns provides the following total return performance for all of the categories provided by EEI: EEI Broad Index: 123.51%; EEI Regulated Index: 131.41%; EEI Mostly Regulated Index: 117.43%; and EEI Diversified Index: 114.75%.

Although the above returns are equally weighted returns and the S&P 500 is a market-weighted return, reviewing the performance of the S&P 500 over the same period is helpful in evaluating relative performance of utilities as they relate to the broader markets:

	2009	2010	2011	2012	2013	2014
S&P 500	26.5%	15.1%	2.1%	16.0%	32.4%	7.1%

Chain linking the S&P returns indicates total return performance of 144.53%, which is greater than the total return performance of all of EEI's indices. Traditionally, over long-term market periods, total returns on the S&P 500 should outperform regulated utilities by at least 25% to 30% because betas on regulated utilities typically are around 0.7, implying that utilities will lag the S&P 500 in gains by about 30%, but also lag the S&P 500 in losses by about 30%. Comparing the total return of EEI's regulated utilities index shows that the regulated utilities sector has only lagged by about 10%. This relationship actually is quite logical considering the low-growth, low long-term interest rate the U.S. economy and capital markets have experienced during the period since the recession of 2008 and 2009. Many investors have been seeking investments that may provide a return higher than those being offered by bonds. Because utility stocks are viewed by investors as being a close alternative to bonds, the price of utility stocks has been bid up due mainly to lower interest rates. Quite simply, the lower interest rate environment has continued to support a low cost of capital environment for utilities for both their equity capital and their debt capital.

In fact, many utility equity analysts during the past few years have consistently discussed the premium at which regulated utility stocks have traded as compared to the S&P 500, which is not typical over the long-term in capital markets. Typically, due to the low-growth and high-dividend yield characteristics of utility stocks, the price-to-earnings ratios are lower for

[19] A process for combining periodic returns to produce an overall time-weighted rate of return. 2009 CFA Program Curriculum, Level III, Volume 6, p. 120.

utility stocks as compared to the higher-growth, lower-yield profile of the S&P 500. Equity analysts consistently explain that the higher multiples are driven by the low interest rate environment, not higher growth expectations for the regulated utility industry as compared to the broader markets.

Goldman Sachs' analysis consistently shows that utilities typically trade at a premium to the market when U.S. 10-year treasury yields trade below the 3% level and trade at a discount to the market when U.S. 10-year treasury yields trade above 3%. The average yield on the U.S. 10-year treasury was 2.30% for the month of October 2014. Goldman Sachs also points out that the projected compound annual growth rate ("CAGR") in Earnings Per Share ("EPS") for utilities for the 2013 through 2016 averages approximately 5%, which is below most all other sectors in the S&P 500. Coupling the fact that utilities are trading at a premium to the S&P 500 even though utilities have lower growth expectations than the S&P 500, clearly indicates that utilities' cost of equity is quite low in the current economic and capital market environment. Assuming the Commission accepts these capital market experts' views on the reason for the current higher valuation levels of utilities, then the key question the Commission needs to answer in determining a fair allowed return on equity in this case is whether changes since the Commission heard evidence in the electric cases in 2012 when it authorized an ROE of 9.8% for Ameren Missouri and 9.7% for KCPL and KCPL Greater Missouri Operations Company ("GMO") justify a decrease, increase or no change to the allowed ROEs now.

Although Staff will provide more specific information about its specific cost of equity analysis of its proxy groups later in its testimony, Staff will provide a brief overview of the changes in the capital markets since the Commission authorized ROEs in the Ameren Missouri and KCPL rate cases at the end of 2012 and in early 2013, based on capital market evidence through approximately mid-2012.

At the time Staff filed its direct testimony in both the Ameren Missouri and KCPL and GMO rate cases, the 6-month average utility bond yield through June 2012 was 4.94%. At the time Staff was preparing its testimony for this case, the 6-month average utility bond yield through October 2014 was 4.36%, a decline of approximately 60 basis points. Although not as indicative of utility capital costs, the 6-month average U.S. 30-year Treasury yield was 3.04% for the first 6-months of 2012. At the time Staff was preparing its testimony for this case, the

6-month average U.S. 30-year U.S. Treasury yield was 3.27%, an increase of approximately 25 basis points.

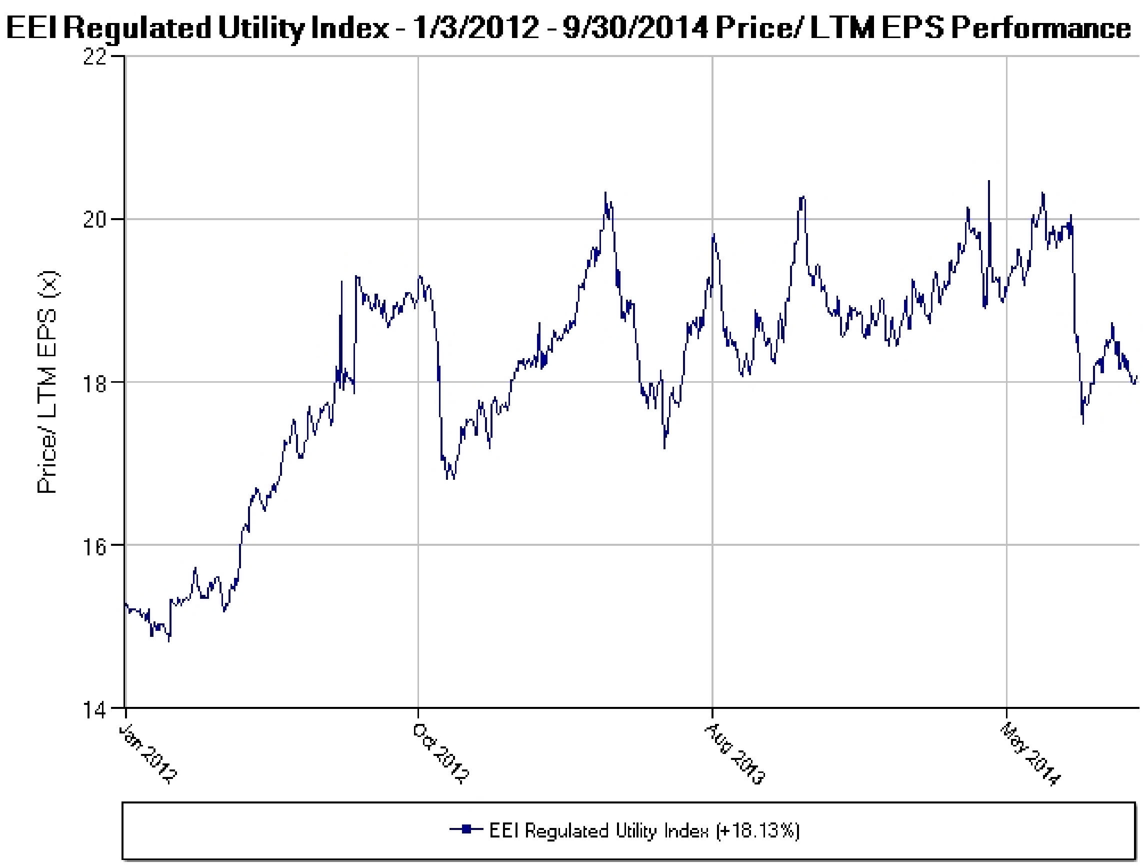
Although Staff believes the decline in utility bond yields provides support for lowering the allowed ROE from the Commission's previous authorizations, it is important to evaluate the impact the lower bond yields have had on both the absolute and relative performance of electric utility indices and broader market indices over the period since the Commission last authorized ROEs for electric utilities in Missouri. As provided in the table above (but partially reproduced below for convenience), the total returns for each of the indices were as follows since January 1, 2012:

	2012	2013	2014
EEI Broad Index	4.8%	17.3%	17.3%
Regulated	4.7%	17.0%	16.8%
Mostly Regulated	5.8%	16.0%	18.2%
Diversified	0.8%	47.5%	16.1%
S&P 500	16.0%	32.4%	7.1%

Chain linking these returns provides the following total return performance for all of the indices: EEI Broad Index: 44.20%; EEI Regulated Index: 43.08%; EEI Mostly Regulated Index: 45.06%; EEI Diversified Index: 72.62%; S&P 500: 64.49%. This information clearly shows that the regulated utilities' total returns as compared to the S&P 500 were much more consistent with a typical capital market situation in which utilities' returns lag that of the broader markets by approximately 30%. Although this information provides insight on the performance of the market, without analyzing the reasons for the performance differences, it will not provide much insight on any potential changes in the cost of equity since 2012.

The fact that the compound average annualized return for the regulated utilities' index was 13.91% since 2012, while the expected average near-term growth of EPS for regulated utilities is only approximately 5%, implies that the price gains have been driven by a continued contraction in the required ROE. A contraction in the required ROE, i.e. the cost of equity, allows for an expansion in the price-to-earnings multiples of the sector. Because the average dividend yield for regulated electric utilities is no higher than 4%, this means that the other approximate 5% of capital gains came directly from an expansion of the price-to-earnings multiple for electric utilities, not due to changes in the growth fundamentals of the underlying companies.

Below is a graph of the change in the price-to-last-twelve-months'-earnings ratios ("p/e ratios") for EEI's current regulated utility index from the beginning of January 1, 2012, through September 30, 2014. As can be seen, the p/e ratios have increased since the Commission determined that an allowed ROE for Ameren Missouri and KCPL should be in the range of 9.70% to 9.80%. The increase in the p/e ratios for the electric utility industry indicates that the cost of equity has declined further since the Commission last decided an allowed ROE of 9.70% to 9.80% was fair and reasonable.



As explained by EEI itself, the continued increase in electric utility stock prices is not explained by the fundamentals of the industry, but by the macroeconomic environment, which has caused investors to continue to lower their required ROE's, i.e. the cost of common equity. EEI specifically stated the following in its report on electric utility stocks through the second quarter of 2014:

> The EEI Index surged 18.0% in the first half of 2014, outperforming the major averages after markedly trailing in 2012 and 2013. As has typically been the case in recent years, performance was influenced more by macroeconomic trends (declining interest rates and firming natural gas spot prices in early 2014) than any significant change in industry fundamentals.[20]

Although this commentary does not estimate how much the cost of equity has declined, it definitely provides evidence that it has declined since 2012.

Staff also decided to analyze the changes in the price-to-forward EPS multiples, as reported by FactSet[21], because these multiples are often discussed by equity analysts and investors when evaluating whether a stock is attractively valued (lower p/e ratio than implied in their valuations). In 2012 the average p/e ratio for EEI's regulated electric utilities was 16.3x; in 2013 it increased to 16.9x and in 2014 it increased to 18.1x. One way to evaluate whether the p/e ratio expansion can be explained by changes in growth fundamentals of the industry rather than a declining ROE, i.e. cost of common equity, is to evaluate the PEG ratio, which measures the change in the ratio of p/e to the 5-year EPS growth projections. In 2012 the average PEG ratio for EEI's regulated electric utilities was 3.7x, it increased to 4.4x in 2013 and has since come back down to 4.0x. Although not as high as it was in 2013, it is above the ratio in 2012, which indicates that the cost of equity for regulated electric utilities has declined since then.

Although Staff is introducing different criteria to select its proxy group in this rate case as compared to the criteria it used in the 2012 rate cases, Staff performed an updated analysis of the proxy group it used in 2012 for purposes of evaluating and quantifying any potential changes to the cost of equity for the proxy group. Being that the main issue the Commission had with Staff's cost of equity estimate in the last rate case was that it was just too low, which was primarily driven by Staff's use of a lower perpetual growth rate, the Commission should focus on the relative change in Staff's cost of equity estimate compared to 2012 rather than the absolute estimate. Because perpetual growth rates should not change much over time, Staff believes that

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[20] Edison Electric Institute Second Quarter 2014 Financial Update.
[21] Staff receives FactSet compilation of equity analyst estimates through its subscription to SNL Financial.

simply updating the rest of the data and still using the same perpetual growth rate will provide a good estimate of the relative change in the cost of equity.

Staff's proxy group in the last rate case contained ten companies. If Staff were simply updating the cost of common equity analysis of this proxy group, Staff would need to eliminate Cleco Corporation and Wisconsin Energy because these two companies are currently involved in mergers and acquisitions. At the time of Ameren Missouri's last rate case the average forward p/e ratio for the proxy group, absent Cleco and Wisconsin Energy, was approximately 14.12x based on 2011 year-end prices applied to projected 2012 EPS. The current average forward p/e ratio for the same proxy group is 15.43x. Because the projected 5-year EPS growth rates of these eight companies have actually declined by approximately 100 basis points from approximately 5.25% to the low 4% range, the only explanation for the expansion of the p/e ratios for these companies since the last rate case is an additional decline in the required ROE, i.e. the cost of equity, for the regulated electric utility industry due to the realization that our economy continues to be in a low-yield, low-growth state.

Although Staff believes its own analysis of the increase in the p/e ratios for electric utilities since 2012 supports the Commission lowering the allowed ROE from the levels it authorized in 2012, there are also plenty of examples of commentary in the investment community that support Staff's conclusions.

Wells Fargo analysts indicated the following about the electric utility industry in a December 1, 2014 research report:

> **Utilities Tread Water in November.** The S&P Utilities increased 1.2% in November versus a 2.7% increase for the S&P 500. Year-to-date, the group continues to materially outperform the broader market (+25% vs. +14%) buoyed by low long-term interest rates and (perhaps) various macro concerns (benign economy, geopolitical issues) that increase the appeal for defensive, yield-oriented investments...
>
> **Group Valuation.** On a P/E basis, the electric utility universe trades at a forward P/E that is 100% of the S&P 500 forward P/E, modestly below the 10-year median of 102%. On an absolute basis, the utility forward P/E stands at 17.7X, a 16% premium to the 10-year median of 15.3x. Lastly, relative to long-term interest rates, utilities remain modestly inexpensive. (Figures 5-12). While the fundamentals remain solid and current valuations are supported by the low interest rate environment, we would take a more cautious approach to the sector given the absolute valuation levels.[22]

[22] Neil Kalton, Sarah Akers, Jonathan Reeder, Glen F. Pruitt and Peter Flynn, "Between The Lines: Wells Fargo Utility Monthly," December 1, 2014, Wells Fargo Securities.

Goldman Sachs indicated the following about the electric utility industry in a July 27, 2014 research report:

> **We reiterate our Cautious view on utilities…**Heading into 2Q2014 reporting and as investors position portfolios through year-end, we remain cautious on utilities in general, given (1) valuation levels that remain above historical trends, with many at PE multiples of 15.5x/15.0x on 2015/2016 – just below peak levels, and (2) the potential for rising US treasury yields to weigh on valuation…
>
> Utilities still trade above historical levels – at almost 15.5x on 2015 (FY2) earnings, near peak levels – and we see little room for multiple expansion or abnormal earnings growth going forward. EPS growth for the sector remains below many other S&P industries.[23]

D. Ameren's and Ameren Missouri's Operations

1. Ameren

The following excerpt from Ameren's Form 10-Q filing with the United States Securities and Exchange Commission ("SEC") for the quarter ended September 30, 2014, provides a good description of Ameren's current business operations and current organizational structure:

> Ameren, headquartered in St. Louis, Missouri, is a public utility holding company under PUHCA 2005, administered by FERC. Ameren's 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 parent company expenses by Ameren depend on distributions made to it by its subsidiaries. Ameren's principal subsidiaries are listed below. Also see the Glossary of Terms and Abbreviations at the front of this report and in the Form 10-K.
>
> - Union Electric Company, doing business as Ameren Missouri, operates a rate-regulated electric generation, transmission, and distribution business, and a rate-regulated natural gas transmission and distribution business in Missouri. Ameren Missouri supplies electric service to 1.2 million customers and natural gas service to 127,000 customers.
>
> - Ameren Illinois Company, doing business as Ameren Illinois, operates a rate-regulated electric and natural gas transmission and distribution business in Illinois. Ameren

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[23] Michael Lapides, Adam Muro, Vikas Sharma, Rishabh Gupta, "Power Positioning 2H2014: CPN to the CL [Conviction List] Buy list, upgrade DYN, downgrade PCG," July 27, 2014.

> Illinois supplies electric service to 1.2 million customers and natural gas service to 807,000 customers.

Ameren's business risk profile has changed significantly since its last rate case in 2012. Ameren's operations in 2012 included its merchant generation operations in Illinois. These non-regulated merchant operations increased Ameren's business risk profile to the extent that Staff excluded Ameren from its proxy group for estimating Union Electric's cost of common equity. Ameren's merchant generation operations were held under its non-regulated subsidiary Ameren Energy Generating Company ("Genco"). As can be seen in Staff's schedules providing Ameren's historical financial information, write-downs and other losses from the Genco operations caused Ameren to experience contraction in the growth of various financial indicators, such as earnings and dividends, for the period 2009 through 2013. Ameren sold its Genco operations to Dynegy on December 2, 2013. Because the assets held by Genco had no value to Ameren's shareholders, Dynegy's consideration for the acquisition of the Genco assets was simply the assumption of $824 million of debt held by Genco. After the divestiture of these non-regulated assets, Ameren's business risk profile became consistent with that of a pure-play electric utility if one considers its federal transmission assets to be regulated electric operations.

E. Ameren Missouri's and Ameren's Credit Ratings

Ameren and Ameren Missouri are currently rated by Moody's, Standard & Poor's ("S&P") and Fitch. It is important to understand the current credit standing of Ameren as well as Ameren Missouri, as Ameren's ratings influence investors' views of the risk associated with investing in Ameren Missouri. Although Staff is not estimating the cost of capital for Ameren in this case, the influence of the risks of Ameren's other operations, which now no longer include the non-regulated merchant generation operations, on Ameren Missouri's risk must be understood in order to estimate a fair rate of return for Ameren Missouri. Ameren Missouri's past affiliation with Ameren's non-regulated operations had consistently impaired Ameren Missouri's credit quality from what it could have been absent this affiliation. Since Ameren divested the non-regulated operations, Ameren Missouri's credit quality and ratings have improved.

Ameren Missouri's and Ameren's credit ratings are generally consistent with the exception of Moody's, which rates Ameren one notch lower than Ameren Missouri. S&P,

Moody's and Fitch issuer/corporate credit rating are 'BBB+', 'Baa1' and 'BBB+', respectively.[24] S&P's rating of Ameren Missouri is two notches higher than it was in 2012; Moody's rating of Ameren Missouri is one notch higher; and Fitch's rating is the same.

However, it is important to understand that S&P's ratings methodology is still based on its assessment of Ameren's overall credit quality. Based on S&P's May 8, 2014, research report on Ameren Missouri, it would assign an 'A-' credit rating to Ameren Missouri if it were rated as a stand-alone entity.

The following is an excerpt from S&P's May 8, 2014, credit-rating report on Ameren Missouri, discussing Ameren Missouri's business risk:

> We consider AM [Ameren Missouri] business risk profile as "excellent", reflecting its lower-risk, monopolistic rate-regulated utility businesses that provide an essential service. AM is a rate-regulated utility that serves about 1.2 million electric and more than 120,000 gas customers in portions of central and eastern Missouri. The company also has about 10,300 megawatts (MW) of generating capacity, generating about 75% of its electricity from coal and 20% from nuclear.
>
> We view the Missouri regulatory jurisdiction as "strong/adequate" (see "Utility Regulatory Assessments For U.S. Investor-Owned Utilities," Jan. 7, 2014) and we view AM's management of regulatory risk as average compared with peers. This reflects the company's use of various riders and trackers that include a fuel adjustment clause and pension and storm trackers. However, under our base case scenario of slower-than-average economic growth, continued regulatory lag, and higher capital spending, we view the company's ability to consistently earn its allowed return on equity as challenging.

S&P's methodology of assessing corporations in general, and utilities in specific, has changed since 2012. Ameren Missouri is now assigned a "regulatory/advantage" score based on S&P's assessment of the regulatory environment and the utility company's ability to manage the regulatory environment. S&P considers the Missouri regulatory environment for electric utilities to be one notch below the best category, which is "Strong," and S&P assigns Ameren Missouri's ability to "manage" that regulatory environment as "neutral," which means they do not consider the utility to have a positive or negative advantage over other utilities' ability to manage the regulatory process.

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[24] SNL Financial.

F. Cost of Capital

In order to arrive at Staff's recommended ROR, Staff specifically examined (1) an appropriate ratemaking capital structure, (2) the Company's embedded cost of debt and preferred stock, and (3) the change in the Company's cost of common equity.

1. Capital Structure

Schedules 5-1 and 5-2 present Ameren Missouri's and Ameren's historical year-end capital structures in dollar terms and percentage terms for the years 2009 through 2013 along with the quarter-end as of September 30, 2014. As can be observed from these historical capital structures, the current capital structure of Ameren Missouri is fairly consistent with the way in which Ameren has been capitalized over this period, easing Staff's concern regarding manipulation of Ameren Missouri's capital structure for ratemaking purposes.

For the purposes of its direct case, Staff accepted Ameren Missouri's March 31, 2014, capital structure provided in the Direct Testimony of Company witness Ryan J. Martin.[25] Schedule 6 presents Ameren Missouri's capital structure and associated capital ratios. The resulting capital structure consists of 52.96% common stock equity, 1.12% preferred stock and 45.92% long-term debt.

2. Embedded Cost of Debt and Preferred Stock

Staff currently accepts the embedded cost of long-term debt and preferred stock as provided in Company witness Ryan Martin's direct testimony.

3. Cost of Common Equity

Staff estimated Ameren Missouri's cost of common equity through a comparable company cost-of-equity analysis of a broader proxy group and a more refined proxy group using the DCF method. Staff also compared the new proxy groups and the proxy group in Ameren Missouri's last rate case to estimate the relative change in the cost of equity since 2012. Additionally, Staff used a CAPM analysis and a survey of other indicators as a check of the reasonableness of its recommendations.

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[25] Martin Direct Testimony, February 3, 2012, p. 5, lines 19-20.

a. The Proxy Groups

Staff decided to perform a cost of common equity analysis on two sets of proxy groups in this case. Although Staff has revised its selection criteria to select a current proxy group, considering the insight that can be gained about the relative change in the cost of common equity by evaluating the proxy group Staff used in the rate cases in 2012, Staff decided to update the cost of common equity analysis on this proxy group as well. Staff limited its DCF analysis of the old proxy group to the multi-stage DCF since Staff gave this the most weight in the last case and because it is dynamic enough to consider near-term growth rate impacts. The only changes Staff made to the proxy group from 2012 was to eliminate Cleco Corporation and Wisconsin Energy Resources because their stock prices are currently influenced by announced mergers and acquisitions. Staff will first explain how it selected the new proxy group and provide cost of common equity indications from this proxy group. Staff will then update the cost of common equity analysis from the proxy group in 2012 and compare the new results to the old results to draw inferences about the change in the cost of equity since 2012.

Although Staff has changed its proxy group selection process as compared to the 2012 rate cases, the ultimate goal is the same, which is to select companies whose operations are confined as much as possible to regulated utility operations ("pure-play regulated utilities"/ "pure-play") with a majority of the regulated utility operations being that of the electric utility sector. Staff believes its ability to access a vast amount of financial and capital market information through its upgraded subscriptions to SNL Financial now allows for a much more efficient and detailed analysis of companies that are generally classified as electric utilities, but may have significant amounts of other operations that contribute to their risk profile. In the past, Staff relied on various third-parties, such as credit rating agencies and certain publishers, to assist with attempting to select appropriate companies. Although this usually resulted in a reasonable proxy group, Staff's easy and efficient access to very detailed financial information has allowed it to refine its proxy group selection process and become more aware of companies which have material non-regulated business segments that cause their risk profiles to be inconsistent with a pure-play regulated utility. Staff's explanation of its new process follows:

Starting with 64 market-traded companies classified as power companies by SNL Financial, Staff applied a number of criteria to develop a proxy group comparable in risk to Ameren Missouri's regulated electric utility operations (*see* Schedule 7). Staff's criteria are designed to capture companies with primarily regulated electric operations (which means the companies' operations may have other regulated operations, such as gas distribution), and whose electric utility operations contain a significant amount of generation assets. Staff believes the criteria it selected accomplished this objective. However, Staff notes that even with its screening criteria, some of the companies it chose for its proxy group have business segments other than rate-regulated utility operations that cause material volatility in the contribution of the regulated utility operations to the percentage of income on a year-to-year basis. That being said, Staff will refine its broader proxy group to eliminate two additional companies that have material volatility in the percentage of income from regulated operations due to the volatility of income from its non-regulated segments. However, Staff will show the results of the broader proxy group and the refined proxy group in each of its schedules. Staff's criteria are as follows:

1. Classified as a power company by SNL (64 companies);
2. Publicly-traded stock (one company eliminated, 63 remaining);
3. Followed by EEI and classified by EEI as a regulated utility (29 companies eliminated, 34 remaining);
4. At least 50% of plant from electric utility operations (4 companies eliminated, 30 remaining);
5. At least 25% of electric plant from generation (8 companies eliminated, 22 remaining);
6. At least 80% of income from regulated utility operations (2 companies eliminated, 20 remaining);
7. No reduced dividend since 2011 (0 companies eliminated, 20 remaining);
8. At least investment grade credit rating (0 companies eliminated, 20 remaining);
9. At least 2 equity analysts providing long-term growth projections in the last 90 days (6 companies eliminated, 14 remaining);
10. No significant merger or acquisition announced recently (0 companies eliminated, 14 remaining).

The resulting final group of 14 publicly-traded electric utility companies ("the comparables") was used as the broader proxy group to estimate a cost of common equity for the electric utility industry. These companies are shown on Schedule 8.

The final criterion used to eliminate any remaining companies that may have segments that have risks inconsistent with a regulated utility is criterion No. 6. In order to select companies that consistently received at least 80% of their income from rate-regulated utility operations, one has to review past performance (Staff chose the last 3 years). However, limiting the selection criteria to just looking at the average amount of income from regulated utility operations can cause the selection of companies that have material volatility in the percentage of income contributed by the regulated utility operations simply because a non-regulated segment may contribute 25% to margin in one year and then reduce margin by 10% in the following year. In the latter situation, one would erroneously conclude that the risk profile of the company is consistent with a regulated utility since the regulated income was over 100% of the company's income. If one were to take a simple average of these two years, then the company would be selected as a comparable company based simply on the fact that 92.5% of the average income came from regulated utility operations. Being that the non-regulated operations significantly increased the variability of income, it is important to add an additional criterion to eliminate companies that have such volatile segments.

Consequently, Staff decided to further refine its broader proxy group to eliminate companies in which the contributions of income from rate-regulated utility operations had a standard deviation of greater than 10% for the most recent three years. If the contribution from regulated utility operations is varying significantly from year to year, then this will make the cost of capital inconsistent with the risks of the regulated utility operations. Staff used standard deviation because it measures the degree of dispersion from the mean. Staff chose 10% because this is the threshold for determining if a segment is material and must be reported according to Generally Accepted Accounting Principles ("GAAP") that govern the requirements regarding segment reporting. Segment reporting requirements had been governed by Statement of Financial Accounting Standard 131, which has now been reclassified as Accounting Standard Codification No. 280. Materiality of a business segment, as defined by GAAP, is defined as follows:

a. Its [operating segment] reported revenue, including both sales to external customers and intersegment sales or transfers, is 10 percent or more of the combined revenue, internal and external, of all operating segments.

b. The absolute amount of its reported profit or loss is 10 percent or more of the greater, in absolute amount, of either:

1. The combined reported profit of all operating segments that did not report a loss

2. The combined reported loss of all operating segments that did report a loss.

c. Its assets are 10 percent or more of the combined assets of all operating segments.

For purposes of evaluating whether a company's non-regulated segments were causing a material variability in income as to make its business risk inconsistent with the regulated business risk profile of a regulated electric utility, Staff decided to use the 10% threshold to define material volatility. Consequently, keeping with GAAP's definition of material being at least 10% of profit or loss, Staff excluded companies whose regulated utilities contribution to income had a standard deviation greater than 10%. However, if a company had swings in its regulated income contribution of 10% or more, but it has since divested the segment that caused these swings, such as Ameren, then Staff included these companies. The two companies that had a greater than 10% standard deviation in the percentage of income from regulated utility operations were OGE Energy and TECO Energy. Staff will provide cost of common equity information for the broader proxy group and for the refined group, which excludes OGE and TECO.

b. The Constant-growth DCF

Next, Staff estimated Ameren Missouri's cost of common equity applying values derived from the proxy group to the constant-growth DCF model. The constant-growth DCF model is widely used by investors to evaluate stable-growth investment opportunities, such as regulated utility companies. The constant-growth version of the model is usually considered appropriate for mature industries such as the regulated utility industry.[26] It may be expressed algebraically as follows:

$$k = D_1/P_0 + g$$

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; and

g is the dividend growth rate.

The term D1/P0, 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 weighted average of the 2014 fiscal year and 2015 fiscal year FactSet projected dividends per share (*see* Schedule 11) by the monthly high/low average stock price for the three months ending October 31, 2014 (*see* Schedule 11).[27] Staff weighted the FactSet projections in this manner in order to reflect the approximate amount of time remaining in the 2014 fiscal year for each comparable company. Staff used the above-described stock price because it reflects current market expectations. The projected average dividend yield for the broader proxy group of fourteen comparable companies is approximately 3.90 %, unadjusted for quarterly compounding. The projected average dividend yield for the refined proxy group of twelve comparable companies is also approximately 3.90 %, unadjusted for quarterly compounding.

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"), EPS and book value per share ("BVPS") for each of the comparable companies and also the projected DPS, EPS and

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[26] Aswath Damodaran, *Investment Valuation: Tools and techniques for determining the value of any asset,* University Edition, John Wiley & Sons, Inc., 1996, p. 195-196; John D. Stowe, Thomas R. Robinson, Jerald E. Pinto and Dennis W. McLeavey, *Analysis of Equity Investments: Valuation*, Association for Investment Management and Research, 2002, p.64.

[27] The monthly high/low averaging technique minimizes the effects of short-term stock market volatility on the calculation of dividend yield. P0 is calculated by averaging the highest and the lowest price for each month during the selected period.

BVPS. In reviewing actual growth rates, Staff found the historical growth rates to be quite volatile, at least for a few of the companies in the proxy group.[28] Staff also reviewed equity analysts' consensus estimates for long-term compound annual growth rates as reported by FactSet and provided by SNL Financial. The average consensus long-term growth rates for the broader proxy group is currently 5.74 % as compared to 5.60 % for the refined proxy group. (*see* Schedule 9-6).

Based on the shorter-term projected EPS growth rate data, one may argue that electric utilities can grow at a rate of 5.6 to 5.75 percent, but it would be unreasonable to conclude that this growth rate is sustainable in perpetuity because it does not give consideration to empirical and logical information that suggests that utility companies should grow at a rate less than that of the overall economy due to the mere fact that investors invest in utility companies for yield and not growth. In fact, considering that companies in the S&P 500 (a proxy for the U.S. capital markets) in recent years have retained approximately 65% to 70% of their earnings for reinvestment,[29] while electric utilities' retention ratio has been less than half that of the S&P 500,[30] it makes logical sense that utilities will grow at a rate less than that of nominal GDP growth. Consequently, a projected long-term, steady-state nominal GDP growth rate[31] should be considered as an upper constraint when testing the reasonableness of growth rates used to estimate the cost of equity for a regulated electric utility. Staff will provide more detail on economic growth projections when discussing the multi-stage DCF, but a high-end estimate for nominal GDP is not much higher than 4.5%, causing an estimated constant growth rate over this rate to be highly suspect.

Because Staff is not relying on the constant-growth DCF to quantify the change in the cost of equity since the 2012 rate cases, Staff's growth rate estimate for the constant growth DCF is based on some common sense restraints on sustainable growth rates and the actual growth experience of the electric utility companies that have experienced more stable growth patterns. Several companies in Staff's proxy group have projected 5-year CAGR in EPS that simply are

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[28] Schedule 9-1 depicts the annual compound growth rates for DPS, EPS and BVPS for each comparable company for the past ten years. Schedule 9-2 lists the annual compound growth rates for DPS, EPS and BVPS for each of the comparable companies for the past five years.
[29] Table B-95 and B-96 attached to the *2013 Economic Report of the President.*
[30] http://www.wyattresearch.com/article/dividend-payout-ratio
[31] The nominal GDP growth rate, contrasted to the real GDP growth rate introduced earlier, is not adjusted for inflation.

not sustainable in the long-term. Simply removing growth rates that exceed 6% reduces the project 5-year CAGR in EPS to 4.6%. Considering that actual long-term growth experience in the electric utility industry barely supports a constant growth rate much more than 3%, Staff will use 3.5% as the low end and 4.5% for the high end investors' expectations of a constant growth rate. Consequently, for purposes of Staff's constant growth DCF for both the broader and more refined proxy group, Staff uses a growth rate range of 3.5 to 4.5%.

Using the growth rate range Staff established for the constant-growth DCF results in a cost of equity estimate of 7.4% to 8.4%. However, Staff will again rely on its multi-stage DCF analysis to provide what it believes to be a more reliable cost of common equity due to the non-sustainable growth rates of a few companies in its proxy group.

ii. Stage one

The first stage of a multi-stage DCF is usually quite specific due to the ability to forecast cash flows in the near-term with more accuracy. In fact, it is often the case that the first stage of a multi-stage DCF will be based on discrete cash flows projected on an annual basis for the next several years. However, in the context of discounting expected future DPS, it is often the case that a compound growth rate is applied to the current DPS to estimate the expected DPS over the next several years. Although it is rare for a company to tie its targeted DPS growth rate directly to a 5-year EPS projected compound growth rate, because equity analysts' 5-year EPS forecasts are widely available and may provide some insight on expected DPS, Staff decided to use these growth rates for the first 5-years of its multi-stage DCF. However, Staff emphasizes that it has **never** seen an investment analysis of a utility company that used 5-year EPS forecasts for purposes of estimating the growth in DPS in a single-stage, constant-growth DCF or for the final stage in a multi-stage DCF. Considering the fact that the very equity analysts that provide 5-year EPS compound growth rates do not use them as a proxy for expected long-term DPS growth in their own analyses should be proof in and of itself that stock prices do not reflect this assumption. Consequently, Staff limited its use of these growth rates to the first five years of its analysis, the very period these growth rates are intended to cover.

iii. Stage two

Stage two, i.e. the transition stage, is simply a gradual movement from above normal growth to more normal/sustainable growth for the final stage. Although stage two can also consist of forecasted discrete cash flows, because it is a transitional period, it is logical to linearly reduce the high growth first-stage growth over a specific period in order to gradually reduce the growth rate to the expected sustainable growth rate. Staff chose to do this over a 5-year period, which is fairly conventional in multi-stage DCF analysis.

iv. Stage three

Stage three is the final/constant-growth stage. In fact, the final stage can be reduced to the single-stage, constant-growth form of the DCF. Although this is the "generic" stage, it is extremely important to select a reasonable growth rate for this stage to arrive at a reliable cost of equity estimate.

Cost of equity estimates using multi-stage DCF methodologies are **extremely sensitive** to the assumed perpetual growth rate. Staff performed an extensive amount of research on the actual realized growth rates of electric utilities over a 30-year period to estimate a 3.00% to 4.00% growth rate as a reasonable proxy for perpetual growth for the electric utility industry.

The Financial Analysis Unit has access to Value Line data on *Central* region electric utility companies dating back to 1968.[32] Staff believes it is important to analyze electric utility industry financial data to at least the early 1970s since this was approximately the beginning of the last large construction cycle for the electric utility industry.[33] Because 1968 is consistent with the starting point of the last construction cycle, Staff decided to capture data starting in that year. Ideally, Staff would have analyzed data through the beginning of the current construction cycle, which started approximately during the middle of the past decade, but because many electric utility companies diversified into non-regulated merchant and trading operations towards the end of the 1990s and there was much consolidation during this same period, this noise causes any study relying on this more recent data to be less reliable in evaluating *regulated* electric utility growth rates. It appears that much of the disruption in the electric industry occurred subsequent to the Enron, Inc., bankruptcy in December 2001. Considering that much of this disruption was caused by deregulation, Staff does not consider the information during this period

[32] Value Line has consistently published information the electric utility industry based on three regions: East, West and Central. The Central Region electric utility industry data is published in Edition 5 of The Value Line Investment Survey data. Staff maintained consistent and comprehensive files for the Central Region for reports published back to 1985, which provides electric utility per share data dating back to 1968.

[33] Daniel Ford, Gregg Orrill, Theodore W. Brooks, Ross A. Fowler, M. Beth Straka and Noah Howser, "Utilities Capital Management," July 16, 2009, Barclays Capital, p. 13 (Attachment D).

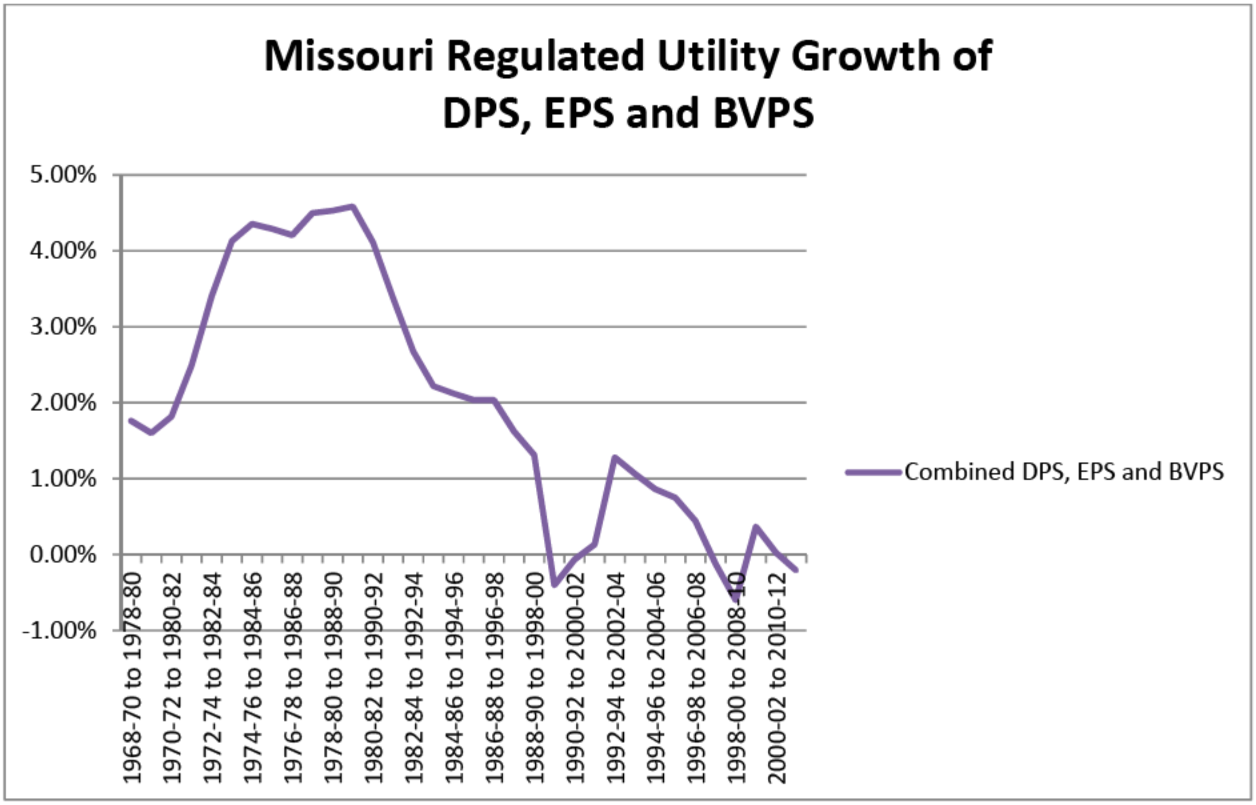
to be informative for understanding investors' growth expectations for regulated electric utility operations.

Staff did not apply rigid selection criteria for purposes of selecting central region electric utility companies contained in Edition 5 of the Value Line Investment Survey. However, Staff did eliminate companies that generally did not have at least 70% of revenues from electric utility operations in the late 1990s. Staff also eliminated companies that appeared to be impacted significantly by events related to the restructuring of the electric utility markets in the mid to late 1990s. Staff also eliminated companies that had data comparability problems due to major mergers, acquisitions and/or restructurings. Staff only included companies in which comparable data was available for each year of the period 1968 through 1999. The companies Staff selected are shown in Schedules 13-1 through 13-4.

Staff's analysis of these electric utility companies' data over the last electric utility construction cycle indicates that average long-term growth slowly increased through the late 1980s and early 1990s and declined for the rest of the 1990s. The growth rates are based on Staff's calculation of a simple average of all of the companies' growth rates over this period. Because a simple average gives each company equal weight, Staff believes this approach is appropriate because it does not introduce size bias. As can be seen in the attached Schedules, the rolling average 10-year compound EPS growth rate for this period was 3.62%; the rolling 10-year compound DPS growth rate was 3.99%; the rolling 10-year compound BVPS growth rate was 3.18%; and the overall average for DPS, EPS and BVPS was 3.59%.

However, it is important to understand that these growth rates were achieved during a much more robust economic environment than the U.S. is expected to achieve in the foreseeable future. Also, considering that some rate of return witnesses' DCF analyses assume utilities can grow at the same rate as GDP in perpetuity, it is interesting to note that the average growth rate for these electric utilities was less than 50% of GDP growth over the same period.

Although Staff relied on the aforementioned proxy group for purposes of estimating a going forward sustainable industry growth rate, another relevant proxy group to evaluate growth trends for electric utility companies is the growth of the utility companies that actually have a large amount of their electric utility operations in Missouri. In addition to evaluating the growth of Missouri electric utility companies for the period 1968-1999, Staff also evaluated the growth of Missouri electric utility companies through 2013. As can be seen in the chart below, if the growth rates of the Missouri utilities are evaluated for the period after the 20th century, it is quite apparent that including this period would reduce the actual realized growth rate:



The average 10-year compound growth rates in DPS, EPS and BVPS for the period 1968 through 2013 were 1.84%, 1.66% and 2.39%, respectively, with an overall average growth rate of 1.96%. The average 10-year compound growth rates in DPS, EPS and BVPS for the period 1968 through 1999 were 3.59%, 3.11% and 2.57%, respectively, with an overall average growth rate of 3.09%. Consequently, including more recent financial data in evaluating the growth rate trends of Missouri's electric utilities actually supports the use of a perpetual growth rate that is less than the 3% to 4% that Staff chose to use in its multi-stage DCF analysis.

Of Missouri's utilities, The Empire District Electric Company's business operations have been the most consistent in being limited to regulated utility operations through the period analyzed. Although Great Plains Energy has owned some non-regulated operations during the period Staff analyzed (e.g., Strategic Energy), these operations did not disrupt the financial performance of the Company to a great extent, even though they did increase Great Plains Energy's risk profile. However, Ameren has incurred significant financial problems due to its ownership of merchant generation operations in Illinois. This exposure caused Ameren to incur significant losses in recent years, which would skew any financial growth rates that include this information. Although Empire and Great Plains Energy did not incur financial difficulties due to non-regulated operations, both companies did reduce their dividends in recent years. Because of these issues that occurred around or after the recession and financial crisis in 2008 and 2009, Staff also determined the average growth of Missouri's utilities through 2007. The average 10-year compound growth rates in DPS, EPS and BVPS for the period 1968 through 2007 were 2.85%, 2.03% and 2.27%, respectively, with an overall average growth rate of 2.39%.

Obviously, the actual experienced growth rates of Missouri's electric utilities support the reasonable, if not lofty, perpetual growth rates Staff chose to use for its perpetual growth rate analysis. The actual realized growth rates of Missouri's utilities support a perpetual growth rate range of 2% to 3% rather than the 3% to 4% Staff decided to use. Although these growth rates are generally characterized as "low" when discussed in the utility ratemaking arena, these growth rates are more typical of those that are used by investors when determining a reasonable price to pay for a utility stock.[34] Additionally, considering that the dividend yield from utility stocks has historically produced 2/3 of the total return on utility stocks, [35] and the fact that dividend yields for electric utilities are currently approximately 4%, a 2% capital appreciation rate in utility stocks is about what investors would expect. This translates into an approximate expected return of 6% for utility stocks, which is quite logical and rational in the current low-yield environment.

v. Constraints on Long-term Growth Rates used in Stage Three

In order to evaluate the credibility of an estimated perpetual growth rate for the electric utility industry, it is important to be aware of the changing fundamentals that have occurred and continue to occur within the electric utility industry due to changes in demand for electricity. In the past, growth in electric utility earnings and dividends was primarily driven by the increase in demand for electricity and the growth of customers using electricity. However, this dynamic has

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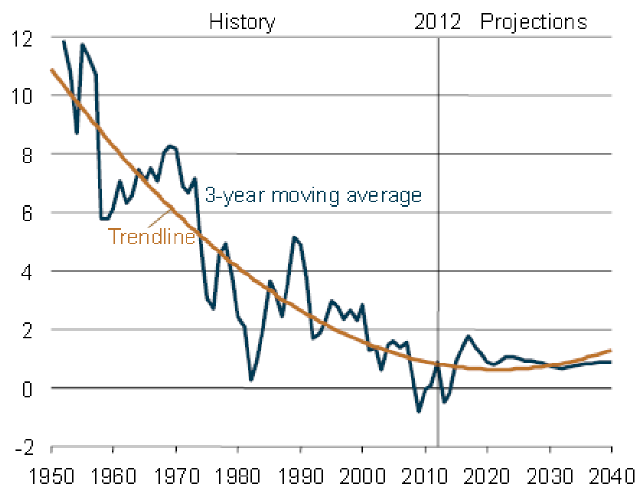
[34] Staff has analyzed many utility stock research reports over the last several years and has consistently observed much lower perpetual growth rates than those typically assumed in models for estimating the cost of equity for utility ratemaking.
[35] Hugh Wynne, Francois D. Broquin, Saurabh Singh, "U.S. Utilities: Our Dividend Growth Model Identifies Utilities Poised to Pay More," May 20, 2011, Bernstein Research.

changed and the demand for electricity is no longer a primary growth driver for electric utilities. The decline in electricity demand growth is illustrated in the graph below:[36]

Electricity demand

Growth in electricity use slows, but use still increases by 29% from 2012 to 2040

Figure MT-29. U.S. electricity demand growth in the Reference case, 1950-2040 (percent)



The fact that the growth in electricity demand has been in a steady state of decline seems to explain the steady decline in electric utilities' financial performance over the period Staff analyzed in its previous discussion in this testimony. To the extent that potential financial growth for electric utilities is now limited to the ability to make additional investments and pass the cost of these investments (which includes the allowed ROR) onto a near-constant customer base, any growth higher than needed capital investment to replace existing infrastructure would seem to be highly speculative and not sustainable. However, Staff notes that much of the rate base growth for electric utilities in recent years has been due to electric utilities making investments in their coal-based generating facilities in order to comply with various emission standards. These types of investments are policy-driven, and therefore are not controllable by management (although the amount of reasonable project costs are). Absent policy-driven investment requirements, it would seem that growth in investment would be limited to a rate

[36] Energy Information Administration's *2014 Annual Energy Outlook,* p. MT-16.

similar to inflation because the only way to recover these costs is to raise rates on the existing customer base that is not using as much electricity.

** [redacted] **

vi. Update of Multi-Stage DCF Analysis on the Proxy Group from the 2012 Rate Cases

Staff updated the multi-stage DCF analysis it performed on the proxy group from the last rate case to gain insight on first, the direction of the change of the cost of common equity since the last rate case, and second, to provide an idea as to how much the cost of common equity has changed. In performing the updated analysis, Staff determined it was necessary to eliminate Cleco and Wisconsin Energy because both companies' stock prices are currently influenced by mergers and acquisitions. In order to allow for comparability between the two cases, Staff eliminated these companies from the 2012 study as well. After updating the multi-stage DCF analysis, Staff's multi-stage cost of equity estimate was 7.38% to 8.15% (*see* Schedules 14-1 to 14-3). This compares to the multi-stage DCF analysis in the last rate case that indicated the cost of equity was 8% to 8.75% after eliminating Cleco and Wisconsin Energy from the proxy group

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results. Consequently, the updated multi-stage DCF analysis of the same proxy group using a consistent perpetual growth rate shows a cost of equity decrease of approximately 60 basis points since 2012.

vii. Backdating of Multi-Stage DCF Analysis on the Current Proxy Group Cases

In order to test whether the implied decrease in the cost of common equity from the proxy group in the 2012 rate cases is reliable, Staff also decided to backdate a cost of common equity estimate of the current proxy group. Again, because the perpetual growth rate should not change much, simply using stock prices for the current proxy group from the 2012 period and using the projected long-term growth rates at the time for the first stage, provides a reasonable estimate of what the implied cost of equity used was at the time for the current proxy group.

Finding historical stock prices is not difficult as this is available from many sources online. However, looking back to 2012 and finding projected growth rates at the time is usually a challenge. However, because Staff currently has an upgraded subscription to SNL Financial and because SNL Financial maintains a database of this information, Staff was able to perform this analysis. Staff's backdated multi-stage DCF analysis of the current proxy group, with the exception of Ameren and PNM Resources because of financial difficulties they had at the time unrelated to their regulated utility operations, shows that the cost of equity estimate would have been approximately in 8.16% to 8.84% range (*see* Schedules 15-1 to 15-3). This compares to a current cost of equity estimate of 7.60% to 8.36% if Ameren and PNM Resources are removed. Consequently, this supports an implied cost of equity reduction of approximately 50 to 55 basis point range from Ameren Missouri's last rate case.

viii. Preference for GDP Growth

Although Staff is confident that investors do not expect that utilities' per share growth rates can grow at the same rate of nominal GDP in the long-run, Staff recognizes that even customer ROR witnesses have been willing to accept this assumption for purposes of estimating the cost of equity. Consequently, Staff will provide a cost of equity indication using this simplified approach.

Projected GDP growth is available from a variety of sources and the Energy Information Administration ("EIA") publishes many of these in its Annual Energy Outlook. Not only does EIA publish near-term projected GDP growth rates, but they also publish projected GDP growth rates over very long time periods. Because economists are projecting these growth rates over very long time periods, such growth rates represent economists current estimates of what they believe the U.S. economy's long-run sustainable growth rate may be, since it is impossible to take into consideration many specific economic issues when projecting these long-term growth rates. These projected long-term growth rates in U.S. GDP are consistent with the current low interest rate environment, which provide signals that the U.S. economy will not return to the growth it achieved during the last century. This is quite logical considering the maturity of the U.S. economy. The projected economic growth rates are shown below:[37]

Table CP1. Comparisons of average annual economic growth projections, 2012-40

	Average annual percentage growth rates			
Projection	2012-2015	2012-2025	2025-2040	2012-2040
AEO2014 (Reference case)	2.6	2.5	2.4	2.4
AEO2013 (Reference case)	2.6	2.6	2.4	2.5
IHSGI (May 2013)	2.6	2.5	2.4	2.5
OMB (January 2014)[a]	2.7	2.6	–	–
CBO (February 2014)[a]	2.6	2.5	–	–
INFORUM (November 2013)	2.4	2.6	2.3	2.4
Social Security Administration (August 2013)	3.0	2.7	2.2	2.4
IEA (2013)[b]	2.6	2.8	–	2.4
ExxonMobil	–	2.5	2.2	2.4
OEG (January 2013)	2.7	2.7	2.5	2.6

-- = not reported or not applicable.
[a]OMB and CBO projections end in 2024, and growth rates cited are for 2012-24. AEO projections end in 2040.
[b]IEA publishes U.S. growth rates for certain intervals: 2011-15 growth is 2.6%, 2011-20 growth is 2.8%, and 2011-35 growth is 2.4%.

In each case in which the sources do not project a nominal GDP growth rate, Staff recommends adding a GDP price deflator of 2.0%, which is the CBO's prediction of long-term inflation and also the inflation rate which is targeted by the Federal Reserve. Considering the fact that a perpetual growth rate is intended to measure the long-run trend growth rate supported by the long-term fundamentals of the U.S.'s mature economy, Staff believes the most relevant projections from the table above are for the period 2025 through 2040. Staff recommends using the mid-point of the real GDP range of 2.2 to 2.5%, which is 2.35%. Compounding the expected GDP price deflator of 2.0% with the long-term real GDP growth of 2.35%, results in long-term nominal GDP growth of approximately 4.40%. When using a 4.4% GDP growth rate in Staff's

[37] Energy Information Administration's *2014 Annual Energy Outlook,* p. CP-2.

multi-stage DCF results in a cost of equity estimate of approximately 8.72% for the broad proxy group and 8.67% for the refined proxy group.

G. Tests of Reasonableness

Staff has tested the reasonableness of its DCF results, both by use of a CAPM analysis and consideration of other evidence.

1. The CAPM

The CAPM is built on the premise that the variance in returns is the appropriate measure of risk, but only the non-diversifiable variance (systematic risk) is rewarded. 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 (measured by Beta). The general form of the CAPM is as follows:

$$k = Rf + \beta\,(Rm - Rf)$$

Where:	k	is the expected return on equity for a security;
	Rf	is the risk-free rate;
	β	is Beta; and
	Rm - Rf	is the market risk premium.

For inputs, Staff relied on historical capital market return information through the end of 2013. For the risk-free rate (Rf), Staff used the average yield on 30-year U.S. Treasury bonds for the three-month period ending October 31, 2014; that figure was 3.17%. For beta (β), Staff relied on estimates directly calculated through an Excel spreadsheet designed specifically to be used with the SNL database of market and financial information. Although Staff is no longer using Value Line's published betas for purposes of its CAPM analysis in its direct testimony, because Value Line is used by many retail investors, Staff still believes Value Line's beta calculation methodology should be considered when performing a CAPM analysis. Because estimating beta is a matter of having access to financial data and performing statistical calculations, unless a financial services provider has a proprietary adjustment they make to their beta calculation, understanding the methodology used by a financial provider allows an analyst to approximately replicate betas of that provider. Fortunately, this is the case for Value Line's beta calculation methodology. Consistent with Value Line's approach to calculating beta, Staff used 5-years of historical weekly returns of the subject company and the New York Stock Exchange ("NYSE") index. The covariance of the weekly returns on the NYSE index and the weekly returns on the subject company is divided by the variance of the weekly returns on the NYSE index to determine raw beta (unadjusted beta). Staff then adjusted the raw beta using the Blume adjustment formula as used by Value Line: Adjusted Beta = (.35 + .67(Unadjusted Beta)) (*see* Schedule 16).

The average beta for the broader proxy group was 0.74 and 0.73 for the refined proxy group. For the market risk premium (Rm – Rf) estimates, Staff relied on the historical difference between earned returns on stocks and earned returns on bonds.[38] The first risk premium was based on the long-term arithmetic average of historical return differences from 1926-2013 – 6.20 %. The second risk premium was based on the long-term geometric average of historical return differences from 1926 to 2013 – 4.64 percent. The results using the long-term arithmetic average risk premium and the long-term geometric risk premium are 7.76 and 6.60 percent, respectively for the broad proxy group and 7.66 and 6.53 percent for the refined proxy group.

These cost of common equity results support the reasonableness of Staff's cost of equity estimates derived from its DCF analysis. Staff again notes that both U.S. Treasury yields and utility bond yields are quite low (at levels last experienced in the early 1960s) and that the spread between them is presently below their long-term average. It is not improbable that investors are only requiring returns on common equity in the 6 to 7 percent range for utility stocks. In fact, as Staff will explain in its other tests of reasonableness, these cost of equity estimates are consistent with common sense tests.

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[38] From Duff & Phelps *2014 Valuation Handbook: A Guide to the Cost of Capital.*

2. Other Tests

a. The "Rule of Thumb"

A "rule of thumb" method allows an objective test of individual analysts' cost of equity estimates. Because this method is suggested in a textbook[39] used for the curriculum for Chartered Financial Analyst ("CFA") Program, Staff believes this method is free of any bias from those involved in utility ratemaking. It is also a useful test because it is very straightforward and limits the risk premium to a 100 basis point range. The cost of equity is estimated by simply adding a risk premium to the yield-to-maturity ("YTM") of the subject company's long-term debt. Based on experience in the U.S. markets, the typical risk premium is in the 3% to 4% range. Considering that this is based on general U.S. capital-market experience and that regulated utilities are on the low end of the risk spectrum of the general U.S. market, a risk premium closer to 3% seems logical. This is especially true considering that regulated utility stocks behave like bonds. For the months of August, September and October 2014, "A" rated 30-year utility bonds and "Baa" rated 30-year utility bonds had average yields of 4.13% and 4.76% respectively.[40] Adding a 3% risk premium, the "rule of thumb" indicates a cost of common equity between 7.13% and 7.76%. Adding a 4% risk premium, the "rule of thumb" indicates a cost of common equity between 8.13% and 8.76%.

These simple, straight-forward tests of reasonableness of cost of common equity estimates provide a common sense check on whether a cost of common equity estimate is logical considering the bid up of utility bonds and stocks in the last several years. As a point of reference, and also evidence that the Commission should lower its authorized return from the 9.7% to 9.8% range it allowed in 2012, the cost of equity indications from this straight-forward test in the last Ameren Missouri rate case were as follows: 7.92% to 8.52% using a 3% risk premium and 8.92% to 9.52% using a 4% risk premium. The implied decline in the cost of common equity from rate cases in 2012 using this simple, straight-forward test is as much as 75 basis points.

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[39] John D. Stowe, Thomas R. Robinson, Jerald E. Pinto and Dennis W. McLeavey, *Analysis of Equity Investments: Valuation*, Association for Investment Management and Research, 2002, p. 54.

[40] BondsOnline.com, pursuant to a subscription agreement Staff has with BondsOnline.

b. Average Authorized Returns

In the past, the Commission has applied a test of reasonableness using average authorized returns published by Regulatory Research Associates ("RRA") to test the reasonableness of its allowed ROE. To the extent the Commission chooses to use RRA data again in this case, Staff believes the Commission should have information on allowed ROE's since 2012.

According to RRA, the average authorized return on equity in the first three quarters of 2014 for electric utility companies was 10.00 % (based on 24 decisions) compared to a 2013 calendar year average of 10.02 %.[41] Excluding the effect of the surcharge/rider generation cases in Virginia, the average allowed electric ROEs were 9.75 % for the first three quarters of 2014 and 9.80 % for the 2013 calendar year. This compares to an average allowed ROE of 10.17 % in 2012.

In order to provide more specific information on the allowed ROE's by type of electric utility operations, Staff determined the allowed ROEs that were given to integrated electric utility companies. Staff excluded allowed ROEs that were determined for dockets not involving a full general rate case (i.e. rider only cases). Staff also continued to exclude the aforementioned Virginia rate cases. The average allowed ROE for integrated electric utilities were 9.94 % through November 14, 2014 and 9.96 % for the 2013 calendar year. This compares to an average allowed ROE of 10.10 % in 2012.

As a further refinement, Staff also evaluated allowed ROE information for only cases that were fully-litigated as in these cases, one would expect that each issue is determined based on its own merits. Allowed returns determined in context of a settled case are not as reliable because parties make adjustments to other elements of the ratemaking formula in order to arrive at an overall reasonable number. It has been Staff's experience, that some companies do not want a lower ROE published in a settlement because this is a headline number. Consequently, companies may compromise on a more obscure area of the rate case in order to have a higher ROE published in the settlement. Allowed ROEs for fully-litigated cases were 10.06 % through

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[41] RRA, Regulatory Focus – Major rate case decisions (January-September 2014) - October 10, 1014: 2014 data includes four surcharge/rider generation cases in Virginia that incorporate plant-specific ROE premiums. Virginia statutes authorize the State Corporation Commission to approve ROE premiums of up to 200 basis points for certain generation projects.

November 14, 2014, and 9.96 % for the 2013 calendar year. This compares to an average allowed ROE for fully-litigated cases of 10.10 % in 2012.

The allowed ROE information does not seem to provide any clear trends, but Staff believes the economic and capital market conditions clearly support a lower allowed ROE than the 9.7% and 9.8% the Commission authorized in 2012.

H. Conclusion

A just and reasonable rate is one that is fair to the investors and fair to the ratepayers. Fairness to the ratepayers means rates that are not one penny more than is necessary to be fair to the shareholders. Fairness to the shareholders means rates that will produce revenues, on an annual basis, sufficient to cover Ameren Missouri's prudent cost of service, which includes an allowed ROR. Using widely-accepted methods of financial analysis, Staff believes the cost of common equity has declined by up to 75 basis points since 2012. Consequently, Staff recommends the Commission reduce its authorized ROE for Ameren Missouri to anywhere between 9.0% to 9.5% to at least partially share the reduced cost of equity with ratepayers. Given that the cost of capital is as real a cost as any other cost of service, reducing this cost in the ratemaking formula is consistent with the principles of cost of service ratemaking. Using this recommended allowed ROE results in weighted average cost of capital for Ameren Missouri in the range of 7.37% to 7.63% (*see* Schedule 17). This rate was calculated by applying an embedded cost of long-term debt of 5.565% and an allowed return on common equity range of 9.0% to 9.50% to a capital structure consisting of 52.96% common equity, 45.92% long-term debt, and 1.12% preferred stock. Because there appears to be some concern in setting an allowed return on equity based on a reasonable estimate of the cost of equity, Staff recommends the Commission set the allowed ROE at 9.25% in this case. Although this is above what Staff estimates to be the cost of equity to be in the current capital market environment, this allowed ROE would balance the concern about the impact of a lower allowed ROE on investors' view of Missouri's regulatory environment, while still passing along the benefit of lower capital costs to ratepayers.

Staff Expert/Witness: David Murray

VII. Rate Base

A. Plant in Service and Depreciation Reserve

1. <u>Plant in Service - Accounting Schedule 3</u>

This schedule has been adjusted, by account, to reflect the rate base value of Ameren Missouri's plant-in-service estimates through December 31, 2014. These estimates will be replaced with actual amounts as part of Staff's true-up audit. Staff 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 – Accounting Schedule 4.

Staff Expert/Witness: Jason Kunst

2. <u>Depreciation Reserve – Accounting Schedule 5</u>

Accounting Schedule 5, Depreciation Reserve, has been adjusted, by account, to reflect the estimated rate base value of Ameren Missouri's depreciation reserves through December 31, 2014. 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 Depreciation Reserve – Accounting Schedule 6.

Staff Expert/Witness: Jason Kunst

3. <u>O'Fallon Solar Facility</u>

a. In-Service Criteria

In Spring 2014, Ameren Missouri began construction of a 5.7 megawatt ("MW") direct current (DC), utility-scale solar facility located in O'Fallon, Missouri; adjacent to the existing Belleau substation. Based on discussions with Ameren Missouri, Staff understands that construction of the facility is complete; however, Staff's evaluation of whether the facility meets in-service criteria is on-going and expected to be complete by December 31, 2014.

In order to include the solar facility in rate base, the plant must be "fully operational and used for service."[42] 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."

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 developed, based on review of the new unit's operational specifications and discussions with the Company.

Staff and Ameren Missouri have agreed to the in-service criteria attached in Appendix 3, Schedule CME-1. Staff proposes Ameren Missouri demonstrate that the solar facility meets the agreed-to in-service criteria by December 31, 2014, in order to include the solar facility in rate base.

Staff Expert/Witness: Claire M. Eubanks

b. Cost Assessment of O'Fallon Solar Generating Facility

On April 8, 2014, the Missouri Public Service Commission approved Ameren Missouri's application for a certificate of public convenience and necessity to build a 5.7 MW DC photovoltaic solar generation facility in O'Fallon, Missouri. Ameren Missouri expects construction of the solar project to be completed and the facility to become operational by the end of December 31, 2014, and thus be included as part of this rate case proceeding. As the project is still ongoing, Staff has not included any costs relating to the O'Fallon solar generating facility in its cost of service calculation. Staff will continue to monitor and review all the project costs and assess whether those costs were prudently and reasonably incurred for inclusion in the revenue requirement calculation for this rate case. Staff will work with Ameren Missouri upon completion of the project and a determination will be made for cost inclusion in the cost of service when Staff performs its true-up audit of Ameren Missouri in this rate case.

Staff Expert/Witness: Kofi Agyenim Boateng

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[42] Section 393.135, RSMo. 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 electrical corporation, or any other cost associated with owning, operating, maintaining, or financing any property before it is <u>fully operational and used for service</u>, is unjust and unreasonable, and is prohibited". (<u>Emphasis added</u>)

4. <u>Labadie ESP Audit Report</u>

a. Rate Impact of the Project

On September 11, 2013, the Commission opened a case, EO-2014-0070, to facilitate and retain discovery regarding Staff's audit of Ameren Missouri's construction of pollution control equipment at its Labadie Energy Center. On page 9, section (m), of the Commission's *Order Adopting Procedural Schedule, Establishing Test Year and Delegating Authority*, issued on August 20, 2014, in Case No. ER-2014-0258, the Commission indicated, in part, that data requests and responses thereto made by any party in Case No. EO-2014-0070 shall be treated as having been made in Case No. ER-2014-0258. Based upon numerous meetings with Company officials, tours of the Labadie facility and Ameren Missouri's responses to Staff data requests issued in Case Nos. EO-2014-0070 and ER-2014-0258, Staff is in the process of completing a construction audit and prudence review of all costs associated with pollution control equipment, specifically Electro-Static Precipitators ("ESPs"), on Labadie Energy Centers Units 1 and 2. ESPs are essentially highly efficient filtration devices consisting of several chambers that contain numerous electro-statically-charged steel plates that collect and remove fine particulate matter from flowing emission gases.

As of the time of Staff's direct testimony filing in this case, Ameren Missouri has installed ESPs on Unit 2 at its Labadie Energy Center. The construction and testing requirements for the ESPs on Unit 2 were completed during August 2014 and they were deemed to be fully operational and in-service on August 13, 2014. The Unit 2 ESPs were installed at an actual total construction cost of approximately ** ____________ ** At this time, Staff is proposing an adjustment to remove approximately ** _______ ** of the approximately ** __________ ** of total capitalized costs pertaining to Unit 2 due to an incident that occurred on May 29, 2013. Staff will discuss this incident and the basis for its adjustment later in this section of the report addressing Labadie ESP construction costs.

Ameren Missouri is currently in the process of completing the installation of ESPs on Unit 1 and has indicated to Staff that it expects this unit to be fully operational and in-service by a target date of December 7, 2014. Ameren Missouri estimates that the cost to complete Unit 1 will be approximately ** ____________ **. Staff has included these estimated construction costs in the cost-of-service calculation that is being submitted as part of its direct testimony filing in this case but will revise this amount to reflect actual, prudently-incurred costs on the Labadie

Unit 1 ESP project through December 31, 2014, as part of its true-up audit, if such updated information is provided by Ameren Missouri and it meets all in service criteria.

In addition, as noted above, on November 7, 2014, Staff received information from Ameren Missouri in response to Staff Data Request No. 0013, issued as part of Case No. EO-2014-0070, regarding a ** ____ ** As of Staff's December 5, 2014, direct testimony filing, Staff is continuing to review the information supplied by Ameren Missouri regarding this ** __________ ** and may make additional adjustments to the total capitalized costs associated with the ESPs installed on both Unit 1 and 2 as part of its true-up audit in this rate case. Appendix 3, Schedule EMC-JS-1, provides more detailed descriptions regarding the Labadie ESP Construction Audit.

Staff Expert/Witness: Erin M. Carle

b. Physical Description of the Project

Ameren Missouri is making upgrades to the Labadie Unit 1 and Unit 2 ESPs in response to the U.S. Environmental Protection Agency's ("EPA") Mercury and Air Toxics Standards (MATS) to reduce Particulate Matter (PM) emissions. Recent regulations require a combined (condensable and filterable) PM emission regulation of 0.030 lb/mmBtu and a Mercury ("Hg") emission of 1.0 lb/TBtu. The deadline for Labadie to be in compliance with the MATS is April 16, 2015. Ameren Missouri plans to utilize the site averaging option under the MATS rule for particulate matter compliance for Labadie. Use of site averaging will allow less extensive modifications to Units 3 & 4 to be necessary in the future. The major components associated with the current Unit 1 & 2 ESP upgrades will consist of:

- The existing "A" and "B" ESPs for each boiler unit are to be taken out of service and retired in place.
- The "C" ESPs for each boiler unit will be upgraded with new inlet nozzles, gas flow improvements, rapper systems, and switch mode power supplies.
- New "D" ESP chambers will be constructed, along with associated relocations, foundations, ductwork, ash systems, and electrical upgrades.

Additionally, the existing SO_3 flue gas conditioning components will be eliminated as SO_3 will no longer be required in the process.

Staff Expert/Witness: Jerry Scheible

5. <u>Callaway Reactor Vessel Closure Head Audit Report</u>

a. Rate Impact of the Project

As part of Ameren Missouri's recently completed refueling at its Callaway Nuclear Energy Center, a new reactor vessel closure head (RVCH) was installed to avoid potential problems that other nuclear reactors operating within the United States have experienced[43]. In addition, the replacement of the new reactor closure head is expected to potentially reduce the average outage time for all future Callaway refuelings by as much as two days, resulting in savings to Ameren Missouri and, ultimately, its customers.

At the time of Staff's direct testimony filing in this case, Staff has determined that Ameren Missouri's replacement of the Callaway RVCH is fully operational and in-service as of November 21, 2014. However, Staff has not received all actual construction cost information regarding this project and will need to review such documentation as part of its true-up audit in this rate proceeding. In the interim, Staff has included the approximate ** ____________ ** budgeted total cost for this project in its case until the actual costs can be reviewed. Staff has included these estimated construction costs in the cost of service calculation that is being submitted as part of its direct testimony filing in this case but will revise this amount to reflect actual, prudently incurred costs on the RVCH project through December 31, 2014, as part of its true-up audit, when such updated cost information is provided by Ameren Missouri.

Appendix 3 – Schedule EMC-JS-2 provides more detailed descriptions regarding the RVCH Construction Audit.

Staff Expert/Witness: Erin M. Carle

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[43] ** ____

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b. Physical Description of the Project

This project is for the replacement of the Callaway RVCH, which has been in operation since 1984. Concern regarding the degradation of RVCH components has become a leading nuclear power generation industry issue. Callaway was becoming an industry outlier with increasing susceptibility to degradation. Although no issues regarding degradation of the current RVCH, such as weld cracks or material corrosion have been specifically identified, the replacement mitigates regulatory concerns, improves plant reliability, reduces refueling outage duration, improves safety and eliminated a 2014 inspection.

Staff Expert/Witness: Jerry Scheible

B. Cash Working Capital (CWC)

1. Calculation of Revenue and Expense Lags

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 received/utilized or the services are performed. In other instances, the payment for a good or service occurs 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 provided 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 provided by reducing rate base by 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 the 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, in the aggregate, 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, in the aggregate, 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 Case No. ER-2012-0166, the main issue of disagreement between the parties was Ameren Missouri's proposed new methodology of the calculation of its collection lag, which was based on weighted average data from a monthly Accounts Receivables Breakdown Report with accounts receivables balances grouped by customer class by days aged. Staff and other parties to the rate case opposed this methodology and preferred utilizing Ameren Missouri's CURST 246 report (Sales Analysis Report) to determine the collection lag. The parties believed that the CURST 246 report produced the most reliable and accurate collections lag for determining the customer bill collection patterns. Ameren Missouri contended that it no longer maintains the system that produced the CURST 246 report and also did not believe that the result produced by the CURST 246 report was accurate. The Commission in its Report and Order in Case No. ER-2012-0166 agreed with Ameren Missouri and approved the Company's use of the Accounts Receivable Breakdown Report as a tool of calculating the collections lag.

In this proceeding, Staff did not conduct a full lead/lag study for the purpose of determining the Cash Working Capital requirement. However, Staff conducted a limited analysis of the various leads/lags as approved by the Commission in Ameren Missouri's most recent last rate case, No. ER-2012-0166, in an effort to determine their appropriateness and reasonableness for use in this current rate proceeding. Additionally, Staff reviewed Ameren Missouri's proposed collection lag of 25.79 days as found in Ameren Missouri witness Joseph S. Weiss' direct testimony. Staff finds the lead/lags analyses utilized in Ameren Missouri's last rate case and the collection lag calculated by Ameren Missouri in this rate case to be appropriate and reasonable lead and lag factors for use in this rate case. Staff utilized those lead/lag calculations and applied them to the adjusted test year amounts determined by Staff in this rate case to calculate the current cash working capital requirement for Ameren Missouri. Staff's overall study resulted in a positive cash working capital requirement. This means that the shareholders have provided the working capital, in the aggregate, during the test year. Therefore, the shareholders will be compensated for the working capital through an increase to rate base.

Staff Expert/Witness: Kofi Agyenim Boateng

C. Prepayments and Materials and Supplies

Ameren Missouri utilizes shareholder funds for prepaid items such as insurance premiums and materials and supplies. These items are included in rate base, so that the up-front investment made by Ameren Missouri is recognized in customer's rates. Staff has included prepayments in rate base at the 13-month average level ending September 30, 2014. In addition, Staff has issued Data Request No. 0476 seeking additional information about the categories of prepayments that Ameren Missouri is seeking to include in rate base. Staff will review this response once it is received and may make further adjustments to the amount of prepayments reflected in rate base as part of its true-up audit.

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 has included Ameren Missouri's average balance of materials and supplies inventory that was maintained during the 13-months ending September 30, 2014. Staff will reexamine the level of both materials and supplies and prepayments as part of its true-up audit.

Staff Expert/Witness: Jason Kunst

D. 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 the prime rate, as published in the Wall Street Journal, plus one percent interest on their deposits. The amount of customer deposits in Accounting Schedule 2, Rate Base, represents a 13-month average

(September 2013-September 2014) of Ameren Missouri's customer deposits. In Accounting Schedule 10, Staff adjusted expense to include interested calculated on Staff's level of customer deposits reflected in rate base. Staff will reexamine the amount of customer deposits to include in rate base as part of its true-up audit.

It should be noted that Ameren Missouri recently changed the criteria for requiring a customer to make a deposit with the filing of new tariffs in Case No. ET-2014-0076. The *Unanimous Stipulation and Agreement* adopting this proposed change was approved by the Commission and requires that the experimental program be re-examined in future rate cases.

Staff Expert/Witness: Jason Kunst

E. 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 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 reflected on Accounting Schedule 2, Rate Base, represents a 13-month average (September 2013 – September 2014). The level of Customer Advances will be reexamined as part of Staff's true-up audit.

Staff Expert/Witness: Jason Kunst

F. Fuel Inventories

1. Fuel Inventory for Rate Base (other than coal)

Staff included a 13-month average through September 30, 2014, to determine the inventory value for oil. For nuclear fuel inventory, Staff used an 18-month average of the value of the nuclear fuel that was contained in the fuel core of the Callaway Nuclear Generating Unit through September 30, 2014, as well as an average of the most current value of nuclear fuel on-site. For stored natural gas, Staff utilized a 13-month average through September 30, 2014, to determine the inventory value. Staff will continue to examine the actual inventory quantities for oil, natural gas, and nuclear fuel through the end of the true-up cut-off period, December 31, 2014. Staff will also re-examine natural gas prices at that time.

Staff Expert/Witness: Lisa M. Ferguson

2. Coal Inventory On-Site and Coal-In Transit

a. Staff included a 13-month average of coal inventory that is physically on the ground at each generation plant through March 31, 2014. Staff agrees with the amounts of on-site coal inventory that Ameren Missouri is seeking to recover as sponsored by Ameren Missouri witness Laura M. Moore in her direct testimony on Schedule LMM-3[44]. However, Staff has excluded all amounts of coal-in-transit through March 31, 2014 which is included in the coal inventory balances on Schedule LMM-3.

b. Coal-in-transit is coal that has been loaded into railcars at the mine and is in-route to the coal plant, but has not yet arrived at the plant. Ameren Missouri only includes the on-site coal inventory in its analysis of operational needs of each plant given that the coal-in-transit is not available for use. Staff's position is that coal that is loaded on a train, but not actually on-site at a coal generation center does not represent usable coal inventory to Ameren Missouri and, therefore, should not be included in coal inventory balances that are included in rate base.

Staff Expert/Witness: Lisa K. Hanneken

G. Demand-Side Management Cost Recovery Regulatory Asset

1. Pre-MEEIA Demand-Side Programs and Revenue Requirement Impact

Ameren Missouri began implementing demand-side management (DSM) programs in February 2009 for energy efficiency programs contained in the Company's then-adopted preferred resource plan which was filed on February 5, 2008, in Case No. EO-2007-0409. Ameren Missouri's "Cycle 1" DSM programs (four business energy efficiency programs and five residential energy efficiency programs) were each first offered to customers in 2009 and were each terminated on September 30, 2011, because of the throughput disincentive with the

[44] As revised and presented to Staff by Laura Moore on 11/14/14, subsequent to Ameren Missouri's direct filing.

DSM programs, that is, the financial disincentive for Ameren Missouri to promote energy efficiency programs because a large portion of its fixed costs are recovered based on the level of sales (i.e. throughput).

The energy and demand impacts and the overall delivery processes of Ameren Missouri's DSM programs are evaluated, measured and verified by third-party contractors chosen and paid for by Ameren Missouri. Ameren Missouri's "Cycle 1" evaluation, measurement and verification ("EM&V") reports for all of its DSM programs were provided to Ameren Missouri DSM Stakeholder Group[45] members in May 2012.

Ameren Missouri offered five "bridge" DSM programs (two business energy efficiency programs and three residential energy efficiency programs) which were designed to bridge the gap at a very low funding level between the expiration of Ameren Missouri's former energy efficiency programs (which expired on September 30, 2011) and when the Commission issued an order on the Company's anticipated MEEIA filing. The business "bridge" programs became effective on November 24, 2011, and the residential "bridge" programs became effective on December 18, 2011. [46] All "bridge" DSM programs terminated on September 30, 2012, and were limited by the Company's goal of reducing a total of 30,000 MWh of energy usage through the "bridge" programs.

Staff recommends that the Commission order the continuation of the current Ameren Missouri DSM regulatory asset cost recovery mechanism[47] for the "Cycle 1" DSM programs and for the "bridge" DSM programs.

Staff Expert/Witness: Hojong Kang, Ph.D.

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[45] The Ameren Missouri DSM Quarterly Stakeholder Group includes Staff, Office of the Public Counsel, Missouri Department of Economic Development – Division of Energy, and other interested parties and serves as an advisory group to Ameren Missouri in the development, implementation, monitoring and evaluation of Ameren Missouri's demand response, energy efficiency and affordability programs.

[46] Case No. ET-2012-0011 for Residential Energy Efficiency Programs and Case No. ET-2012-0156 for Business Energy Efficiency Programs.

[47] In Case No. ER-2010-0036, as a result of the *First Nonunanimous Stipulation and Agreement,* the balance of the regulatory asset for prudently incurred programs' costs was included in rate base and an annual amortization based on six years was included in expense. In Case No. ER-2011-0028, the Commission approved the continued use of the regulatory asset cost recovery mechanism it had approved in Case No. ER-2010-0036.

2. <u>DSM Costs Included In Rate Base</u>

In prior rate proceedings, Ameren Missouri was allowed to treat DSM program expenditures 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 the balance. A new DSM regulatory asset was created in each rate case. In Case No. ER-2008-0318, one-tenth of the program cost amount Ameren Missouri spent though September 30, 2008, was included in the cost of service through a ten-year amortization. In Case No. ER-2010-0036, $11,430,501, the balance in the regulatory asset as of December 31, 2009, less the Residential Lighting and Appliance program cost, was included in rate base and an annual amortization based on six years was included in expense. In Case No. ER-2011-0028, DSM program costs incurred through February 28, 2011, in the amount of $28,547,631, was included in Ameren Missouri's rate base and an annual amortization of that amount, less Residential Lighting and Appliance program costs based on six years was included in expense. In Case No. ER-2012-0166, $36,878,639 of DSM program costs incurred through July 31, 2012 was included in rate base. Staff also included a six year amortization of that balance.

In this rate proceeding, the Company has incurred approximately $3,269,719 of DSM program costs since the July 31, 2012 true-up cutoff date in Ameren Missouri's last rate proceeding, Case No. ER-2012-0166, which Staff has included in rate base. One-sixth of this amount has been included in expense through a six-year amortization.

As it was presented in the last rate case, Staff has combined the unamortized portion of all previous Ameren Missouri DSM regulatory assets included in rate base into one rate base line item in this case labeled "Energy Efficiency Regulatory Asset."

Staff Expert/Witness: John P. Cassidy

H. FAS 87 – Pensions and FAS 106 OPEBs Regulatory Liabilities

See the discussion in Section IX. D – Payroll and Benefits, Subsections 3.a. and 4.a.

Staff Expert/Witness: Kofi Agyenim Boateng

I. Accumulated Deferred Income Taxes

Ameren Missouri's Accumulated Deferred Income Tax Reserve ("ADIT") represents, in effect, a prepayment of income taxes by Ameren Missouri's customers to the Company prior to payment being made by the Company 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 the Company 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 the Company. 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 the Company. 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, 2014. Based on this true-up examination, Staff may make additional adjustments to the cost of service as necessary.

Staff Expert/Witness: Lisa K. Hanneken

VIII. Corporate Allocations

A subsidiary of Ameren Corporation, Ameren Services Company ("AMS"), provides various management and administrative services for Ameren Missouri and affiliate companies. In its audit, Staff reviewed the methods used by AMS to assign and allocate its costs to Ameren Missouri's electric operations. Under AMS's corporate cost allocation system, costs are categorized into four types: Direct, Direct Allocated, Indirect Corporate, and Indirect Function. The allocations of costs and the methods used to allocate costs from AMS are outlined in Ameren Missouri's cost allocation manual (CAM). AMS evaluates and updates the allocation factors at the beginning of each calendar year, unless a significant change in circumstances occurs which would require an intermediate factor update. In addition, the Company's Internal Auditing Department performs an audit each year of AMS' Service Request System and Service Request policies, operating procedures, and controls as ordered by the Illinois Commerce

Commission (ICC) in Order #06-0070 on May 16, 2007. The Company provided Staff with data regarding its allocations through September 2014 for review, as well as copies of the internal audit reports required by the ICC.

In December 2013, during the test year, Ameren Corporation divested itself of Ameren Energy Resources (AER) and its subsidiaries Ameren Energy Generating Company ("Genco"), Ameren Energy Resources Generating Company ("AERG") and Ameren Energy Marketing Company ("AEM"). Each of these entities was also being assigned allocated costs from AMS and, as a result of the divestiture, a higher percentage of costs are being allocated to the remaining entities, including Ameren Missouri. Another result of the divestiture was that several employees were displaced and ultimately offered positions at various Ameren entities, including AMS and Ameren Missouri, which in turn increased both Ameren Missouri's direct and allocated labor costs.

As part of its filing Ameren Missouri made an adjustment to address the impact of the divestiture on the allocated costs it receives. Staff is not making an adjustment as this time, given that a large portion of this change has been captured as part of the adjustments proposed in its direct filing which updated most expenses through September 2014. In addition, as part of its true-up audit, Staff will be reviewing and likely be making adjustments to many expense areas, most of which include allocated AMS costs. Therefore, given that the data through December 31, 2014 available for Staff's true-up audit, will contain an entire year of the post-divestiture allocated costs, it will eliminate the need for a standalone adjustment.

There are several ways in which the allocated costs to Ameren Missouri could potentially change as a result of the divesture. First, the most obvious way is in the effect on allocation percentages. Prior to the divesture each entity being provided services by AMS got not only directly allocated costs assigned to them, but also a share of the common costs as well. These costs were spread among the various entities on a percentage basis. With the divestiture of several of the entities, there are fewer remaining entities which to spread these costs amongst. The next way in which changes can be seen is in the amount of costs being allocated by those percentages. Staff has determined that a higher amount of total AMS costs is being allocated to the entities since the divestiture. Staff is also reviewing the hiring of the employees that previously held positions at the divested entities who were offered positions at the remaining entities.

In order to determine the impact of all of these changes, Staff has requested, but not yet received, several additional items of data, including a complete, detailed breakdown of all monthly allocated AMS costs to Ameren Missouri and to each Ameren affiliate prior to the AER divestiture and also subsequent to the AER divestiture in order to aid in the determination of the appropriateness of allocated AMS costs to Ameren Missouri on a post divestiture basis. Therefore, Staff has reservations as to whether Ameren Missouri ratepayers are being held harmless for the divestiture.

The information requested, once received, will be reviewed as part of Staff's continuing examination of AMS allocations. However, Staff has concerns as to whether the data that will be made available to Staff will be able to answer all the questions it has. The difficulty is that Staff believes AMS's current allocation procedures are not clear enough to fully quantify or identify the impact of the divesture or any other allocation related issues. Therefore, Staff recommends further review of this issue through a CAM review.

Staff Expert/Witness: Lisa K. Hanneken

IX. Income Statement

A. Rate Revenues

1. Introduction

Since the largest component of operating revenues results from rates charged to Ameren Missouri's retail customers, a comparison of operating revenues with cost of service is fundamentally a 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 operating revenues, an increase in the current rates Ameren Missouri charges its Missouri retail customers for electricity is required.

One of the major tasks in a rate case is not only to determine whether a deficiency (or excess) between cost of service and operating revenues exists, but also to determine the magnitude of any such deficiency (or excess). Any deficiency (or excess) identified can only be made up (or otherwise addressed) by adjusting Missouri retail rates (i.e., rate revenues) prospectively, on a going-forward basis.

Staff Expert/Witness: Kofi Agyenim Boateng

2. <u>Definitions</u>

Operating Revenues are composed of Rate Revenue, Revenue from Off-System 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. Missouri retail customers are charged summer rates (June – September) and winter rates (October – May) during the year. 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 also broken down by rate class based upon type and amount of usage. These rate classes include: (1) Residential; (2) Commercial; (3) Small General Services; (4) Large General Services; (5) Large Primary Services (11M); and (6) Public and Private Lighting. In addition to these rate classes, there are separate categories for large industrial customers: (1) Noranda (12M); and (2) Metropolitan Sewer District (MSD). Revenues from the fuel adjustment clause (FAC) represent collections or refunds of prior period fuel costs and are excluded in determining the annualized level of ongoing rate revenues.

Revenue from Off-System Sales: Revenue from off-system sales is realized as a result of Ameren Missouri's sales of electricity to other utilities through MISO 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 known as the profit margin on off-system sales. The rationale for assigning this profit to ratepayers and including it in operating revenues is that the electricity sold by Ameren Missouri is generated by power plants being paid for by the ratepayers through electric rates charged by Ameren Missouri.

Other Operating Revenues: This category includes the revenue from such items as the rental of pole space, leased land and other miscellaneous charges.

Staff Expert/Witness: Kofi Agyenim Boateng

3. <u>The Development of Rate Revenue in this Case</u>

The objective of this section is to determine normalized and annualized test year usage and revenues by rate class. The intent of Staff's adjustments to test year Missouri usage and rate revenues is to determine the level of revenue that the Company 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 July 2014, as explained below). The two major categories of revenue adjustments are known as "normalizations" and "annualizations." Normalizations deal with test year events that are unusual and unlikely to be repeated in the years when the new rates from this case are in effect. Test year weather is an example. Annualizations are adjustments that re-state test year results as if conditions known at the end of the test year had existed throughout the entire test year. Adjustments for customer growth are an example of an annualization.

Staff Expert/Witness: Robin Kliethermes

4. <u>Regulatory Adjustments to Test Year Sales and Rate Revenue</u>

a. Adjustment to Remove Unbilled Revenues

Staff has eliminated unbilled revenue from its determination of revenue requirement to ensure only 365 days of revenue are included and to reflect revenues stated on an "as billed" basis. The recording of unbilled revenue on the books of the Company recognizes sales of electricity that have occurred, but have not yet been billed to the customer. Therefore, it is necessary for Staff to remove unbilled revenue in order to reach an accurate revenue requirement based upon electricity sales billed to and revenues collected from Missouri ratepayers.

Staff Expert/Witness: Kofi Agyenim Boateng

b. Adjustment to Remove Gross Receipts Tax

The Company acts as a collector for taxes imposed on utility service revenues by municipalities and other taxing authorities. The Gross Receipts Tax (GRT) included on a customer's bill is collected by the Company and remitted to the appropriate taxing authority. The GRT included on a customers' bill is recorded as revenue on the books of the Company, with a corresponding charge booked to GRT expense. Theoretically, the revenue and expense offset one another and, therefore, have no effect on net income. However, the expense accrual for GRT does not always match perfectly with the GRT included in revenue due to timing differences in the collection and payment of GRT. Eliminating the GRT recorded in revenue and expense through companion adjustments assures that GRT will have no impact on the calculation of net income for revenue requirement purposes.

Staff Expert/Witness: Kofi Agyenim Boateng

c. Preliminary Adjustments to Test Year

Starting with revenue based on Revenue Month (the month in which usage and revenue were reported in the Company billing system), Staff adjusted Ameren Missouri's revenue in all rate classes to reflect Ameren Missouri's revenues as Primary/Rate Month (the month reflecting the rates and revenue in the month when the majority of service actually occurred). This adjustment was necessary to move re-billed amounts (negative and positive) to the month where the energy was actually used.

Staff Expert/Witness: Robin Kliethermes

d. Update Period Adjustment

To provide a more current basis for normalization, annualization, and growth calculations, Staff determined that usage data used to determine revenue in this case should be updated to reflect the 12-month period ending July 2014, and should include minor billing adjustments.

Staff Experts/Witnesses: Robin Kliethermes and Brad J. Fortson

e. Large Customers Annualization

LPS Rate Class – The adjustments to billing units and revenues were based upon an "update period" of August 1, 2013, through July 31, 2014, to be adjusted for known and measurable changes through the true-up period ending December 31, 2014. There were 73 customers in the LPS rate class during the update period. A data check was performed for billing corrections prior to doing other adjustments. LPS customers were annualized on an individual customer (account) basis. Their individual monthly demand and energy use, measured over multiple years prior to the update period and the twelve (12) months of the update period, were examined graphically to determine if an adjustment was needed to reflect an annualized/normalized level of demand and energy use for the 12-month update period, as well as to identify the type of adjustment required to reflect the appropriate annualized/normalized level.

There were no adjustments to revenues for the Economic Development Rider (EDR). This rider provides for discounts to be "paid" to customers (in the form of credits on their electricity bill) who locate or expand operations in certain areas of Ameren Missouri's service territory. EDR credits are provided to the customer over a five-year period. The value of the credits is a declining percentage of the customer's electric bill calculated on the appropriate general application rate schedule. Usually, these discounts are included in the determination of Ameren Missouri's revenues because fostering economic development is assumed to be a benefit to all ratepayers. As of the end of the updated period, there are no EDR customers, therefore, no EDR discount to revenues was included in this rate case.

The other LPS adjustments are as follows:

(a) Interclass Rate Switching Adjustment

No customers moved into the Large Primary Service (LPS) rate class from other classes, and three LPS customers moved to Small Primary Service during the update period. Therefore, adjustments were made to billing units and revenues for interclass rate switching.

(b) Annualization

The general intent of an annualization is to restate update period billing units results as if conditions known at the end of the update period had existed throughout the entire time period considered. Staff reviews each of the very largest customers to determine if adjustments need to be made to reflect any major growth or decline in kWh usage and rate revenues due to the entrance of new customers, the exit of existing customers, and load growth or decline of specific existing customers. These customers' billing units and revenues were annualized for all twelve (12) months.

(c) Weather Normalization

Staff normalized update period usage data provided by Ameren Missouri for some LPS weather sensitive customers for weather by applying weather normalization factors provided by Staff witness Seoung Joun Won 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.

(d) 365-Days Adjustment

Rate revenues and billing units were measured 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 the appropriate rates applied to determine the revenue adjustment. 365-Days adjustments are also known as "unbilled" sales and "unbilled" revenues on financial statements.

(e) Solar Adjustment

Based on the analysis of Staff witnesses Michael L. Stahlman and Sarah L. Kliethermes, there is no significant kWh reduction due to solar installations of LPS customers during the update period. Therefore, there is no solar adjustment of LPS class in this rate case.

Staff Expert/Witness: Seoung Joun Won, PhD

LTS Rate Class - There was only one customer on the LTS rate class. Staff observed a change in usage during the update period associated with an equipment malfunction at the Noranda facility. Pending receipt of additional information, Staff normalized update period usage to the test year usage level.

Staff Expert/Witness: Sarah L. Kliethermes

f. Weather Normal Variables

This information was provided to Staff witness Seoung Joun Won for weather normalization of the test year kWh usage and update period hourly loads.

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, August 1, 2013, through July 31, 2014.

As a measure of "normal" weather, Staff used a 30-year period of "climate normals" ("normals") published in July 2011 by the National Climatic Data Center (NCDC) of the

U.S. National Oceanic and Atmospheric Administration ("NOAA"). According to NOAA, a climate normal is defined as the arithmetic mean of a climatological element computed over three consecutive decades.[48] To conform to the NOAA's three consecutive decades for determining normal temperatures, Staff used observed maximum and minimum daily temperatures for the 30-year period of January 1, 1981, through December 31, 2010. Therefore, Staff bases its calculations on the time period of the most recent climate normals produced by NCDC.[49]

Although the definition of normal weather is relatively simple, the actual calculations may be more complicated. Inconsistencies and biases in the 30-year time series of daily temperature observations occur if weather instruments are relocated, replaced or recalibrated. Changes in observation procedures or the instrument's environment may also occur during the 30-year period. NOAA specifically identified three major instrument and location changes for STL in 1988, 1996 and 2002 during the 30-year period of 1981 - 2010.[50] It is necessary for Staff to quantify these anomalies and subsequently adjust the time series in calculating the normal temperatures for STL. For changes in 1988 and 1996, Staff utilizes the adjustments used in the Company's most recent rate case (Case No. ER-2012-0166). For change in 2002, the details of adjustment procedures are presented in Staff's accompanying workpaper.

As explained above, there are three major anomalies that require adjustments to the STL 1981 - 2010 daily temperature time series. First, on January 18, 2002, a change of the instrument elevation occurred that resulted in monthly average temperature values around 0.21ºF warmer than before, so Staff adjusted upward the observations from 1981 to 2002. Second, on May 15, 1996, a change occurred that resulted in temperature values around 1.69ºF cooler than before, so Staff adjusted downward the observations from 1981 to 1996. Finally, on February 1, 1988, a change occurred that resulted in temperature values that were around 0.45ºF warmer than before, so Staff adjusted upward the observations from 1981 to 1988. Cumulatively, Staff identified the average of the correction value of approximately -1.03ºF for the time period 1981 - 1988, approximately -1.48ºF for the time period 1988 - 1996, and approximately 0.21ºF for the time

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[48] Retrieved on June 27, 2014, http://www.ncdc noaa.gov/data-access/land-based-station-data/land-based-datasets/climate-normals.
[49] Retrieved on June 27, 2014, http://www.ncdc noaa.gov/data-access/land-based-station-data/land-based-datasets/climate-normals/1981-2010-normals-data.
[50] Retrieved on July 10, 2014, from NOAA website, http://www.ncdc noaa.gov/homr.

period 1996 - 2002 to the historical daily temperature time series. Staff derived the daily mean temperature time series, daily two-day weighted mean temperatures, and normal daily temperatures from these adjusted daily temperatures.

Weather Variables - Because weather fluctuates greatly from day-to-day, the STL temperature variables required to weather-normalize sales are the test year actual and the 30-year normal two-day weighted daily mean temperature. The day's daily mean temperature is defined as the simple average of the day's maximum daily temperature and minimum daily temperature. The daily two-day weighted mean temperature is calculated using the previous day's mean daily temperature with a one-third weight and the current day's mean daily temperature with a two-thirds weight.[51]

This was done because in the Ameren Missouri service area, yesterday's weather effects how electricity is used today. This is likely due to heat retention by the structures in the service area. For example, if today's temperature is mild, but yesterday's temperature was hot and the air conditioner was on, it is likely that the air conditioner will also be used today. Similarly, if yesterday's temperature was mild and air conditioning was not used, then if today's temperature is slightly warmer, air conditioning may not be used until later in the day.

Calculation of "Normal Weather" - Staff used the STL daily two-day weighted mean temperature data series to normalize both class usage and hourly net system loads. 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 the two-day weighted temperatures for each year of the 30-year history from hottest to coldest and then calculated the normal daily temperature values by averaging the ranked two-day weighted mean temperatures for each rank, irrespective of the calendar date.

This results in the normal extreme being the average of the most extreme temperatures in each year of the 30-year normals period. The second most extreme temperature is based on the average of the second most extreme day of each year, and so forth. Staff's calculation of daily normal temperatures is not the same as NOAA's calculation of smoothed daily normal

[51] To calculate the Dth day's two-day weighted mean temperature ($TWMT_D$), the current day's (D) daily mean temperature (DMT_D) is averaged with the prior day's (D-1) daily mean temperature (DMT_{D-1}), applying a 2/3 weight on the current day and 1/3 weight on the prior day: $TWMT_D = (2/3)\ DMT_D + (1/3)\ DMT_{D-1}$

temperatures. Because the test year temperatures do not follow smooth patterns from day to day, Staff calculated normal daily temperatures based on the rankings of the actual temperatures of the test year.

Staff Expert/Witness: Seoung Joun Won, PhD

g. Weather Normalization of Usage

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 April 1, 2013, through March 31, 2014. In an attempt to capture a more likely forward-looking indictor of non-weather electricity usage per customer, Staff determined to use the most recent temperature and load data available and, therefore, based its analysis on an updated period of August 1, 2013, through July 31, 2014.

From November 2013 through February 2014, these months experienced temperatures cooler than normal resulting in electric energy usage above that which would have been expected under normal weather conditions. From May through June 2014, these months experienced temperatures hotter than normal resulting in usage above that which would have been anticipated under normal conditions. The month of August 2013 and the month of July 2014 saw temperatures cooler than normal, which resulted in lower usage of electric energy than would have been anticipated under normal weather conditions. Since the temperatures in the twelve month updated period ending July 31, 2014, used by Staff deviated from normal, and since Staff chose a more recent time period to review than the one used by Ameren Missouri, Staff performed its own weather impact analysis.

However, 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 Robin Kliethermes and Brad J. Fortson to be used in the normalization of revenues for weather sensitive classes, Res, SGS, LGS and SPS.

According to Staff's weather sensitivity test for each customer in LPS class, 37 customers show cooling demand response and 4 customers show both heating and cooling load response. The members of the LPS class are not homogeneous and, consequently, a weather response function created for weather sensitive members should not be applied to non-weather sensitive members. Applying the weather-normalization process to annualized usage of non-weather sensitive customers would have introduced a statistical error into the product of the analysis. Staff determined it is both appropriate and necessary to weather-normalize only weather sensitive customers in the LPS class. Please see LPS Annualization by Staff witness Seoung Joun Won for a more detailed explanation of the annualization adjustments for the LPS class.

Staff Expert/Witness: Seoung Joun Won, PhD

h. Weather Normalization of Revenue (Weather Sensitive Classes)

Staff normalized update period usage data provided by Ameren Missouri for the Res, SGS, LGS, and SPS rate classes. Staff applied a regression to model the relationship between average use per customer and the percentage of update period usage that are priced in the first rate block. The relationship was then applied to monthly usage per customer before and after the weather adjustment, using the normalization factors provided by Staff witness Seoung Joun Won.[52] This computation resulted in normalized usage by rate block, which was then converted to total normalized revenues by multiplying rate block usage by the appropriate rates. The difference between these weather-normalized revenues and the update period revenues determined the amount of the Weather Normalization Adjustment.

Staff Expert/Witness: Robin Kliethermes

i. 365-Days Adjustment to Usage - Weather Sensitive Classes

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

[52] The results of the regression analysis were also consistent with cumulative frequency distribution data provided by Ameren Missouri for the Res, SGS, LGS and SPS rate classes.

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 take their names from the calendar month in which the customer's bill is rendered. For example, assume a 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.

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 calculates the 365-Days Adjustment by subtracting the weather-normalized revenue month kWh from the weather-normalized calendar month kWh for the test year; the difference, or the 365-Days Adjustment, may be either positive or negative.

The 365-Days Adjustment for the weather-sensitive classes were provided to Staff witness Robin Kliethermes and Brad J. Fortson, who used the 365-Days Adjustment to adjust the revenues of the weather-normalized class revenues months to the twelve months ended July 31, 2014.

Staff Expert/Witness: Seoung Joun Won, PhD

j. 365-Days Adjustment to Revenue - Weather Sensitive Classes

As described above, since billing months are an aggregation of bill cycles, they will differ from calendar months in the time period they cover. To adjust revenue for this difference, Staff allocated the kWh days adjustment calculated by Staff witness Seoung Joun Won proportionately to the appropriate monthly kWh usage for each class and applied current rates to arrive at the 365-Days Adjustment to revenue.

Staff Experts/Witnesses: Robin Kliethermes and Brad J. Fortson

k. Solar Revenue Adjustment

Staff allocated the monthly kWh solar adjustment calculated by Staff witness Michael L. Stahlman proportionately to the rate blocks of the Res, SGS and LGS rate classes. There was no solar adjustment for the SPS class as explained by Staff witness Stahlman in Section IX, Subsection C. 2. d. below. Staff applied current rates to the solar adjusted kWh to calculate the revenue adjustment.

Staff Experts/Witnesses: Robin Kliethermes and Brad J. Fortson

l. Adjustment to Remove MEEIA Revenue

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. The Commission rules (4 CSR 240-20.093 and 4 CSR 240-3.163) 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 part of the test year, Ameren Missouri collected MEEIA program costs as part of revenue through the base rates from ratepayers. However, since January 27, 2014, the recovery of MEEIA program costs from customers is now accomplished through a MEEIA Rate Rider mechanism, rather than through the base rates. Accordingly, Staff has made adjustment to eliminate the test year MEEIA revenues from the electric retail revenues.

Staff Expert/Witness: Kofi Agyenim Boateng

m. Customer Growth Annualization

Staff made customer growth adjustments to test year kWh sales and rate revenue to reflect the additions to and, in certain instances, reductions to kWh sales and rate revenue that would have occurred if the number of customers taking service at the end of July 31, 2014, had existed throughout the entire year. Customer growth/loss was calculated for the Res Time-of-Use and Non-Time-of-Use, SGS Time-of-Use and Non-Time-of-Use, LGS Time-of-Use and Non-Time-of-Use, as well as SPS Non-Time-of-Use and SPS Time-of-Use customer classes. The customer growth annualization takes into account weather and usage normalizations, as well as the adjustments for 365 days and rate changes that occurred during the test year. Other customer classes that did not exhibit growth were left at test year customer levels instead of being annualized at the July 31, 2014, levels. These are the LPS, Outdoor Lighting, and LTS classes. Staff will re-examine the level of customer growth through December 31, 2014, during its true-up cut-off period and make adjustments to the cost of service as necessary to reflect these updated levels.

Staff Expert/Witness: Kofi Agyenim Boateng

n. Removal of Rate Refunds and FAC Recovery

Staff made an adjustment to remove the Provision for Rate Refunds recorded by Ameren Missouri from the test year. This item represents the collections or refunds of prior period revenues related to the Company's FAC. Staff's calculated revenue requirement in this case reflects a prospective level of net fuel and purchased power expense for Ameren Missouri. Therefore, this provision must be eliminated in the context of a general rate proceeding in order to reflect an accurate ongoing revenue requirement for ratemaking purposes. The Company will appropriately consider these collections or refunds of prior period revenues when it rebases the net base fuel costs in the FAC.

Staff Expert/Witness: Kofi Agyenim Boateng

o. Annualization and Normalization Results

Results of the annualization and normalization adjustments above are located at the Rate Revenue Summary tab of Staff's Accounting Schedules.

Staff Expert/Witnesses: Kofi Agyenim Boateng, Robin Kliethermes and Brad J. Fortson

B. Adjustments to Non-Rate Revenues

1. <u>Lake of the Ozarks Shoreline Management Other Revenues</u>

During the test year, the Company recorded other electric revenues associated with annual fees, certified-dock-builder fees, enforcement fees, and processing fees associated with its Lake of the Ozarks shoreline management activities. Staff examined the level that the Company collected for these management activities through July 31, 2014, and has reflected an adjustment to reflect the twelve-months-ending July 2014 level of revenues reported by Ameren Missouri for these activities. Staff will update this adjustment when it performs a true-up audit for Ameren Missouri through December 31, 2014.

Staff Expert/Witness: Kofi Agyenim Boateng

2. Miscellaneous Other Revenues

Ameren Missouri's miscellaneous other revenues consist of forfeited discounts, rents from property, change and disconnection fees, customer installation fees, late fees, etc. Staff's analysis included a review of these revenue levels over a four-and-one-half-year period including the test year and update period for this case through July 31, 2014. Based upon Staff's review, the miscellaneous other revenue levels at the twelve-month period ending July 31, 2014, appear reasonable for inclusion in customer cost of service. Staff will review this area during its true-up audit for Ameren Missouri in this proceeding.

Staff Expert/Witness: Kofi Agyenim Boateng

3. Removal of Gain on Disposition of Emission Allowances

During the test year, Ameren Missouri recorded a gain on sales of emission (nitrogen oxide) allowances under the EPA's Clean Air Interstate Rule (CAIR) program. Staff understands the CAIR program is scheduled to be replaced by EPA's Cross-State Air Pollution Rule (CSAPR) program beginning on January 1, 2015, with its own set of allowances which will make the remaining CAIR allowances no longer saleable. Staff proposes to eliminate this revenue as it relates to a non-recurring revenue stream, to properly reflect actual billed retail revenue and non-retail revenue that are recognized for revenue normalization purposes.

Staff Expert/Witness: Kofi Agyenim Boateng

4. Coal Refinement Projects

Due to the CSAPR, which requires future reductions in emissions of pollutants, such as SO2 and NOx, Ameren Missouri will need to take steps to either reduce the amount of emissions it produces or will need to obtain emission allowances for its existing level of emissions. To this end, Ameren Missouri has begun implementation of measures at its Rush Island, Labadie and Sioux Energy Centers to treat its coal to reduce emissions.

Ameren Missouri has contracted with outside parties to begin the utilization of refined coal at these plants. 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.

However, a consequence of utilizing refined coal is additional costs related to maintenance and capital costs as a result of corrosion and increase slagging rates due to the use of chemicals as part of the refinement process.

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.

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 ("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.

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.

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. In addition, Staff included an annualized amount of actual expense incurred for the 12-months ending September 30, 2014 related to the additional maintenance costs experienced by Ameren Missouri.

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

Staff Expert/Witness: Lisa K. Hanneken

5. <u>Off-System Sales (OSS)</u>

a. Energy

Off-system sales are those sales of electricity made after Ameren Missouri has met all obligations to serve its native load customers (retail and full-requirements wholesale customers). This excess energy is then available to sell to other utilities. By engaging in off-system sales, Ameren Missouri generates profits, or net margin, which represent total proceeds from the sales less associated generation or purchased power cost. It is appropriate to include off-system sales in the cost of service because Ameren Missouri's customers are already paying for all the costs associated with the generating facilities that produce electricity, as well as the purchased power that is necessary to meet native load. To the extent that off-system sales are made using these facilities, as well as through the purchase of power, the customers should benefit from these sales. Off-system sales represent an efficient utilization of the electric facilities and systems that have been put in place to meet the electricity needs of Ameren Missouri's customers.

Off-system sales revenues were calculated in the production cost model by using the hourly-market energy prices that were determined by Staff witness Erin L. Maloney. Staff's adjustment for off-system sales revenue represents the inclusion of additional revenue in order to annualize the off-system sales revenues that were calculated by Staff witness Shawn E. Lange using Staff's production cost model. This was recorded in Staff's revenue requirement cost-of-service calculation by subtracting Ameren Missouri's test year ending March 31, 2014, per book off-system sales revenues from Staff's annualized level of off-system sales revenues as determined by the production cost model using Staff's hourly market energy prices. It should be noted that Staff has reflected contracts for sale of power to Missouri municipalities as off-system sales consistent with its treatment for these contracts in the previous rate proceeding. Staff will continue to examine off-system sales revenues through December 31, 2014, which represents the true-up cut-off date as approved by the Commission as part of this rate proceeding.

Staff Expert/Witness: Lisa M. Ferguson

b. Capacity Sales

When unnecessary to serve its own load, Ameren Missouri is able to sell capacity to other utility companies. Capacity sales to other utilities reduce Ameren Missouri's cost-of-service. Staff included an adjusted level of capacity sales as part of the cost-of-service calculation in order to reflect the ongoing level of capacity sales. Staff will re-examine the level of capacity sales as part of its true-up audit using information through year-end 2014.

Staff Expert/Witness: Lisa K. Hanneken

c. Bilateral Transactions and Financial Swaps

Staff made two adjustments outside the production cost model to account for bilateral sales and financial swaps. The bilateral adjustment is for net sales (sales minus purchases) made by the Company to counterparties to increase the revenue of underlying generation assets and the financial swap adjustment is for transactions made by the Company to lock-in the sales price of underlying generation assets. Staff will continue to review the bilateral transactions and financial swaps and adjustments through the true-up period ending December 31, 2014, and will update the inputs as necessary.

Staff Expert/Witness: Erin L. Maloney

6. <u>Midwest Independent Transmission System Operator (MISO)</u>

a. Day 2 Revenues and Expenses

Ameren Missouri participates in the MISO activities, including the MISO day-ahead and real-time energy markets (often called MISO "Day 2" or "Midwest Markets"). As part of its participation in the MISO Day 2 markets, during the test year the Company received payments from the MISO related to the Revenue Sufficiency Guarantee (RSG) provision of MISO's tariff. These payments are designed to ensure that companies participating in the MISO Day 2 markets are made whole when the Company's total offer prices in market are not covered by the actual market prices.

Since these offers include a margin for profits, it is important not to exclude this in the calculation. Currently, Staff is utilizing a 51% profit margin rate based on the calculations of margins embedded in the RSG make-whole payments performed during the true-up phase in the last case, No. ER-2012-0166. In addition, Staff has annualized both test year revenue and expense levels for Day 2 items based on data provided for the 12-months ending September 30, 2014. Staff will re-examine this issue, through December 31, 2014, during its true-up audit.

For Ameren Missouri, the RSG payments received from MISO during the test year totaled $5,914,918. Staff has included the more recent 12-months ending September 30, 2014 amount of $5,812,226 then applied the 51% profit margin rate for a resulting amount of $2,964,235.

In addition, an amount of $4,888,827 related to Price Volatility and Net Regulation revenues was received 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 following regulation. Staff has removed this amount from its cost of service calculations and Net Base Energy Cost (NBEC) calculations given that fact that Staff's fuel model does not model non-economic dispatch, therefore these revenues would not exist 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 K. Hanneken

b. Amortization of RSG Resettlement Expenses

Consistent with the Commission's Report and Orders in Case Nos. ER-2008-0318, ER-2010-0036, ER-2011-0028 and ER-2012-0166, relating to MISO resettlement charges, Staff had previously included an amortization of previously-incurred RSG resettlement expense. However, as of December 2014, the end of the true-up period in this case, the amortization will be fully recognized; therefore, Staff has removed the amount of amortization booked during the test year for this item.

In addition, while Staff's adjustment will remove the amortization going forward, it will continue through the May 30, 2015 date of implementation of rates in this case, as established by the Commission; therefore, from January 2015 through May 2015, the Company will continue to receive in rates a monthly amount of $22,724 which is over and above the original balance to be recovered which will result in a total amount of over-collection of $113,619. Staff witness John P. Cassidy addresses this issue further in this Report (*see* Section IX, Subsection E. 17. b. below) as part of his amortization expense analysis.

Staff Expert/Witness: Lisa K. Hanneken

c. Transmission Revenue and Expense

Staff is recommending adjustments to the test year level of MISO transmission revenues and expenses. Staff has annualized the test year's revenue by annualizing data provided for the 12-months ending September 2014, which annualizes each item to a current ongoing level.

Staff will continue to review all of Ameren Missouri's transmission transactions as additional information becomes available through the true-up period.

Staff Expert/Witness: Lisa K. Hanneken

d. Ancillary Services Market Revenue and Expense

Ameren Missouri also participates in MISO's Ancillary Services Market (ASM). Ameren Missouri entered the ASM to acquire ancillary services for its retail load and to be able to sell the services from its generation. Staff has annualized test year ASM revenue and expense levels by using data for the 12-months ending September 2014. Staff will continue to review Ameren Missouri's ASM transactions as additional information becomes available through the true-up period.

Staff Expert/Witness: Lisa K. Hanneken

e. Miscellaneous MISO Related Revenues

Ameren Missouri also received revenues as a result of inadvertent energy from MISO. Staff has annualized these revenues based on the actual amounts for the 12-months ending September 30, 2014. 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 K. Hanneken

C. Fuel and Purchased Power Expense

1. <u>Fuel and Purchased-Power Prices</u>

Staff reviewed all of Ameren Missouri's coal commodity and coal transportation contracts. Staff reviewed nuclear, natural gas, and fuel oil prices as reflected in Company fuel reports, workpapers, and responses to Staff data requests. Staff also reviewed multiple years of market energy prices. Staff's annualization and normalization of the Company's fuel and purchased-power expense allows for sufficient funds to serve the Company's native load and enable the Company to make off-system sales through the MISO day-ahead market. Staff's fuel expense adjustment includes all increases in commodity coal and coal transportation costs based upon contracts in effect beginning January 1, 2015. Staff's fuel expense adjustment for nuclear fuel is based upon a forecast for this cost as of December 2014. Ameren Missouri completed a nuclear refueling at its Callaway facility on November 21, 2014, and actual nuclear fuel cost information related to this refueling is not yet available. As part of Staff's true-up analysis in this proceeding, Staff will include actual known and measurable nuclear fuel costs at year-end 2014. Staff's fuel expense annualization also incorporates a three-year average of natural gas and fuel oil commodity prices through July 31, 2014, as sponsored by Staff witness Erin L. Maloney. Staff also included in the fuel cost calculation the fixed demand cost of natural gas and an increase in costs resulting from fly ash activities. Staff's annualized purchased-power expense is determined through a three-year average of day-ahead market energy prices through July 31, 2014, as sponsored by Staff witness Maloney. Staff will continue to examine all of these fuel cost components through the true up period ending December 31, 2014, in order to address any significant changes that may occur through that date. Staff's purchased-power expense adjustments reflect a three-year average of market energy prices through July 31, 2014. For the period covering January through March 2014, Staff adjusted each of these months in order to remove the impact of the "polar vortex" event that occurred during the 2013-14 winter. Staff witness Maloney will discuss market energy prices in Section IX, Subsection C. 1. f. later in this Report.

Staff Expert/Witness: Lisa M. Ferguson

a. Coal Prices

i. Accounting Coal Prices

Staff's accounting coal prices are used to compute the fuel costs based on the coal unit generation that is determined by the production cost model. Staff performed a review of all of Ameren Missouri's current accounting coal commodity and coal transportation contracts. Staff's accounting coal prices reflect Ameren Missouri's mine-specific coal commodity and coal rail and barge transportation contracts that will be in effect as of January 1, 2015. Staff also included an ongoing level of cost associated with the hedging activities of Ameren Missouri for the cost of rail transportation fuel surcharges. These hedges are tied to the prices of on-highway diesel as reported by the Energy Information Administration, an independent statistical agency of the U.S. Department of Energy (DOE). Finally, Staff included all railcar-related costs as a component of the accounting coal price used in the production cost model.

Staff Expert/Witness: Lisa M. Ferguson

ii. Fly Ash

Staff accepted the test year amount of expenses in its revenue requirement cost of service to account for the lower amount received by Ameren Missouri through the sale of its fly ash for concrete production. Coal refinement that is currently ongoing at many of the coal energy centers has made the fly ash unsellable. This amount must be included as an increase to Staff's production cost model results, which are based on the amount of fly ash produced which varies in relationship to the amount of coal burned. If the fly ash is not sold, it creates a cost for disposal for Ameren Missouri.

Staff Expert/Witness: Lisa M. Ferguson

b. Nuclear Fuel Prices

i. Nuclear Fuel Rod Assembly Prices

Uranium is a naturally slightly radioactive metal that represents the raw material that undergoes a complex three-stage process, involving conversion, enrichment and fabrication, in order to transform the metal into fuel rod assemblies (long metal tubes filled with precisely fashioned small fuel pellets) that are placed in the Callaway reactor as its source of fuel. The nuclear fuel price represents the cost of all of the fuel rod assemblies that are loaded in the reactor. Staff used in its case forecasted nuclear fuel prices for the period ending December 2014 as provided by Company in its response to Staff Data Request No. 0097. Staff will re-examine the actual nuclear fuel prices at year-end 2014 as part of its true-up audit and will reflect those costs once they are available.

ii. Spent-Fuel Costs

The Nuclear Regulatory Commission separates wastes into two broad classifications: high-level or low-level waste. High-level radioactive waste consists of "irradiated" or used nuclear reactor fuel (i.e., fuel that has been used in a reactor to produce electricity). The used reactor fuel is in a solid form consisting of small fuel pellets in long metal tubes. Used reactor fuel is commonly referred to as "spent fuel." High level and low level waste will be discussed at length in the next sections of this Report.

In this rate case, Staff has not included costs associated with the disposal of spent nuclear fuel as a component of the overall nuclear fuel price that was used as an input for Staff's production cost model. In the past, a spent-fuel fee component was incorporated in the nuclear fuel prices used for input into the production cost model. However, earlier this year the DOE was ordered by the United States Federal Court to discontinue the collection of this fee effective May 16, 2014. Because of this recent development, Staff has excluded this component of nuclear fuel cost from inclusion in the cost of service calculation. Staff also points out that the reduction in the nuclear waste fee passes through Ameren Missouri's FAC mechanism. Therefore, the reduction in cost is passed on to electric customers.

iii. Spent Fuel and DOE Breach of Contract Settlements with Ameren Missouri

The following provides a narrative synopsis of the origination of the spent-fuel fee that was designed to remove and store high-level radioactive waste and the developments which led to the eventual discontinuance of the fee, as well as lawsuits filed by Ameren Missouri against the government for breach of contract associated with the spent-fuel fee. At the end of this section, a chart is presented which summarizes the settlements Ameren Missouri has received to date related to the spent-fuel fee as well as the Company's accounting treatment of these settlements.

In 1982, the United States Congress enacted the Nuclear Waste Policy Act (NWPA), which was signed into law by President Reagan on January 7, 1983. This legislation defined the federal government's responsibility to provide permanent disposal in a deep geological repository for spent fuel and high-level radioactive waste from commercial and defense activities. Under the NWPA, Ameren Missouri and all other utilities that own and operate those energy centers were responsible for paying the disposal costs to the federal government. A spent-fuel fee was developed to address the disposal of the spent nuclear fuel at one mill, or one-tenth of one cent, for each kilowatt-hour of electricity that each electric utility nuclear energy center generates and sells. The NWPA also required the DOE to review the nuclear waste fee against the cost of the overall nuclear waste disposal program and to propose to the United States Congress any fee adjustment necessary to offset the costs of the program.

Consistent with the NWPA, Ameren Missouri entered into a contract with the DOE on March 6, 1984. Ameren Missouri's contract provided that it would pay the government fees that, together with the fees paid by all other utilities under similar contracts, would be sufficient for DOE to implement and operate a program for the prompt removal of the spent nuclear fuel from Ameren Missouri's Callaway Plant and all other nuclear power plants nationwide. The contract terms required the DOE to commence removal of spent nuclear fuel no later than January 31, 1998. The DOE failed to commence removing spent nuclear fuel by January 31, 1998. The United States Court of Appeals for the Federal Circuit held that this failure to commence removal of spent nuclear fuel in 1998 constituted a breach of the government's contractual obligation to the nuclear utilities that signed contracts with DOE pursuant to the NWPA.

In February 2002, after many years of studying its suitability, DOE recommended to President George W. Bush that a site at Yucca Mountain, Nevada, be developed as a long-term geologic repository for high-level waste. On June 3, 2008, the DOE submitted a license application to the U.S. Nuclear Regulatory Commission ("NRC"), seeking authorization to construct a deep geologic repository for disposal of high-level radioactive waste at Yucca Mountain. On March 3, 2010, the DOE filed a motion with the Atomic Safety and Licensing Board ("Board") seeking permission to withdraw its application for authorization to construct a high-level waste geological repository at Yucca Mountain. The Board denied that request on June 29, 2010, in LBP-10-11, and the parties filed petitions asking the Commission to uphold or reverse this decision. On October 1, 2010, the NRC began orderly closure of its Yucca Mountain activities. The federal government took steps to terminate the Yucca Mountain program, while acknowledging its continuing obligation to dispose of utilities' spent nuclear fuel.

Because of the federal government's efforts to terminate the Yucca Mountain program, the Nuclear Energy Institute, a number of individual utilities, and the National Association of Regulatory Utility Commissioners sued the DOE in the United States Court of Appeals for the District of Columbia Circuit, seeking the suspension of the one mill nuclear waste fee, alleging that the DOE failed to undertake an appropriate fee adequacy review reflecting the current unsettled state of the nuclear waste program. In a June 2012 decision, the court ruled that the DOE's fee adequacy review was legally inadequate and remanded the matter to the DOE. Although the court ruled it has the power to direct the DOE to suspend the fee, the court decided that it was premature to do so. Instead, the court ordered the DOE to provide within six months a revised assessment of the amount that should be collected. In January 2013, the DOE issued the revised assessment required by the court. The DOE determined that *"neither insufficient nor excess revenues are being collected,"* and it proposed no adjustment to the one mill nuclear waste fee. In November 2013, the court rejected the DOE's revised assessment and ordered the DOE to submit a proposal to the United States Congress to reduce the fee to zero. Effective May 16, 2014, the spent-fuel fee was reduced to zero.

There are currently two acceptable storage methods for spent fuel after it is removed from the reactor core: (a) Spent-Fuel Pools - where most spent nuclear fuel is safely stored in specially-designed pools at individual reactor sites and (b) Dry Cask Storage – which represents an alternative storage once the spent-fuel pool capacity is reached.

As a result of the DOE's failure to begin to dispose of spent nuclear fuel and to fulfill its contractual obligations, in 1999 Ameren Missouri increased the capacity of Callaway's spent-fuel storage pool from its original designed storage capacity of 1,340 spent-fuel assemblies to approximately 2,360 spent-fuel assemblies. This expansion was accomplished by "re-racking," which involved replacing the existing storage racks with new racks having additional storage capacity. In addition, Ameren Missouri has begun construction of a dry cask storage facility. Ameren Missouri and other nuclear energy center owners sued the DOE to recover costs incurred for re-racking spent-fuel pools, as well as for dry cask storage and other ongoing costs associated with storing spent fuel. Ameren Missouri's lawsuit to recover damages associated with the re-racking was filed in 2004. The case was formally stayed until early 2010, in order to allow Ameren Missouri to take advantage of rulings obtained in other earlier spent-fuel cases. Ameren Missouri was required to document its damages claim by August 31, 2010. Ameren Missouri had several discussions with the U.S. Department of Justice ("DOJ"), which represents the DOE in spent-fuel litigation, and Ameren Missouri obtained a very good understanding of the terms on which the DOJ would be willing to settle individual cases. The spent-fuel settlement would cover both past and future damages. Essentially, by settling with DOJ, the settling utilities' past costs are paid by the government when the settlement agreement is signed, and the agreement establishes an administrative claims process pursuant to which the utility may submit claims for ongoing damages annually, for evaluation and payment outside the judicial process.

In June 2011, Ameren Missouri entered into a settlement agreement that provides for recovery for its re-racking expenditures in 1999 and other related costs as well as all annual recovery of additional spent-fuel storage and related costs incurred from 2010 through 2013, with the ability to extend the recovery period as mutually agreed to by the parties. The parties have agreed in principle to extend the recovery period through 2016.

To date, Ameren Missouri has received the following reimbursements:

July 2011	$ 10,551,468
October 2012	$ 818,692
November 2013	$ 6,227,978

The July 2011 reimbursement was for re-racking that was completed in 1999, O&M expenses incurred in years prior to 2011, and costs incurred on the new dry cask storage project. For the portion of the settlement received for the re-racking project, Ameren Missouri reduced the plant-in-service and depreciation reserve balances for the applicable plant-in-service accounts by the amount of the proceeds. The prior year O&M reimbursement was recorded below-the-line as miscellaneous non-operating revenue and the reimbursement for the costs incurred on the new dry cask storage project were recorded as a reduction to the Construction Work in Progress balance at that time for that item. The reimbursements received in 2012 and 2013 were related to the new dry cask storage project and Construction Work in Progress was reduced for these reimbursements.

The following summarizes how the Company recorded these transactions on their books:

Debt (DR)	Credit (CR)	
July 2011		
DR Acct 131	Cash	9,117,418
CR Acct 322	Reactor Plant in Service	(9,117,418)
DR Acct 322	Reactor Plant (Reserve)	2,522, 188
CR Acct 403	Depreciation Expense	(2,522,188)
DR Acct 131	Cash	1,360,156
CR Acct 421	Miscellaneous Non-Operating Revenue	
	(Reimbursement of O&M)	(1,360,156)
DR Acct 131	Cash	73,894
CR	CWIP	(73,894)

October 2012			
DR	Acct 131	Cash	818,692
CR		CWIP	(818,692)
November 2013			
DR	Acct 131	Cash	6,227,978
CR		CWIP	(6,227,978)

Staff does not agree with the Company's treatment of the $1.36 million of reimbursements it received in July 2011 that related to a reimbursement of prior period O&M costs. By recording the $1.4 million as miscellaneous non-utility operating revenue in a below-the-line account, Ameren Missouri pocketed the refund and made no attempt to return any of these proceeds to the ratepayers that funded these O&M activities. Based upon advice from counsel, attempting to recover this cost during this rate case would constitute retroactive ratemaking, thus Staff does not propose an adjustment. However, Staff recommends that the Commission order the Company to return all future refunds that stem from settlements that Ameren Missouri has reached with DOE to ratepayers Staff believes without such protection from the Commission that unjust and unreasonable rates would result. Staff does agree with the Company's treatment of the remainder of the settlement in amounts received during 2011. Staff also agrees with the Company with regard to the 2012 and 2013 settlements since the investment costs of the dry cask project will not be charged to ratepayers.

In March 2014, Ameren Missouri submitted additional costs to the DOE for reimbursement under the settlement agreement. Ameren Missouri expects to receive a cost reimbursement of approximately $14.9 million during the fourth quarter of 2014 from this submission. Included in these reimbursements are costs related to a dry spent-fuel storage facility Ameren Missouri is constructing at its Callaway Energy Center. Ameren Missouri intends to begin transferring spent-fuel assemblies to this dry spent-fuel storage facility in 2015. Until the facility is completed, Ameren Missouri will apply for reimbursement from the DOE for the cost to construct the dry spent-fuel storage facility along with related allowable costs. Ameren Missouri has indicated that it intends to record these reimbursements in the same way that the reimbursements that were received in 2012 and 2013 were recorded on the Company's books. Staff intends to monitor this settlement in order to ensure that ratepayers are made whole for the proceeds that are returned to Ameren Missouri.

In January 2013, the DOE issued its plan for the management and disposal of spent nuclear fuel. The DOE's plan calls for a pilot interim storage facility to begin operation with an initial focus on accepting spent nuclear fuel from shutdown reactor sites by 2021. By 2025, a larger interim storage facility would be available, co-located with the pilot facility. The plan also proposes to site a permanent geological repository by 2026, to characterize the site and to design and to license the repository by 2042, and to begin operation by 2048.

Staff Expert/Witness: Lisa M. Ferguson

c. Natural Gas Cost

i. Variable Natural Gas Cost

Staff analyzed natural gas prices over a three-year period ending in July 31, 2014, using data provided in response to Staff Data Request No. 0089 and data submitted by Ameren Missouri as per the 4 CSR 240-3.190 Reporting Requirements for Electric Utilities and Rural Electric Cooperatives rule. Staff calculated the average system price per month using the three years of monthly data ending July 31, 2014. Staff calculated the three-year average natural gas price by month and used these three-year averages for inputs to the fuel model. Staff will continue to review natural gas prices through the true-up period ending December 31, 2014, and will make adjustments as necessary.

Staff Expert/Witness: Erin L. Maloney

ii. Fixed Natural Gas Cost

Staff has included the fixed demand cost of gas for the twelve months ending September 30, 2014, in its recommended revenue requirement. This amount must be added to Staff's production cost model results, which are based on only the variable commodity cost of gas in order to determine total net fuel and purchased-power expense. Staff will also examine this cost through the true-up cut-off date in this case.

Staff Expert/Witness: Lisa M. Ferguson

d. Fuel Oil Prices

Fuel oil plays a very small part in the total fuel costs of Ameren Missouri. It is mainly used for start-up and auxiliary purposes at the generating stations. The fuel oil price recommended by Staff was calculated from the monthly average fuel oil prices Ameren Missouri provided in response to Staff Data Request No. 0073 for the three-year period ending July 31, 2014. A single fuel oil price was used in the production cost model. Staff will continue to review fuel oil prices through the true-up period ending December 31, 2014, and will make adjustments as necessary.

Staff Expert/Witness: Erin L. Maloney

e. Maryland Heights Renewable Center Fuel Cost

Ameren Missouri originally entered into an agreement in May 2009, updated in September 2014, with Fred Weber, Inc., to install combustion turbines capable of generating electricity by burning methane gas captured from Fred Weber, Inc.'s solid waste landfill at Maryland Heights, Missouri. In December 2010, IESI MO Champ Landfill, LLC acquired the Fred Weber Sanitary Landfill. The Maryland Heights Renewable Energy Center project increased the Company's renewable energy capabilities as well as allowing it to meet in part state and federal regulatory requirements to generate or procure a specified percentage of retail electric sales through renewable sources. The Maryland Heights Renewable Energy facility consists of three gas-fired combustion turbine generator units, generating enough electricity to meet the demands of approximately 10,000 homes. Ameren Missouri proposes that these costs be recovered through the Renewable Energy Standard (RES) Accounting Authority Order (AAO) because it more appropriately represents a RES compliance cost than a fuel expense normally recovered through the FAC. Staff witness John P. Cassidy will address these Maryland Heights fuel costs as part of the section of Staff's Report concerning the RES AAO in Section IX. E, Subsection 20. d. below. In Staff's fuel production cost model, the generation from Maryland Heights was included in the production cost model as a "must run" generation source with a normalized forced outage rate applied. However, the generation was assigned no cost in the production cost model since this cost will be addressed as part of the RES AAO mechanism under Staff's recommended treatment.

Staff Expert/Witness: Lisa M. Ferguson

f. Whole Sale Market Prices

Staff analyzed hourly power prices for the three-year period ending September 30, 2014, using day-ahead locational marginal prices (LMP) down-loaded from the MISO website (https://www.misoenergy.org/Pages/Home.aspx). Average market prices were developed during each hour for this period. Staff found that the extremely cold weather that occurred in January, February, and March of 2014 caused an uncharacteristic spike in market prices. These uncharacteristically high prices were adjusted with the 2012 and 2013 two-year average peak and off-peak prices. Staff then calculated weighted average monthly prices for each month in the three-year period ending September 30, 2014, and developed peak and off-peak factors for each month based on the ratio of the three-year averages to the test year monthly averages. The hourly average day-ahead prices that occurred in the twelve months ending September 30, 2014, were then adjusted by these monthly factors. The resulting 8,760 hourly prices were used as input to the production cost model. Staff will continue to review market prices and update the average market prices weighted by the actual day-ahead generation sales made by Ameren Missouri through December 31, 2014, for Staff's true-up filing.

Staff Expert/Witness: Erin L. Maloney

2. Fuel and Purchased Power Cost Modeling

a. Variable Costs

Staff estimates the variable fuel and purchased-power expense for Ameren Missouri for the update period, as defined in the Rate Revenues Section IX of Staff's Cost of Service Report, ending July 31, 2014, to be $671,472,522 including off-system sales, and $719,229,153 excluding off-system sales. For this rate case, the model was run with and without off-system sales to estimate the level of off-system sales.

To conduct these scenarios, Staff uses the RealTime® production cost model to perform an hour-by-hour chronological simulation of Ameren Missouri's generation and power purchases. Staff uses the model to determine the annual variable cost of fuel and the net purchased-power energy costs and fuel consumption necessary to economically meet Ameren Missouri's hourly load requirements during the test year (as updated), within the operating constraints of Ameren Missouri's resources. These results were supplied to Staff witness Lisa M. Ferguson for use in annualizing fuel expense.

The RealTime® model operates in a chronological fashion, meeting each hour's energy demand before moving to the next hour. The model schedules generating units to dispatch in a least-cost manner based upon fuel cost and purchased-power cost, while also taking into account generation unit operation constraints. 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.

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 Mark Peters' direct testimony, was 0.68%.

Ameren Missouri is currently installing a solar facility with a capacity of 5.7 megawatts ("MW"). This unit is not included in Staff fuel model for this filing, but is expected to be included in Staff's true-up filing in this case once Staff determines that the unit meets its declared "fully operational and used for service" requirements.

Staff Expert/Witness: Shawn E. Lange

b. 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 (2008 through July 2014) of actual values taken from data Ameren Missouri supplied to comply with 4 CSR 240-3.190.

Staff Expert/Witness: Shawn E. Lange

c. 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 July 2014 from data Ameren Missouri supplied to comply with 4 CSR 240-3.190, Reporting Requirements for Electric Utilities and Rural Cooperatives.

Staff Expert/Witness: Shawn E. Lange

d. Normalization of Hourly Load Requirements at Transmission

Hourly net system load is the hourly electric supply necessary to meet the energy hourly demands of both the company's customers and the company's own internal needs. It is net of (i.e., does not include) station use, which is the electricity requirement of the company's generating plants.

Due to the presence of air conditioning and the presence of significant electric space heating in Ameren Missouri's service territory, the magnitude and shape of Ameren Missouri's net system input is directly related to daily temperatures. Actual and normal daily temperatures provided by Staff witness Seoung Joun Won were used in the analysis. The actual daily temperatures for the modified year period differed from normal daily temperatures. Therefore, to reflect normal weather, daily peak and average net system loads are each adjusted independently, but using the same methodology.

Daily average load is the daily energy divided by twenty-four hours and the daily peak is the maximum hourly load for the day. Separate regression models are used to 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. Independent regression models are necessary because daily average loads respond differently to weather than peak loads do. The model's 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 to the peak loads of each day. The starting point for allocating the weather-normalized daily peak and average loads to the hours is the actual hourly loads for the year being normalized. 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 for each hour of the year.

This process includes many checks and balances, which are included in the spreadsheets that are used by Staff. 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*."[53]

After weather normalizing and annualizing usage for Ameren Missouri's retail customer classes is completed, producing an annual sum of the hourly net system loads that equals the adjusted test year usage, plus losses, 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 requirements at transmission that equals the usage, plus losses, and is consistent with normalized revenues. Once completed, the hourly normalized system loads were used in developing fuel and purchased-power expense. Staff witness Alan J. Bax also used the annual requirement of the net system load in developing Staff's jurisdictional energy allocator.

Staff Expert/Witness: Shawn E. Lange

i. System Energy Losses

In the MISO market, Ameren Missouri "bids" its load into the associated market at the transmission level, rather than 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 and System Energy Losses. This can be expressed mathematically as:

LRT = Total Sales + System Energy Losses

[53] 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.

LRT and Total Sales are known, measured values. System Energy Losses (at the transmission level) are not metered values and may be calculated as follows:

System Energy Losses = LRT – Total Sales

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.

Staff calculated a loss percentage of 4.58% of LRT for the twelve-month period ending July 2014. Staff witness Seoung Joun Won used Staff's calculated loss percentage in the development of hourly loads for Staff's fuel model.

Staff Expert/Witness: Alan J. Bax

ii. Solar Load Adjustment

There were an unusual amount of solar panel installations within the test year and update period that could affect projections of Ameren Missouri's load. The rebate on solar installations was $2.00 per watt for applications received before December 31, 2013, and installed before June 30, 2014. Applications received after December 31, 2013, or installations completed after June 30, 2014, would receive a rebate of $1.50 per watt, a 25% reduction.[54] The reduction in incentive had a noticeable effect on the amount of solar installations in late July and early August of 2014, as can be seen in Figure 5. Staff expects that future rate cases are unlikely to have such a large amount of solar installations in the test year because of the reduction in solar panel installations due to the incentive reduction and other factors such as the cap on payments. However, for the current case, Staff has included an adjustment to account for the reduction in load due to solar installations.

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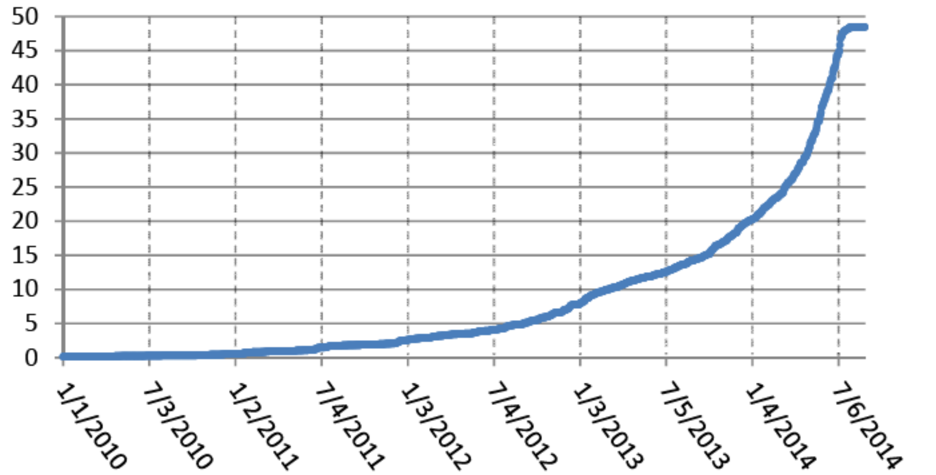
[54] The solar rebates also decrease for applications received after December 31, 2014, and installation after June 30, 2015, and for each subsequent year. See Ameren Missouri's tariff sheet number 88.2 for further details.

Figure 5. Installed Solar Capacity (1000 kW)



Staff's solar adjustments are limited to the residential, SGS and LGS classes. There were no adjustments made for the SPS or LPS classes due to the limited number of installations in those classes. Staff assumed a capacity factor of 14.4% for each panel, which is consistent with the calculation of Solar Renewable Energy Credits ("SRECs"). Staff also used the generation profile of solar panels at Ameren Missouri's General Office Building to estimate the monthly generation profile since the panels are typically not individually metered. Finally, Staff used the kWh in Ameren Missouri's account 555 for the RES and SGS classes to estimate the amount of solar generation in excess of customer's load.

Staff Expert/Witness: Michael L. Stahlman

3. <u>Other Fuel Related Items</u>

a. Fuel Additive - Limestone for Sioux Scrubbers

As a result of the SO_2 scrubbers installed at the Sioux Energy Center ("Sioux"), a supply of limestone must be provided to the plant in order to operate the scrubbers. The limestone provided must meet certain standards of quality and be put through a pulverization process in order to be utilized in the scrubbers. Therefore, the Company has contracted with three vendors to obtain a supply of limestone with the proper specifications in order to operate the scrubbers. The Company contracted with a quarry which supplies the correct grade of limestone, a processor which operates the processing facility onsite at the quarry, and a trucking company which has the required equipment to transport the processed limestone to the Sioux facility. There are many variables within each contract including surcharges for different items. Since the last case, additional historical data is available, as well as additional data regarding the SO_2 removal rate achieved with the scrubbers. Currently, the existing removal rate varies based on numerous variables, but is generally at 92% based on current conditions and regulations. However, in the future, the Company may need to increase the removal rate should the Cross-State Air Pollution Rule (CSAPR) go into effect. Currently CSAPR, which provides for reductions in emissions of pollutants, such as SO_2 and was scheduled to take effect January 1, 2012, has been stayed by the United States Court of Appeals pending judicial review. Staff made adjustments to include only the estimated amount of limestone which would be required to achieve an average of 92% SO_2 removal rate at the current terms of the contracts to provide the limestone. As a result, Staff is recommending the test year level for limestone expense of $2,763,736. Staff will reexamine this issue as part of its true-up analysis to determine if any changes to Staff's adjustment are warranted.

Staff Expert/Witness: Lisa M. Ferguson

b. Fuel Additive – Activated Carbon

In order for the Company 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," to produce carbon particles with high porosity and surface area. The activated carbon is injected into the flue gas and the flue gas absorbs the activated carbon, and then that activated carbon is captured in electrostatic precipitators. The Sioux generating station has an alternative design that injects the activated carbon in slurry form into SO_2 absorber vessels. When the activated carbon is recirculated in the absorbers, the required mercury emission reduction is achieved with significantly less activated carbon due to the SO_2 scrubbers installed at that plant compared to the amount of activated carbon that would be necessary at plants that do not have scrubbers installed. The Rush Island and Sioux Energy Centers are the first of Ameren Missouri's coal generation plants that must meet emission limits established by the MATS rule. Both Rush Island and Sioux are required to meet mercury emissions limits by April 16, 2015, and will begin injecting activated carbon in December 2014 in preparation for meeting the MATS requirements. The Meramec Generating Station and Labadie Energy Center have received an extension, but are required to meet mercury emissions limits by April 2016. Activated carbon at Meramec and Labadie is expected to start in the late 2015/early 2016 timeframe. Currently, testing of multiple activated carbons from several vendors has been performed at Rush Island in order to complete performance testing on recently installed Activated Carbon Injection (ACI) equipment and also to evaluate the mercury capture efficiency of multiple activated carbons. Testing began at Rush Island in July 2014 and all activated carbon that has been consumed thus far has been for testing purposes. Once the testing is complete, the performance of each type of carbon will be evaluated. A short list of potential suppliers will be compiled and negotiations to procure and transport the carbon to Rush Island will begin. Each of the two ACI units at Rush Island has a silo designed to hold approximately 125 tons of activated carbon. When in operation, the inventory level is expected to be maintained between 20 and 125 tons per ACI system.

The annual quantities consumed at each energy center are highly dependent on which activated carbon is used, which has yet to be decided. Due to this uncertainty, Staff is unable to determine an ongoing expense level for activated carbon at the time of direct filing. An official vendor will be chosen by Ameren Missouri by December 31, 2014, and supplier and delivery contracts finalized in January 2015. Staff will continue to review and evaluate an appropriate allowance for this cost through the December 31, 2014, true-up period in this case.

Staff Expert/Witness: Lisa M. Ferguson

D. Payroll and Benefits

1. Payroll

Staff's annualized payroll expense was based upon the test year ending March 31, 2014, and was adjusted for (a) increases in wage rates, (b) changes in employee levels at the end of September 30, 2014 compared to the test year average, and (c) ** ________________ ____ __________________________ **.

Subsequent to performing the annualization, Staff distributed its adjustment for payroll expense on a *pro rata* basis by account according to Ameren Missouri's actual payroll distribution for the twelve months ended March 31, 2014. Staff made an additional adjustment to normalize the overtime expenses associated with Callaway nuclear facility refuelings which occur periodically every 18 months. This adjustment was also allocated to individual accounts on a *pro rata* basis.

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As part of its true-up audit, Staff will exchange the current Callaway refueling adjustment amount which is based on budgeted overtime, with one based on the actual overtime amount resultant of Callaway Refuel 20 which occurred during October and November 2014, once the final amounts are known. Staff will also continue to analyze employee levels and actual salary data, as the true-up information becomes available. Finally, as mentioned in testimony by Staff witness Lisa K. Hanneken (*see* Section VIII above), Staff will continue to analyze AMS employee positions which are allocated to Ameren Missouri.

Staff Expert/Witness: Brian Wells

2. Payroll Taxes

Staff's annualization of payroll taxes reflects a decrease in the overall level of Federal Insurance Contributions Act (FICA) Old Age Survivors and Disability Insurance (OASDI), FICA Medicare, Federal Unemployment Tax Act (FUTA), and State Unemployment Tax Act (SUTA) payroll taxes. This decrease in payroll tax is driven by overtime costs associated with Callaway refueling and by Ameren Services expense allocated to Ameren Missouri, as well as Staff's disallowance of payroll taxes paid on long-term and short-term incentive compensation.

As part of its true-up audit, Staff will continue to analyze company employee level and other factors to determine an ongoing level of payroll tax expense.

Staff Expert/Witness: Brian Wells

3. Accounting Standards Codification (ASC) 715-30 (formerly FAS 87) Pension Costs

a. Accounting Standards Codification 715-30 Pension Tracker

Staff, Ameren Missouri, and other parties entered into a Stipulation and Agreement ("the 2007 Agreement") in Case No. ER-2007-0002 that addressed the ongoing ratemaking treatment for annual qualified pension cost under the Financial Accounting Standards Board's (FASB) Accounting Standards Codification (ASC) Subtopic 715-30, formerly known as Financial Accounting Standard No. 87 ("FAS 87").

The 2007 Agreement requires Ameren Missouri to externally fund its annual pension expense and track the difference between its annual funded pension expense and the level included in Ameren Missouri's rates. The difference between the annual pension cost and the amount included in rates, as accumulated in the tracker, has been included in rate base and amortized over a period of five years as an addition or reduction to pension expense. As Ameren Missouri's management and administrative functions are provided by Ameren Services employees, all components of Ameren Missouri's pension expense and rate base amounts include costs that are allocated from Ameren Services.

In Ameren Missouri's last rate case, No. ER-2012-0166, the parties agreed to combine all of the prior pension tracker differences established in Case Nos. ER-2008-0318, ER-2010-0316, and ER-2011-0028 into one combined amount for purposes of amortization. Consistent with the 2007 Agreement and subsequent stipulations in Ameren Missouri rate cases, Staff is proposing to reflect pension tracker amounts in rate base as follows: (1) rate base will be reduced by ($4,359,589), which represents a regulatory liability resulting from the over-collection in rates of pension expense as compared to the actual expense and funding incurred in this current rate case from August 1, 2012, through September 30, 2014; (2) rate base will be increased by $8,859,443, which represents an estimated unamortized regulatory asset at the true-up cut-off date of December 31, 2014, for the cumulative pension tracker established in Case No. ER-2012-0166.

Staff Expert/Witness: Kofi Agyenim Boateng

b. Annualization

Staff adjusted test year qualified pension expense to reflect the Plan Year 2014 expense for FASB ASC Subtopic 715-30 provided by the actuarial firm of Towers Watson[55] for Ameren Missouri's qualified pension plan. Staff used this amount to determine the adjustment necessary to ensure the amount collected in rates is sufficient to recover the estimated pension expense provided by Towers Watson. This is the base expense level that will be utilized 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 on an ongoing basis for qualified pension expense. In this proceeding, Staff is proposing to decrease test year expense by an amount of $12,238,436, due to declining pension costs. Additionally, Staff is proposing (1) an adjustment of $11,464 to increase pension amortization expense in respect to the combined pension tracker difference established in Case No. ER-2012-0166, and (2) an adjustment of ($871,918), which represents the annualized amortization related to the current pension tracker in effect since Ameren Missouri's last rate case.

Staff Expert/Witness: Kofi Agyenim Boateng

4. <u>Accounting Standards Codification (ASC) 715-60 (formerly FAS 106) Other Post Retirement Benefit Costs (OPEBs)</u>

a. Accounting Standards Codification 715-60 OPEBs Tracker

The 2007 Agreement also addresses the ratemaking treatment for annual OPEBs cost under the FASB's ASC Subtopic 715-60, formerly known as Financial Accounting Standard No. 106 ("FAS 106"). As with pension expense, the 2007 Agreement requires Ameren Missouri to externally fund the annual OPEB expense and establish a tracker. The difference between the annual OPEB expense funded by Ameren Missouri and the amount of OPEBs expense included in rates, as accumulated in the tracker, has been included in rate base and amortized over a period of five years as an addition or reduction to OPEBs expense.

As with the pension tracker, the parties agreed to combine all prior OPEBs tracker differences established in Case Nos. ER-2008-0318, ER-2010-0036, and ER-2011-0028 into

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[55] Data provided to Staff during a meeting with Ameren Missouri and Towers Watson on October 15, 2014. Also, see Ameren Missouri's response to Data Request No. 0365.

one combined amount in Case No. ER-2012-0166 for purposes of amortization. Consistent with the 2007 Agreement and similar stipulations agreed to in subsequent Ameren Missouri rate cases, Staff is proposing to reflect the differences in rate base as follows: (1) rate base will be reduced by ($5,621,319), which represents a regulatory liability resulting from the over-collection in rates of OPEBs expense as compared to the actual expense and funding incurred in this current rate case from August 1, 2012, through September 30, 2014; (2) rate base will be reduced by ($20,234,885), which represents an estimated unamortized regulatory liability at the true-up cut-off date of December 31, 2014, for the cumulative OPEBs tracker established in Case No. ER-2012-0166.

Staff Expert/Witness: Kofi Agyenim Boateng

b. Annualization

Staff adjusted test year OPEBs expense to reflect the Plan Year 2014 expense for FASB ASC Subtopic 715-60 provided by the actuarial firm of Towers Watson for Ameren Missouri's post-retirement 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 Towers Watson. In this proceeding, Staff is proposing to decrease the amount currently collected in rates by an amount of $5,546,799. This reduction reflects a decline in OPEB costs.

In addition, Staff is proposing (1) an adjustment of $1,765,624 to increase OPEB amortization expense in respect to the combined OPEB tracker difference established in Case No. ER-2012-0166, and (2) an adjustment of ($1,124,264), which represents the annualized amortization related to the current OPEBs tracker in effect since Ameren Missouri's last rate case.

Staff Expert/Witness: Kofi Agyenim Boateng

5. <u>Non-Qualified Pensions Expense</u>

In addition to offering qualified pension plan benefits to all of its employees, Ameren Missouri also has a non-qualified pension plan called the Ameren Supplemental Retirement Plan. This plan is designed to attract, retain and motivate selected executives. Ameren Missouri states that the non-qualified plan is unfunded and that the plan benefit payments are made on a monthly disbursement basis. Since this plan is not funded, Staff reviewed and determined that a three-year average of the actual payments made to former employees during the calendar years of 2011 through 2013 was reasonable as an expense for this retirement program for inclusion in the cost of service.

Staff Expert/Witness: Kofi Agyenim Boateng

6. <u>Other Employee Benefits</u>

Ameren Missouri generally offers a number of benefits to its employees including medical, dental, vision, 401-K and long-term disability benefits. Staff has reflected benefit costs for the twelve months ended September 30, 2014 in its calculation of cost of service. As part of its true-up audit, Staff will continue to analyze employee levels and actual benefit cost data through January 1, 2015, as information becomes available.

Staff Expert/Witness: Brian Wells

7. <u>Incentive Compensation</u>

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The criteria Staff uses to evaluate employee incentive plans were established in the Commission's *Report and Order* for ***In re Union Electric Co.,*** 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." 29 Mo. P.S.C. (N.S.) 313, 325 (1987). In the Commission's *Report and Order* in ***In re Kansas City Power & Light Company,*** Case No. ER-2006-0314, the Commission noted on page 58 that, among other things, "because maximizing EPS could compromise service to ratepayers, such as by reducing customer service or tree-trimming costs, the ratepayers should

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not have to bear that expense." Thus, Staff recommends the disallowance of any incentive compensation based on earning per share (EPS) performance.

a. Short-Term Incentive Compensation

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b. Long Term Incentive Compensation

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c. Exceptional Performance Bonus (EPB)

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Staff's adjustments for the disallowed portions of incentive compensation include calculations to remove capitalized incentive compensation from rate base. The adjustments to Plant in Service and Accumulated Reserve remove any incentive compensation that has been capitalized from 2002 through estimated December 2014. This adjustment will be updated as a part of the true-up audit with actual capitalized incentive compensation that is booked through December 31, 2014 (the end of the true-up period for this rate case proceeding).

Staff Expert/Witness: Sarah Sharpe

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E. Other Expenses

1. Rate Case Expenses

Staff's analysis of rate case expense included a review of the actual amounts spent by Ameren Missouri in previous rate cases and a comparison to the estimated expenses for the current case. As a result, Staff has determined that an appropriate total amount of rate case expense to be included with Staff's direct filing to be $1,104,706 normalized over 18 months, which results in an annual amount of $796,530. Staff proposes this adjustment with the intention of updating Ameren's total rate case expense throughout the remainder of this case's proceedings through and up to two weeks after the filing of reply/true-up briefs in this case.

Staff's normalization period of 18 months is supported ** ______________________

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In addition, Staff reviewed the costs related to work performed by an outside consultant with regard to how Ameren Services allocates costs to Ameren Missouri and to affiliates of Ameren Missouri. Staff has learned through data requests that the Company does not intend to repeat this study in the near future, therefore, Staff has normalized this study over a five-year period and included this normalized amount in the cost of service calculation.

Although Staff did not specifically recommend disallowance of consulting costs for performing a CWC lead lag study in Ameren Missouri's previous rate case, ER-2012-0166, Staff continues to have concerns about Ameren Missouri's continued reliance upon an outside consultant to perform CWC-related analysis for every rate case. No other large utility has consistently relied upon a consultant to handle CWC issues in rate proceedings before this Commission. Staff has raised this concern in previous rate proceedings such as ER-2010-0036 and ER-2011-0028 (please refer to Staff witness Lisa M. Ferguson's surrebuttal testimony in each case), which asserted that this type of work can be performed in-house by Ameren Missouri. Staff recommends that the Commission disallow all CWC consulting costs in this rate proceeding. These costs should not be considered for recovery in rates in this proceeding because Ameren Missouri already possesses the regulatory experience, knowledge, and resources to handle this entry level accounting issue in-house without the continuous assistance of an outside consultant.

The nature of incurring rate case expense in a regulatory proceeding is different from other expenses, as the full expenses related to a rate case filing are not fully known until past the scope of Staff's discovery periods. While Staff's direct filing adjustment includes estimated numbers as supplied by Ameren Missouri, Staff will review documentation of expenses incurred through and up to two weeks after the filing of reply/true-up briefs of this case. Staff requests that Ameren Missouri provide all 2014 rate case proceeding documentation as data is available with a final cut-off date to provide such documentation of April 24, 2015, which would allow Ameren Missouri two weeks to gather the final costs incurred. Staff will require a reasonable amount of time to review all provided expenses and documentation and, as soon as practical after receiving such data, intends to update the normalized rate case expense amount to include only Ameren Missouri's actual incurred expenses.

In September 2013, Staff filed a report in Case No. AW-2011-0330 concerning the topic of rate recovery of rate case expense. Within that report, Staff examined recent trends in incurred rate case expense by major Missouri utilities, and discussed several possible options for allocation of rate case expense responsibility between the utility's shareholders and its customers. In this case, Staff is recommending that Ameren Missouri's rate case expenses be treated in the traditional manner; that is, the Company should be allowed an opportunity to recover in rates the full amount of reasonable and prudent rate case expenses through an expense normalization approach. However, Staff will continue to monitor the rate case expenses incurred Ameren Missouri and other Missouri utilities in current and future rate proceedings, and Staff reserves the right to propose "sharing" or another appropriate alternative approach to rate recovery of this item in future cases, if appropriate.

Staff Expert/Witness: Sarah Sharpe

2. <u>Dues and Donations</u>

Staff reviewed the list of membership dues paid and donations made to various organizations that were charged to its utility accounts by Ameren Missouri during the test year. Staff is recommending the disallowance of various amounts of dues and donations that were included by Ameren Missouri in its test year expenses. Staff disallowed these dues and donations because they were not necessary for the provision of safe and adequate service and thus provide no direct benefits to ratepayers. Allowing the recovery of these expenses by Ameren Missouri through rates causes the ratepayers to involuntarily contribute to these organizations. Examples of items disallowed by Staff are amounts paid to Civic Progress and the Partnership for Downtown St. Louis.

In ***Re: Missouri Public Service, a Division of UtiliCorp United, Inc.,*** Case No. ER-97-394, et al., *Report an Order,* 7 Mo.P.S.C.3d 178, 212 (1998), 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 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.

In addition to the above disallowances, Staff removed all costs related to lobbying that were included in the membership dues to the various organizations as well as dues related to the Edison Electric Institute (EEI); these items are discussed further detail in the following paragraphs.

Staff Expert/Witness: Jason Kunst

3. Lobbying

As part of its analysis of dues, Staff determined that some of the organizations use a percentage of member payments to fund government affairs or lobbying activities. Staff traditionally disallows the cost of these actives and therefore has removed the associated amounts from Ameren Missouri's test year expense level.

Staff Expert/Witness: Jason Kunst

4. Edison Electric Institute (EEI) Dues

According to the information obtained from EEI's website (www.eei.org), EEI is an association that represents investor-owned electric utilities and their industrial affiliates. The information reviewed by Staff related to EEI clearly shows that part of EEI's function is to represent the electric utility industry in legislative and regulatory matters before federal, state, and local government entities. By necessity, 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. (N.S.) 233 (Aug. 30, 1983), the Commission stated its position respecting EEI dues:

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

The Commission has re-affirmed Staff's position in subsequent rate proceedings.

In Re: Kanas 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 that 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 the EEI dues if there is benefit accruing to the shareholders from the 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 guidance, Staff has disallowed the entire amount of EEI dues recorded in the test year by Ameren Missouri.

Staff Expert/Witness: Jason Kunst

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 for 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 ongoing level of insurance expense.

However, certain insurance contracts which went into effect after August 31, 2014, were not made available to Staff for review at the time of this direct testimony filing. Staff will review all insurance contracts that went into effect subsequent to August 31, 2014, through December 31, 2014, when they are available and will make any necessary changes.

Staff Expert/Witness: Brian Wells

6. <u>Vegetation Management and Infrastructure Inspection Programs</u>

Ratemaking for Ameren Missouri's Vegetation Management and Infrastructure Inspection Programs have several different aspects to be accounted for, such as the annual level of expense, the tracker mechanism, and the amortizations related to prior reconciliations of the tracker mechanism, each of which is explained more fully below.

a. Annual Expense

Staff adjusted the non-labor test year expense level associated with Ameren Missouri's vegetation management and infrastructure inspections programs by ($1,719,351) and $(168,254), respectively, to reflect a normalized level based on a three-year average of each of these expense levels at October 31, 2014.

Staff will re-examine the actual costs for each these programs through the end of the true-up period December 31, 2014, to determine if further adjustment is necessary and/or appropriate based upon updated information.

b. Trackers

As described in the Report and Order in Case No. ER-2008-0318:

> In 2006, AmerenUE experienced extensive service outages due to severe thunderstorms in the summer and ice storms in the winter. In response to concerns that AmerenUE and other electric utilities had failed to properly maintain their electric distribution systems, the Commission promulgated new rules designed to compel Missouri's electric utilities to do a better job of maintaining their electric distribution facilities to enhance the reliability of electric service to customers…. In promulgating the stricter standards, the Commission anticipated utilities would have to spend more money to comply. Therefore, both rules include provisions that allow the utility a means to recover to the extra costs it incurs to comply with the requirements of the rule.

As a result, the Commission established tracker mechanisms to ensure the Ameren Missouri would recover these costs, while protecting ratepayers from paying in excess of actual costs incurred.

In Case No. ER-2012-0166, the Commission ordered a new base for the tracker for vegetation management and infrastructure inspection costs in the amount of $54.1 million and $6.2 million, respectively. The amounts reflected in rates were compared to the actual amount incurred for the twelve-months ending September 30, 2014, to identify any over or under-collection. Staff has identified a net under-collection for the period August 1, 2012, through September 30, 2014, in the amount of $537,397. Staff recommends this under-collection be amortized over three years consistent with Commission orders in previous cases. This net under-collection amount represents a $2,155,647 under-collection for vegetation management and a ($1,618,550) over-collection for infrastructure inspections. The annualized amortization recommended is $718,649 and ($539,517), respectively, for a total annualized amortization of $179,132. This amortization amount is further addressed in the section below.

In this case, Staff is recommending that the trackers related to both the Vegetation Management and Infrastructure Inspection Programs be ended due to the fact that Ameren Missouri has completed its cycles for each of these programs, and that the costs for these items are not significantly fluctuating from year to year.

c. Amortizations

As a result of Ameren Missouri's last rate case, Case No. ER-2012-0166, all Vegetation Management and Infrastructure Inspection amortizations from that case and previous cases were combined into one amount. Each combined program amortization was then amortized over a three-year period ending December 2015. Staff proposes that any unamortized amount related to this amortization established in Case No. ER-2012-0166 be rolled into the current amortization established in this proceeding and be amortized over a three-year period so that only one tracker remains. The unamortized amounts established in Case No. ER-2012-0166 at May 31, 2015, is $313,322 and ($154,289) for the Vegetation Management and Infrastructure Inspections Programs, respectively, or a total amount net amount of $159,033. In the current case, Staff has determined that an amount of $2,155,647 for the Vegetation Management Program and an amount of $(1,618,550) for the Infrastructure Inspections Program, for a net total of $537,397, should be amortized. Therefore, the total to be amortized is an amount of

$696,430 [$159,033 + $537,397 = $696,430] with an annual amortization in the amount of $232,143.

Staff Expert/Witness: Lisa K. Hanneken

7. Maintenance Expense

a. Power Plant Maintenance

Staff has reviewed Ameren Missouri's power plant maintenance costs through September 30, 2014, and is not recommending an adjustment at this time. However, Staff has requested additional data from Ameren Missouri as to the rationale for the recent decrease in these costs and how the decrease may impact unplanned outages; which in turn could affect the costs passed through to ratepayers in the FAC Staff will continue to look at this expense as this new data becomes available.

Staff Expert/Witness: Lisa K. Hanneken

b. Distribution Maintenance

Staff has also reviewed Ameren Missouri's distribution maintenance costs through September 30, 2014, and is not recommending an adjustment at this time. However, Staff has requested additional data from Ameren Missouri related to this issue to obtain the rationale for the recent decrease in these costs and how the decrease may impact customer outages. Staff will continue to look at this expense as this new data becomes available.

Staff Expert/Witness: Lisa K. Hanneken

8. Customer Deposit Interest Expense

See discussion in Section VII. D, Rate Base-Customer Deposits.

Staff Expert/Witness: Jason Kunst

9. Property Tax Expense

For property tax assessment purposes, each utility company is required to file with its respective taxing authority a valuation of utility property at the beginning of each assessment year, which is January 1. Several months later, based on information provided by the utility, the taxing authority will in turn send the company what are known as "assessed values" for every category of the company's property. The taxing authority will issue to the utility company a property tax rate later in the year. The final step in the process is when the taxing authority issues a property tax bill to the company late in each calendar year with a "due date" of December 31. The billed amount of property taxes is based on the property tax rate applied to the previously determined assessed values of the utility's plant-in-service balances of January 1 of the same year. Staff developed the amount of property tax expense to be included in its cost-of-service calculations based on Ameren Missouri's actual taxes paid as of December 31, 2013, which are based on investment as of January 1, 2013. Staff will continue to review this issue through the December 31, 2014, true-up in this case in order to determine whether any further adjustments to the cost of service will be necessary.

Staff Expert/Witness: Jason Kunst

a. Property Tax Refund Tracker

During Case No. ER-2011-0028, Ameren Missouri was in the process of appealing approximately $28.9 million in property taxes that had been paid during 2010. The *Report and Order* issued in that case required Ameren Missouri to track any refunds that were issued so that a future Commission could rule on the appropriate ratemaking treatment for any refunds the Company might receive. In the *Report and Order* for Case No. ER-2012-0166, the Commission determined that Ameren Missouri was required to give back $2.9 million it had received in property tax refunds to ratepayers over two years, starting with the issuance of new tariffs on January 2, 2013, and ending December 2014. Staff has reviewed the Company's books and determined that entire amount of the refund has been appropriately accounted for in the two-year amortization and will be fully amortized prior to new rates being established in the current rate case. Therefore, Staff has excluded this amortization from its cost-of-service calculation.

However, while Staff's adjustment will remove the amortization going forward, recovery in rates of this amortization will continue through the date of implementation of rates in this case, anticipated to be May 2015. Therefore, from January 2015 through May 2015, the Company will continue to receive in rates a monthly amount of ($120,849), which will result in a total benefit to customers over and above the original balance to be recovered. Therefore, Staff has addressed the total of this over-collection amount of ($604,245) as part of its amortization issue (*see* Section IX, Subsection E. 17. b. below) which is being sponsored by Staff witness John P. Cassidy.

Staff Expert/Witness: Jason Kunst

10. Uncollectible Expense

Uncollectible expense is the portion of retail rate revenues that Ameren Missouri is unable to collect from retail customers by reason of bill non-payment. After a certain amount of time has passed, delinquent customer accounts are written off by Ameren Missouri and turned over to a third party collection agency for recovery. Through the efforts of a third party collection agency, Ameren Missouri is sometimes successful in collecting a portion of the delinquent amounts owed.

Staff examined Ameren Missouri's actual billed revenues that were never collected (net write-offs) from July 1995 through September 2014 and has included in the cost of service calculation a four-year average (twelve months ending September 2011, 2012, 2013, and 2014) of adjusted electric net write-offs for uncollectible expense. Staff observed through its review that Ameren Missouri is experiencing a high level of net write-offs from year-to-year. Staff expects Ameren Missouri to review its net write-offs and collection policies and institute effective measures as necessary to reduce this ever-increasing amount of net-offs on its books.

Staff Expert/Witness: Kofi Agyenim Boateng

11. Advertising Expense

In determining its recommended level of allowed advertising expense for Ameren Missouri, Staff applied the principles it has consistently relied on in past rate proceedings by adhering to the Commission's decision in ***Re: Kansas City Power and Light Company,*** Case Nos. EO-85-185 et al.[56] 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;

[56] ***Re: Kansas City Power and Light Company,*** 28 Mo.P.S.C. (N.S.) 228, 269-71 (1986).

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.[57]

In Ameren Missouri Case No. ER-2008-0318,[58] the Commission stated that the standards for advertising announced in the KCPL case should be imposed on a "campaign" basis rather than on an "ad-by-ad" basis:

> In the future, Staff would do well to examine advertisements on a campaign basis rather than becoming ensnared in the effort to evaluate individual ads within a larger campaign. 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.[59]

In accordance with these Commission decisions, Staff recommends adjustments to exclude the costs of all institutional advertising directly charged to Ameren Missouri or allocated from the Ameren Service Company level from recovery in rates in the current case. A quantification of Staff's proposed advertising disallowance, as well as the advertisements themselves, is attached as Appendix 4, Schedule JK-1. General and safety advertising costs that were directed towards benefit to existing customers were not adjusted by Staff. Staff's proposes to disallow approximately $1.5 million of total advertising cost based upon the ad by ad review established in the KCPL standard.

Only three of the Company's campaigns were found to be acceptable under the Commission's ER-2008-0318 advertising standards. Staff's position in this case is that only the costs of the individual ads should be disallowed from rates as directed by the KCPL standard.

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[57] *Id.*
[58] ***In the Matter of Union Electric Company d/b/a AmerenUE,*** 18 Mo.P.S.C.3d 306, 396-398 (2009).
[59] *Id.,* at 398.

However, should the Commission choose to disallow advertising on a campaign basis as referenced in the Order for Case No. ER-2008-0318, Staff recommends that the Commission disallow approximately $1.7 million of total advertising costs under that specific criterion.

Finally MEEIA-related advertising costs were not reviewed or addressed as part of the current rate case. All costs pertaining to MEEIA related-advertisements incurred during the test year were removed from the cost of service calculation as part of the MEEIA expense adjustment that is sponsored by Staff witness John P. Cassidy. MEEIA-related advertisements will be reviewed and addressed by Staff as part of its prudence reviews of all MEEIA related program costs in Case No. EO-2015-0029.

Staff Expert/Witness: Jason Kunst

12. Gross Receipt Tax Expense

See the discussion in Section IX. A. 4. b., Adjustment to Remove Gross Receipt Tax.

Staff Expert/Witness: Kofi Agyenim Boateng

13. Lockbox Function

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NP

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Staff Expert/Witness: Brian Wells

14. <u>New Bill Format Expense</u>

During the test year in this case, the twelve-months ending March 31, 2014, Ameren Missouri incurred costs related to changing to a full-page bill format that was implemented in October 2014. Prior to this implementation, Ameren Missouri was using postcards to bill its customers. Staff has reviewed all developmental costs that occurred in the test year with regards to this change and recommends normalizing these costs over a four-year period.

Staff has also reviewed billing expenses in the test year ending March 31, 2014, to determine an annualized level of cost to include in the cost-of-service calculation in this case with regards to Ameren Missouri's utilization of the new full-page bill format going forward.

Staff Expert/Witness: Jason Kunst

15. <u>Sioux Construction Accounting</u>

Ameren Missouri began construction of the Sioux Wet Flue Gas Desulfurization Project ("Sioux WFGD" or "scrubbers") during April 2005. The *First Nonunanimous Stipulation and Agreement* approved by the Commission in Ameren Missouri's rate case, Case No. ER-2010-0036, stated that Ameren Missouri could receive construction accounting for this project until costs were reflected in rates at the effective date of rates as part of its next rate proceeding or January 1, 2012, whichever occurred earlier. On September 3, 2010, Ameren Missouri filed a subsequent application before the Commission seeking a rate increase as part of Case No. ER-2011-0028. As part of that rate case, the Commission established a July 31, 2011, effective date of rates. The scrubbers were installed at the Sioux station in a major construction project that was declared in service during November 2010.

As a result, two separate construction accounting deferral amounts were amortized over 22 years and 20 years, respectively. In this case, Staff reviewed the test year amortization expense levels and verified the Company is correctly amortizing these two amounts. In addition, Staff reviewed amounts related to contra accounts set up to reflect the equity portion of the amortization. While Generally Accepted Accounting Principles (GAAP) forbid booking by non-regulated entities of any of the equity component of a carrying-cost calculation, regulatory accounting allows it for accrual of Allowance for Funds Used During Construction (AFUDC); therefore Staff has made adjustments to remove the contra accounts used during the test year to allow both the equity and debt components of AFUDC to be in included in the revenue requirement.

Staff Expert/Witness: Lisa K. Hanneken

16. <u>Test Year Storm Cost Annualization and Storm Tracker</u>

In Ameren Missouri's 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, the Commission established a base level of non-labor related major storm restoration operations and maintenance ("O&M") costs at $6,800,000 in rates. The Company's actual non-labor storm costs above or below the base level established by the Commission are to be tracked to create either a regulatory asset or liability, which will then be amortized for recovery in Ameren Missouri's next rate case. Additionally, the Commission ordered Ameren Missouri to credit storm assistance revenue as an offset to major storm expenses within the two-way storm cost tracker.

As of September 30, 2014, Ameren Missouri has recorded a regulatory liability of $4,745,688 through the storm tracker. Staff will update this storm tracker balance through December 31, 2014 when it performs its true-up audit as part of this rate proceeding. Ameren Missouri has proposed to amortize the liability resulting from the over-collection of storm costs through customer rates over the actual non-labor major storm costs incurred over a five-year period. Staff accepts Ameren Missouri's proposed five-year amortization period for the storm regulatory liability.

In this rate filing, Ameren Missouri states that it does not intend to rebase the amount ($6,800,000) established in the Company's last rate case, No. ER-2012-0166. However, Staff has reflected a normalized level of non-labor major storm expenses in its case based upon a 60-month period ending on September 30, 2014. Staff will continue to review actual non-labor related major storm costs through December 31, 2014, which represents the Commission established true-up cutoff in this rate proceeding. Finally, Staff recommends that the Commission discontinue the storm cost tracking mechanism that was implemented in the last rate proceeding because standard ratemaking methods already exist to appropriately address non-labor storm costs. When a utility files a rate case, storm costs that have occurred during the test year can be normalized based upon actual test year, update or true-up levels or through multi-year averages. When extraordinary storms occur in between rate cases that cause lengthy and widespread outages, the Company can seek permission from the Commission to defer those non-labor storm restoration costs as a regulatory asset on their balance sheet for recovery in a subsequent rate case. Finally, it is also Staff's position that non-labor storm costs do not rise to a level that warrants continuous tracking.

Staff Expert/Witness: Kofi Agyenim Boateng

17. Prior Storm CostAmortization Expense

In Ameren Missouri's File Nos. ER-2008-0318 and ER-2007-0002, the Commission granted Ameren Missouri the opportunity to recover its major storm restoration costs through customer rates. In Ameren Missouri's last rate case, ER-2012-0166, the parties agreed to extend the recovery period of the unamortized storm costs from those rate cases (including the Accounting Authority Order storm cost deferral granted in Case No. ER-2008-0318) over an additional two-year period from January 2, 2013, through January1, 2015. This was done to prevent over-recovery of these costs by the Company and, also, to better synchronize the end of the amortization periods with future rate case recovery. These amortizations will expire approximately at the end of December 31, 2014. Staff estimates that Ameren Missouri will over-recover approximately $1,474,522 from these storm costs from January 2015 through May 2015, before the new rates from this rate case proceeding become operational. Staff proposes to net this over-recovery amount with the remaining unamortized storm cost balance ($66,667) approved in ER-2010-0036. Staff witness John P. Cassidy addresses this issue further in this Report (*see* Section IX, Subsection E. 17. b. below) as part of his amortization expense analysis.

In File No. ER-2010-0036, the Company recorded approximately $10.4 million of non-labor-related storm restoration operations and maintenance ("O&M") costs during the test year ending March 31, 2009. In its Report and Order in that case, the Commission allowed Ameren Missouri to include $6.4 million in its cost of service for storm restoration costs, while the remaining $4 million test year storm cost was to be amortized and recovered over a five-year period from July 1, 2010, through June 30, 2015. At the end of May 2015, the effective date of rates in the current rate proceeding, the unamortized balance related to this storm amortization will be $66,667. Staff recommends that this amount be netted with the over-recovered amortization amount discussed earlier in this section.

Staff Expert/Witness: Kofi Agyenim Boateng

18. <u>Amortizations of Regulatory Assets and Liabilities</u>

a. Netting of Regulatory Asset and Liability Amortizations

Ameren Missouri has currently in place several amortizations related to rate recovery of various items that have been previously approved by the Commission. Based on its review in this case, Staff has found that six existing amortizations have expired or will expire by December 31, 2014; therefore, Ameren Missouri will over-collect in rates for these particular amortizations through the May 30, 2015, effective date of rates in this case. Staff also found that that one existing amortization, in which Ameren Missouri is returning property tax refunds to ratepayers, also will expire on December 31, 2014, and, as a result, Ameren Missouri will over-refund this amount to ratepayers through May 30, 2015, as a result of this amortization. Finally, there are two existing amortizations that will expire on June 30, 2015, just one month beyond the May 30, 2015[60], effective date of rates in this case; however, Ameren Missouri's direct filed case contains no proposed adjustment to take this fact into account. Staff proposes to combine the respective balances for these nine amortizations as of May 30, 2015, both positive and negative. Combining the balances in this manner shows that at May 30, 2015, Ameren Missouri will have a net over-collection from ratepayers in rates of approximately $1.4 million

[60] The amortization balance taken at May 31, 2015, just one day beyond the effective date of rates.

for these nine amortizations on a combined basis. The following chart lists each of these nine amortizations and their respective over-collection and under-collection through the effective date in rates in this case, and provides a calculation for the total $1.4 million of over-collection that should be returned to ratepayers:

	May 30, 2015 Amortization Over/(Under) Recovery	Expiration	Status	Rate Case First Established
RSG	$ 113,619	12/31/14	Over-Collected	ER-2100-0028
SO2	$ 483,697	12/31/14	Over-Collected	ER-2010-0028
2007 Storm	$ 44,560	12/31/14	Over-Collected	ER-2007-0002
2008 AAO Storm	$ 1,193,888	12/31/14	Over-Collected	ER-2008-0318
2008 Storm	$ 236,104	12/31/14	Over-Collected	ER-2008-0318
2009 Storm	$ (66,667)	06/30/15	Under-Collected	ER-2010-0028
Property Tax Refund	$ (604,245)	12/31/14	Over-Refunded	ER-2012-0166
Equity Issuance	$ (220,935)	06/30/15	Under-Collected	ER-2010-0028
VSE/ISP	$ 244,792	12/31/14	Over-Collected	ER-2010-0028
Net Over-Collection	$ 1,424,813			

Staff maintains that these amortizations were not intended to provide the Company an unnecessary windfall through over-collection at the expense of ratepayers nor were they designed to harm the Company through an unintended under-collection from ratepayers. Therefore, Staff recommends that these nine amortizations be combined and that the approximate $1.4 million of net over-collection be returned to ratepayers through an amortization period of three years beginning with the effective date of rates in this rate case.

b. New and Continuing Regulatory Asset and Liability Amortizations

Ameren Missouri has in place several other ongoing amortizations and proposes to introduce five additional amortizations as part of this rate case. Ameren Missouri has four existing Energy Efficiency (EE) regulatory asset amortizations and is proposing to initiate a fifth EE amortization to address deferred pre-MEEIA program costs that occurred subsequent to the July 31, 2012, true-up cut-off point and prior to the January 2, 2013, effective date of rates in

Ameren Missouri most recent prior rate case, Case No. ER-2012-0166. Staff has reset the amortization period of one of the EE amortizations because it will expire within 14 months of the May 30, 2015, effective date of rates in this rate case. Staff has also included in its case a six-year amortization of the deferred pre-MEEIA program costs that were incurred since the true-up cut-off in the prior rate case. Staff addresses the EE regulatory asset amortizations in greater detail in a section found earlier in this Report.

Ameren Missouri also proposes to include an adjustment to reduce amortization expense by approximately $1.5 million to reflect a five-year amortization of the storm tracker regulatory liability of approximately $7.6 million. The $7.6 million represents an estimate of the amount incurred by Ameren Missouri through December 31, 2014 related to major storm events below the base level of the non-labor O&M storm cost of $6.8 million. Staff has examined the actual non-labor major storm costs incurred by Ameren Missouri since the true-up cut-off in the last case through September 30, 2014, and has included a five-year amortization of an approximate $4.7 million storm tracker liability. As a result, Staff has reduced amortization expense by approximately $949,138 to include a five-year amortization of that regulatory liability. Staff witness Kofi Agyenim Boateng addressed the amortization of the storm cost regulatory liability resulting from the last rate case earlier in this report.

The Company also proposes to include an additional amortization to address the variation in costs from base levels for vegetation management and infrastructure inspection costs since the true-up cut-off in the last case. Please refer to the vegetation management and infrastructure inspection section of this report as sponsored by Staff witness Lisa K. Hanneken for a further discussion of Staff's proposed treatment for these amortizations as well as Staff's position concerning the vegetation management and infrastructure tracker. In addition, Staff has included amortizations of the expense associated with the Financial Accounting Standards Board Interpretation Number 48 ("FIN 48") related to "uncertain tax positions," as well as for Sioux scrubber construction accounting. For additional discussion with regard to these amortizations, please refer to the FIN 48 and Sioux construction accounting sections sponsored by Staff witness Hanneken.

The Company has also proposed three new amortizations that address deferred solar rebates, a loss of revenues associated with a lengthy Noranda Aluminum Inc. ("Noranda") outage due to an ice storm that occurred in January 2009, and costs associated with Fukushima studies. Staff has included a three-year amortization of all solar rebate spending incurred by Ameren Missouri, plus a ten percent cost adder, according to the terms contained within the stipulation and agreement approved by the Commission as part of Ameren Missouri Case No. ET-2014-0085. Staff also included ten year amortization of costs associated with a mandatory study to address nuclear power safety in the aftermath of the Fukushima incident.

Staff Expert/Witness: John P. Cassidy

19. Noranda Accounting Authority Order ("AAO") Lost Revenue Deferral

In Case No. EU-2012-0027, the Commission granted Ameren Missouri permission to defer certain lost revenues (or "fixed costs" as characterized by Ameren Missouri) that it was unable to recover when the Noranda Aluminum Smelter lost power in late January 2009 due to a severe ice storm that struck southeast Missouri. Due to the power outage, Noranda ceased operations for several months. Ameren Missouri is proposing to include approximately $7.1 million in the cost-of-service calculation in this rate case, which represents a five-year amortization of the $35.6 million of total lost revenues associated with the Noranda Aluminum Smelter outage. Staff opposes Ameren Missouri's proposal to include an amortization of the lost revenues for recovery in rates to be determined by the Commission in this case. It is inappropriate to attempt to recover lost revenues from a period approximately five years ago, and subsequent to the conclusion of three prior general rate cases (ER-2010-0036, ER-2011-0028 and ER-2012-0166), in order to boost overall earnings during the timeframe of the current rate proceeding. It is generally not appropriate to either defer or to recover lost revenue in rates. Staff will further explain its position and address this issue as part of its rebuttal testimony scheduled to be filed on January 16, 2015.

Staff Expert/Witness: John P. Cassidy

20. Energy Efficiency Regulatory Asset Amortizations

Ameren Missouri has four existing Demand Side Management ("DSM") Energy Efficiency ("EE") regulatory asset amortizations that were implemented in previous Ameren Missouri rate cases. The unamortized balances of each of these amortizations are also included in rate base to allow a return on the unrecovered balances. In this rate proceeding, Staff proposes to reset the EE amortization that was established in Ameren Missouri Case No. ER-2010-0036. This particular EE amortization is scheduled to expire in July 2016, which is only fourteen months after the effective date of rates in this case. Ameren Missouri would over recover for this particular amortization unless it filed for another rate increase no later than August 2015. Therefore, Staff proposes to reset this amortization to provide recovery for the unamortized balance at the May 30, 2015, effective data of rates established by the Commission for this rate case over a two-year period beginning on that date.

As part of this rate case, Ameren Missouri proposes to initiate a fifth EE amortization to address DSM deferred pre-MEEIA program costs that occurred after the July 31, 2012, true-up cut-off point and prior to the January 2, 2013, effective date of rates in Case No. ER-2012-0166. Staff has included a six-year amortization of the deferred pre-MEEIA program costs that were incurred after the true-up cutoff in the prior rate case. Staff has also included this unamortized balance in rate base consistent with establish ratemaking treatment for these costs.

Staff Expert/Witness: John P. Cassidy

21. <u>Renewable Energy Standard</u>

a. Summary

The Missouri Renewable Energy Standard ("RES")[61] 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 RES requires Ameren Missouri to provide a rebate ($2.00 per installed watt)[62] to its retail customers for installation of solar electric systems on their premises. Ameren Missouri filed requesting 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 a specified level[63] for solar rebate payments.[64] The Commission

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[61] Mo. Rev. Stat. § 393.1020 (2000).
[62] For systems becoming operational on or before June 30, 2014.
[63] $91.9 million incurred subsequent to July 31, 2012.
[64] Case No. ET-2014-0085

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.[65]

Utilization of a Standard Offer Contract ("SOC") for the purchase of Solar Renewable Energy Certificates ("S-RECs") from customer-owned solar electric systems is optional for the utility companies.[66] The Commission approved tariffs for 2013 to provide for a SOC at five dollars ($5) per S-REC with an annual expenditure limit of one million dollars ($1,000,000). Because House Bill 142, effective August 28, 2013, includes a condition on solar rebates requiring customers to transfer the first ten (10) years of S-RECs to the utility which eliminated the need for Ameren Missouri to utilize a SOC, the tariffs were revised to limit the SOC funding to those customers who submitted interconnection applications by August 27, 2013.

For calendar years 2011 through 2013, the RES requires Ameren Missouri to generate or purchase two percent (2%) of its retail sales using renewable energy resources, and this year the renewable energy requirement increases to five percent (5%) of its retail sales.[67] Ameren Missouri must derive two percent (2%) of the renewable energy requirement from solar energy.[68] RECs can be banked for three (3) years and utilized for future compliance purposes.[69] Ameren Missouri files annually a RES Compliance Plan and a RES Compliance Report.[70] 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 2013 calendar year, Ameren Missouri utilized renewable energy and RECs from Keokuk Hydro-electric Generation Station and the Pioneer Prairie wind PPA for the non-solar requirement and retired S-RECs from various third-party brokers for the solar requirement.[71]

Staff Expert/Witness: Claire M. Eubanks

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[65] Case No. ET-2014-0350

[66] Commission Rule 4 CSR 240-100 (4)(H)1.

[67] Mo. Rev. Stat. § 393.1030 .1 (2000).

[68] Mo. Rev. Stat. § 393.1030.1(4) (2000).

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

[70] Ameren Missouri filed its RES Plan for 2014-2016 and its RES Report for calendar year 2013 in Case No. EO-2014-0291.

[71] Case No. EO-2014-0291, *Renewable Energy Standard Compliance Report*, pg 10.

b. Renewable Energy Standard Costs

Renewable Energy Standard (RES) costs consist of items such as customer solar renewable energy credits ("RECs")[72], non-customer solar RECs, wind RECs and water RECs.

In Ameren Missouri Case No. ER-2011-0028, the Commission ordered that:

> Ameren Missouri shall include $885,266 in its rates for ongoing solar rebate expenses. Ameren Missouri shall accumulate in an AAO the amount it has paid for solar rebates from the beginning of the program until new rates become effective in this case. The recovery of those costs and future costs deferred in the AAO will be decided in Ameren Missouri's next rate case.[73]

In Ameren Missouri Case No. ER-2012-0166, the Commission ordered the following with regard to the establishment of a base RES level to include in rates in order to track against:

> Ameren Missouri shall include a base level of $4,656,595 for REC compliance costs in the rates established in this case and shall track any variation in those costs through an Accounting Authority Order for future recovery in its next rate case.[74]

In that case, the Commission also ruled on the recovery of the deferred costs that had accumulated through the July 31, 2012, true-up cutoff in the previous rate case:

> Ameren Missouri shall recover $6.3 million in past RES costs amortized over three years with the unamortized balance not included in rate base.[75]

In the current rate case, ER-2014-0258, Ameren Missouri has requested that the base level of RES costs be increased to approximately $10.1 million from the previous $4.7 million level that is reflected in current rates. Ameren Missouri's proposed level is based upon an estimate of RES costs through December 31, 2014, as well as the cost of methane fuel used to power its Maryland Heights Energy center. Staff has included Ameren Missouri's level of estimated RES spending as a place holder until more current actual RES spending becomes available. Staff has also included a calculation for methane fuel as determined by volumes developed by Staff's RealTime® production cost model and contractual prices in effect at June 15, 2014. Staff will continue to analyze actual RES spending through the December 31, 2014, true-up cut-off and may propose adjustments to this level as a result of the true-up audit.

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[72] Through the use of Standard Offer Contract ("SOC").
[73] ER-2011-0028, *Report and Order,* p. 101.
[74] ER-2012-0166, *Report and Order,* p. 54.
[75] *Id.,* p. 56.

Staff Expert/Witness: John P. Cassidy

c. RES AAO Regulatory Asset/(Liability) Amortizations

Staff examined a listing of RES expenditures from August 1, 2012 through December 31, 2012, in order to determine the variation in incurred RES compliance costs that occurred compared to the $885,266 base level included in rates established in Case No. ER-2011-0028. Staff also examined all RES expenditures from January 1, 2013, through October 31, 2014, in order to determine the variation in incurred costs from the $4.7 million base level included by the Commission in rates in Case No. ER-2012-0166. Staff determined that Ameren Missouri's actual spending was $830,432 lower than what was actually in rates during the period covering August 1, 2012, through October 31, 2014. Therefore, this difference represents a regulatory liability and Staff proposes to return this over-recovery to ratepayers over three years consistent with the Commission' order in Case No. ER-2012-0166.

As mentioned earlier in the section above, the Commission ordered that a deferred regulatory asset balance of $6.3 million of RES costs that had accumulated through the July 31, 2012, true-up cut-off point in Case No. ER-2012-0166 should be amortized over three years with no inclusion in rate base. By the May 30, 2015, effective date of rates in this case, this amortization would be fully recovered within seven additional months or by December 31, 2015. Therefore, Staff proposes to reset the $1.2 million unamortized balance at May 30, 2015, for a two-year recovery period.

Staff Expert/Witness: John P. Cassidy

d. Maryland Heights Energy Center Methane Fuel Costs Included In RES AAO

Ameren Missouri was granted a variance as part of Case No. ER-2012-0166 to allow for recovery of landfill methane gas costs associated with the Maryland Heights Energy Center in the fuel adjustment clause. As part of this rate case, Ameren Missouri has proposed and Staff agrees that the Maryland Heights Energy Center fuel costs are RES compliance costs and should be excluded from the Net Base Energy Cost (NBEC) and should also be precluded from recovery of subsequent changes in this fuel cost through Ameren Missouri's FAC mechanism. Staff has included a $3.1 million level of methane fuel costs as part of its $10.1 million overall RES base level inclusion as discussed earlier in this report. In addition, it should be noted that

Staff is including an annualized and normalized level of generation from the Maryland Heights Energy Center as part of its production cost model. However, Staff assigned a zero cost to that generation in order to exclude this from the NBEC and to appropriately include Maryland Heights Energy Center methane fuel costs as a RES compliance cost. Staff's $3.1 million level of methane fuel cost was determined by multiplying the quantity of methane fuel burned in Staff's production cost model by the most current contractual fuel price at June 15, 2014.

Staff Expert/Witness: John P. Cassidy

e. Pioneer Prairie Wind Contract

Ameren Missouri entered into a contract with Pioneer Prairie Wind Farm I LLC in 2009 to obtain wind power at a $69 per MW price. As part of this case, Ameren Missouri proposes to split this $69 per MW contractual price into two cost components that would receive differing ratemaking treatment. Ameren proposes to assign $49 per MW as an energy cost and to include this amount in the pricing of Pioneer Prairie wind purchases in the NBEC. The remaining $20 per MW is the estimated REC cost and would be included in the RES AAO for recovery. Staff agrees with Ameren Missouri's proposed ratemaking treatment for purposes of this rate case only. Staff reserves the right to propose a different split in all future general rate cases, FAC cases and RES cases in order to take into account any significant changes in circumstances that may occur in the future.

Staff Expert/Witness: John P. Cassidy

22. <u>Solar Rebates</u>

The Commission approved a *Non-Unanimous Stipulation and Agreement* in Ameren Missouri Case No. ET-2014-0085, which allows Ameren Missouri to defer all solar rebate spending up to approximately $91.9 million, plus a 10% cost adder to that amount to account for "carrying costs," and then calls for an amortization of that balance over three years in a subsequent rate case. Through its discovery in this case, Staff has determined that Ameren Missouri deferred and accumulated in a regulatory asset account approximately $87.4 million on solar rebates through October 31, 2014. Coupled with the 10% cost adder of approximately $8.7 million, Ameren Missouri is eligible to seek recovery of approximately $96.1 million over a three-year amortization period. Therefore, Staff has included approximately $32 million in amortization expense in the cost-of-service calculation to be consistent with the terms of the *Non-Unanimous Stipulation and Agreement* in Case No. ET-2014-0085. Staff recommends that this amortization begin on the Commission established May 30, 2015, operation-of-law date in the rate case. Staff will continue to examine Ameren Missouri's solar rebate spending through the January 1, 2015, true-up cut-off date established by the Commission for this rate case. Staff will make further adjustments in the true-up audit in order to address any additional solar rebate spending through that point in time.

Staff Expert/Witness: John P. Cassidy

23. <u>FASB Interpretation No. 48 ("FIN 48") Amortization</u>

Generally Accepted Accounting Principles (GAAP) provide rules for recording the effect of tax deferral resulting from temporary book-tax differences in FIN 48 and 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 the Company's tax filings with Internal Revenue Service (IRS), certain amounts will be included related to uncertain tax positions that the Company has taken with respect to temporary book-tax differences. At the time they file their taxes, the Company 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 Stipulation and Agreement in Ameren Missouri Case No. ER-2011-0028, in order to resolve the Company's FIN 48 liability balance for that case, reflecting uncertain tax positions, it was agreed that:

> The Company shall 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").

Once the IRS determines that the uncertain tax position is allowable, then the Company will receive a settlement based on the amount that was filed as uncertain. In the Company's most recent rate case (Case No. ER-2012-0166), the amortization balance of the 2005-2006 tax year settlement of $1,919,696 was amortized over a 3-year period from January 2013 – December 2015 at the monthly rate of $53,325.

In addition to this previous amortization, in this case Staff has learned that Ameren Missouri has received confirmation of the settlement of its 2007-2010 taxes which will need to be amortized as well. At the time of this filing, Staff has not been provided with the data necessary to include this amount. However, Staff will continue its review regarding this item as more information becomes available in this case.

Given the first balance for the 2005-2006 settlement is due to be fully amortized in December 2015, which is only seven months after the Operation-of-Law Date in this case, Staff believes that the current balance as of May 2015 should be rolled into the total of the new 2007-2010 amortization. However, since an analysis of the second settlement has yet to be performed, Staff has reset the dating of the current amortization so that the amortization will run through November 2016, which resulted in a total annual amount of $248,848 for the first settlement.

Ameren Missouri has also indicated that its 2011 settlement may be finalized in December 2014. If this settlement is determined, Staff will review it as part of its true-up audit as well.

Staff Expert/Witness: Lisa K. Hanneken

24. Missouri Energy Efficiency Investment Act ("MEEIA") Costs in Test Year

As part of the Ameren Missouri's Missouri Energy Efficiency Investment Act (MEEIA) application in Case No. EO-2012-0142, a stipulation and agreement was reached by the parties to that case on July 5, 2012, and later approved by the Commission. As a result, in Ameren Missouri's last rate case, No. ER-2012-0166, Staff recommended that the Commission approve an overall inclusion of $80 million for MEEIA-related program costs. Approximately

$49.1 million represented one-third of the estimated program costs for eleven MEEIA demand-side management ("DSM") programs related to an overall three-year program plan. In addition, approximately $30.5 million was reflected in rates in Ameren Missouri's last rate case that addressed Ameren Missouri's retention of a share of projected net benefits of the MEEIA programs. Consistent with the terms of this settlement, in January 2014, Ameren Missouri implemented a MEEIA rider which is intended to recover MEEIA costs outside of base rates, and also track changes in costs associated with these programs and either charge customers for any under-collection in overall costs or return to customers all that were over-collected, with interest. Due to the implementation of this MEEIA rider, it is necessary to remove all MEEIA-related revenues and expenses from the test year to avoid double counting for these revenues and expenses. Therefore, Staff has removed from inclusion in the cost-of-service calculation in this rate case approximately $38 million of MEEIA-related expenses that were incurred during the test year. For a complete discussion of Staff's exclusion of MEEIA-related revenues that were removed from the test year, please refer to the MEEIA Revenues in Test Year section of this Report as sponsored by Staff witness Kofi Agyenim Boateng.

Staff Expert/Witness: John P. Cassidy

25. Callaway Refueling Adjustment

Ameren Missouri's Callaway nuclear power plant undergoes a refueling and maintenance outage process approximately every 18 months. While refueling takes place, the Company typically completes numerous maintenance activities, performs inspections and testing and also completes any necessary capital improvements. The Company refueled the Callaway nuclear power plant during the months of October and November of 2014 ("Refuel 20"), which was outside the test year ending March 31, 2014 for this case. Since the actual costs of Refuel 20 are not yet known by Staff, for purposes of this filing Staff will include two-thirds of the actual cost of the prior Callaway refueling ("Refuel 19") in its case. The actual costs for Refuel 19 are similar to those budgeted for Refuel 20. Since the Company refuels the Callaway nuclear power plant on an eighteen-month cycle, the cost of refueling must be normalized to reflect the amount incurred during a twelve-month period. Refuel 19, which occurred between April 8, 2013, and May 28, 2013, resulted in approximately $28.8 million in non-labor operations and maintenance ("O&M") cost. However, Company has indicated that approximately $23.2 million of non-labor

O&M cost was recorded during the test year for this rate case (April 1, 2013, through March 31, 2014), and approximately $5.7 million was recorded prior to the test year (i.e., prior to April 1, 2013). Staff has issued a data request to verify Ameren Missouri's assertion that $5.7 million of non-labor O&M for Refuel 19 was recorded on its books prior to the actual start of the refueling.

Based on the information Staff has been provided to date, Staff's normalization adjustment removes approximately $4.0 million from the test year to reflect an amount of non-labor O&M that represents two-thirds of the approximately $28.8 million of non-labor maintenance project costs associated with Refuel 19. All labor-related costs associated with the Callaway refueling are addressed in Staff's payroll annualization as discussed by Staff witness Brian Wells. Staff adjusted expense to include approximately $19.2 million in Staff's cost of service calculation in order to normalize non-labor-related maintenance expenses associated with the Company's refueling of the Callaway nuclear power plant.

Staff will examine the non-labor maintenance costs associated with Callaway Refuel 20 through December 31, 2014, as part of the true-up audit once those costs are finalized and provided to Staff. If the Refuel 20 costs prove to be reasonable, they will be normalized and included in Staff's revenue requirement recommendation instead of the Refuel 19 costs.

Staff Expert/Witness: Lisa M. Ferguson

26. <u>Low-level Radioactive Waste Expense</u>

Low-level radioactive waste (LLRW) includes items that have become contaminated with radioactive material or have become radioactive through exposure to neutron radiation. This waste typically consists of contaminated protective shoe covers and clothing, wiping rags, mops, filters, reactor water treatment residues, equipment and tools, and tissues. The radioactivity can range from just above background levels found in nature to very highly radioactive in certain cases such as parts from inside the reactor vessel in a nuclear power plant. The Nuclear Regulatory Commission (NRC) has developed a classification system for LLRW based on its potential hazards. The NRC has specified disposal and waste requirements for each of the three classes of waste—Class A, B, and C—that are acceptable for disposal in near-surface facilities. These classes have progressively higher levels of concentrations of radioactive material, with Class A having the lowest and Class C having the highest level. The NRC reports that Class A waste accounts for approximately 96 percent of the total volume of LLRW.

The Low-level Radioactive Waste Policy Amendments Act of 1985 gave the states responsibility for the disposal of the LLRW that is accumulated at their reactor sites. The Act encouraged the states to enter into compacts that would allow them to dispose of waste at a common disposal facility. The NRC regulates the management, storage and disposal of radioactive waste produced as a result of NRC-licensed activities. The agency has entered into agreements with 32 states, called Agreement States, to allow these states to regulate the management, storage and disposal of certain nuclear waste. The commercial radioactive waste that is regulated by the NRC or the Agreement States is of three basic types: high-level waste, mill tailings, and low-level waste. The most common methods of LLRW storage and disposal are: Decay-In-Storage (DIS), Transfer to an Authorized Recipient for Disposal, and Extended Interim Storage. LLRW can be disposed of in facilities that are licensed by either the NRC or an Agreement State in accordance with health and safety requirements. Once a licensee decides to ultimately dispose of LLRW, it must be disposed of at a licensed facility. The Low-level Radioactive Waste Policy Amendments Act also authorized the states to enter into compacts that would allow several states to dispose of waste at a joint disposal facility. There are four existing and active LLRW disposal facilities in the United States that accept various types of low-level waste, all of which are located and licensed for commercial operation in Agreement States. The facilities have been designed, constructed, and operated to meet safety standards. The operator of the facility must also extensively characterize the site on which the facility is located and analyze how the facility will perform for thousands of years into the future.

EnergySolutions has its Barnwell operations, located in Barnwell, South Carolina. Currently, Barnwell accepts waste from all U.S. generators except those in the Rocky Mountain and Northwest Compacts. Beginning in 2008, Barnwell will only accept waste from the Atlantic compact states (Connecticut, New Jersey, and South Carolina). Ameren Missouri initially used this location for LLRW other than filter and resin waste. Barnwell is licensed by the state of South Carolina to receive wastes in Classes A-C. U.S. Ecology, located in Richland, Washington, accepts waste from the Northwest and Rocky Mountain compacts. Richland is licensed by the State of Washington to receive wastes in Classes A-C. EnergySolutions Clive Operations, located in Clive, Utah, accepts waste from all regions of the United States. Clive is licensed by the state of Utah for Class A waste only. Waste Control Specialists, LLC, ("WCS") located near Andrews, Texas, accepts waste from the Texas Compact generators and outside generators with permission from the Compact. WCS is licensed by the state of Texas for Classes A, B, and C waste. In addition, beginning in 2012, the Waste Control Specialists, LLC, facility in Andrews, Texas, began disposal operations. Ameren Missouri now has the ability to send all LLRW to the Utah and Texas locations.

** ** Staff has included this

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actual expense level in the cost-of-service calculation and will continue to examine these costs through the true-up cut-off date in this case for possible revision.

Staff Expert/Witness: Lisa M. Ferguson

27. <u>Lease Expense</u>

During the test year, Ameren Missouri incurred expenses related to leases on land, equipment, and facilities utilized to provide its service. Staff reviewed Ameren Missouri's lease expense for the test year and annualized it to reflect an overall decrease in the ongoing expense level.

Staff Expert/Witness: Brian Wells

28. <u>PSC Assessment</u>

The operations of the Missouri Public Service 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 1st. 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 March 31, 2014, and the most recent PSC assessment that went into effect as of July 1, 2014 (fiscal year 2015), which is within the Commission-established true-up cutoff of December 31, 2014. Staff has annualized the Company's PSC assessment expense by using the most current assessment that was issued on July 1, 2014.

Staff Expert/Witness: Brian Wells

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

Corporate franchise taxes are paid as a cost of doing business within the state. Ameren Missouri has assets in the state of Missouri and assets franchised in the state of Illinois at the Kinmundy, Goose Creek, Raccoon Creek, Venice and Pinckneyville sites. The cost-of-service adjustment includes all taxes related to Ameren Missouri assets, whether the assets reside in Missouri or Illinois. Staff's adjustment for the on-going expense level is based upon the actual paid taxes for 2014, as filed per Form MO-FT with the state of Missouri and Form CDBCAB with the state of Illinois, which included all applicable tax credits.

Staff Expert/Witness: Sarah Sharpe

30. <u>Outside Services - External Auditors</u>

Staff reviewed the test year costs related to services provided by PricewaterhouseCoopers LLP (PwC) to Ameren and subsequently allocated to Ameren Missouri. Staff has made an adjustment to remove costs which should not be included in Ameren Missouri's customers' rates that related to the divesture of certain Ameren entities sold to Dynegy on December 2, 2013.

Staff Expert/Witness: Lisa K. Hanneken

31. <u>SO_2 Allowance Tracker</u>

In Case No. ER-2007-0002, the Commission established an accounting mechanism to track Ameren Missouri's SO_2 emission allowance sales revenues, net of SO_2 expenses. The Company realizes SO_2 revenues from gains on the sale of SO_2 emission allowances. SO_2 expenses are a result of the premiums/discounts that arise from differences in the actual level of SO_2 content in coal received compared to the assumed level of content in the coal contracts. Beginning on January 1, 2007, the Company was required to account for all SO_2 premiums, net of any SO_2 discounts, in a regulatory liability account. The Commission also ordered that all gains from SO_2 allowance sales, in excess of $5,000,000, be recorded in this same regulatory liability account. This regulatory liability account, referred to as the SO_2 Tracker, also accumulates interest at Ameren Missouri's short-term borrowing rate. This SO_2 tracker was continued as part of Case No. ER-2008-0318; however, in Case No. ER-2010-0036, the SO_2 tracker was discontinued, and it was agreed that, going forward, the cost associated with the SO_2 premiums, net of discounts, and the revenues from gains on the sale of SO_2 emission allowances will be included in Ameren Missouri's Fuel Adjustment Clause. Therefore, tracking of SO_2 -related costs was discontinued on June 21, 2010, the effective date of new rates in Case No. ER-2010-0036.

While the tracker was discontinued, the balance continued to be amortized and as of December 2012 was $2,321,821. The amortization of this balance was reset as part of Case No. ER-2012-0166 with a $96,742 monthly amortization amount to be amortized over a two-year period, through December 2014. Therefore, at the end of the true-up period in this case, the balance will be reduced to zero through the amortization process and no new amortization is necessary. As a result, Staff has made an adjustment to the test year amortization expense amount of $1,160,904 to eliminate this item on a going-forward basis.

However, while Staff's adjustment will remove the amortization going forward, rate recovery of this item will continue through the date of implementation of rates in this case, anticipated to be May 2015. Therefore, from January 2015 through May 2015, the Company will continue to receive in rates a monthly amount of $96,742 which is over and above the original balance to be recovered. Staff witness John P. Cassidy addresses this issue further in this Report (*see* Section IX, Subsection E. 17. b. above) as part of his amortization expense analysis.

Staff Expert/Witness: Lisa K. Hanneken

32. <u>Board of Directors Fees & Expenses</u>

During the test year ending March 31, 2014, Ameren Missouri was allocated a substantial portion of Ameren Corporation's board of director fees, retainers, stock options, travel related costs and facility rentals. Historically, these costs have been retained at the Ameren Services Company ("AMS") level. As part of this rate case, Staff first learned that AMS actually began allocating these parent company related costs beginning in September 2011. Staff's position in this rate case is that all of these costs represent a parent company ownership cost that should be retained at the AMS level, and not allowed in Ameren Missouri customer rates. Furthermore, many of the costs being allocated are duplicative or unreasonable and excessive. For example Ameren Missouri already has its own separate board of directors and a board conference room that is located in the Ameren Missouri's general headquarters located in St. Louis, Missouri, for which the associated costs are included in Staff's case. In addition, Ameren Missouri is being allocated costs associated with flying Ameren Corporation board members to St. Louis on private corporate chartered jets and for the cost of board meetings and hotel stays at the Four Seasons Hotel located in downtown St. Louis as well as at the Ritz-Carlton Hotel located in Clayton, Missouri. Finally, Staff has submitted data requests seeking additional information regarding the Ameren Corporation board of directors' fees and all parent company related expenses that are now being allocated to Ameren Missouri from AMS, but has not yet received responses to these data request. At this time, Staff has removed these costs from its cost of service calculation and will further assess this information once it is made available.

Staff Expert/Witness: Jason Kunst

33. Miscellaneous Expenses

During the test year, Ameren Missouri booked numerous costs to various Federal Energy Regulatory Commission (FERC) Uniform System of Accounts (USOA) expense accounts. After reviewing these expenditures, Staff has removed a total of $415,094 from the Company's test year costs for items which provided no benefit to ratepayers. Charges removed include items such as sponsorships of community and sporting events, donations, and other similar items. Items of note include $87,893 for the ALT Leadership forum held at Busch Stadium featuring guest speaker Tony LaRussa, $72,953 for tickets and meals at St. Louis Cardinals, St. Louis Rams, and St. Louis Blues games which included employee personal use, and $24,180 to refurbish the "Season's Greetings" sign displayed at company headquarters.

Staff Expert/Witness: Jason Kunst

34. Snow Removal Costs

During the test year, Ameren Missouri incurred abnormally high levels of costs associated with snow removal from numerous sites that they conduct various operations. Based upon a review of the National Oceanic and Atmospheric Association ("NOAA") website, Staff determined that snowfall levels experienced in St. Louis during the winter of 2013-2014, which lies within the Commission established test year for this rate case (twelve months ending March 31, 2014) represented the tenth highest snowfall accumulation on record. Therefore, Staff normalized these costs through the use of a five-year average in order to reflect a more representative ongoing level for snow removal costs.

Staff Expert/Witness: Brian Wells

35. Taum Sauk Failure Expense Removal

Ameren Missouri has agreed to hold ratepayers harmless for costs associated with the Taum Sauk reservoir failure in 2005 and all related clean-up activities. Staff has adhered to the Commission's decision on this issue in Case No. ER-2007-0002 by removing all Taum Sauk related expense from the cost of service calculation in each Ameren Missouri rate case that followed. Per the *Report and Order* from the 2007 case:

> On December 14, 2005, the upper reservoir at AmerenUE's Taum Sauk pumped storage facility in Reynolds County, Missouri ruptured, allowing 1.5 billion gallons of water to rush down the side of a mountain and through Johnson's Shut-Ins State Park. AmerenUE claims to accept full responsibility for the reservoir failure and the resulting damages. Since AmerenUE will not be allowed to include the Taum Sauk expenses in its cost of service as calculated for this case, those costs will not be recovered from ratepayers and will instead have to be paid with shareholder funds.

Therefore, in this rate case proceeding, Staff has removed $627,764 from the cost of service calculation for expenses related to ongoing liability and litigation costs related to the Taum Sauk failure.

Staff Expert/Witness: Sarah Sharpe

36. <u>Low-Income Weatherization Program</u>

The Ameren Missouri low-Income Weatherization Program is not a MEEIA program. Therefore with respect to the Ameren Missouri Low Income Weatherization program, Staff recommends the Commission order:

> 1) That the Ameren Missouri un-utilized low-income weatherization funds from previous allocations remain in the Missouri State Environmental Improvement and Energy Resource Authority ("EIERA") account for future use by the Ameren Missouri Weatherization Agencies;
>
> 2) That Ameren Missouri continue to collect $1.2 million in rates annually, of which $1.14 million will be for low-income weatherization as currently allocated between the Weatherization Agencies, and $60,000 allocated annually to the biennial evaluation of the low-income weatherization program if determined by the Ameren Missouri stakeholders to be appropriate;
>
> 3) That the second evaluation of Ameren Missouri's weatherization program include a component that evaluates the impact on the gas service of the weatherization of the Company's low-income

customers that are provided both natural gas and electricity from Ameren Missouri; and

4) That the timing of any evaluation subsequent to the second biennial evaluation should be at the discretion of the Company in consultation with the stakeholder group, but not less often than every five years.

There are specific programs designed to help low-income customers with energy conservation. Low-income consumers often live in housing that is energy inefficient with substandard insulation and other deficiencies. These customers would benefit from building shell energy conservation measures such as weatherization or more energy-efficient appliances. Missouri Low Income Weatherization Assistance Program ("Weatherization Program") is administered by the Missouri Department of Economic Development, Division of Energy ("DED-DE") using federal, state, and utility funding. The DED-DE Weatherization Program is administered locally by Community Action Agencies or other local agencies ("Weatherization Agencies"). The Ameren Missouri Weatherization Program is administered by the DED-DE and the thirteen DED-DE Weatherization Agencies listed in Appendix 3, Schedule HEW 1-1. In addition, the areas served by all the DED-DE Weatherization Agencies in Missouri, with those receiving funding from Ameren Missouri annotated, are shown in Appendix 3, Schedule HEW 1-2. Ameren Missouri has chosen to use the Missouri State EIERA to administer their weatherization funds. Ameren Missouri deposits its annual authorized low income weatherization funds for the DED-DE and the Weatherization Agencies it supports with the EIERA. Subsequently, the EIERA provides these funds to Ameren Missouri's Weatherization Agencies.

Through the American Recovery and Reinvestment Act ("ARRA"), special federal funding of $128 million was provided for the DED-DE Weatherization Program for the period of April 2009 – June 2013 ("ARRA Period"). The ARRA provided an average of $6,500 of weatherization for households with income at 200% or less of the Federal Poverty Guidelines (FPG). In the three-year period (2006-2008), prior to the ARRA Period, federal funding for the DED-DE Weatherization Program was approximately $18 million and the average amount of weatherization per household was $3,000. The Weatherization Agencies had until June 2013 to utilize the ARRA funding. The 200% of FPG qualification was continued and the spending limit of $6,500 was retained and is indexed each year so the most recent maximum expenditure was $6,987.

In the October 24, 2012, *ORDER APPROVING STIPULATION AND AGREEMENT REGARDING LOW INCOME WEATHERIZATION PROGRAM*[76] ("Order") in Case No. ER-2012-0166, Ameren Missouri was ordered to continue its annual payments of $1.2 million for funding of weatherization of homes of low-income Ameren Missouri electric customers and was authorized to collect $1.2 million in rates annually for the Ameren Missouri low-income weatherization program. For the current Program Year 2014, the budget has been modified for the period as shown in Appendix 3, Schedule HEW 1-1. Due to a carryover of funds from the previous year, **** _______ **** was available at EIERA. During the 2014 Program Year, ** _______ ** (88%) was utilized by the Ameren Missouri Weatherization Agencies to weatherize 393 homes, so ** _______ ** (12%) was carried over into the 2015 program year. Some of the under-utilization of Ameren Missouri funds is because of the Weatherization Agencies' focus on using the initial federal and supplemental Low Income/Heating Energy Assistance Program (LIHEAP) funding. After the end of the ARRA period in March 2013, the Weatherization Agencies used any Ameren Missouri funds to help provide for a higher level of weatherization activity than before ARRA. The allocation and actual expenditure of each of the Ameren Missouri Weatherization Agencies in the 2014 program year is also shown in Appendix 3, Schedule HEW 1-1.

The Missouri State EIERA was established to manage and disburse federal and other weatherization funds for DED-DE to the Weatherization Agencies according to DED-DE guidelines. Currently, Ameren Missouri and other Missouri jurisdictional utilities utilize the EIERA to manage their weatherization funds. The funds at the EIERA are invested to earn a return until they are distributed so the value of the funds is enhanced.

Staff recommends that the Ameren Missouri unutilized low-income weatherization funds from previous allocations remain in the EIERA account for future use. In addition, in order have some additional Ameren Missouri funds for weatherization now that ARRA funds are no longer available, Staff recommends that Ameren Missouri continue to collect $1.2 million in rates and

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[76] Public Service Commission, State of Missouri, Case No. ER-2012-0166*, ORDER APPROVING STIPULATION AND AGREEMENT REGARDING LOW INCOME WEATHERIZATION PROGRAM*: *In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Increase its Annual Revenues for Electric Service,* Issued October 24, 2012, effective Date November 3, 2012.

provide annual funding of low-income weatherization, as currently allocated between the Weatherization Agencies, and to the biannual evaluation of the low-income weatherization program. Consistent with the provisions of the Order, this is intended to provide $120,000 as the maximum funding for each evaluation. In the event an evaluation costs less than $120,000, the remaining funds will serve to reduce the next annual $60,000 withholding. Staff notes that the due date of the first evaluation was modified by the Commission Order in Case No. ET-2012-0358 from April 30, 2012, to July 31, 2012.

Ameren Missouri is unique among jurisdictional utilities in having combination customers. Therefore, the Order provided for a second evaluation including a component that evaluates the impact on the gas service of the weatherization of the Company's low-income customers that are provided both natural gas and electricity from Ameren Missouri. Recently the Laclede Gas Company has also agreed to furnish natural gas records for some Ameren Missouri Electric customers. These results will be beneficial to the Company, Laclede Gas, Staff, the Office of the Public Counsel and DED-DE in understanding the overall impact of weatherization on low-income households. The low-income weatherization program and evaluation is being conducted in consultation with the Ameren Missouri energy efficiency stakeholder group.

Staff does not support the continuous biannual evaluations of the Ameren Missouri Weatherization Program. Before the second evaluation the stakeholder group should determine goals for the second evaluation so it will provide additional significant results that will justify the expense of the evaluation. Staff recommends that any subsequent evaluations should be at the discretion of the Company in consultation with the stakeholder group.

Staff Expert/Witness: Henry E. Warren, PhD

37. <u>Keeping Current Pilot Program</u>

Ameren Missouri introduced its pilot Keeping Current energy assistance program in October 2010 as a 2-year low-income pilot program and was renewed for another 2 years effective June 30, 2013. The program was developed in collaboration with AARP, Consumers Council of Missouri, Missouri Office of Public Counsel, Missouri Public Service Commission, Missouri Industrial Energy Consumers, and the Missouri Retailers Association.

Customers are screened for eligibility by the local Keeping Current agency ("Agency") in their area. The two components of the program are: a year-round program that provides monthly bill credits and reduce arrearages for customers who stay current on monthly payments. And a cooling program that provides bill credits in June, July, and August to offset air conditioning costs.

The objectives of the Keeping Current Program are to improve affordability for very low-income customers, promote a healthy and safe level of usage, utilize agencies that already serve low-income households, and link participation to application for Weatherization and LIHEAP.

Ameren Missouri seeks to extend the program for another two-year term, increase eligibility from 100% of Federal Poverty Level to 135%, change the heating bill credits range from $10.00-$55.00 to $60.00 to $90.00 for electric heating customers and from $5.00-$20.00 to $25.00-$30.00 for non-electric heating customers, and to allow an Agency to request a one-time re-enrollment for a customer experiencing a short-term, unanticipated financial hardship, who previously would be removed automatically from the Program and not allowed back for twelve months after having defaulted on two consecutive payments.

a. Evaluation

Apprise Inc. completed in November 2012 an assessment of the program's design, operations, and impact. It evaluated the Collaborative's planning conference calls, reviewed program documents, interviewed Ameren managers, and conducted two sets of interviews concerning the program's operations and how it progressed and evolved. It also conducted telephone interviews of participants and conducted an analysis of the effect of the program on affordability, bill payment, and collections actions.

b. Keeping Current Statistics

United Way data on Keeping Current participation:

- *Enrollments and Active Participants* – Between October 2010 and August 2012, 636 customers applied to enroll in the Programs. As of August 2012, 1,447 were active program participants, including 1015 Cooling Program (CP) participants, 280 Electric Heat Program (EHP) participants and 152 Alternative Heat Program (AHP) participants.
- *Poverty Level* – Fifty-eight percent of active EHP participants, 44% of AHP participants, and 14% of CP participants had income below 50% of the poverty level.
- *Vulnerable Households* – Eighty-nine percent of all participants had one or more household members who were elderly, disabled, or at or below six years of age.

- *Arrearages* – At enrollment, EHP participants averaged $913 in arrearages and AHP participants averaged $764 in arrearages. Thirty-four percent of EHP and 27% of AHP participants had arrearages over $1,000.
- *LIHEAP and WAP* – Ninety-one percent of participants received LIHEAP, 27% received WAP services; almost all of the participants applied for these programs.
- *Employment Status* – Most of the heating participants were unemployed and most of the CP participants were retired. While about (23 - 30% were employed), 1% of the CP participants were employed.
- *Agency Activity* – Almost one-third of the enrollments came through the Human Development Corporation of Metro St. Louis. Most other agencies enrolled fewer than 100 customers and had fewer than 50 active participants.

c. Agency Feedback

Thirteen agencies were interviewed in 2011 and 13 more were interviewed in 2012. Managers and caseworkers reported that though they are becoming more comfortable with the Ameren training, they needed more training on program benefits, targeting specific groups, required apply for LIHEAP and weatherization services, and providing clients with energy conservation education. Agencies said:

- Ameren customer service representatives were not well equipped to answer questions about the program.
- The United Way website was easy to use, but caseworkers needed access to more information through it, including the client's budget billing amount.
- The program was time-intensive.
- The income guideline was too low (proposed to increase in this case).
- Target groups (the elderly, disabled and families with children under five) were difficult to reach. The elderly, in particular, were reluctant to ask for energy assistance, and were difficult to recruit for participation.

d. Customer Feedback

Program participants said:

- *Household Demographics*.

- *Home Ownership* – Thirty-four percent of year-round active (including both EHP and AHP), 18% of year-round inactive, and 11% of CP participants owned their homes, which limits their control over their electric usage.
- *Education* –Fifty-two percent of the year-round active participants, 37% of the year-round inactive participants, and 29% of the summer participants had some college.
- *Income Sources* – Most CP participants were elderly, 73% had retirement income, and only 4% had employment income. Twenty-eight percent of year-round active and 33% of year-round inactive participants had employment income. Thirty-one percent of year-round active participants and 18% of year-round inactive participants had retirement income.
- *Assistance* – Forty percent of the year-round and 25% of the CP participants received public assistance. Close to 80% of all participants received food stamps or lived in public or subsidized housing.
- *Unemployment* – Fifty percent of the year-round active, 54% of the year-round inactive, and 7% of the CP participants had someone in the household who was unemployed and looking for work in the past 12 months.

- *Program Knowledge and Participation*
  - *Program Information* – Most of the year-round participants learned about the program through their local agency. CP participants were also likely to learn about the program through a social worker, senior coordinator, or their housing complex.
  - *Enrollment Reasons* – The most common reason for enrolling was to reduce electric bills. Year-round participants were also wanted to avoid shutoff, have budget bills, or reduce their arrearages.
  - *Enrollment Difficulty* – Participants did not say that enrollment was difficult, but a large number said that it was difficult to make up-front cash payment toward their arrearages as a condition of enrolling. Forty percent of the year-round active and 34% of year-round inactive participants said that it was difficult to make the payment.

- *Most Important Program Benefit* – Participants said the most important benefit was equal monthly bills, followed by bill credit, arrearage reduction, and avoiding shutoff. They also said Ameren should encourage all low-income customers to participate in budget billing.
- *Bill Credit and Arrearage Reduction Benefit Knowledge* – Only 37% of the year-round active and 23% of the year-round inactive participants could correctly state the monthly credit amount. However, 62% of the CP participants correctly reported their summertime bill credit amount and a few could state the correct arrearage reduction monthly amount. Participants said that Agency staff should spend more time educating them on the benefits of the program and how to read their monthly bills.
- *Referrals* – Only 24% of year-round active participants, 37% of year-round inactive participants and 18% of CP participants said that the agency referred them to other services for low income households when they applied for Keeping Current. They also said that Agencies should spend more time helping customers to find and apply for other services and benefits.

- *Program Impacts* – Keeping Current Program helped customers pay their Ameren bill, meet other needs, and use their air conditioning. However, a majority reported that they needed even more assistance to pay their Ameren bill.
  - *Ameren Bill Payment Difficulty* – Seventy-one percent of year-round active participants stated that it was very difficult to pay their Ameren bill prior to enrollment, 12% said it was very difficult to pay their bill while participating in the program.
  - *Assistance Needed* –Fifty percent of year-round active participants, 69% of year-round inactive participants, and 73% of CP participants said they needed additional assistance to pay their bill.
  - *Other Financial Problems* – Participants were less likely to report that they skipped paying their bill or went without food, medicine, medical or dental service, mortgage or rent, telephone or cable, credit care or loan, and car payments after they began participating in Keeping Current.

- *Air Conditioning Use* – Participants were less likely to not use their air conditioning when they wanted for fear of what the bill would be 44% of those in the CP stated that they did not use their air conditioning prior to enrolling, 33% said that they did not use their air conditioning while participating in the CP. Percentages for the subgroup of elderly CP participants (who comprised most of the CP participants) were very similar. The year-round participants were more likely to state that they restricted their air conditioning usage prior to participating in the program and had a larger reduction in the percentage who said that they did so.
- *Changes in Cooling Usage* – Twenty-six percent of the CP participants reported that they changed the way they cool their home as a result of the CP. Among those, 11% said that they used their air conditioner more often and 7% kept their home at a cooler temperature.

• *LIHEAP and Weatherization Assistance* – All participants are required to apply for LIHEAP and Weatherization (if they have not already received weatherization services).

- *LIHEAP Assistance* – The survey found that only 28% of year-round active and 35% of CP participants reported that they received LIHEAP in the past year. Participants said that those who did not receive LIHEAP did not apply for it because they did not know about it. If they applied for Keeping Current when LIHEAP enrollment was not open, they should have been notified to apply when enrollment reopened.
- *Weatherization Assistance* – The survey found that 31% of active year-round participants and 21% of CP participants received weatherization assistance, some had already received weatherization and some were on a waiting list.

• *Program Satisfaction* – Participants rated the Program as very or somewhat important in helping to meet their needs (92 to 98% across the different program participant groups). They were likely satisfied with the agency that enrolled them and with the program as a whole (100% of year-round active participants and 95% of the CP participants were very or somewhat satisfied with the program).

The year-round inactive participants were less likely to report that they were satisfied.

e. Keeping Current Impacts

- *Bill Credits* – Seventy-one percent of the participants received the bill credit in the first month after enrollment, declining to only 24% in the twelfth month after enrollment. Total bill credits averaged $153 for EHP participants and $60 for AHP participants.
- *Arrearage Reduction* – 57% percent received arrearage reduction in the first month after enrollment, the percent declining each month. Participants who began with arrearages reduced those by $221 (average) in the year following enrollment.
- *Affordability* – Participants reduced their bills and received credits. EHP participants reduced their payment obligation by $278, or 15%, and AHP by $104, or 7%.
- *Bill Payment Impacts* – Participants were more likely to pay their full bill and less likely to miss payments following program enrollment. EHP participants increased net bill payment coverage rate by 12% and AHP by 13%.
- *Energy Assistance* –Participation did not alter the likelihood of receiving LIHEAP, and LIHEAP dollars received declined due to reduced funding. EHP participation did increase the amount of other types of energy assistance received.
- *Collections Impacts* – Participation reduced collections notices, service terminations, and payment arrangements.

f. Recommendation

Based on Staff review of the program evaluation by Apprise, Inc. and the changes made to the program, Staff recommends the Keeping Current pilot program continue with the annual contribution approximately $581,000 from a customer surcharge $500,000 Ameren Missouri contributing $500,000 annually.

Staff supports the changes in eligibility and support amounts, recommends better training of Ameren customer service representatives to increase referrals to Agencies, and better training of Agency personnel to enroll participants in all of the services to which they are entitled. Although other programs may not be directly associated with affordability of utilities, they indirectly effect payment ability, because a household that receives other services has money freed up to pay its utility bill.

Staff Expert/Witness: Kory Boustead

g. Keeping Current program - Removal of Revenue and Expense

Staff has removed all 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.

Staff Expert/Witness: Sarah Sharpe

F. Depreciation Expense

1. Staff Recommendation

Staff's recommended depreciation rates for Ameren Missouri electric operations are shown in Appendix 3, Schedule AWR-1.

2. Depreciation and Depreciation Rate Overview

a. Plant In Service Review

During the Ameren Missouri 2012 electric rate case (Case No. ER-2012-0166), issues were raised by Staff concerning Ameren Missouri's plant records, specifically that some plant recorded on its books appeared to no longer be in service or, when Staff asked to view it, Ameren Missouri could not locate it. In March of 2013, Ameren Missouri initiated a review of the Production Plant, Distribution Plant and Transmission Plant assets on its books. Ameren Missouri conducted a full inventory of its unitized[77] production (steam, nuclear, hydraulic, and other) assets. For the Transmission and Distribution assets consisting of over 700 substations, Ameren Missouri site-reviewed its plant in service at 50 randomly-selected substations. Ameren Missouri did not review non-unitized, miscellaneous, land, and asset retirement obligations (AROs).

This plant in service review resulted in retirement entries for plant on Ameren Missouri's books, even though that plant had been previously removed from service. These retirements

[77] Unitized plant consists of plant recorded as property units for retirement. Non-unitized plant in service represents recent additions of capital that are in service, but not yet recorded as retirement units with detailed item descriptions.

were entered periodically during the review as having occurred on the date Ameren Missouri discovered them during the review. No cost of removal or salvage was booked for these retirements. The table titled, “Ameren Missouri Asset Review Summary - Additional Retirements,” below presents the approximate dollar amounts of plant retired as a result of this review.

Ameren Missouri Plant Asset Review Summary

Additional Retirements In Millions of Dollars 4th Qtr 2013

Plant	Total Booked Assets	Assets Not Reviewed: Non Unitized	Assets Not Reviewed: Land, ARO & Other	Assets Not Reviewed: Misc Items	Total Assets reviewed	% of Assets reviewed	Additional Retires	Retired As % of Assets	Retired As % of Reviewed
Steam Production	3,849	1,127	42	92	2,505	65.1%	83	2.1%	3.3%
Hydraulic Production	444	112	13	3	289	65.1%	26	5.9%	9.1%
Other Production	1,258	422	7	5	815	64.8%	9	0.7%	1.1%
Callaway	2,851	83	10	17	2,663	93.4%	78	2.7%	2.9%
Total Generation	8,402	1,744	72	118	6,271	74.6%	197	2.3%	3.1%
Substation sample	74				73	98.8%	1	1.2%	1.2%
Total Reviewed	8,476	1,744	72	118	6,345	74.9%	198	2.3%	3.1%
GP Amortization	207	Reviewed As Vintages			207	100.0%	55	26.3%	26.3%
Other Accounts					0				
Total Plant	14,659				6,552	44.7%	**252**	1.7%	3.8%

A reduction of approximately $4.5 million in depreciation expense would occur due to the $198 million additional retirements if depreciation rates remained unchanged, but Staff is recommending a change in depreciation rates in this case. A majority of these additional retirements were recorded during the fourth quarter of 2013, and are included in the depreciation study data submitted in this rate case. John Spanos of Gannett Fleming, Ameren Missouri’s depreciation consultant, submitted a depreciation study as part of his direct testimony in this rate case. The $198 million of additional retirements included in his depreciation study reduces average service lives, and thus results in an increase in depreciation rates, which, in turn, adds approximately $4.5 million back into depreciation expense for this case.

Depreciation Staff does not consider Ameren Missouri's $198 million of additional retirements a rate-making issue in this case. In June of 2014, Staff met with Ameren Missouri personnel at their headquarters located in St Louis. Topics discussed at that meeting included the methods Ameren Missouri used when conducting its physical inventory, the breadth of the plant in service actually physically inventoried, the type and quantity of retirements that resulted from the inventory, and the procedural controls that were in place to help ensure the accuracy of its book records versus its actual plant in service. It is Staff's opinion that Ameren Missouri has significantly improved its current plant records, and if procedural controls put in place in recent years are actually practiced, these improvements should continue into the future. It is also Staff's opinion that Ameren Missouri should continually strive toward more stringent internal controls to aid in identifying when units of property are removed from service.

b. General Plan Amortization

Staff recognizes that the record-keeping procedural controls discussed above for Production Plant units of property are not suited to General Plant accounts that are made up of large numbers of smaller items with lesser values that are widely distributed over many facility sites. Therefore, for certain specific General Plant accounts, Staff recommends that the alternate method of depreciation accounting Ameren Missouri witness Spanos proposes in his direct testimony be used. This alternate method is often referred to as "amortization accounting," "vintage year accounting," or "General Plant Amortization" ("GP Amortization"). If the Commission approves a switch to GP Amortization for specific accounts as Mr. Spanos proposes and Staff recommends, then approximately $55 million of additional retirements will be recorded to Ameren Missouri's General Plant accounts at the effective date of the Commission's order. These GP Amortization retirements are shown in the Ameren Missouri Asset Review Summary table above, bringing the total plant asset review retirements to approximately $253 million, or approximately 1.7% of total plant in service.

The GP Amortization retirements are inherent to the process of switching to a vintage amortization method in that all units of property recorded on the company's books that have a vintage date older than the amortization period are retired. Going forward for these GP Amortization accounts, the dollars of plant in service shown on the company's books will represent all vintage property that has not exceeded its amortization life. The dollars representing a vintage will be retired at the end of the amortization period. In practice, the dollars in service, and the resultant deprecation (amortization) expense, will represent vintage dollars, and not the actual units of property in service.

For this rate case, the additional retirements associated with a change to GP Amortization will reduce annual depreciation expense by approximately $6.0 million.

In addition to the retirements inherent to a switch to GP Amortization, an adjustment to the accumulated reserves for each GP Amortized account is necessary. This adjustment is to align the accumulated reserves with the appropriate amount of deprecation (amortization) associated with each vintage amortized account. If the Commission adopts Staff's recommendation and approves Ameren Missouri's proposal to use the General Plant Amortization method, the accumulated depreciation reserve for these accounts will exceed the appropriate amortization amount by approximately $25 million. Ameren Missouri proposes to return this $25 million to ratepayers over five years at approximately $5 million per year as a reduction in depreciation expense used to determine revenue requirement in this rate case.

While Staff agrees with switching the depreciation accounting methodology for certain general plant accounts, Staff does not agree with Ameren Missouri's proposal to return the $25 million of General Plant excess depreciation reserves by $5 million a year. Staff recommends transferring this General Plant reserve excess to reserve accounts for two of Ameren Missouri's steam production plant facilities that have a deficit in accumulated depreciation. In essence, the excess depreciation dollars that have been paid in customer rates for the general plant accounts would be credited (transferred) to steam production accounts.

One of these steam production facilities is Venice, a retired facility. The Venice steam production plant was retired in 2002, and environmental cleanup, demolition, and disposal were completed in 2013. During three visits over the past several years, Staff has observed the progression of the removal of the steam production plant at Venice. The cost of removal and salvage for these large plants often continues for many years, and is recorded to the company's plant depreciation reserves. The Venice steam plant accounts currently show an accumulated depreciation reserve deficit of $17,219,969. Staff recommends that $17,219,969 of the $25 million general plant excess be transferred to the Venice steam plant depreciation reserve account in order to eliminate the approximate $17.2 million depreciation reserve balance currently reflected on Ameren Missouri's books for the retired Venice steam plant. Staff recommends that the remainder of the $25 million general plant excess reserve, approximately

$7.8 million, be transferred to Ameren Missouri's Uniform Systems of Accounts (USOA) depreciation reserve account 312 for its Meramec boilers. The Meramec steam plant accounts in aggregate show an accumulated reserve deficit of approximately $77 million, with the majority, $74 million, attributable to the Meramec boilers account 312. Ameren Missouri has announced it plans to retire the Meramec steam plant in 2022; therefore, it is expected to be the next "Venice" with respect to recording additional cost to reserves for environmental cleanup, demolition and disposal. Therefore, after the reserve deficit for Venice is accounted for, Staff recommends transferring the approximately $7.8 million of excess depreciation reserve resulting from the switch to the GP Amortization method to Meramec boilers USOA account 312.

Note: The above referenced reserve excesses and deficiencies are shown as of December 31, 2013. The numbers are shown to represent the nature of the transactions and the approximate magnitude; all these numbers will be updated through the December 31, 2014, true-up date for this rate case.

As part of the stipulation and agreements that were entered into and subsequently approved by the Commission in Kansas City Power & Light Company's and KCP&L Greater Missouri Operations Company's 2012 general rate increase cases, Case Nos. ER-2012- 0174 and ER-2012-0175, respectively, these two electric utilities are permitted to utilize the GP Amortization methodology. Staff recommends the Commission adopt Ameren Missouri's proposal in this rate proceeding to switch to GP Amortization.

The Federal Energy Regulatory Commission (FERC) allows, without specific authorization, the use of vintage year accounting (GP Amortization) for general plant accounts as a bookkeeping method that eliminates unitization and record-keeping requirements associated with individual items of property, and allows companies to record only the total cost of plant additions for the year as a vintage group for each account, provided all of the following requirements are met:

> 1. the individual classes of assets for which vintage year accounting is followed are high-volume, low-value items;
>
> 2. there is no change in existing retirement unit designations, for purposes of determining when expenditures are capital or expense;
>
> 3. the cost of the vintage groups is amortized to depreciation expense over their useful lives and there is no change in depreciation rates resulting from the adoption of the vintage year accounting;

4. interim retirements are not recognized;

5. salvage and removal cost relative to items in the vintage categories are included in the accumulated depreciation account and assigned to the oldest vintage first; and

6. properties are retired from the affected accounts that, at the date of the adoption of vintage year accounting, meet or exceed the average service life of properties in that account.

7. <u>Additional Requirement:</u> As part its recommendation to the Commission in this rate case, Staff requests that the Commission order Ameren Missouri to comply with one requirement in addition to the requirements listed above. Specifically, the account also must have a demonstrated zero net salvage.

c. Retirement of the Meramec Plant

Depreciation Staff does not oppose Ameren Missouri's proposed retirement date of 2022 for the computation of depreciation rates for its Meramec steam plant accounts in this rate case. However, Staff recognizes that the actual retirement date of the Meramec steam plant is in no way defined by, or a function of, an estimated date used to compute depreciation rates, and future proposed plant retirement dates may change.

Ameren Missouri's proposed 2022 retirement date for the Meramec steam production facility yields a life for depreciation rate computation that is five years shorter than the Commission ordered in Case No. ER-2010-0036 ("2010 rate case"). The 2010 rate case is Ameren Missouri's most recent prior rate case where a general depreciation review occurred that included a depreciation study.

In the 2010 rate case, Ameren Missouri proposed a retirement date of 2022 for the Meramec steam production facility, and submitted a Black and Veatch study on steam plant life that supported the 2022 retirement date for Meramec. Staff did not oppose the 2022 retirement date in the 2010 case. However, interveners in the 2010 case did oppose the 2012 retirement date, and, ultimately, the Commission ordered a five-year extension to Ameren Missouri's proposed Meramec life span to a retirement date of 2027. In the current Ameren Missouri rate case, Ameren Missouri witness Larry Loos sponsors a Black and Veatch study that supports a 2022 retirement date for Meramec.

The use of a 2022 date versus a 2027 date for the expected retirement of the Meramec steam plant increases depreciation expense, (computed on Dec 31, 2013, plant balances), by approximately $17 million per year for this rate case.

d. Retirement of the Rush Island Plant

Depreciation Staff does not oppose Ameren Missouri's proposed use of a retirement date of 2045 as a basis to compute depreciation rates for the Rush Island steam plant accounts.

Ameren Missouri has proposed using the year 2045 as the retirement date for the Rush Island steam production facility, as opposed to a date of 2046 that was used to calculate the current depreciation rates. The Black & Veatch 2010 study shows 2046 while the 2013 update shows 2045. This one-year change is proposed by Ameren Missouri due to the timing of the retirements of other steam plant. A one-year shorter life span for the Rush Island steam plant will increase depreciation expense, computed on December 31, 2013, plant balances, by approximately $0.4 million per year for this rate case. However, Staff recognizes that the actual retirement date is in no way defined by, or a function of, an estimated date used for a depreciation rate computation, and future proposed plant retirement dates may change.

e. 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. Staff has requested and received further information and clarification on specific questions related to Mr. Spanos' study. At this time, Staff has reviewed the historical retirement, 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 study results submitted by Mr. Spanos. Staff's findings agree with the depreciation rates Mr. Spanos proposes on behalf of Ameren Missouri, with the exception of two of the distribution plant accounts, USOA Account 364 (Poles and Fixtures) and USOA Account 369.01 (Overhead Services). Staff is of the opinion that the accrual of net salvage for these two accounts is excessive.

At December 31, 2013, Ameren Missouri's accumulated depreciation reserves contained accruals for future cost of removal of $6,138,979 for steam plant, $8,759,515 for hydro plant, and $788,572,119 for all other plant accounts. Staff's position is that the $800 million is sufficient to provide for any near-term interim cost of removal.

Ameren Missouri's proposed depreciation rate for Account 364 (Poles and Fixtures) is computed using a negative net salvage of 150%. This is an assumption that to remove these poles and fixtures in the future it will cost 150% of the original cost to install them. The result is an accrual rate to accomplish an accumulated accrual of 250% of the original cost over the life of the asset. Even though the negative 150% net salvage assumption is supported by historical cost of removal and salvage data, Staff believes that any current accrual of more than twice the original cost on a long-lived asset, a net salvage more negative than 100% negative, is excessive. This account has a composite remaining life for the current dollars in service of approximately 34 years.

As long as poles and wires continue to be used to serve customers, retirements and additions will continuously occur, such that a composite remaining life of approximately 34 years will be continually pushed into the future, remaining each year at 30 or more years for many years into the future. Since this is a continuously-living account, that is a mass asset account where worn or damaged components are replaced while the asset continues to provide the same basic service, with an average service life of approximately 45 years, a significant portion of the future net salvage percentage for cost of removal is a function of inflation. There is no expectation in the foreseeable future that the composite remaining life will approach zero; therefore, the inflation component will provide sufficient accruals to address any cost of removal in the foreseeable future, even if the net salvage is limited to a negative 100%. For accounts accruing more than 100% for cost of removal, there is reasonable expectation that accumulated reserves could exceed original cost, which would result in a negative rate base for that account. For a continuously-living account, Staff's position is that it is not practical or prudent to recommend a depreciation rate that is expected to produce a negative rate base. Therefore, Staff recommends a maximum rate of accrual for cost of removal of 100%, which is a negative 100% net salvage for Account 364. Staff's recommended depreciation rate for Account 364 using a negative 100% net salvage component is 3.55%. Ameren Missouri proposes a depreciation rate using a negative 150% net salvage component—5.03%. Staff's recommendation results in a deprecation accrual rate of approximately $14 million per year less than Ameren Missouri's proposal.

Ameren Missouri's proposed depreciation rate for USOA Account 369.01 (Overhead Services) is computed using a negative net salvage of 200%. For the same reasons discussed above for USOA Account 364, Staff recommends a negative net salvage of 100% for this account. USOA Account 369.1 is currently contributing a negative rate base of approximately $52 million; where accumulated reserves are $231 million for only $179 million of original cost plant, and has a composite remaining life of approximately 30 more years. Staff's recommended depreciation rate for Account 369.01 using a negative 100% net salvage component is 2.37%. Ameren Missouri proposes a depreciation rate using a negative 200% net salvage component—5.72%. Staff's recommendation results in a deprecation accrual rate of approximately $6 million per year less than Ameren Missouri's proposal.

Staff recommends adding two new plant account depreciation rates that Ameren Missouri did not address, USOA Account 344 Generators – Wind with a depreciation rate of 6.81%, and USOA Account 363 – Energy Storage Equipment (Batteries) with a depreciation rate of 11.76%. These two plant accounts' depreciation rates were taken from a depreciation study and proposal Mr. Spanos filed on behalf of Kansas City Power & Light Company on October 30, 2014, in its pending general rate increase case, Case No. ER-2014-0370. Ameren Missouri currently does not have plant recorded in either of these accounts. Staff is recommending that the Commission approve the use of these two new depreciation account rates for possible future additions that Ameren Missouri may place in service prior to any future rate case that would address depreciation rates.

f. Depreciation Expense – Truncation of Terminal Net Salvage

Ameren Missouri's depreciation rates proposal, and Staff's recommended depreciation rates schedule, include depreciation rates for steam, nuclear, and hydraulic production plant accounts that are intentionally computed to eliminate collection of expected future terminal net salvage. Future terminal net salvage is net of cost of removal and salvage expected to occur in the future when a large facility is removed from service and retired. It is essentially the future expected cost of the process of environmental cleanup, demolition, and disposal of the facility.

The Commission's *Report and Order* for The Empire District Electric Company ("Empire"), Case No. ER-2004-0570, dated March 10, 2005, made a distinction between interim and terminal net salvage. The Commission stated on page 53 of the order in that case that "the Commission will not allow the accrual of any amount for Terminal Net Salvage of Production Plants." The current depreciation rates ordered by the Commission for Ameren Missouri incorporate a net salvage rate term in the depreciation rate computation for its steam, nuclear, and hydraulic production plant accounts that specifically excludes the accrual of terminal net salvage, leaving only accruals for interim net salvage. As an example, the basic net salvage analysis for this rate case yields a net salvage rate of negative 16.9% for all steam plant accounts.

Ameren Missouri witness Spanos introduced a procedure in his direct testimony depreciation study for the Ameren Missouri 2010 rate case that examines each production plant facility to estimate expected future needs for interim versus terminal net salvage for each account and applies a weighted average correction to eliminate terminal net salvage. The Commission *Report and Order* for the 2010 case directed that the depreciation rates derived from Mr. Spanos' study be approved, with the exception of the Commission's extension of life span for the Meramec plant by five years. The depreciation rates ordered by the Commission in the 2010 rate case are the current ordered depreciation rates for Ameren Missouri. For the current rate case, this same procedure to eliminate terminal net salvage results in a negative 3.9% net salvage rate for all steam plant accounts. The difference in annual depreciation accruals for steam plant is approximately $30 million lower for a negative 3.9% net salvage rate versus a negative 16.9% net salvage rate.

At December 31, 2013, Ameren Missouri's accumulated depreciation reserves contained accruals for future cost of removal of $6,138,979 for steam plant, $8,759,515 for hydro plant, and $788,572,119 for all other accounts. Thus, Ameren Missouri's accumulated depreciation reserves currently contain over $800 million for future cost of removal. Staff recognizes that future terminal cost of removal will occur and will be addressed in future rate cases when a large production facility is removed from service. In the interim, Staff anticipates that this $800 million already accrued for the overall plant cost of removal is sufficient to provide for Ameren Missouri's needs until that future rate case.

The few steam production plants that have been retired in Missouri where Staff has retirement, cost of removal, and salvage data for the retired facility, tend to show a positive net salvage in the early years after retirement due to the sale of salvageable components. Any dollars collected from salvage are recorded to depreciation reserves, but subsequent cleanup cost such as ash pond closures, flue stack removal and asbestos removal, which are also recorded to deprecation reserves, gradually offset any salvage dollars received. For the Venice steam plant facility, the net cost to remove the facility over the 11 years after retirement accumulated to approximately $24 million.

3. Staff's Depreciation Summary

The table below is a comparison of annual depreciation accruals, using plant balances as of December 31, 2013, based on Ameren Missouri's currently ordered depreciation rates versus Ameren Missouri's proposed depreciation rates and Staff's currently recommended deprecation rates.

	Comparisons Annual Accruals Using Plant Balances at 12/31/2013				
	Current Depreciation Rates	**Company Proposal**	**Staff Proposal**	**Company Proposal Increase**	**Staff Proposal Increase**
	$/yr	$/yr			
Meramec (5 year shorter life span)	29,409,352	46,350,679	46,350,679	16,941,327	16,941,327
General Plant Amortization	17,523,414	11,517,684	11,517,684	(6,005,730)	(6,005,730)
5 Year Amortization of Over Accruals In GP Amortized Accounts		(4,985,427)	0	(4,985,427)	0
Account 364, 150% versus 100% Net salvage	52,740,391	48,430,977	34,164,180	(4,309,414)	(18,576,211)
Account 369.01, 200% versus 100% Net salvage	13,834,043	10,230,844	4,247,645	(3,603,199)	(9,586,398)
All Other Accounts	300,243,705	316,393,755	316,229,969	15,986,264	15,986,264
Summary					
Overall Company	**413,750,905**	**427,938,512**	**412,510,157**	14,187,607	(1,240,748)

Staff's recommended depreciation rates for Ameren Missouri electric operations would, as reflected in the above table, result in an annual depreciation expense that would be approximately 0.3% less than the current deprecation rates in effect, and 3.6% less than Ameren Missouri's proposal. Staff's recommended depreciation rates are shown in Appendix 3, Schedule AWR-1.

Staff Expert/Witness: Arthur W. Rice, PE

4. **<u>Project First (Enterprise System)</u>**

During the twelve-months ending September 30, 2011, the test year of Case No. ER-2012-0166, Ameren Missouri initiated Project First to replace a number of Ameren Corporation's unsupported and high-risk financial systems. While several components of that project were taken into account in the last case, Phase II of this project took place in July 2014, subsequent to the test year in this case. Therefore Staff will continue its review of the costs associated with Phase II as part of its true-up audit in this case.

Staff Expert/Witness: Jason Kunst

5. **<u>Capitalized Depreciation</u>**

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

Staff Expert/Witness: Brian Wells

6. **<u>Eliminate Depreciation on Coal Cars</u>**

Staff removed from its case the estimated amount of depreciation expense accrued for Ameren Missouri's coal cars as of December 31, 2014. This cost is reflected as part of fuel costs that are included as an input in Staff's production cost model, and should not be included in annualized depreciation expense.

Staff Expert/Witness: Lisa M. Ferguson

G. Income Tax

Income tax expense, as calculated by Staff, is largely consistent with the methodology used in Ameren Missouri's last rate case, Case No. ER-2012-0166. The adjustments made by Staff begin 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 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
- Transmission Amortization
- Hydraulic Amortization
- Callaway Post Operational Costs
- Intangible Amortization

Subtractions from Operating Income:

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

The tax normalization method defers for ratemaking purposes the deduction taken for tax purposes for certain tax timing differences. The effect of use of 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. 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 35 percent, a state income tax rate of 6.25 percent, and a city tax rate of 0.1009 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 K. Hanneken

X. Fuel Adjustment Clause (FAC)

A. Policy

In summary, Staff makes the following recommendations to the Commission regarding Ameren Missouri's FAC:

- Continuation of Ameren Missouri's FAC with modifications;
- Ameren Missouri's FAC tariff sheets should be revised to reflect re-basing of the Winter and Summer Base Factors[78]. Staff's recommendation will be discussed in Staff's Class Cost-of-Service/Rate Design Report to be filed on December 19, 2014;
- Ameren Missouri's FAC tariff sheets should be revised to clarify that the fuel costs related to the Company's landfill gas generating plant known as Maryland Heights Energy Center are excluded from the FAC; and
- Ameren Missouri should provide additional monthly filings that will aid Staff in performing FAC tariff, prudence and true-up reviews.

Staff Expert/Witness: Matthew J. Barnes

[78] The Winter Base Factors are applicable from October through May. The Summer Base Factors are applicable from June through September.

1. History

Senate Bill 179[79] ("SB 179") was passed and enacted in 2005. It authorizes investor-owned electric utilities to file applications with the Commission requesting authority to make periodic rate adjustments outside of general rate proceedings for their prudently-incurred fuel and purchased-power costs. SB 179 granted the Commission the authority to approve, modify, or reject the electric utility's request. SB 179 also states that the rate schedules implementing these rate adjustments outside of rate cases may provide the electric utility with incentives to improve the efficiency and cost-effectiveness of its fuel and purchased-power procurement activities.

Prior to the passage of SB 179, fuel and purchased-power costs were estimated and included in the determination of the utility's annual revenue requirement in general rate proceedings. If the electric utility managed its fuel and purchased-power procurement activities in a manner that allowed it to reliably serve its customers at a cost lower than what was included in its annual revenue requirement in its last general rate proceeding, the savings were retained by the electric utility. If actual fuel and purchased-power costs were greater than the cost included in the annual revenue requirement in its last general rate proceeding, the electric utility absorbed the increased cost.

Ameren Missouri, then doing business as AmerenUE, first requested that the Commission authorize it to use a FAC when it filed a general electric rate increase case, Case No. ER-2007-0002, on July 3, 2006. This request was made prior to the finalization of the Commission's FAC rules.[80] In its May 22, 2007, *Report and Order* in that case, the Commission concluded:

> After carefully considering the evidence and arguments of the parties, and balancing the interests of ratepayers and shareholders, the Commission concludes that AmerenUE's fuel and purchased power costs are not volatile enough [to] justify the implementation of a fuel adjustment clause at this time.

Ameren Missouri filed another general electric rate increase case on April 4, 2008, docketed as Case No. ER-2008-0318. In its February 2009, *Report and Order* in that case, the Commission authorized Ameren Missouri, still then doing business as AmerenUE, to begin implementation of

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[79] Section 386.266, RSMo. 2010 Cum. Supp.
[80] 4 CSR 240-3.161 and 4 CSR 240-20.090.

a FAC. Ameren Missouri filed another general rate increase case on July 24, 2009, docketed as Case No. ER-2010-0036. In its *Report and Order* in Case No. ER-2010-0036, the Commission concluded AmerenUE should be allowed to continue its FAC with modifications. Revised tariff sheets, including FAC tariff sheets, became effective in that case on June 21, 2010.

On August 31, 2010, Staff filed in Case No. EO-2010-0255 the results of its first FAC prudence audit which covered Ameren Missouri's accumulation periods 1 and 2 (March 1, 2009, through September 30, 2009). In its *Report and Order* issued on April 27, 2011, in that case, the Commission determined that "Ameren Missouri acted imprudently, improperly and unlawfully when it excluded revenues derived from power sales agreements with [American Electric Power Operating Companies ("AEP")] and [Wabash Valley Power Association ("Wabash")] from off-system sales revenue when calculating the rates charged under its fuel adjustment clause." Ameren Missouri began flowing back revenues from the AEP and Wabash contracts, plus accrued interest, of approximately $18 million in the twelve-month recovery period beginning with its October 2011 billing month.

On July 30, 2010, just 37 days after the changes to the rates in Ameren Missouri's general rate case (Case No. ER-2010-0036) became effective; Ameren Missouri filed another rate case docketed as Case No. ER-2011-0028. In that case Ameren Missouri requested, and received, authority to continue its FAC with a few minor changes. The tariff changes from Case No. ER-2011-0028 became effective July 31, 2011.

On December 1, 2010, Ameren Missouri initiated Case No. ER-2010-0274, seeking to true-up its first recovery period. As a part of this true-up filing, Ameren Missouri asserted that the Base Factor (BF) rates in the original FAC tariff sheets were calculated incorrectly and that it was entitled to the additional revenue that would have been collected had the BF rates been correctly calculated. In its June 29, 2011, *Report and Order* issued in that case, the Commission authorized Ameren Missouri to include the under-collection amount for that true-up period and for all subsequent true-up filings in which the incorrect BF rates calculations had an impact. This positive adjustment to the true-up amount was also included in the twelve-month recovery period beginning October 2011 and, as ordered, subsequent true-up filings included the corrected BF rates, as applicable.

On October 28, 2011, Staff filed in Case No. EO-2012-0074 its report of the results of its second prudence audit with respect to the revenue margins from Ameren Missouri's contracts to sell energy to AEP and Wabash for the time period of October 1, 2009, through May 31, 2011. In its report, Staff recommended that the Commission order Ameren Missouri to refund the revenue margins with interest from the AEP and Wabash contracts for the time period of October 1, 2009, through May 31, 2011, based on the Commission's decision in Case No. EO-2010-0255. A hearing in that case was held on June 21, 2012 and the Commission issued a *Report and Order* ordering Ameren Missouri to refund the revenue margins with interest from the AEP and Wabash contracts for the time period of October1, 2009, through May 31, 2011, based on the Commission's decision in Case No. EO-2010-0255.

On February 3, 2012, Ameren Missouri initiated a general rate case, Case No. ER-2012-0166, seeking changes to Ameren Missouri's rates. In that case Ameren Missouri requested, and received, authority to continue its FAC with modifications for inclusion of transmission expenses, re-basing of the BFs, and additional language related to Midwest Independent System Operator (MISO) charges for inclusion in Ameren Missouri's FAC. The tariff changes from Case No. ER-2012-0166 became effective January 2, 2013.

Staff Expert/Witness: Matthew J. Barnes

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

Chart 1 below shows, for each full accumulation period[81] since the Commission authorized Ameren Missouri's FAC, a summary of Ameren Missouri's Actual Net Energy Cost ("ANEC),[82] Net Base Energy Cost ("NBEC"), and the under-collection of fuel and purchased-power costs minus off-system sales revenues through its permanent rates. The least squares linear regression line, also known as a linear regression trendline, represents a rising trend for Ameren Missouri's ANEC, NBEC, and the under-collection amount for each accumulation period.

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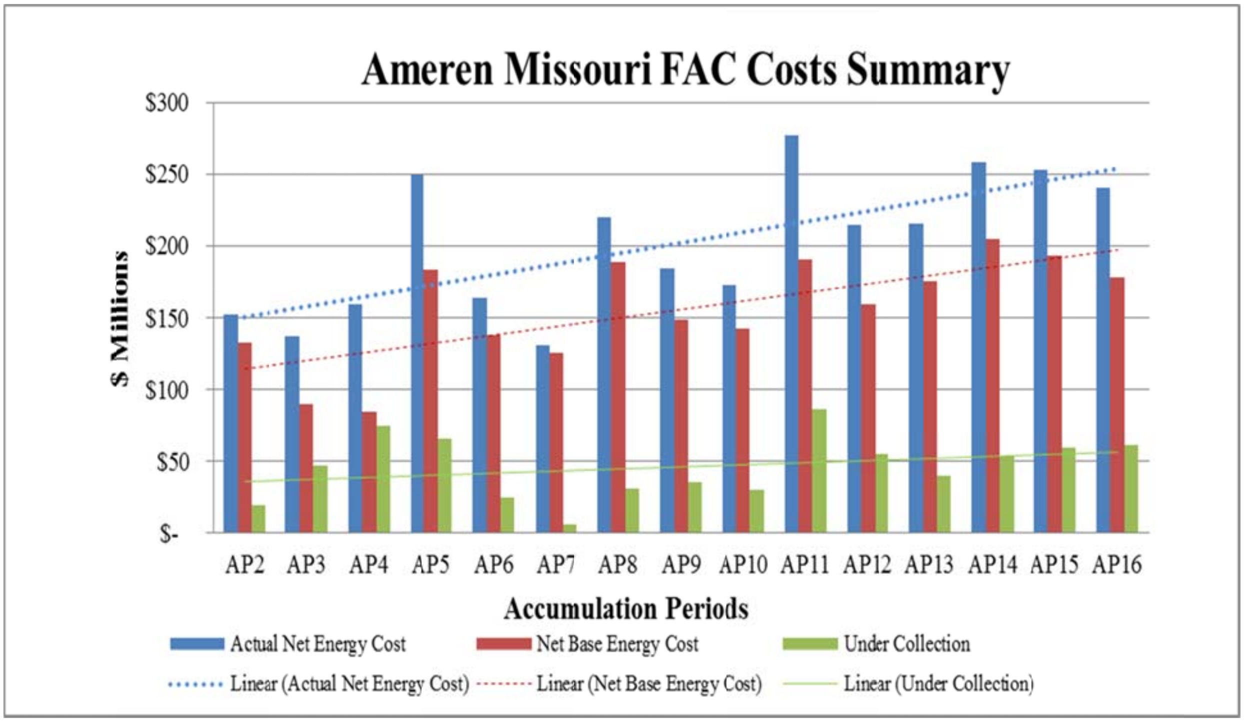
[81] Accumulation Period 1 was not a full accumulation period because it only covered the three calendar months of March 2009 through May 2009. All other accumulation periods cover four calendar months.

[82] Actual Net Energy Cost is defined in Ameren Missouri's 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



The time periods of the accumulation periods ("APs") are as follows:

AP2	Jun 2009 - Sep 2009	AP3	Oct 2009 - Jan 2010
AP4	Feb 2010 - May 2010	AP5	Jun 2010 - Sep 2010
AP6	Oct 2010 - Jan 2011	AP7	Feb 2011 - May 2011
AP8	Jun 2011 - Sep 2011	AP9	Oct 2011 - Jan 2012
AP10	Feb 2012 - May 2012	AP11	Jun 2012 - Sep 2012
AP12	Oct 2012 - Jan 2013	AP13	Feb 2013 - May 2013
AP14	Jun 2013 - Sep 2013	AP15	Oct 2013 - Jan 2014
AP16	Feb 2014 - May 2014		

At the conclusions of its general electric rate cases, during AP5, AP8, and AP11 – Case Nos. ER-2010-0036, ER-2011-0028, and ER-2012-0166, respectively – the BFs in Ameren Missouri's FAC were re-set. Over each of its full accumulation periods, Ameren Missouri under-collected its fuel and purchased-power costs in its permanent rates. Ameren Missouri's ANEC exceeded the NBEC for every full accumulation period.

Chart 1 also shows that the range of Ameren Missouri's ANEC varies from just less than $130 million for AP7 (February 2011 – May 2011), to approximately $278 million for AP 11 (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 ANEC have continued to be large and volatile.

<u>Chart 2</u>

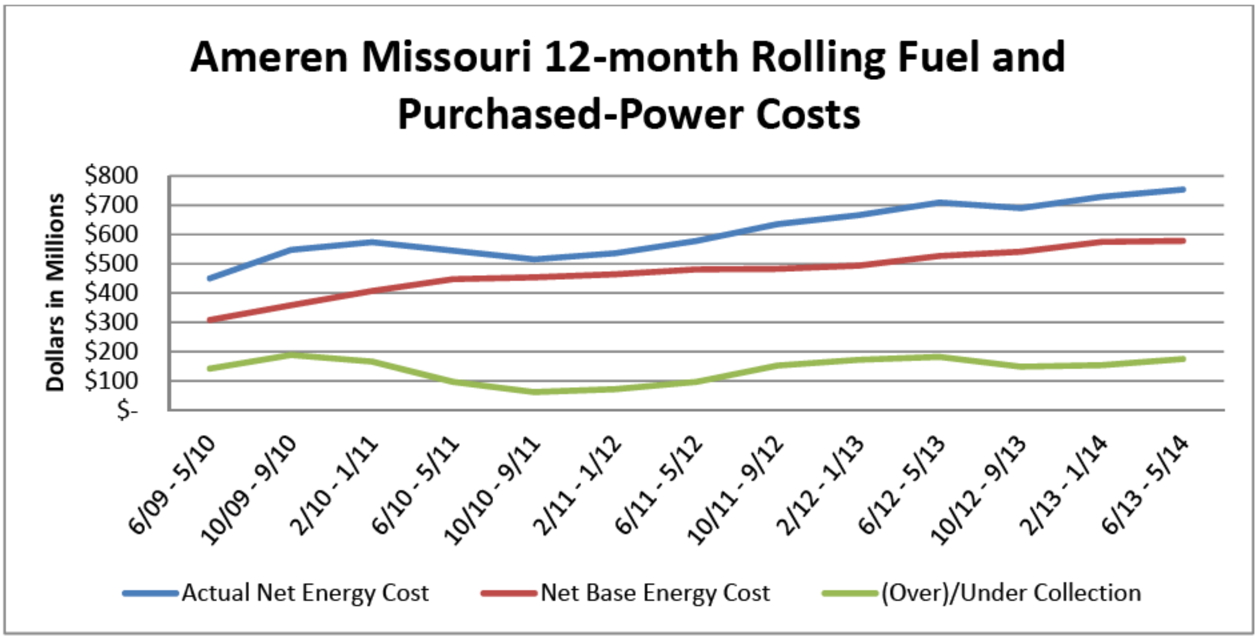


Chart 3, Chart 4, and Chart 5 below show Ameren Missouri's 12-month rolling off-system sales revenues (OSSR), kWh off-system sales, and off-system dollars or revenue per kWh since the Commission authorized Ameren Missouri's FAC. Energy market prices have declined as a result of a weakening of the off-system sales market.

Chart 3

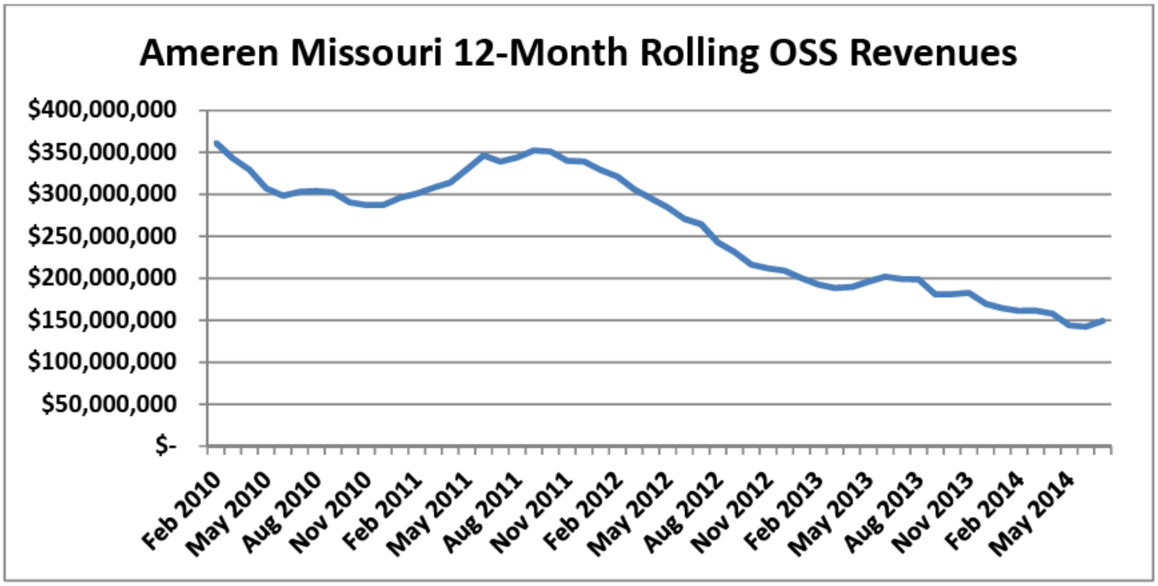


Chart 4

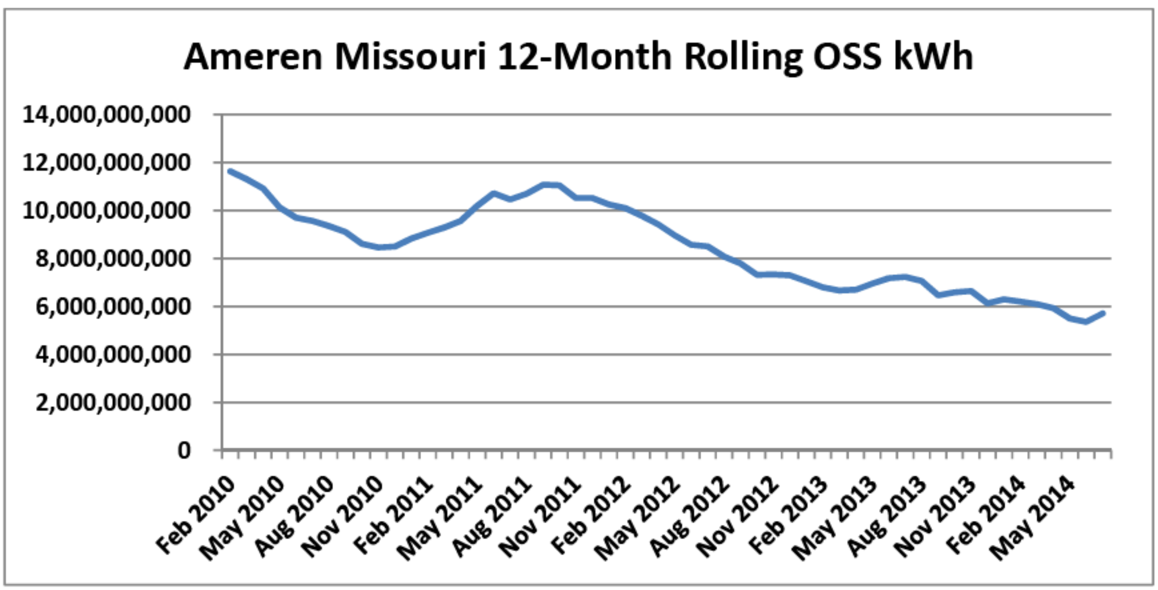


Chart 5

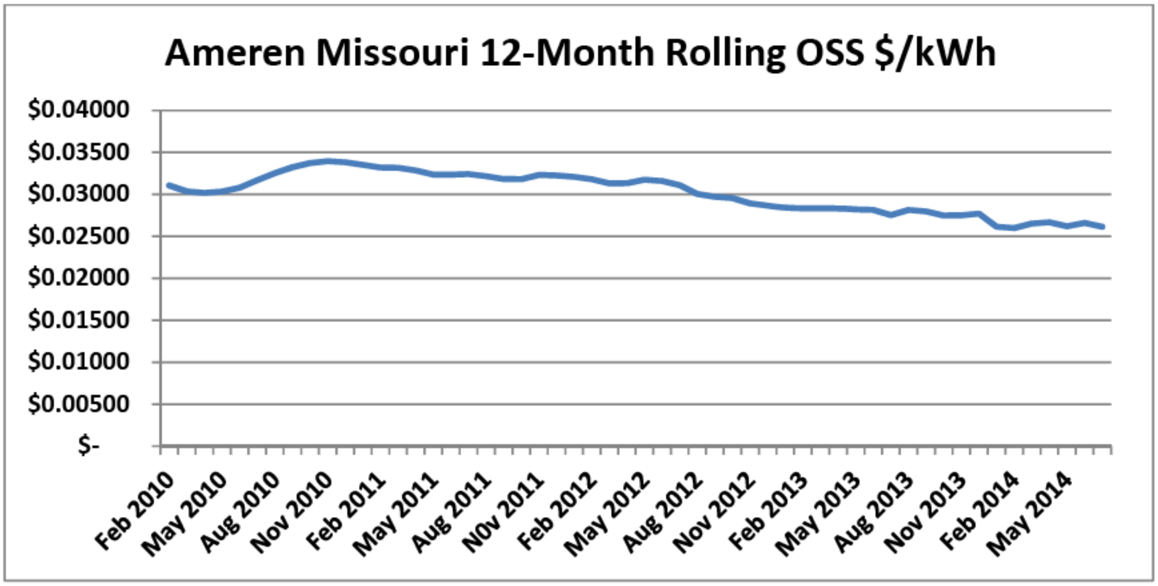


Table 1

Comparison of Ameren Missouri's NBEC From ER-2012-0166 and ER-2014-0258

		ER-2012-0166	ER-2014-0258	Difference	Percent Difference
FERC Account Expenses	**501 Coal**	$ 762,142,273	$ 749,245,310	$ (12,896,963)	-1.69%
	502 AQCS	$ 3,497,847	$ 2,763,736	$ (734,111)	-20.99%
	518 Nuclear	$ 84,999,000	$ 85,150,000	$ 151,000	0.18%
	547 Natural Gas	$ 37,242,346	$ 29,259,152	$ (7,983,194)	-21.44%
	555 Purchased Power	$ 55,131,651	$ 68,795,865	$ 13,664,214	24.78%
	565 Transmission by Others	$ 25,697,875	$ 32,294,295	$ 6,596,420	25.67%
	925 Replacement Power Ins.	$ 1,572,165	$ -	$ (1,572,165)	-100.00%
Total FERC Account Expenses		**$ 970,283,157**	**$ 967,508,358**	**$ (2,774,799)**	**-0.29%**
FERC Account Revenues	**447 OSSR**	$ 349,841,000	$ 214,495,000	$ (135,346,000)	-38.69%
	447 Other (Note 1)	$ 20,888,559	$ 19,919,028	$ (969,531)	-4.64%
	456 Transmission Revenues	$ 33,127,864	$ 36,886,278	$ 3,758,414	11.35%
Total FERC Account Revenues		**$ 403,857,423**	**$ 271,300,306**	**$ (132,557,117)**	**-32.82%**
Net Base Energy Costs		**$ 566,425,734**	**$ 696,208,052**	**$ 129,782,318**	**22.91%**
	Annual kWh	38,561,186,132	38,762,476,497	201,290,365	0.52%
	Annual Cents per kWh	$ 1.469	$ 1.796	$ 0.327	22.26%
	Winter Cents per kWh	$ 1.454	$ 1.779	$ 0.325	22.35%
	Summer Cents per kWh	$ 1.496	$ 1.828	$ 0.332	22.19%

Note 1 Other revenues in FERC Account 447 include the following

1. Capacity;
2. Ancillary Services, including
   A. Regulating reservice service (MISO Schedule 3, or its successor);
   B. Energy Imbalance Service (MISO Schedule 4, or its successor);
   C. Spinning reserve service (MISO Schedule 5, or its successor);
   D. Supplemental reserve service (MISO Schedule 6, or its successor);
3. Make-whole payments, including
   A. Price volatility; and
   B. Revenue suggiciency guarantee; and
4. Hedging.

Source Column ER-2012-0166 amounts were approved per order by the Commission in Case No. ER-2012-0166.
Column ER-2014-0258 amounts are from Company Witness Laura M. Moor's Schedule LMM-17.

Table 1 above contains a comparison of Ameren Missouri's FERC account expenses and revenues, annual kWh's, cents per kWh, and NBEC approved in the last general rate case, Case No. ER-2012-0166 and Ameren Missouri's proposed NBEC in this case. Ameren Missouri's proposed fuel and purchased-power expenses declined a total of 0.29 percent compared to the fuel and purchased-power expenses approved in Case No. ER-2012-0166. Ameren Missouri's proposed FAC revenues declined a total of 32.82 percent compared to the revenues approved in Case No. ER-2012-0166. The main driver for Ameren Missouri's proposed increase in BF rates is the decrease of 38.69 percent in off-system sales revenues in the test year for Case No. ER-2014-0258 relative to the off-system sales revenues approved in Case No. ER-2012-0166.

Staff recommends continuation of Ameren Missouri's FAC with modifications. Ameren Missouri's fuel and purchased-power costs less off-system sales revenues continue to be volatile, beyond the control of the Company, and are large, representing approximately 50 percent of Ameren Missouri's proposed annual revenue requirement increase for this case.

Staff Expert/Witness: Matthew J. Barnes

3. <u>Maryland Heights Energy Center</u>

The Maryland Heights Energy Center is a renewable energy generation facility and its fuel costs are currently included in Ameren Missouri's FAC. The Commission's rules relating to recovery of Renewable Energy Standard[83] costs do not allow recovery of RES compliance costs in a FAC. Ameren Missouri requested a waiver from rule 4 CSR 240-20.100(6)(A)16 in its last general rate case -- Case No. ER-2012-0166. Rule 4 CSR 240-20.100(6)(A)16 states, "RES compliance costs shall only be recovered through an RESRAM or as part of a general rate proceeding and shall not be considered for cost recovery through an environmental cost recovery mechanism or fuel adjustment clause or interim energy charge." The Commission approved the Company's waiver and ordered Ameren Missouri to work with stakeholders to determine the treatment of RES compliance costs before the Company's next general rate case. The Company has met with stakeholders and agreed to remove the Maryland Heights Energy Center's fuel costs from its FAC. Staff will reflect the removal of the Maryland Heights Energy Center's fuel

[83] 4 CSR 240-20.100(6)(A)16

costs when it files Staff's exemplar tariff sheets December 19, 2014, in its Class Cost-of-Service/Rate Design Report.

Staff Expert/Witness: Matthew J. Barnes

4. Loss Study - Compliance With FAC Rules

Ameren Missouri supplied Staff with a loss study in conjunction with the filing of their 2012 rate case (ER-2012-0166). Although the Company did not file a loss study in the current case, the loss study provided in 2012, dated December 2011, allows Ameren to remain in compliance with the rule requiring a current loss study regarding requesting the initiation or the continuance of a FAC per 4 CSR 240-20.090(9). Ameren has reported that the Company plans to formulate a new loss study in 2015 and provide it to the Commission Staff by the end of the year. This loss study will be based on actual data compiled in calendar year 2014. Ameren will remain in compliance with the aforementioned rule provided that a loss study is provided in 2015 as proffered.

Staff Expert/Witness: Alan J. Bax and Matthew J. Barnes

5. Additional Filing Requirements

Due to the accelerated Staff review process necessary with FAC adjustment filings,[84] just as it did in the last Ameren Missouri rate cases, Case Nos. ER-2010-0036, ER-2011-0028, and ER-2012-0166, 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 4 CSR 240-3.161(5), provide Ameren Missouri's MISO ASM market settlements and revenue neutrality uplift charges;

[84] 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.

- 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 in 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;
- 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 is 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; and
- The monthly as-burned fuel report supplied by Ameren Missouri required by 4 CSR 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).

Staff Expert/Witness: Matthew J. Barnes

B. Fuel Adjustment Clause Heat Rate and Efficiency Testing

Whenever an electric utility requests that a Rate Adjustment Mechanism (RAM) such as a FAC be continued or modified, Commission Rule 4 CSR 240-3.161(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, steam turbines and combustion turbines conducted within the previous twenty-four (24) months;

The Commission authorized Ameren Missouri's FAC in Case No. ER-2008-0318. The FAC was continued with modifications in Case Nos. ER-2010-0036, ER-2011-0028 and ER-2012-0166. Ameren Missouri is requesting that its FAC again be continued with modifications in the current general rate proceeding, Case No. ER-2014-0258.

Company witness Lynn M. Barnes filed testimony that included Schedule LMB-1 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 Ameren Missouri's generating units.

Attachment C to Schedule LMB-1 lists the supply-side and demand-side resources expected to meet the Ameren Missouri load and reserve requirements for years 2014-2017. The data in the table lists the resource name, ownership, primary fuel type, average heat rate at full load, and projected generation for the four true-up years.[85]

Attachment D to Schedule LMB-1 contains the results of the most recent heat rate tests for Ameren Missouri's coal-fired units performed in accordance to the heat rate/efficiency

[85] Direct testimony of Company witness Lynn M. Barnes; page 13 of Schedule LMB-1.

testing processes implemented in connection with the initial approval of the FAC in Case No. ER-2008-0318.

The most recent reports (Performance Reports) of heat rate tests completed on Ameren Missouri's coal-fired units, data from heat rate testing at the Callaway Plant, and available heat rate test results for Ameren Missouri's combustion turbine generating (CTG) units are included in Attachment D.[86]

Staff's literal interpretation of the "previous 24 months" rule requirement is to mean the previous twenty-four months from the rate case filing date of July 3, 2014, which would require the heat rate tests to have been conducted no earlier than July 3, 2012, unless the Commission grants a Company-submitted waiver that establishes good cause for not meeting this requirement. However, Ameren Missouri has presented additional documentation in response to Staff's Data Request No. 0272.1 that includes an email dated 2009, between Staff engineer Michael E. Taylor and Ameren Missouri's Manager of Performance and Reliability, Ken Stuckmeyer, ** ______________________________

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Staff's review of the testimony filed in the previous rate case, ER-2012-0166, by Staff witness Michael E. Taylor[88] finds no mention or acknowledgement of the "rolling 24-month period "but does find statements supporting the "pervious 24 months" rule requirement. Staff has found no other evidence supporting the "rolling 24-month" interpretation or allowing a waiver from the rule requirement in favor of a "rolling 24-month" interpretation. Therefore, Staff is using the literal interpretation of the rule requirement for this review.

Staff's review of the testimony of Company Witness Lynn M. Barnes and Ameren Missouri's response to Data Request Nos. 0272.1, 0272.2 and 0336 to confirm that each generating unit's fuel costs that are included in the FAC RAM calculation meets the "previous 24-month" heat rate testing rule requirement are summarized in the table below that lists the units not meeting this requirement.

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[86] Ibid.
[87] Ameren Missouri Response to Data Request MPSC 0272.1
[88] Rate Case ER-2012-0166, Staff Report for Revenue Requirement Cost of Service, July 6, 2012, pages 174 and 175.

Units with fuel costs included in the FAC RAM and with Heat Rate tests after July 3, 2012	Dates of Latest Heat Rate Test
Audrain CT 4	8-19-2014
Audrain CT 5	7-24-2014
Audrain CT 6	7-24-2014
Audrain CT 7	7-24-2014
Audrain CT 8	7-24-2014
Raccoon CT 3	7-22-2014
Kinmundy 1 CT	8-21-2014
Kinmundy 2 CT	8-04-2014
Pinckneyville 7 CT	8-19-2014
Venice 3 CT	8-20-2014
Venice 4 CT	8-20-2014

Staff recommends that the Commission grant Ameren Missouri a waiver for the generating units that are included in the table above. Staff notes that these generating units are used infrequently and represent a very small percentage of the generation fleet output. Ameren Missouri utilizes real-time performance monitoring systems on their generating units, except for the oldest Combustion Turbine units, to continuously optimize the heat rate by making operational adjustments.[89] Staff's review confirms that the all of the units in the above table utilize real-time performance monitoring systems.[90]

Ameren Missouri's generation resources are dispatched in the MISO market as a function of their offered cost relative to the MISO Locational Marginal Price (LMP) at the unit node and subject to the unit's operating characteristics and commitment status.[91] Units will be dispatched to run by MISO when the LMP is below the units' offered cost.[92] This method of dispatching the generating units assures that only the most cost effective supply-side resources are used to service Ameren Missouri's load requirements.

[89] Direct testimony of Company witness Mark C. Birk, Case No. ER-2008-0318, page 3, lines 7-17.
[90] Direct testimony of Company witness Mark C. Birk, Case No. ER-2008-0318, Schedule MCB-E3.
[91] Ameren Missouri Response to Data Request No. 0336.
[92] Ibid.

Staff finds the heat rate/efficiency testing information and results for the generating units to be reasonable.

Staff Expert/Witness: Randy S. Gross

XI. Other Issues

A. Smart Grid Status

This section provides information only concerning the history and current status of Ameren Missouri's Smart Grid deployment and does not address any particular revenue requirements in this rate case.

Ameren Missouri has been "100 percent deployed" with Automated Meter Reading (AMR)[93] meters since 2000 (only 18 customer meters are non-AMR meters per customer request). Of Ameren Missouri's 1.23 million total AMR meters, 16,827 meters are configured for time-of-use/demand reporting and 2,077 are configured for 15-minute interval reporting for industrial and large commercial customer use.[94] The remaining meters report daily kWhs for residential and small commercial customer use. Customers can view monthly usage, create an energy profile for their home or business, and explore options for energy savings by utilizing the Ameren Energy Savings Toolkit. There are no Advanced Meter Infrastructure[95] (AMI) meters on Ameren Missouri's system.

In September 2009, Ameren Missouri completed a study comparing the costs and benefits of AMR versus AMI meters for its service territory and concluded at that time that the benefits of AMI did not outweigh the estimated costs of deployment, but committed to closely monitor other AMI deployments with plans to revisit this issue in the future.[96]

In January of 2014, Ameren Missouri completed a comprehensive benefit cost analysis for AMI deployment and in August of 2014, a supplement to the January report was added to

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[93] These are "one-way" meters that transmit monthly customer energy usage by using a radio frequency ("RF") signal.

[94] Ameren Missouri Response to Data Request No. 0266.

[95] These are "two-way" meters that transmit customer energy usage typically on 15-minute intervals and also receive utility information.

[96] Ameren Missouri Presentation; "The Smart Grid @ AmerenUE", May 18, 2010, item 84, EFIS File No. EW-2009-0292.

include two new deployment options.[97] Ameren Missouri currently does not have a detailed AMI deployment plan[98] ** **[99] ** **[100]

Since its last general rate case in 2012 (Case No. ER-2012-0166), Ameren Missouri has upgraded and modernized its AMR system with the deployment of new field equipment that provides increased network capacity for adding additional meters and increased communication flexibility.[101]

New field equipment includes Concentrators and Collectors in addition to the existing Cell Masters and Micro Cell Controllers ("MCC"). The Concentrator receives wireless radio broadcasts from the electric meters and then transmits digital information to the Collectors. The Collectors receive the information from the Concentrators and then transmit bundled digital information in "packets" to a central operating system for processing. Currently there are 4 Collectors, 258 Concentrators, 90 Cell Masters, and 9,056 MCCs in Ameren Missouri's service territory.[102]

Ameren Missouri currently has 37 all-electric and hybrid service vehicles including: six passenger vehicles, six 45-foot aerial Eaton hybrid system trucks and twenty-five 37-foot aerial trucks with an Altec hybrid system.[103] Three level 2 (240 volt) charging stations; two at Ameren's main headquarters and one at Ameren's Power Operations Training Center, are available to charge these vehicles and the passenger vehicles can also utilize a 110-volt outlet for charging.[104] Ameren participated in an Electric Power Research Institute (EPRI) demonstration project, which is documented in a September 2014 EPRI final report,[105] that utilized the Chevrolet Volt hybrid car. Ameren Missouri also participated with St. Louis Clean Cities on a

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[97] Ameren Missouri Response to Data Request No. 0268.
[98] Ameren Missouri Response to Data Request No. 0269.
[99] Ameren Missouri Response to Data Request No. 0268.
[100] Ibid.
[101] Ameren's Smart Grid report dated February, 2012.
[102] Ameren Missouri Response to Data Request No. 0267.
[103] Ameren Missouri Response to Data Request No. 0270.
[104] Ibid.
[105] Ameren Missouri Response to Data Request No. 0271.

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Plug-In Readiness Task Force as a means of monitoring initial discussions on how to create a local market for new Plug-In Hybrid Electric Vehicles ("PHEVs"). An August 2009 technology study concluded that there are no significant electrical system impacts anticipated until PHEV penetration in the service territory approaches approximately 150,000 vehicles.[106] Ameren currently has no plans to expand its service vehicle fleet and its current assessment confirms that the electrical infrastructure will be sufficient to handle the impact of electric vehicle charging.[107]

Ameren Missouri has focused investments to improve its electric system grid service reliability, operating efficiency, asset optimization, and the energy delivery infrastructure. Ameren Missouri has deployed both mature and new technology solutions on their system.[108]

Mature technology solutions include the following.

- Smart Line Capacitors;
- Automatic Voltage Regulation and Control;
- Microprocessor Digital Relaying;
- Supervisory Control and Data Acquisition (SCADA);
- Smart Line Switches;
- Smart line capacitors;
- Automatic Supply Line Transfer; and,
- Outage Management System.

New technology solutions include the following:

- Transformer Insulating Oil Dissolved Gas Monitors;
- High Voltage Bushing Monitors;
- Fiber Optic Winding Temperature Sensor;
- Comprehensive Analysis Monitor;
- Multi-Function Transformer Temperature Monitor;
- Phase Measurement Units ("PMUs");
- Faulted Circuit Indicators ("FCIs");
- Smart Line Regulators;

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[106] Ameren Missouri Presentation; "The Smart Grid @ AmerenUE", May 18,2010, item 84, EFIS File No. EW-2009-0292.
[107] Ameren Missouri Response to Data Request No. 0270.
[108] Ameren Missouri Responses to Data Requests No. 0248 through and including No. 0265.

- Wide Area Networks ("WANs");
- Field Area Networks ("FANs"); and,
- Local Area Network ("LANs").

Schedule RSG-1 contains a more detailed description of the mature technology solutions and the new technology solutions employed by Ameren Missouri.

Staff Expert/Witness: Randy S. Gross

B. Light Emitting Diode (LED) Street and Area Lighting

Pursuant to paragraph 4 of the *Nonunanimous Stipulation and Agreement Regarding Certain Revenue Requirement Issues,*[109] in Ameren Missouri's most recent electric general rate case, Case No. ER-2012-0166, Ameren Missouri performed and submitted to the Commission an evaluation report of potential service offerings for a replacement of all existing street lights with Light Emitting Diode (LED) Lighting rates. Ameren Missouri submitted its LED evaluation report to the Commission on July 31, 2013, in Case No. EO-2013-0367. The results of the LED evaluation report show that a replacement of all existing street lights with LED lights was not expected to be cost effective at that time. However, Ameren Missouri recognized that some customers may have installed or may wish to install LED lighting. Thus, Ameren Missouri offers unmetered LED lighting rates as an energy-only option under the Company's current 6(M) rate schedule.[110] Under the unmetered LED lighting rates, customers have the choice to install LED street and area lights which are purchased, owned, and maintained by the customer.

Staff recommends that the Commission order Ameren Missouri to continue to study the cost-effectiveness of replacement of all or parts of existing company-owned street lights with LED lights, and, no later than twelve (12) months following the Commission's *Report and Order* in this case, to file either proposed LED lighting tariffs or an update to the Commission on when it will file a proposed LED lighting tariff to replace existing company-owned street lights.

Staff Expert/Witness: Hojong Kang, Ph.D.

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[109] Approved through the Commission's order dated on October 10, 2012.
[110] MO.P.S.C. Schedule No. 6 1st Revised Sheet No. 59 and No. 59.1 with the effective date of October 30, 2013.

Appendices

Appendix 1: Staff Credentials

Appendix 2: Support for Staff Cost of Capital Recommendation

Appendix 3: Alphabetical Listing of Testimony 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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF MATTHEW J. BARNES

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

Matthew J. Barnes, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Matthew J Barnes

Matthew J. Barnes

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF ALAN J. BAX

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Alan J. Bax, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Alan J. Bax
Alan J. Bax

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF KOFI A. BOATENG

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF ST LOUIS	)	

Kofi A. Boateng, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Kofi A. Boateng

Kofi A. Boateng

Subscribed and sworn to before me this 4th day of December, 2014.

Andrea V. Moffatt

Notary Public

ANDREA V. MOFFATT
Notary Public - Notary Seal
State of Missouri
Commissioned for St. Louis County
My Commission Expires: May 11, 2016
Commission Number: 12552590

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF KORY BOUSTEAD

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

Kory Boustead, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

Kory Boustead

Kory Boustead

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF ERIN M. CARLE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Erin M. Carle, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

Erin M. Carle

Erin M. Carle

Subscribed and sworn to before me this 5th day of December, 2014

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF JOHN P. CASSIDY

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

John P. Cassidy, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

John P. Cassidy

John P. Cassidy

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF CLAIRE M. EUBANKS

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Claire M. Eubanks, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

Claire M Eubanks
Claire M. Eubanks

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF LISA M. FERGUSON

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Lisa M. Ferguson, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

Lisa M. Ferguson

Lisa M. Ferguson

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF BRAD J. FORTSON

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

Brad J. Fortson, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Brad J. Fortson

Brad J. Fortson

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF RANDY S. GROSS

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Randy S. Gross, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Randy S. Gross

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF LISA K. HANNEKEN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Lisa K. Hanneken, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

Lisa K Hanneken
Lisa K. Hanneken

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF HOJONG KANG, PHD

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Hojong Kang, PhD, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Hojong Kang

Hojong Kang, PhD

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF ROBIN KLIETHERMES

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Robin Kliethermes, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

Robin Kliethermes

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF SARAH L. KLIETHERMES

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

Sarah L. Kliethermes, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Recommendation in memorandum form, to be presented in the above case; that the information in the Staff Recommendation was developed by her; that she has knowledge of the matters set forth in such Staff Recommendation; and that such matters are true and correct to the best of her knowledge and belief.

Sarah Kliethermes

Sarah L. Kliethermes

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its) Revenues for Electric Service)	Case No. ER-2014-0258

AFFIDAVIT OF JASON KUNST

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Jason Kunst, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Jason Kunst

Subscribed and sworn to before me this 3rd day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF SHAWN E. LANGE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Shawn E. Lange, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Shawn E Lange

Shawn E. Lange

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its) Case No. ER-2014-0258
Revenues for Electric Service)

AFFIDAVIT OF ERIN L. MALONEY

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Erin L. Maloney, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

Erin L. Maloney

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

David Murray, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

David Murray

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF ARTHUR W. RICE, PE

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

Arthur W. Rice, PE, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Arthur W. Rice

Arthur W. Rice, PE

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF JERRY SCHEIBLE

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

Jerry Scheible, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Jerry Scheible

Jerry Scheible

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF SARAH SHARPE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Sarah Sharpe, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

Sarah Sharpe
Sarah Sharpe

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF MICHAEL L. STAHLMAN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Michael L. Stahlman, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Michael L. Stahlman

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF HENRY WARREN PHD

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

Henry Warren PhD, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Henry Warren PhD

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF BRIAN WELLS

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Brian Wells, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Brian Wells

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
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 Tariff to Increase Its Revenues for Electric Service	)))	Case No. ER-2014-0258

AFFIDAVIT OF SEOUNG JOUN WON, PHD

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Seoung Joun Won, PhD, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report as identified in the individual sections as identified in the Table of Contents of said Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Seoung Joun Won

Seoung Joun Won, PhD

Subscribed and sworn to before me this 5th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
Commission Number: 12412070

D Suzie Mankin

Notary Public